

Draft System Design Document For Consolidation, Integration and Up gradation of CPA's Existing ICT based facilities/system

Submitted to



Chittagong Port Authority

Covered Modules

- Case Management System
- Training Institute Automation
- Central Library Management System
- Board Decision Computerization
- Appointment/Schedule Management System
- Access Control System in CPA
- CCTV in CPA Area
- Integration of exiting access control and surveillance system for CPA
- Automation of Computer related equipment and peripherals maintenance management system
- E-GP (E-Tendering System)
- E-Filing System
- Automation of Marine Department
- Vessel Traffic Management Information System (VTMIS)
- Hydrographic Automation System

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1 Introduction

This chapter provides an overview of scope and purpose of the document. The chapter is divided into the following topics:

1.1 Purpose of Design Document

This design document provides a comprehensive architectural overview of “Consolidation, Integration and Up gradation of CPA’s existing ICT based facilities/system” using a number of different architectural views to depict different aspects of the system. It is intended to capture and convey the significant architectural decisions that have been made on the system.

1.2 Scope of Computerized System

The design document, used in conjunction with the system requirements system, provides a system specification of all user requirements. It also reflects the user's perspective of the system design.

As part of customization of Port automation system and upgradation, CPA aims to automate their existing process of the current system. The scope of the work will include the development of an online software system to perform operations of CPA offices and upgradation of database for more security and efficiency.

The scope of this document covers the below modules as per TOR:

- **Case Management System**
- **Training Institute Automation**
- **Central Library Management System**
- **Board Decision Computerization**
- **Appointment/Schedule Management System**
- **Access Control System in CPA**
- **CCTV in CPA Area**
- **Integration of existing access control and surveillance system for CPA**
- **Automation of Computer related equipment and peripherals maintenance management system**
- **E-GP (E-Tendering System)**
- **E-Filing System**
- **Automation of marine Department**
- **Vessel Traffic Management Information System (VTMIS)**
- **Hydrographic Automation System**

1.3 Definitions, Acronyms & Abbreviation

The following table lists definitions, acronyms, and abbreviations used in this document.

Table 1: Acronyms

| Acronyms | Full Forms |
|----------------|--|
| CPA | Chittagong Port Authority |
| HOD | Head of Department |
| PMIS | Personal Management Information System |
| CCTV | Close Circuit Television |
| RCR | Radio Control Room |
| VTMIS | Vessel Traffic Management Information System |
| VHF | Very High Frequency |
| Foreign Vessel | Also called Mother Vessel |
| LOV | List of Value |
| CRAFT | Vessel, owned & managed by CPA |
| Chart | Survey data of a particular area |
| MAP | Map created by using Survey Data using special software. |
| License | Recognition by CPA to particular vessel to operate in particular area. |
| Mooring | Parking area of vessel |

| | |
|----------------|---|
| Water Vessel | Vessel used to supply fresh-water to Mother vessel |
| Berth | A particular area in a port where vessel can load/unload things |
| Navigation | Movement of Vessel |
| O/A | Outer Anchorage |
| API | Application Programming Interface |
| River Dues | Fees collected from vessel to operate in Karnaphuli river |
| License Office | CPA run office alongside river & sea to monitor vessel and collect fees |

1.4 References

The following table lists the reference documents related to the CPA system.

Table 2: References

| S# | Document Name | Date |
|----|---|------------------|
| 1. | Term of Reference (TOR) | 19-March-2019 |
| 2. | Inception Report | 19-May-2019 |
| 3. | CPA System Study & Need Assessment Final Report | 17-November-2019 |

1.5 Critical Requirements

Following are the critical requirements, client is requested to address:

- Digital Attendance machine recorded data should be accessible.
- Payment Gateway (PG) related APIs will be delivered by customer with proper documentation
- E-Mail server related information will be delivered by CPA
- SMS gateway related APIs will be delivered by CPA with proper documentation
- Domain name for web hosting
- SSL certificate
- CPA Should provide NID integration API
- CPA Should provide BRTA integration API
- Access Point should be defined
- Visitor card should be configured with access control machine
- CCTV installation point should be defined
- Computer equipment should have unique number.
- Employee/Section wise equipment allocation list.
- Fresh-water demand through online by Shipping Agent
- License office collection automation
- Regular Mooring status
- VHF log book & any incident log automation with suggestive content
- Survey data & map sale through online payment

2 Module: Case Management System

We, CNS develop a proposed design for the Case Management module of CPA system.

The proposed module will be work on below listed ways;

- Case department will create some list;
 - Case Category list
 - Lawyer list
 - Lawyer rate chart
 - Case Register
- Assign a lawyer as per case category; Sometimes CPA chairman can assign lawyer from outside based on the consultation of law office/law advisor
- Assigned lawyer start to move with the case
- Assigned lawyer update the case department about his/her assigned case
- Case department will update the case register.
- Lawyer will submit bill to the system
- Case department will review the bill and send to accounts department.
- Case department request accounts department for routine bills of lawyer
- Account department make payment to lawyer account

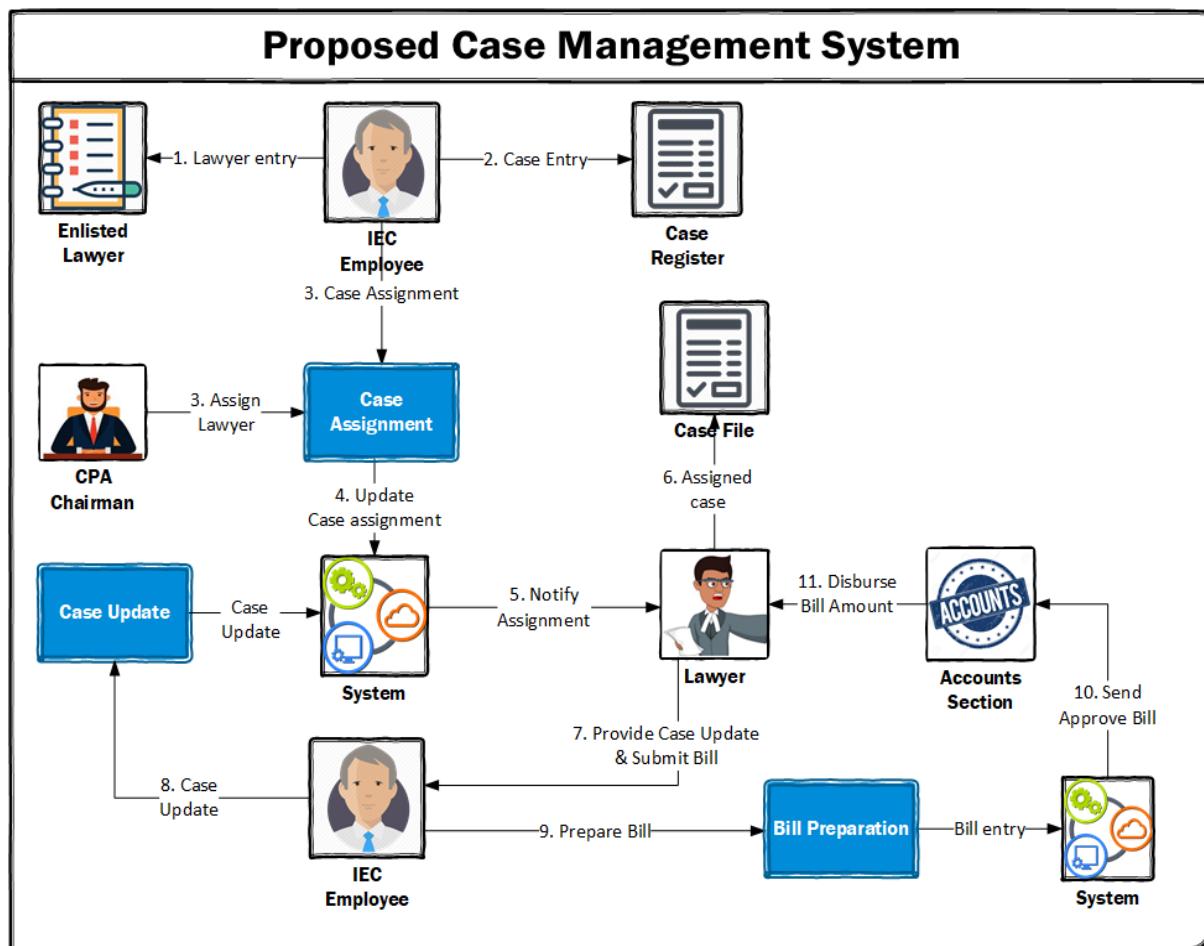


Figure 1: Case Management System

We CNS, develop an integrated system for CPA. Case Management module will use data from other modules and also provide data to another module for process.

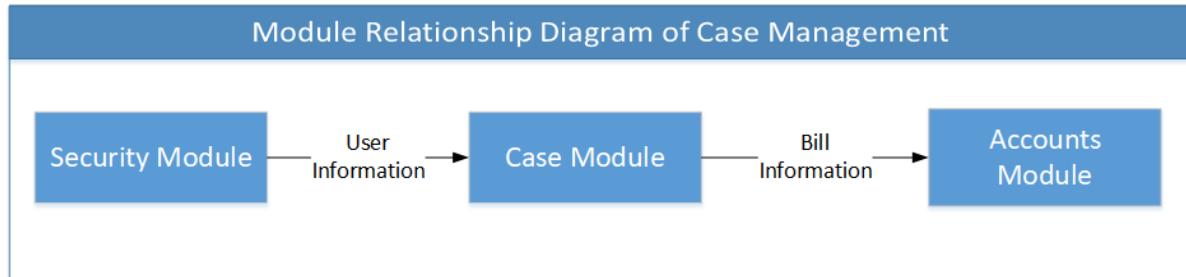


Figure 2: Module Relationship of Case Management

- Case module will use user related data from Security module
- Case Module will provide bill related data to Accounts module

2.1 Business Process of Case Management

Case Management System consist with multiple business processes. These are:

- Case Register
- Rate Chart
- Lawyer Management
- Lawyer Assignment to Case
- Case Update
- Lawyer Bill preparation

2.1.1 Case Register Process

Due to digitalization of Case Management System, IEC section needs to categories cases. Sometimes CPA act as complainant and also act as Defendant of a case. IEC section needs to track the case information and case status. So, this part will be digitalized with CPA automation system.

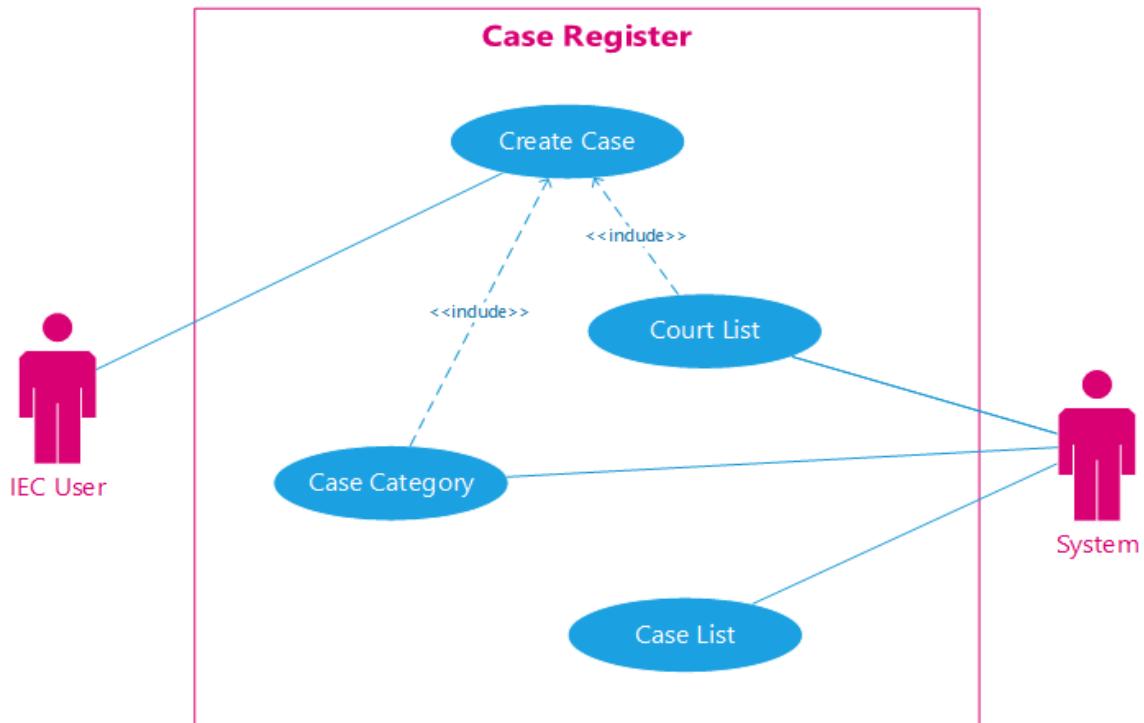
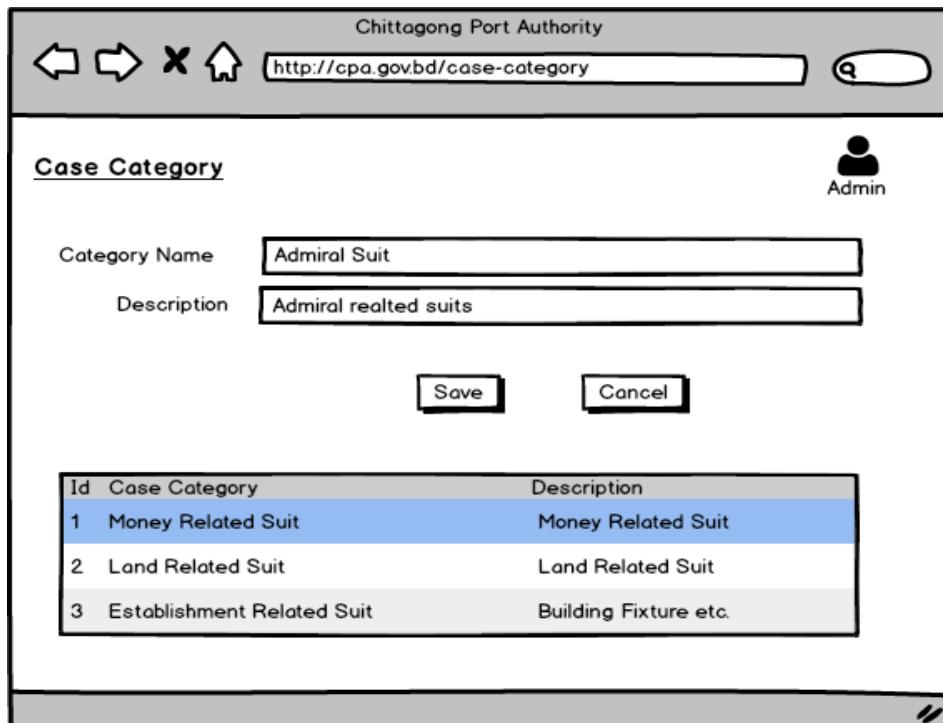


Figure 3: Use Case for Case Register

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CM-001 |
| Use Case Name: | Case Register |
| Actors: | <ul style="list-style-type: none"> • IEC User • System |
| Trigger: | When IEC user intends to insert a case information to the system. |
| Description: | The functionality "Case Register" facilitates to insert a new case to the system with definition of case category and court information. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Case categories must be defined • Court list must be available to the system |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To insert a case information and update the case register. |
| Normal Flow: | <ul style="list-style-type: none"> • Insert Case number and Case Date with description. • Select Case category, Court, and Status. • Upload case related documents. • Verify the information. • Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Notifications about successful case insert. • Created case will be available to case list. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> • Case Category must be listed. • Court should be available to the system. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

2.1.1 Case Category

Case categories will be managed by this mockup. It is possible to insert & update case category from here.



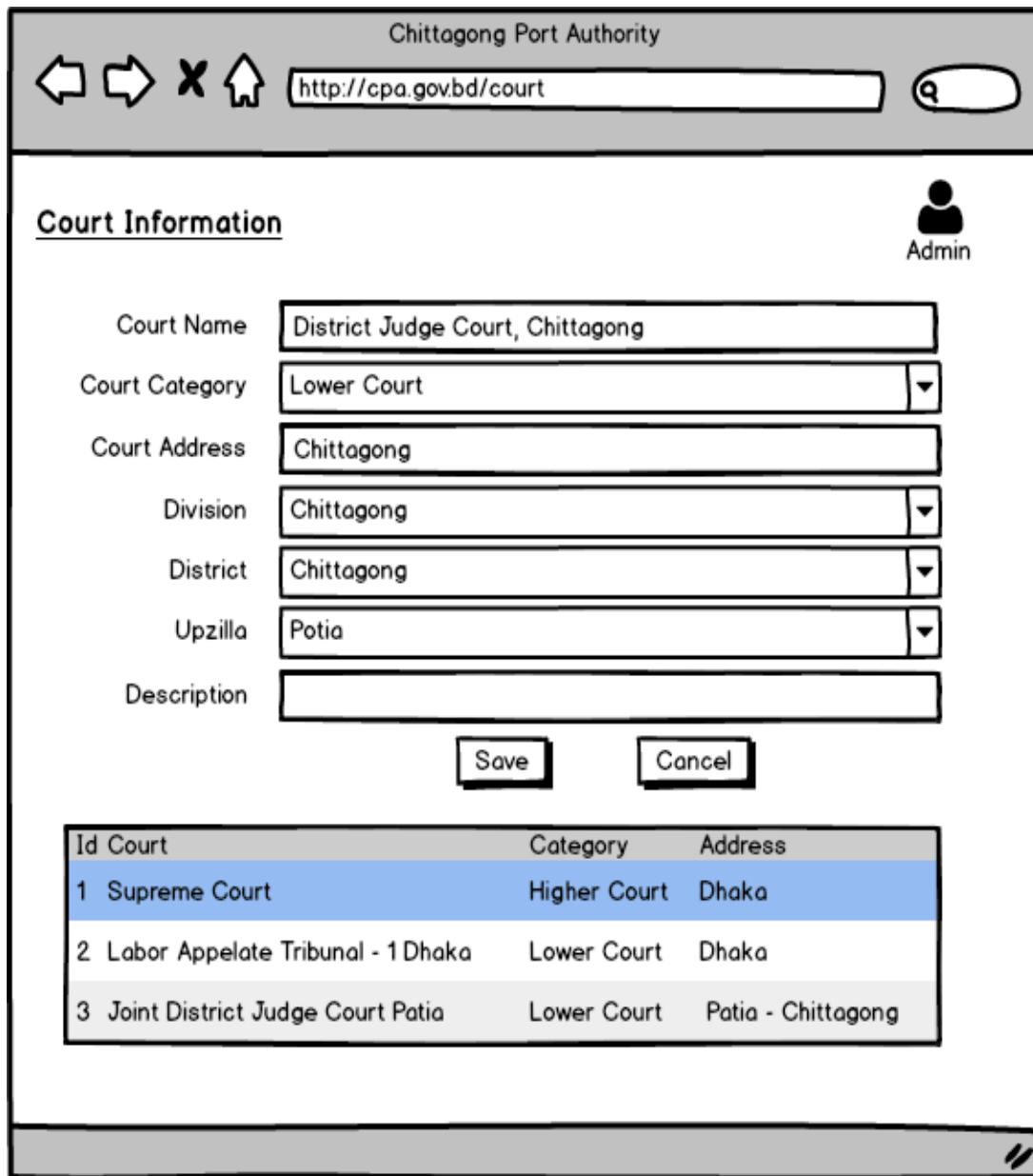
The mockup is a web-based application for managing case categories. The header shows the title 'Chittagong Port Authority' and the URL 'http://cpa.gov.bd/case-category'. The main content area is titled 'Case Category' and shows a user profile icon for 'Admin'. Below this, there are input fields for 'Category Name' (containing 'Admiral Suit') and 'Description' (containing 'Admiral realted suits'). At the bottom of this section are 'Save' and 'Cancel' buttons. Below the input fields is a table listing case categories:

| Id | Case Category | Description |
|----|----------------------------|-----------------------|
| 1 | Money Related Suit | Money Related Suit |
| 2 | Land Related Suit | Land Related Suit |
| 3 | Establishment Related Suit | Building Fixture etc. |

Figure 4: Mockup for Case Category

2.1.1.2 Court Information

Court information will be managed by this mockup. It is possible to insert & update case court from here.



The mockup displays a web-based application for managing court information. At the top, there is a header with the text 'Chittagong Port Authority' and a navigation bar with icons for back, forward, and search. The URL 'http://cpa.gov.bd/court' is shown in the address bar. On the right side of the header, there is a user icon labeled 'Admin'.

The main content area is titled 'Court Information'. It contains a form with the following fields:

- Court Name: District Judge Court, Chittagong
- Court Category: Lower Court
- Court Address: Chittagong
- Division: Chittagong
- District: Chittagong
- Upzilla: Patia
- Description: (empty text area)

Below the form are two buttons: 'Save' and 'Cancel'. At the bottom of the page, there is a table listing three existing courts:

| Id | Court | Category | Address |
|----|-----------------------------------|--------------|--------------------|
| 1 | Supreme Court | Higher Court | Dhaka |
| 2 | Labor Appelate Tribunal - 1 Dhaka | Lower Court | Dhaka |
| 3 | Joint District Judge Court Patia | Lower Court | Patia - Chittagong |

Figure 5: Mockup for Court Information

- Case category name should be unique
- Court type as like lower court, lower bench etc. should be mapped with court name
- Court address is mandatory here.

2.1.1.3 Case Information

Case information will be managed by this mockup. It is possible to insert & update case from here.

The mockup shows a web-based application for managing case information. The header displays the Chittagong Port Authority logo and the URL <http://cpa.gov.bd/case>. The main area is titled "Case Information" and includes a user profile icon for "IEC User".

Form fields include:

- Case No.: M S 70/15
- Case Date: 11/10/2019
- Category: Admiral Suit
- Court: Additional District Court, Dhaka
- Description: Receipt 2527 KG less and 1830 kg wastage
- Parties:
 - Complainant: Chittagong Port Authority, Chittagong Port Authority, Chittagong, Chittagong Port Authority, Chittagong
 - Defendant: Eastern Cables Limited, North Patenga, Chottogram, 501290,2501294,2501295,2501297
- Case Status: New
- Case Docs: M S 70/15 Docs

Buttons for "Save" and "Cancel" are present. Below the form is a table listing existing cases:

| Id | Case No. | Category | Court | Complainant | Defendant | Status |
|----|--------------------|---------------|---------------------------------|--------------------|------------|-------------|
| 1 | I. R - 13/13 | Labor Related | Labor Court | CPA | Abdur Rouf | In Progress |
| 2 | M S 115/04 | Admiral Suit | Additional District Judge Court | Bangladesh Railway | CPA | New |
| 3 | Money appeal 14/95 | Money Related | District Judge Court | CPA | TCB | Completed |

Figure 6: Mockup for Case Information

- Case Number and Date must be added.
- Case Category & Court should be selected from list.
- Case Description, Complainant & Defendant details should be added here as per case paper.
- Case status should be declared here as like new, in process, closed etc.
- There is an option to attach case related papers here.

2.1.2 Rate Chart Management Process

CPA is maintaining a rate chart to define service rate for lawyers. Rate chart may change on time basis.

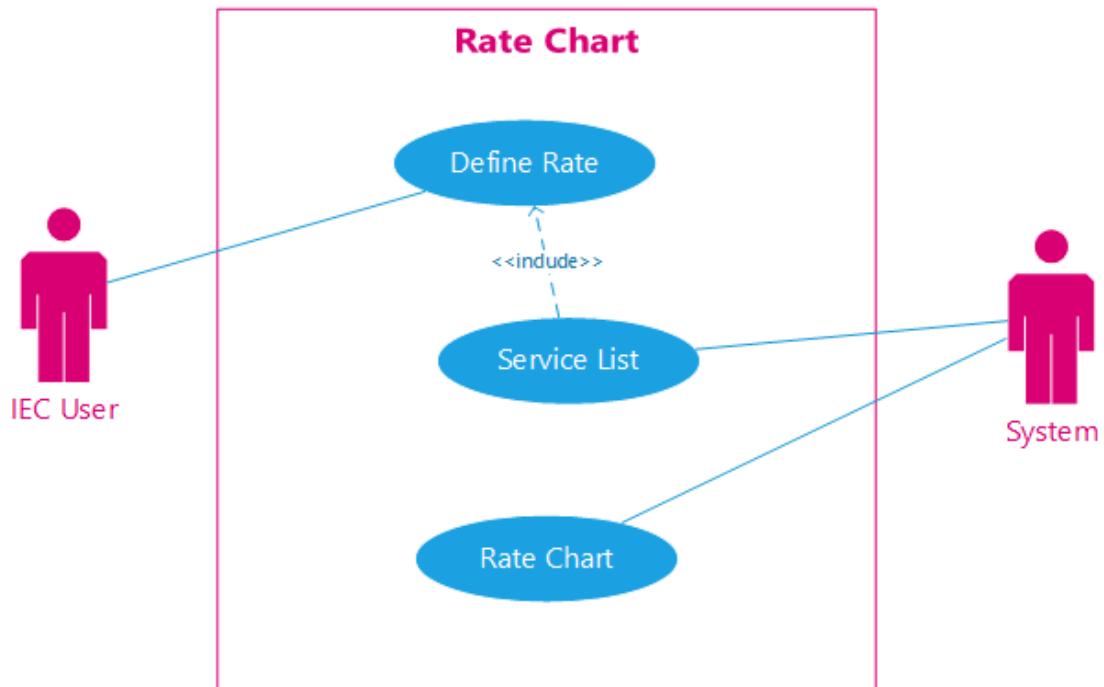
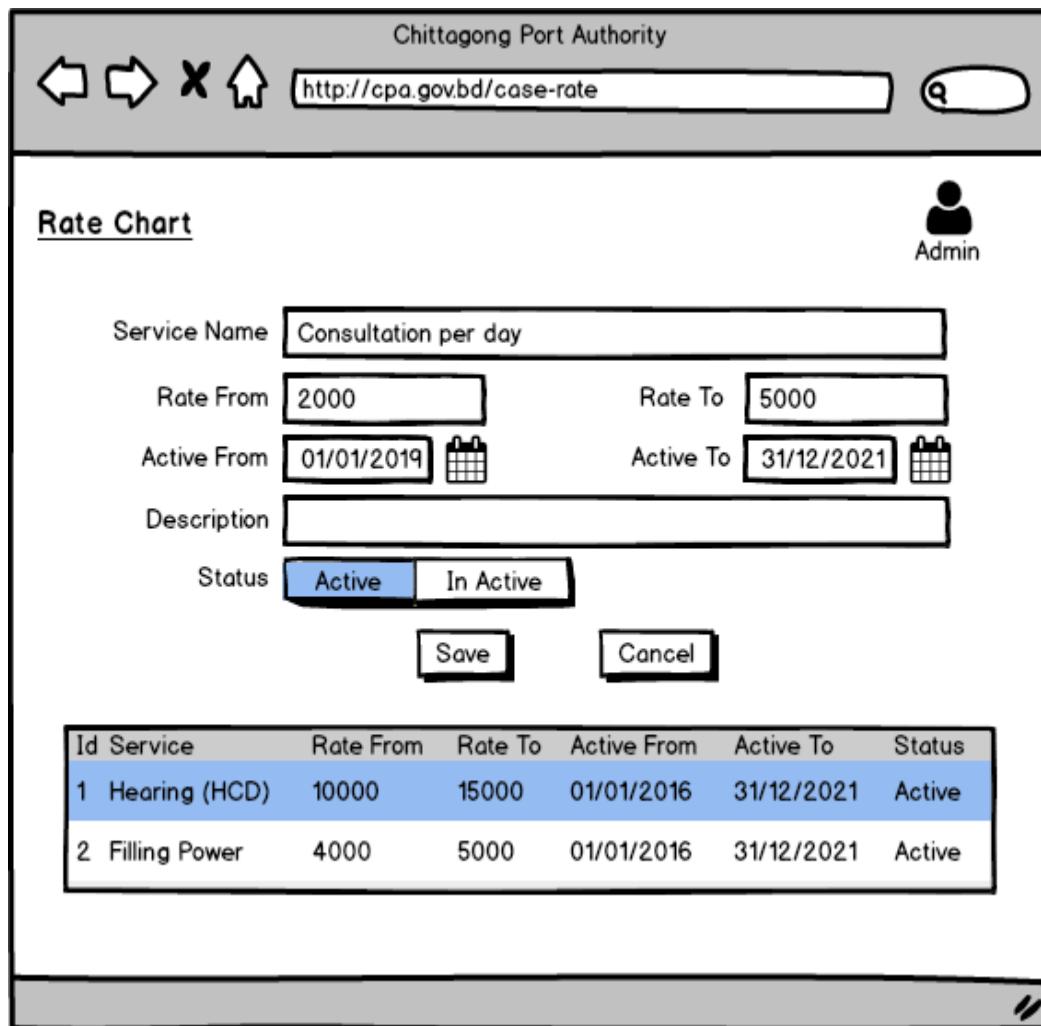


Figure 7: Use Case for Rate Chart

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CM-002 |
| Use Case Name: | Rate Chart |
| Actors: | <ul style="list-style-type: none"> IEC User System |
| Trigger: | When IEC user intends to define rate for a service. |
| Description: | The functionality "Rate Chart" facilitates to insert a rate for a service. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Service must be defined. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To insert or update a rate. |
| Normal Flow: | <ul style="list-style-type: none"> Insert Service name. Insert Minimum & maximum rate of the service. Select rate duration. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful rate chart insert/update. Created rate chart will be available for billing. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Service rate should be specified. Maximum rate must be greater than minimum rate. To date of a service should be greater than or equal of from date. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

2.1.2.1 Rate Chart Information

Rate chart will be managed by this mockup. It is possible to insert & update case from here.



The mockup displays a web-based interface for managing rate charts. At the top, there is a header with the text 'Chittagong Port Authority' and a URL 'http://cpa.gov.bd/case-rate'. Below the header are standard browser navigation icons (back, forward, search, etc.). On the right side of the header is a user icon labeled 'Admin'.

The main content area is titled 'Rate Chart'. It contains the following form fields:

- Service Name: Consultation per day
- Rate From: 2000
- Rate To: 5000
- Active From: 01/01/2019
- Active To: 31/12/2021
- Description: (empty text area)
- Status: Active (selected)
- In Active

At the bottom of the form are two buttons: 'Save' and 'Cancel'.

Below the form is a table listing existing rate chart entries:

| Id | Service | Rate From | Rate To | Active From | Active To | Status |
|----|---------------|-----------|---------|-------------|------------|--------|
| 1 | Hearing (HCD) | 10000 | 15000 | 01/01/2016 | 31/12/2021 | Active |
| 2 | Filling Power | 4000 | 5000 | 01/01/2016 | 31/12/2021 | Active |

Figure 8: Mockup for Rate Chart

- Service name should be added (identical).
- Maximum and Minimum rate amount should be defined. Maximum rate amount must be greater than minimum amount.
- Service rate length should be defined. To date should be greater than or equal of from date.

2.1.3 Lawyer Management Process

CPA has some enlisted lawyers who are assigned to handle the cases. CPA publish advertisement on daily newspaper for lawyer enlistment. Lawyer apply for enlistment with a prescribe application form with a bank draft (currently which is BDT 100/-). IEC section & CPA board authority select the lawyer as per their requirement. Finally, IEC section will need to update lawyer list to the system.

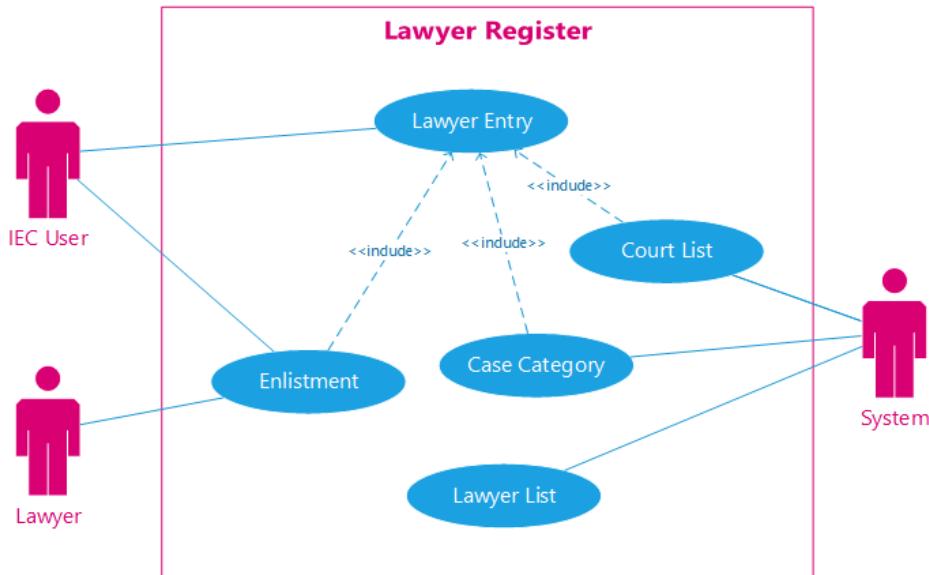


Figure 9: Use Case for Lawyer Register

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CM-003 |
| Use Case Name: | Lawyer Register |
| Actors: | <ul style="list-style-type: none"> IEC User Lawyer System |
| Trigger: | When IEC user intends to insert or update lawyer information. |
| Description: | The functionality "Lawyer Register" facilitates to insert/update lawyer information. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Lawyer should be entitled. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To insert or update a lawyer information. |
| Normal Flow: | <ul style="list-style-type: none"> Insert lawyer information. Insert lawyer enlistment information with enlistment expire date. Select permitted court and performed case categories. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful lawyer information insert/update. Inserted lawyer should be available for case assignment. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Lawyer should be enlisted. At least one court should be mapped with a lawyer. At least one case category must be assigned for a lawyer. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

2.1.3.1 Lawyer Information

Lawyer information will be managed by this mockup. It is possible to insert & update lawyer information from here.

Chittagong Port Authority

<http://cpa.gov.bd/lawyer>

Lawyer Information

IEC User

| Lawyer Name | Barrister Imranul Kabir | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|--|--------------|-------------|-----------|---------|--------------|-------------|--------|---|------------------|-------------|----------------------|-----------|------------|--------|---|-------------------|-------------|--------------------|-----------|------------|--------|---|---------------------|-------------|-----------------|-----------|------------|-----------|
| Address | 94, Halishahor, K Block | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Division | Chittagong | District | Chittagong | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mobile Number | 01711426678 | License No. | 120-256-9980 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Enlistment No. | 2019-2110 | Expire on | 31/12/2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bank Name | Mutual Trust Bank Ltd. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Branch Name | Agrabad Branch | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Branch Acc. Name | IMRANUL KABIR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Branch Acc. No. | 1521-369852147 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Permitted Court | <input checked="" type="checkbox"/> Supreme Court | <input checked="" type="checkbox"/> High Court | <input checked="" type="checkbox"/> Environtal Court | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <input checked="" type="checkbox"/> District Judge Court | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Performed Case | <input checked="" type="checkbox"/> Land Related | <input checked="" type="checkbox"/> Labor Dispute | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Status | <input checked="" type="checkbox"/> Active | <input type="checkbox"/> In Active | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="button" value="Save"/> <input type="button" value="Cancel"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> <th>Mobile</th> <th>Address</th> <th>Contract No.</th> <th>Expire Date</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Adv. Abul Kashem</td> <td>01711223356</td> <td>Halishaor Chittagong</td> <td>2019-2011</td> <td>31/12/2021</td> <td>Active</td> </tr> <tr> <td>2</td> <td>Adv. Mezbah Uddin</td> <td>01711332233</td> <td>Agrabad Chittagong</td> <td>2019-2001</td> <td>31/12/2021</td> <td>Active</td> </tr> <tr> <td>3</td> <td>Barr. Shafiq Rahman</td> <td>01722335500</td> <td>Motijheel Dhaka</td> <td>2017-2001</td> <td>31/12/2019</td> <td>In Active</td> </tr> </tbody> </table> | | | | ID | Name | Mobile | Address | Contract No. | Expire Date | Status | 1 | Adv. Abul Kashem | 01711223356 | Halishaor Chittagong | 2019-2011 | 31/12/2021 | Active | 2 | Adv. Mezbah Uddin | 01711332233 | Agrabad Chittagong | 2019-2001 | 31/12/2021 | Active | 3 | Barr. Shafiq Rahman | 01722335500 | Motijheel Dhaka | 2017-2001 | 31/12/2019 | In Active |
| ID | Name | Mobile | Address | Contract No. | Expire Date | Status | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Adv. Abul Kashem | 01711223356 | Halishaor Chittagong | 2019-2011 | 31/12/2021 | Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Adv. Mezbah Uddin | 01711332233 | Agrabad Chittagong | 2019-2001 | 31/12/2021 | Active | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Barr. Shafiq Rahman | 01722335500 | Motijheel Dhaka | 2017-2001 | 31/12/2019 | In Active | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 10: Mockup for Lawyer Information

- Lawyer name, Mobile Number, address & License number (identical) should be added.
- Establishment number and expire date need to update as per contract letter.
- Lawyer status should be automatically inactive when it over the expire date.
- Lawyer should have entitled at least one court & case type.

2.1.4 Lawyer Assignment Process

CPA records their cases and assign lawyer to operating a case. Most of time the enlisted lawyers are assigned to operate the case; But in some special case or special reason CPA Chairman directly assign some lawyer to operate a case.

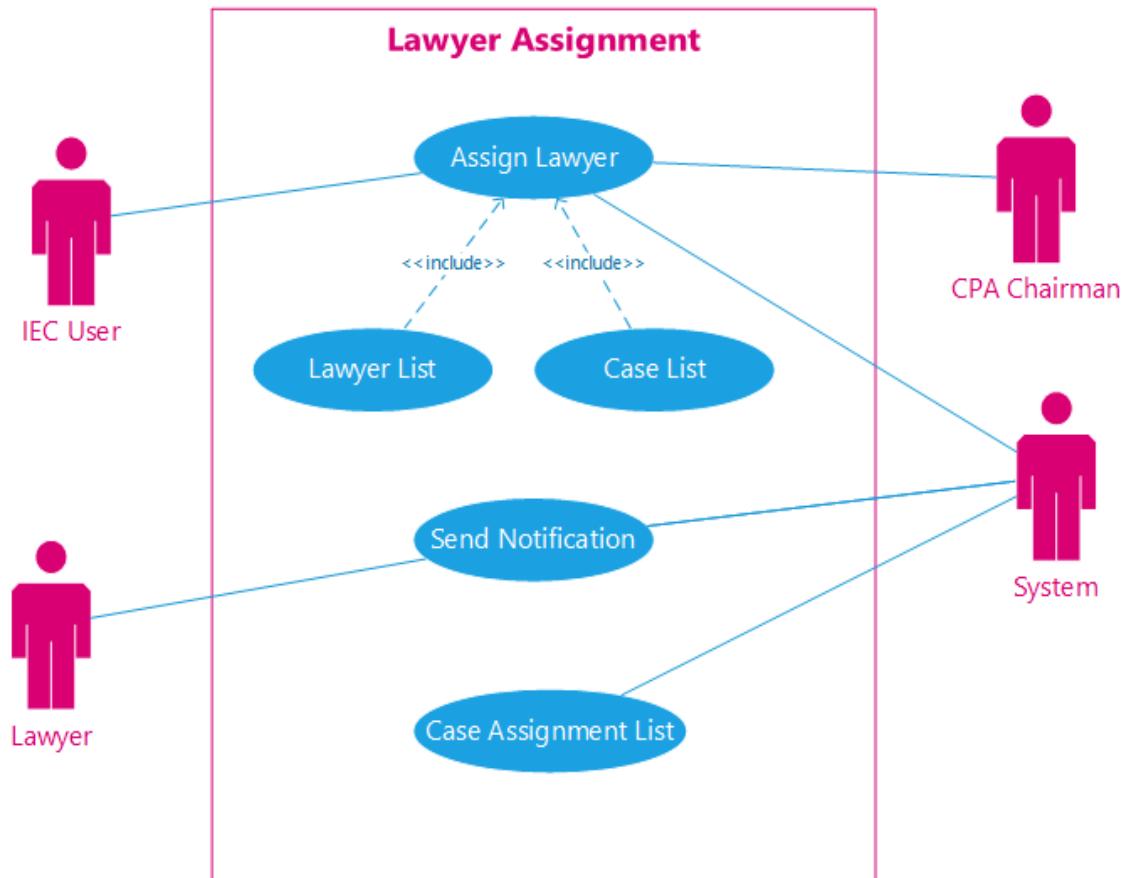


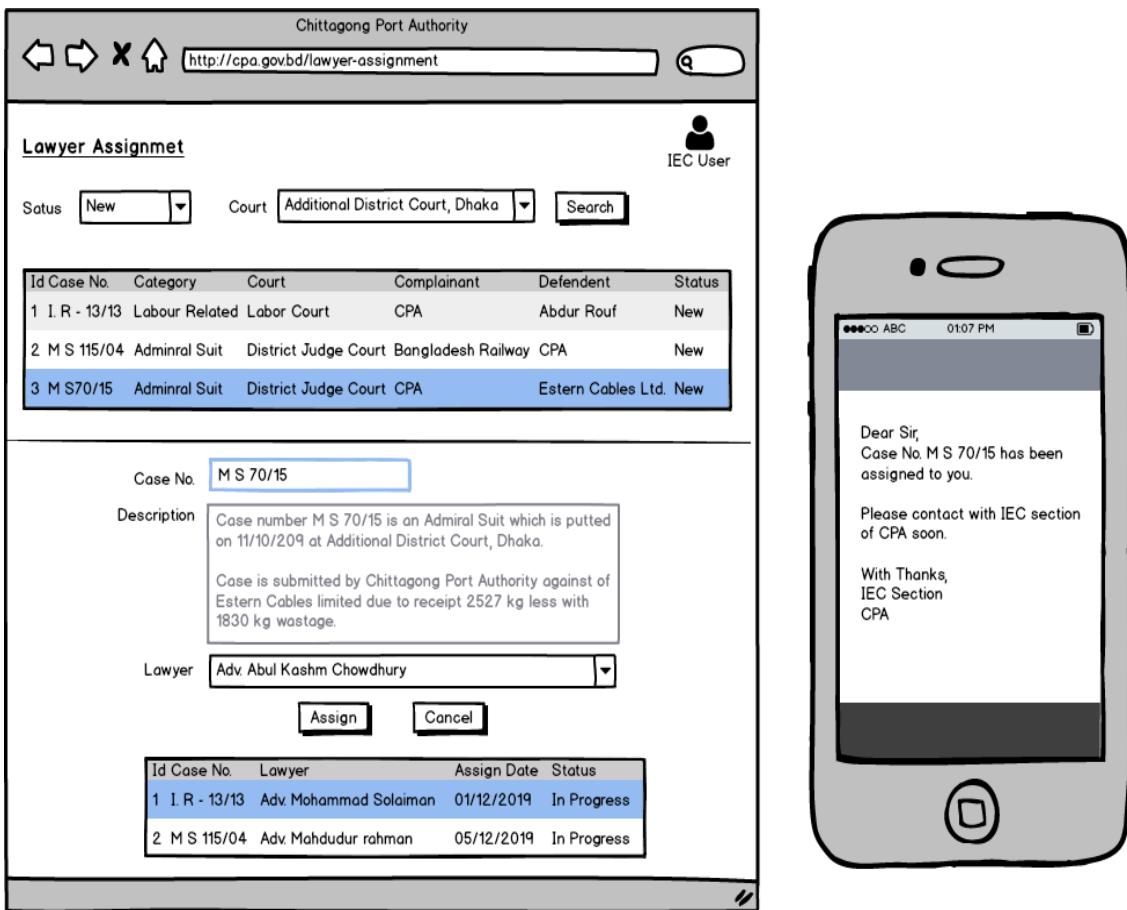
Figure 11: Use Case for Lawyer Assignment

| | |
|------------------------|--|
| Use Case ID: | UC-CM-004 |
| Use Case Name: | Lawyer Assignment |
| Actors: | <ul style="list-style-type: none"> CPA Chairman IEC User Lawyer System |
| Trigger: | When IEC user intends to assign a case to a lawyer. |
| Description: | The functionality "Lawyer Assignment" facilitates to assign a lawyer to operate a case. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system. Case should be recorded. Lawyer should be entitled. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To assign a lawyer with a case. |
| Normal Flow: | <ul style="list-style-type: none"> Select a case & map a lawyer with this case. Verify the information. Submit information to the system. System should send a notification to Lawyer about his/her assignment. (SMS/Email). |
| Alternate Flow: | <ul style="list-style-type: none"> CPA Chairman assign non-listed lawyer for some special case. |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. |

| | |
|-------------------------------------|---|
| | <ul style="list-style-type: none"> Mandatory field missing. Lawyer will be notified via SMS/Email about his/her assignment. |
| Post conditions: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Lawyer should be enlisted. Case should be recorded. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CM-001, UC-CM-002 |

2.1.4.1 Lawyer Assignment

Lawyer assignment related information will be managed by this mockup.



The mockup illustrates the process of assigning a lawyer to a case. On the left, a web browser window titled 'Chittagong Port Authority' shows the 'Lawyer Assignment' page. The page includes a search bar, filters for 'Status' (New), 'Court' (Additional District Court, Dhaka), and a 'Search' button. A table lists three cases with their details. Case No. 3 M S70/15 is selected and highlighted. Below the table, a form is displayed for assigning a lawyer to Case No. M S 70/15. The form includes fields for 'Case No.' (M S 70/15), 'Description' (Case number M S 70/15 is an Admiral Suit which is putted on 11/10/2019 at Additional District Court, Dhaka. Case is submitted by Chittagong Port Authority against of Eastern Cables limited due to receipt 2527 kg less with 1830 kg wastage.), and 'Lawyer' (Adv. Abul Kashm Chowdhury). Buttons for 'Assign' and 'Cancel' are present. At the bottom, a summary table shows the assigned lawyers for cases 1 and 2. On the right, a smartphone displays a notification message: 'Dear Sir, Case No. M S 70/15 has been assigned to you. Please contact with IEC section of CPA soon. With Thanks, IEC Section CPA'.

| Id | Case No. | Category | Court | Complainant | Defendant | Status |
|----|--------------|----------------|----------------------|--------------------|---------------------|--------|
| 1 | I. R - 13/13 | Labour Related | Labor Court | CPA | Abdur Rouf | New |
| 2 | M S 115/04 | Adminral Suit | District Judge Court | Bangladesh Railway | CPA | New |
| 3 | M S70/15 | Adminral Suit | District Judge Court | CPA | Eastern Cables Ltd. | New |

| Id | Case No. | Lawyer | Assign Date | Status |
|----|--------------|------------------------|-------------|-------------|
| 1 | I. R - 13/13 | Adv. Mohammad Salaiman | 01/12/2019 | In Progress |
| 2 | M S 115/04 | Adv. Mahdudur rahman | 05/12/2019 | In Progress |

Figure 12: Mockup for Case Assignment

- Case wise lawyer should be assigned.
- Lawyer will receive notification about his/her assignment.

2.1.5 Case Update Process

Assigned lawyer move with the cases. Lawyer provide the case update to IEC officer. IEC user will update the case information to system.

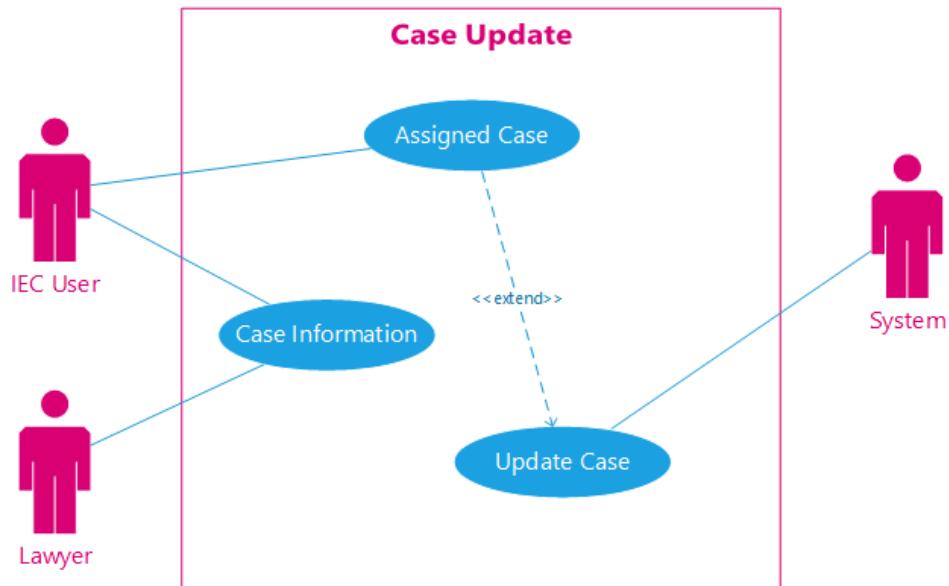


Figure 13: Use Case for Case Update

| | |
|-------------------------------------|---|
| Use Case ID: | UC-CM-005 |
| Use Case Name: | Case Update |
| Actors: | <ul style="list-style-type: none"> IEC User Lawyer System |
| Trigger: | When IEC user intends to update case information. |
| Description: | The functionality "Case Update" facilitates to update case status & information. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system. Case should be recorded. Lawyer should be assigned. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To update a case information. |
| Normal Flow: | <ul style="list-style-type: none"> Select a case. Check Casestep and Case Status. Update next Date and Reasons. It may provide update description. Attach document (if any). Verify the information. Submit information to the system. |
| Alternate Flow: | <ul style="list-style-type: none"> N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | Case Information will be updated. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Lawyer should be enlisted. Case should be recorded. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CM-001, UC-CM-002, UC-CM-004 |

2.1.5.1 Case Information Update

Lawyer assignment related information will be managed by this mockup.

The mockup shows a web-based application for managing case information. The header displays the Chittagong Port Authority logo and the URL <http://cpa.gov.bd/case-update>. The main form is titled "Case Information Update" and includes the following fields:

- Case No.:** M S 70/15
- Category:** Admiral Suit
- Description:** Receipt 2527 KG less and 1830 kg wastage
- Parties:**
 - Complainant:** Name: Chittagong Port Authority, Address: Chittagong Port Authority, Chittagong, Contact No: Chittagong Port Authority, Chittagong
 - Defendant:** Name: Eastern Cables Limited, Address: North Patenga, Chottogram, Contact No: 501290, 2501294, 2501295, 2501297
- Case Step:** Hearing
- Lawyer:** Adv. Abul Kashm Chowdhury
- Last Update Date:** 02/12/2019
- Comments:** Hearing date is fixed on next 10/01/2020.
- Next Date:** 10/01/2020
- Reason:** Hearing at Additional district Jaudge Court
- Description:** Hearing at Additional district Jaudge Court
- Case Docs:** Hearing Order for 10/01/2020

At the bottom, there are "Save" and "Cancel" buttons. Below the form is a table showing a list of previous cases:

| ID | Case No. | Category | Court | Lawyer | Next Date | Reason |
|----|--------------------|----------------|---------------------------------|--------------------|------------|----------------|
| 1 | I. R - 13/13 | Labour Related | Labor Court | Adv. Abdul Hamid | 01/01/2020 | Appeal Hearing |
| 2 | M S 115/04 | Adminral Suit | Additional District Judge Court | Adv. Rafiqul Islam | 05/01/2020 | Hearing |
| 3 | Money appeal 14/95 | Money Related | District Judge Court | Bar. Moinul Islam | 10/01/2020 | Final Hearing |

Figure 14: Mockup for Case Update

- Identify case with case number.
- Update case status and step, if required.
- Next date, Reason, and Description fields should be disabled, if user select closed option as case status.
- Next date and reason should be putted here.

2.1.6 Lawyer Bill Process

Lawyer submit bills to IEC section on behalf of his/her service. IEC section user will verify the bill with rate chart and prepare the final bill. Approved bill will be updated to the system for consideration of Accounts Department. Accounts will disburse the bill to lawyer.

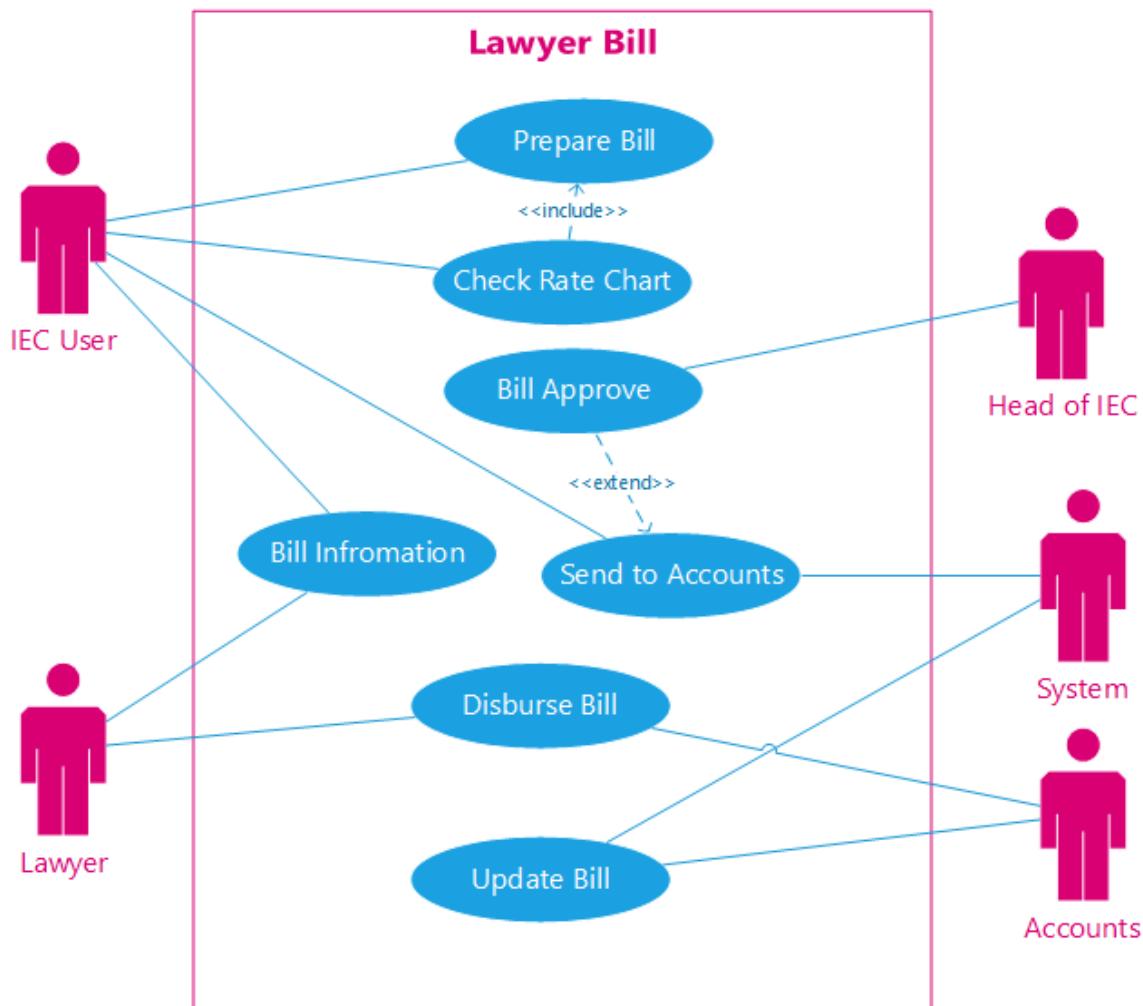


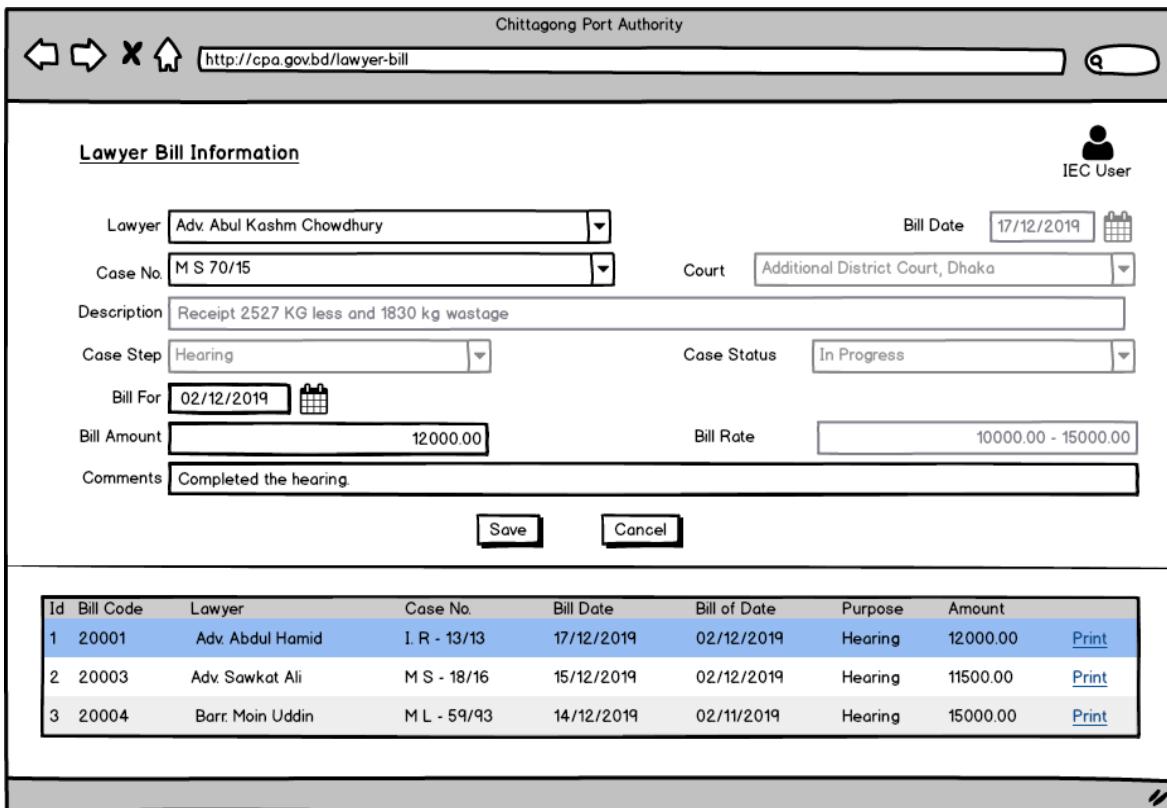
Figure 15: Use Case for Lawyer Bill

| | |
|-----------------------|---|
| Use Case ID: | UC-CM-006 |
| Use Case Name: | Lawyer Bill |
| Actors: | <ul style="list-style-type: none"> • IEC User • Head of IEC • Lawyer • Accounts • System |
| Trigger: | When IEC user intends to submit bills for Lawyers. |
| Description: | The functionality “Lawyer Bill” facilitates to prepare, update, approve, and disbursement of lawyer bill. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system. • Bill must be submitted my lawyer. |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To prepare and disburse lawyer bills. |
| Normal Flow: | <ul style="list-style-type: none"> • Receive bill from lawyer • Prepare the bill • Approved the bill by Head of IEC • Insert the bill into system |

| | |
|-------------------------------------|--|
| | <ul style="list-style-type: none"> Forward the bill to Accounts Account disbursre the bill to Lawyer account. |
| Alternate Flow: | <ul style="list-style-type: none"> N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Bill information should be updated after disbursement. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Lawyer should be enlisted. Case should be recorded. Lawyer should be assigned for a case. Case infroamtion should be updated against of bill. Bill amount should be matched with rate chart. Bill should be approved by IEC head. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CM-001, UC-CM-002, UC-CM-003, UC-CM-004, UC-CM-005 |

2.1.6.1 Lawyer Bill Information

Lawyer bill will be preparing and submitted by this mockup.



The mockup is a web-based application for managing lawyer bills. It features a header with the Chittagong Port Authority logo and a search bar. The main content area is titled 'Lawyer Bill Information' and includes fields for Lawyer (Adv. Abul Kashm Chowdhury), Bill Date (17/12/2019), Case No. (M S 70/15), Court (Additional District Court, Dhaka), Description (Receipt 2527 KG less and 1830 kg wastage), Case Step (Hearing), Case Status (In Progress), Bill For (02/12/2019), Bill Amount (12000.00), Bill Rate (10000.00 - 15000.00), and Comments (Completed the hearing). There are 'Save' and 'Cancel' buttons at the bottom. Below the form is a table showing a list of bills with columns: Id, Bill Code, Lawyer, Case No., Bill Date, Bill of Date, Purpose, Amount, and Print. The table contains three entries: 1. Id 20001, Lawyer Adv. Abdul Hamid, Case No. I. R - 13/13, Bill Date 17/12/2019, Bill of Date 02/12/2019, Purpose Hearing, Amount 12000.00, Print. 2. Id 20003, Lawyer Adv. Sawkat Ali, Case No. M S - 18/16, Bill Date 15/12/2019, Bill of Date 02/12/2019, Purpose Hearing, Amount 11500.00, Print. 3. Id 20004, Lawyer Barr. Moin Uddin, Case No. M L - 59/93, Bill Date 14/12/2019, Bill of Date 02/11/2019, Purpose Hearing, Amount 15000.00, Print.

| ID | Bill Code | Lawyer | Case No. | Bill Date | Bill of Date | Purpose | Amount | Print |
|----|-----------|------------------|--------------|------------|--------------|---------|----------|-----------------------|
| 1 | 20001 | Adv. Abdul Hamid | I. R - 13/13 | 17/12/2019 | 02/12/2019 | Hearing | 12000.00 | Print |
| 2 | 20003 | Adv. Sawkat Ali | M S - 18/16 | 15/12/2019 | 02/12/2019 | Hearing | 11500.00 | Print |
| 3 | 20004 | Barr. Moin Uddin | M L - 59/93 | 14/12/2019 | 02/11/2019 | Hearing | 15000.00 | Print |

Figure 16: Mockup for lawyer bill

- Bill for date and Bill amount should be required.
- Bill amount should be checked against Rate chart.

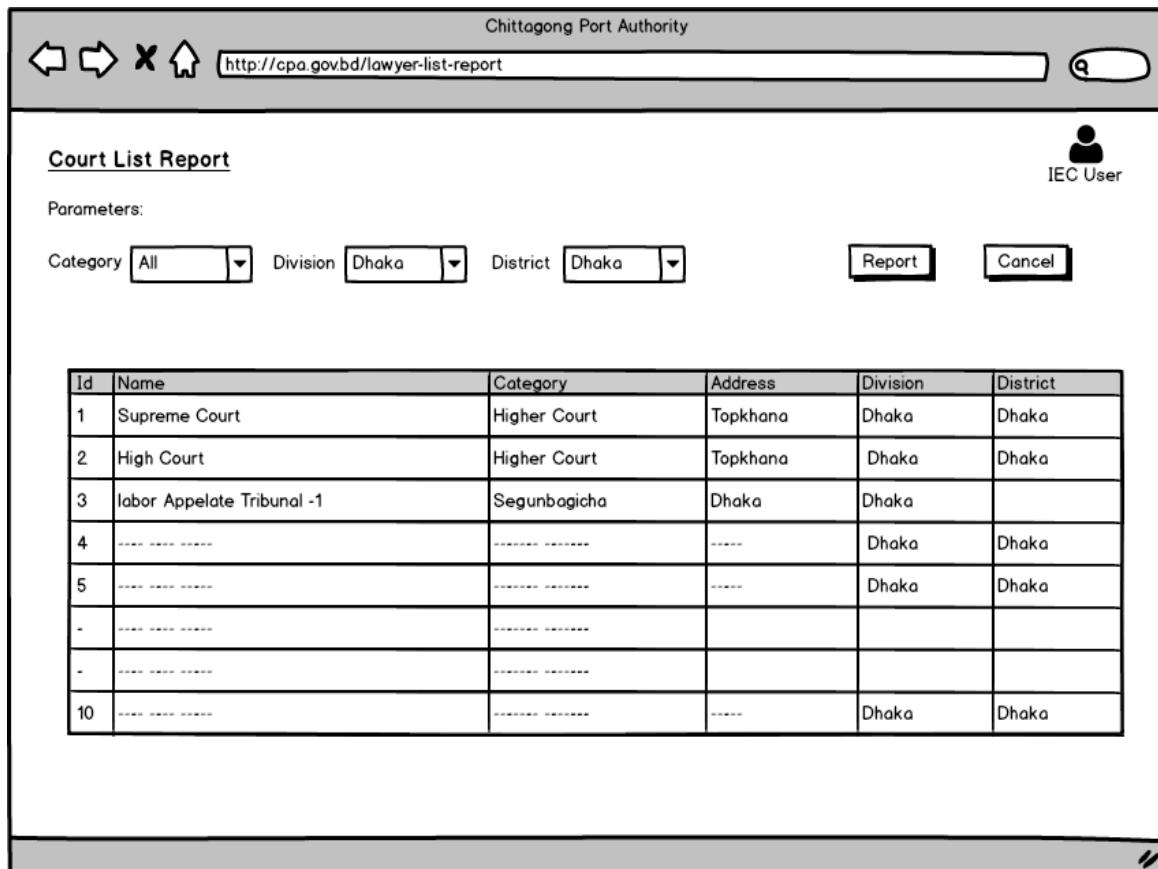
2.1.7 Case Module Reports

We have listed some reports for Case module.

2.1.7.1 Court list Report

System will provide facility to generate court list based on multiple criterion. These are:

- Court Category wise court list
- Division wise Court list
- District wise court list



The mockup shows a web-based application for generating a court list report. The header of the browser window reads "Chittagong Port Authority" and the URL is "http://cpa.govbd/lawyer-list-report". The page title is "Court List Report". On the right, there is a user icon labeled "IEC User". Below the title, there is a section for "Parameters" with dropdown menus for "Category" (set to "All"), "Division" (set to "Dhaka"), and "District" (set to "Dhaka"). There are also "Report" and "Cancel" buttons. The main content area displays a table of court data:

| Id | Name | Category | Address | Division | District |
|----|----------------------------|--------------|----------|----------|----------|
| 1 | Supreme Court | Higher Court | Topkhana | Dhaka | Dhaka |
| 2 | High Court | Higher Court | Topkhana | Dhaka | Dhaka |
| 3 | labor Appelate Tribunal -1 | Segunbagicha | Dhaka | Dhaka | |
| 4 | ----- | ----- | --- | Dhaka | Dhaka |
| 5 | ----- | ----- | --- | Dhaka | Dhaka |
| - | ----- | ----- | --- | | |
| - | ----- | ----- | --- | | |
| 10 | ----- | ----- | --- | Dhaka | Dhaka |

Figure 17: Mockup for Court List Report

2.1.7.2 Lawyer list Report

System will provide facility to generate lawyer list based on multiple criterion. These are:

- Lawyer list as per Enlistment Status
- Court wise lawyer list
- Expire date wise lawyer list

Chittagong Port Authority

<http://cpa.gov.bd/lawyer-list-report>

Lawyer List Report

IEC User

Parameters:

| | | | | | | | |
|--------|--------|-------|------------|-----------|------------|---------------------------------------|---------------------------------------|
| Status | Active | Court | High Court | Expire On | 31/12/2019 | <input type="button" value="Report"/> | <input type="button" value="Cancel"/> |
|--------|--------|-------|------------|-----------|------------|---------------------------------------|---------------------------------------|

| ID | Name | Mobile | Address | Contract No. | Expire Date | Status |
|-------|----------------------------|-------------|----------------------|--------------|-------------|--------|
| 1 | Adv. Abul Kashem Chowdhury | 01711223356 | Halishaor Chittagong | 2019-2011 | 31/12/2019 | Active |
| 2 | Adv. Md. Mezbah Uddin | 01711332233 | Agradab Chittagong | 2019-2001 | 31/12/2019 | Active |
| 3 | Barrister Shafiq Rahman | 01722335500 | Motijheel Dhaka | 2017-2001 | 31/12/2019 | Active |
| 4 | ----- | 01XXXXXXXX | ----- | XXXX-XXXX | 31/12/2019 | Active |
| 5 | ----- | 01XXXXXXXX | ----- | XXXX-XXXX | 31/12/2019 | Active |
| ----- | ----- | 01XXXXXXXX | ----- | XXXX-XXXX | 31/12/2019 | Active |
| ----- | ----- | 01XXXXXXXX | ----- | XXXX-XXXX | 31/12/2019 | Active |
| 10 | ----- | 01XXXXXXXX | ----- | XXXX-XXXX | 31/12/2019 | Active |

Figure 18: Mockup for Lawyer List Report

2.1.7.3 Rate Chart Report

System will provide facility to generate rate chart list based on multiple criterion. These are:

- Minimum Rate
- Maximum Rate
- Active From
- Active To
- Status

Chittagong Port Authority

<http://cpa.govbd/lawyer-list-report>

Rate Chart List Report

IEC User

Parameters:

| | | | | | | | |
|--------------|----------------------|-------------|--------------------------|--------|------------------------------------|---------------------------------------|---------------------------------------|
| Minimum Rate | <input type="text"/> | Active From | <input type="text"/> / / | Status | <input type="button" value="All"/> | <input type="button" value="Report"/> | <input type="button" value="Cancel"/> |
| Maximum Rate | <input type="text"/> | Active To | <input type="text"/> / / | | | | |

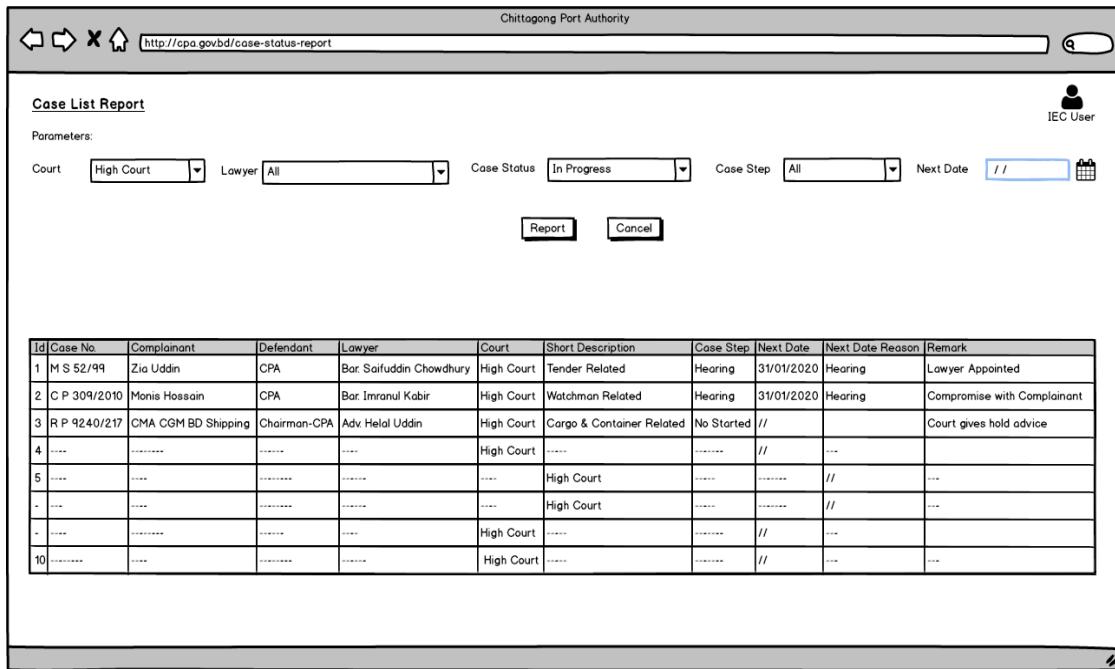
| Id | Service Name | Rate From | Rate To | Start Date | End Date | Status |
|-----------|---------------------|------------------|----------------|-------------------|-----------------|---------------|
| 1 | Hearing (HCD) | 10000 | 15000 | 01/01/2016 | 31/12/2021 | Active |
| 2 | Hearing (HCD) | 7000 | 9000 | 01/01/2013 | 31/12/2015 | Inactive |
| 3 | Filling Power | 4000 | 5000 | 01/01/2016 | 31/12/2021 | Active |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 19: Mockup for Rate Chart Report

2.1.7.4 Case list Report

System will provide facility to generate case list based on multiple criterion. These are:

- Court wise case list
- Lawyer wise case list
- Status wise case list
- Case step wise case list
- Next Date wise case list



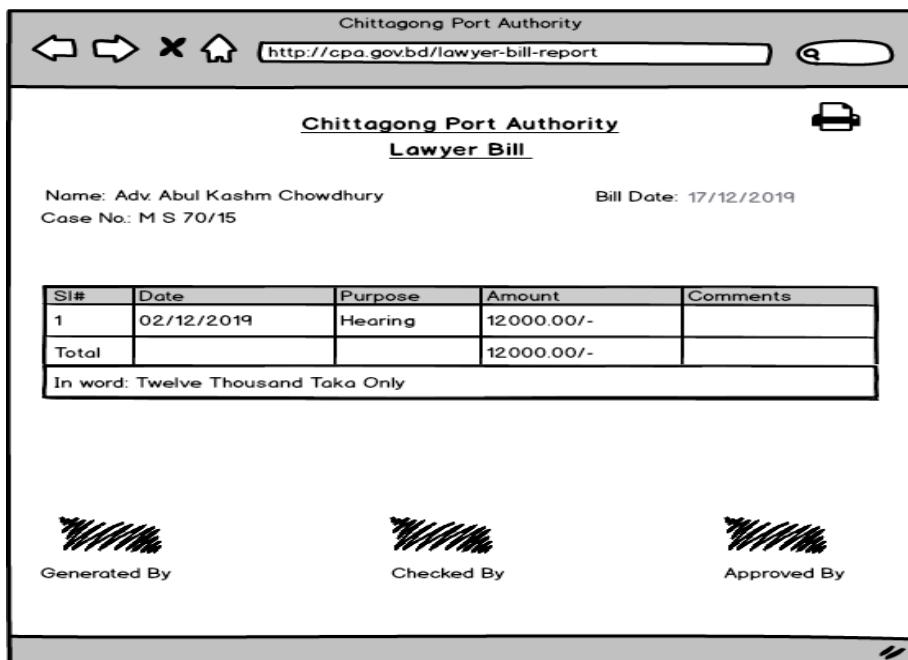
The mockup shows a web browser window for 'Chittagong Port Authority' at the URL <http://cpa.gov.bd/case-status-report>. The title bar says 'Case List Report'. The interface includes a 'Parameters' section with dropdowns for 'Court' (High Court), 'Lawyer' (All), 'Case Status' (In Progress), 'Case Step' (All), and 'Next Date' (a date input field). Below the parameters are 'Report' and 'Cancel' buttons. The main content area displays a table of case details:

| ID | Case No. | Complainant | Defendant | Lawyer | Court | Short Description | Case Step | Next Date | Next Date Reason | Remark |
|----|--------------|---------------------|--------------|--------------------------|------------|---------------------------|------------|------------|------------------|-----------------------------|
| 1 | M S 52/99 | Zia Uddin | CPA | Bar. Saifuddin Chowdhury | High Court | Tender Related | Hearing | 31/01/2020 | Hearing | Lawyer Appointed |
| 2 | C P 309/2010 | Monis Hossain | CPA | Bar. Imranul Kabir | High Court | Watchman Related | Hearing | 31/01/2020 | Hearing | Compromise with Complainant |
| 3 | R P 9240/217 | CMA CGM BD Shipping | Chairman-CPA | Adv. Helal Uddin | High Court | Cargo & Container Related | No Started | // | | Court gives hold advice |
| 4 | .... | .... | .... | .... | High Court | .... | .... | // | .... |  |
| 5 | .... | .... | .... | .... | High Court | .... | .... | // | .... |  |
| 6 | .... | .... | .... | .... | High Court | .... | .... | // | .... |  |
| 10 | .... | .... | .... | .... | High Court | .... | .... | // | .... |  |

Figure 20: Mockup for Case List Report

2.1.7.5 Lawyer Report

Bill report will be available from the system.



The mockup shows a web browser window for 'Chittagong Port Authority' at the URL <http://cpa.gov.bd/lawyer-bill-report>. The title bar says 'Chittagong Port Authority' and 'Lawyer Bill'. The interface includes a 'Print' icon. The main content area displays a bill summary:

Name: Adv. Abul Kashm Chowdhury
Case No.: M S 70/15
Bill Date: 17/12/2019

| Sl# | Date | Purpose | Amount | Comments |
|------------------------------------|------------|---------|------------|----------|
| 1 | 02/12/2019 | Hearing | 12000.00/- | |
| Total | | | 12000.00/- | |
| In word: Twelve Thousand Taka Only | | | | |

Below the table are three signature fields:

- Generated By: [Signature]
- Checked By: [Signature]
- Approved By: [Signature]

Figure 21: Mockup for Bill Report

2.1.7.6 Case Module Summary Report

System will provide some summary reports as like:

- Case Summary report
- Court wise Summary Report
- Lawyer wise Summary Report
- Yearly Case Summary

Chittagong Port Authority

<http://cpa.gov.bd/case-status-report>

IEC User

Summary Reports

Case Summary Report

| Total Case | New Case | In Progress | Closed |
|------------|----------|-------------|--------|
| 500 | 25 | 125 | 350 |

Court wise Summary Report

| Court Name | New Case | In Progress | Closed | Total |
|---------------|----------|-------------|--------|-------|
| Supreme Court | 5 | 25 | 15 | 45 |
| High Court | 10 | 30 | 20 | 60 |
| ----- | -- | -- | -- | -- |

Lawyer wise Summary Report

| Lawyer Name | Court Name | New Case | In Progress | Closed | Total |
|--------------------|---------------|----------|-------------|--------|-------|
| Adv. Mahabub Uddin | Supreme Court | 5 | 25 | 15 | 45 |
| Barr. Bellal Ahmed | High Court | 10 | 30 | 20 | 60 |
| ----- | -- | -- | -- | -- | -- |

Yearly Case Summary

| Year | New Case | Close |
|------|----------|-------|
| 2019 | 25 | 75 |
| 2018 | 10 | 50 |
| 2017 | 27 | 5 |

Figure 22: Mock up for Case Summary Reports

3 Module: Training Institute Automation

We, CNS develop a proposed design for the Training Management Module of CPA system.

The proposed module will work on below listed ways;

- Various departments will apply for their Training.
- Training Institute receive training request and create training calendar.
- Manage trainer information and assign trainer for training.
- Schedule and manage batches for conducting training.
- Record trainee information and their feedback.
- Provide training related other infrastructure and facilities.

Major services provided by Training department are given below:

- Prepare Training Plan
- Arrange Training
- Assign Trainer
- Collect Trainee information & their feedback
- Trainee Evaluate

3.1 Prepare Training Plan

The purpose of the Training Plan is to identify the appropriate training strategies and activities required to achieve the desired learning outcome needed for CPA employees for different department.

The Training Plan provides a clear understanding of what must happen to meet the training requirements that have been defined, thus, end-users receive training in the knowledge, skills, and/or abilities required to support the new roles, business processes and/or technology.

| Software in use | Covered Area | Remark |
|-----------------|----------------------|---|
| No | CPA Training Center. | New application will be developed for both Web and Mobile Apps. |

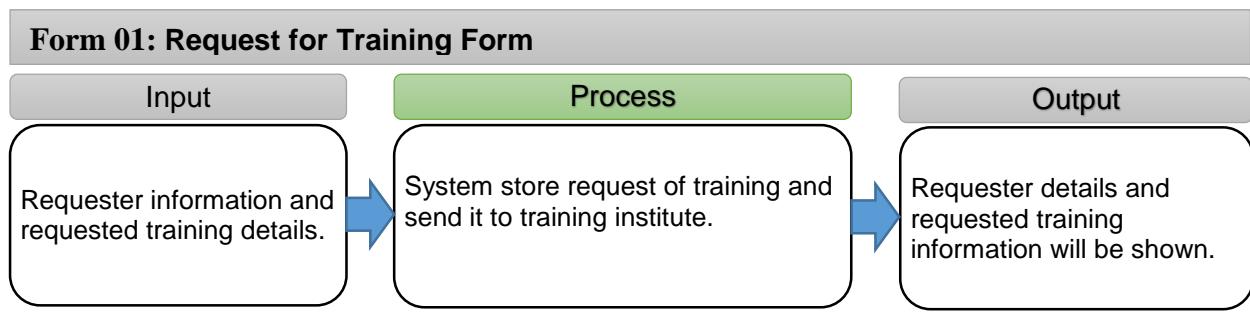
3.1.1 Training Request

Every Department is requested to provide their requirements on Training for the year. Using this system user can provide their request for training to training institute.

- Training Category should be General, Operational, Financial or technical.
- Training participant/applicable for should be Officers or Stuffs of CPA.

The screenshot shows a web-based application for requesting training. At the top, it says 'A Web Page' and has a URL bar with 'http://www.cpa.com.bd'. The main form is titled 'Request For Training'. It contains several input fields and dropdown menus. On the left, there are fields for 'Employee Id', 'Name', 'Designation', 'Training Category' (with a dropdown menu showing 'Category'), 'Course Name', 'For Whom' (with checkboxes for 'Officials of CPA', 'MPA', and 'BIWTC', and a 'Add Another' button), 'Participant/Applicable For' (with a dropdown menu showing 'Participant'), and 'Objectives' (a large text area). At the bottom right, there are buttons for 'Save', 'Edit', and 'Clear'.

Figure 23: Mockup for Training Request



3.1.2 Training Information

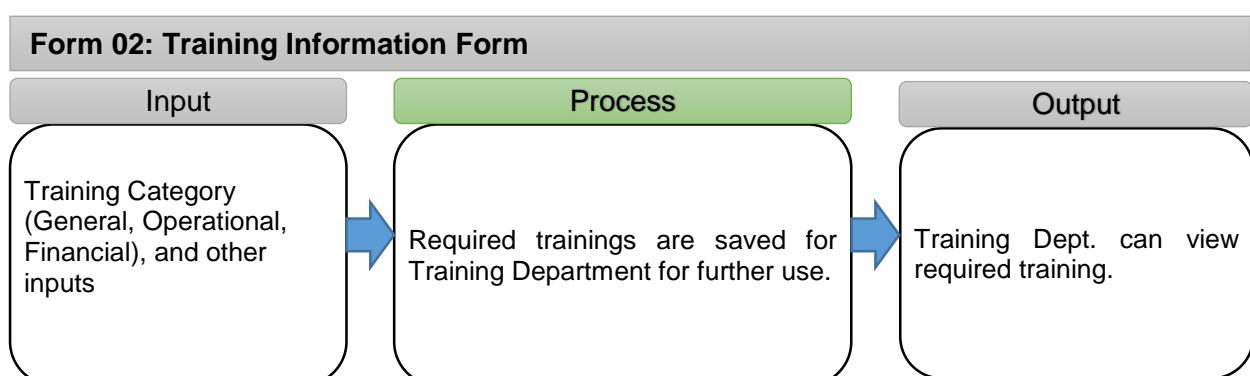
- Training category should be categorized as-
 - General Course
 - Operational Course
 - Financial Course
- Full course content should be attached.
- Course objectives should be highlighted in objective text field.
- Methodology that used in this course should be populated in teaching methodology.

A Web Page

The mockup shows a web page titled 'Training Information'. The form fields include:

- Training Category: A dropdown menu showing 'Category'.
- Course Name: An input field.
- Number Of Course: An input field.
- Duration: An input field.
- Participant/Applicable For: A dropdown menu showing 'Participant'.
- Objectives: A text area.
- Teaching Methodology: A list box containing 'Class Lecture (Multimedia)', 'Group Exercise', and 'Operational Area visit'. Below it is a button 'Add Another'.
- For Whom: A list box containing 'Officials of CPA', 'MPA', and 'BIWTC'. Below it is a button 'Add Another'.
- Course Fee: An input field.
- Facilities: An input field.
- Course Contents/Coverage: An input field with a 'Attach File' button.
- Buttons at the bottom: 'Save', 'Edit', and 'Clear'.

Figure 24: Mockup for Training Information



3.1.3 Trainer Information

Trainer information enlisted here. All trainers of Training institute should be enlisted here before conduct any training.

- Trainer should be categorizing as internal, external or foreign.
- All professional certificates attached in this form.

A Web Page

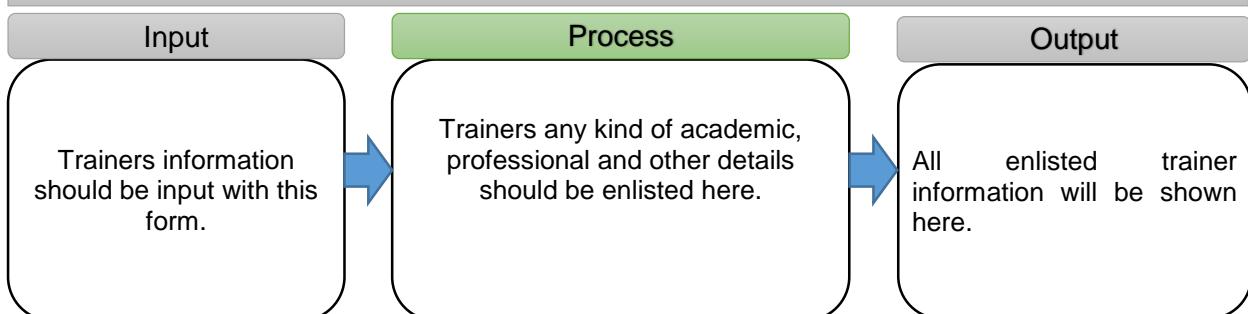
http://wwwcpa.com.bd

Trainer Information

| | | | | | | |
|-----------------------|-------------------|---|---------------------|--------------------------------|----------------------------|---|
| Trainer Contact Info | | Emergency Contact | | | | |
| Trainer Name | Contact Number | EMail | | | | |
| Current Workplace | Designation | Emergency Contact | | | | |
| Present Address | Permanent Address | Experties | | | | |
| NID/Birth Certificate | Distinct | Java | | | | |
| | Internal | iProcurement | | | | |
| | External | Business Relation | | | | |
| | Foreign Trainer | | | | | |
| Academic Details | | Name of Exam | Institution | Department | CGPA | Year of Passing |
| | | Master in Business Administration (MBA) | University of Dhaka | Management Information Systems | 3.55 | 2010 |
| Professional Details | | Name of the Organization | Designation | Responsibilities | Duration | |
| | | Needs Ltd. | Trainer | Provide Training | 2010-2013 | |
| Training | | Course Name | Institute | Duration | Sponsor | Coverage Area |
| | | SQL | IBCS-PRIMAX | 3 Month | NA | Introduction Advantage Query type |
| Remuneration | | Performance | | | | |
| Other Qualities | | Office Application | Photoshop | Add Another | Professional Certification | Attach Files |
| | | Balsamiq | | | | Add Another |
| | | | | | Save | Edit |
| | | | | | Clear | |

Figure 25: Mockup for Trainer information

Form 03: Trainer Information Form



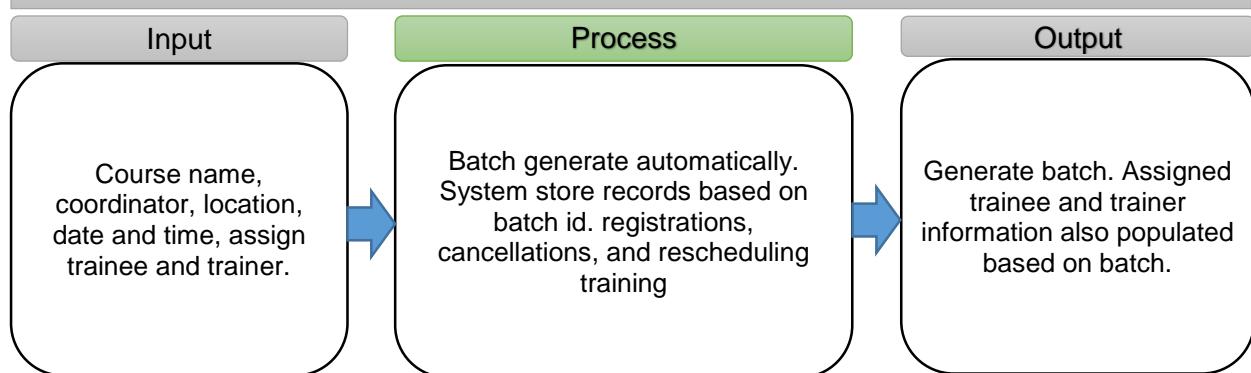
3.1.4 Training Schedule Management

Using this service system will manage training schedule and generate batch for yearly training calendar. Every Department is requested to provide their requirements on Training for the year. Training Section of Administration Department consolidates all the requests and generate batch on the basis of the request. Training Calendar is then printed and handed over to different Departments.

The mockup shows a web-based training schedule management system. At the top, there is a header with a back, forward, and refresh button, a search bar with the URL <http://www.cpa.com.bd>, and a menu icon. Below the header, the title "Training Schedule Management" is displayed. The interface includes several input fields and dropdown menus for creating a new batch. These fields include "Batch Id", "Course Name" (with a dropdown menu "Select Course"), "Location", "Training Facilities" (with options "Practical Demonstration" and "Individual & Group Exercise"), "Course Co-Ordinator", and "Capacity". There is also a "Create Batch" button. Below these fields, there is a section titled "Day Setup & Trainer Assign:" containing a table with columns "From Date", "To Date", "Time From", "Time To", "Trainer Name (Designation)", "Contact", and "Experties". A single row in the table shows "25-jan-16", "30-jan-19", "3:30 PM", "5:30 PM", "Ali Akber", "01711-112245", and "Mechanical Engineer". At the bottom of this section are "Add", "Edit", and "Save" buttons. The overall layout is clean and organized, typical of a web application interface.

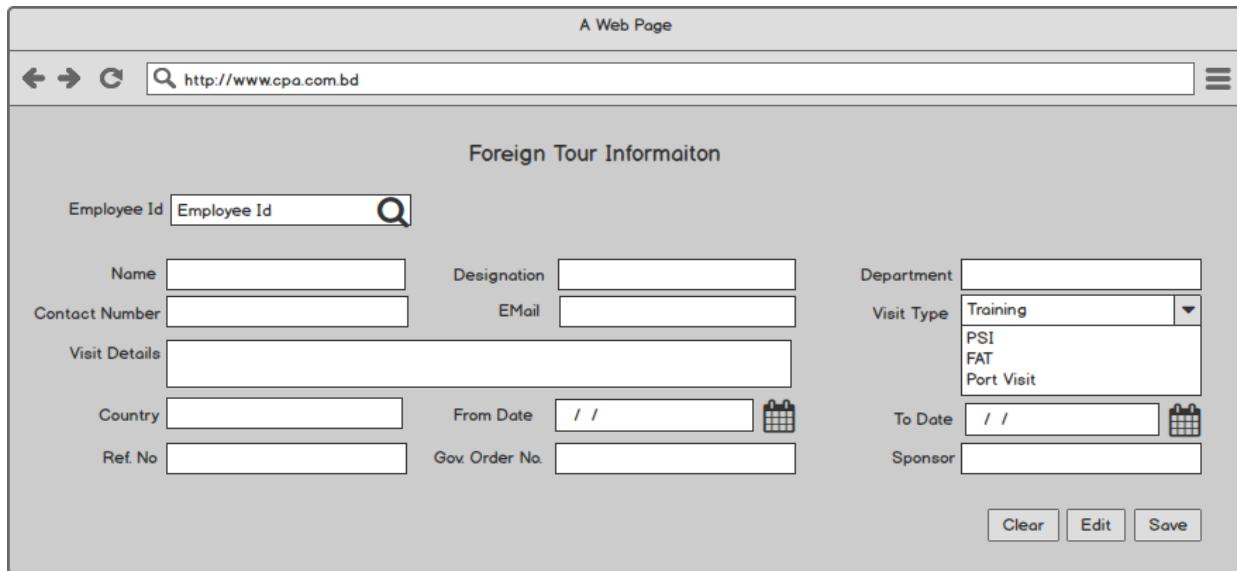
Figure 26: Mockup for Training Schedule Management

Form 04: Training Schedule Management Form



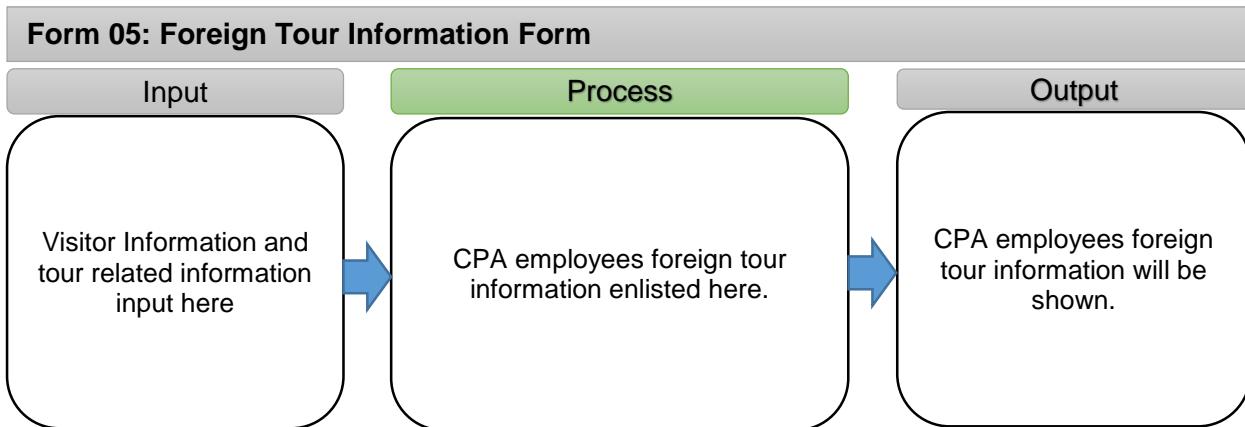
3.1.5 Foreign Tour

CPA employee's training, PSI, FAT and port visit in abroad should entry in here.



A screenshot of a web-based form titled "Foreign Tour Informaiton". The form includes fields for Employee ID, Name, Contact Number, Visit Details, Country, Ref. No., Designation, EMail, Department, Visit Type (with options for Training, PSI, FAT, and Port Visit), From Date, To Date, and Sponsor. There are also "Clear", "Edit", and "Save" buttons at the bottom.

Figure 27: Mockup of Foreign Tour



3.2 Training Execution Service

- The main purpose of training execution service is to conduct training.
- After that institute also manage trainee attendant and other related information.
- Department heads nominates trainees for specific course.
- Record training category and batch wise feedback report for further use.
- Evaluate every trainee on the basis of their performance.

| Software in use | Covered Area | Remark |
|-----------------|--|--|
| No | Execute training and record training information | New application will be developed for both Web and Mobile Apps |

3.2.1 Trainee Information

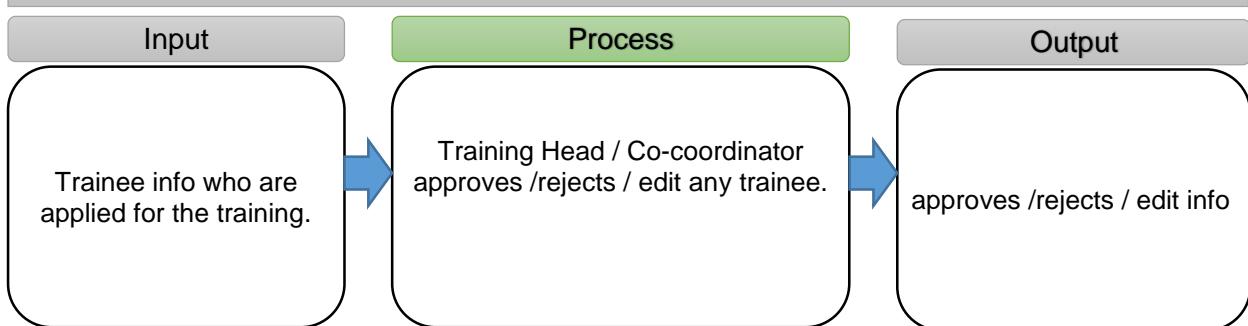
Training institute collect/store all trainee information using this system. In case of any emergency contact or other further use, the use this trainee information.

- Trainee information register on first day of training.
- Trainees previous training details also enlisted in training information.

The mockup shows a web page titled 'A Web Page' with a URL 'http://www.cpa.com.bd'. The main content is titled 'Trainee information'. It contains several input fields: 'Trainee Name', 'Contact Number', 'EMail', 'Department', 'Designation', 'Emergency Contact', 'Batch Id', 'Course Name', 'Duration', 'Course Type', 'From (Date & Time)', 'To (Date & Time)', and 'Location'. Below these fields is a section titled 'Previous Trainings' containing two buttons: 'HRMS & Payroll Management System User Training' and 'Training Center automation system training'. A 'add Another' button is located below this section. At the bottom right are 'Clear', 'Edit', and 'Save' buttons.

Figure 28: Mockup for Trainee Information

Form 06: Trainee Information Form



3.2.2 Trainee Attendance

When conducting any training trainee attendance also maintain and save in this system using below form. System will automatically send message and email of training schedule and in any case postponed class and reschedule class.

Trainee Attendance Record

Attendance Record

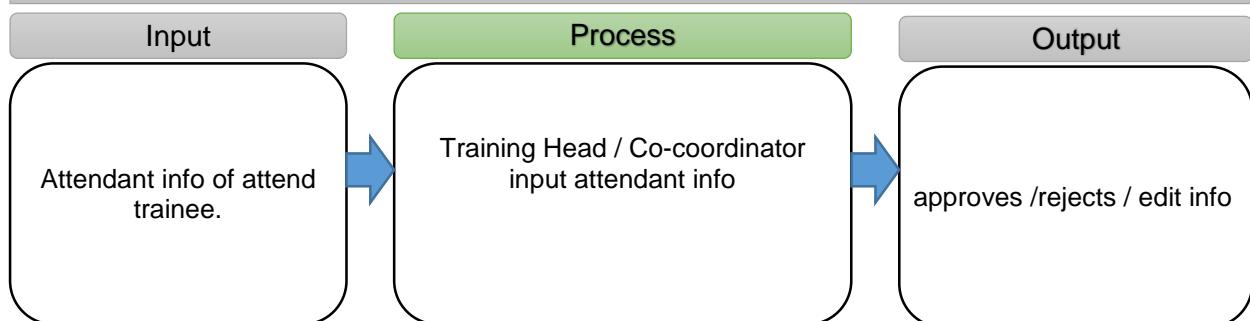
| | | | |
|----------------------|---------|---------------|---------------|
| Batch ID | ACR-002 | Date | dd/ mm / yyyy |
| Location | | End Time | hh/mm |
| Starting Time | hh/mm | Total Trainee | |
| Name of Co-ordinator | | | |
| Training Instructor | | | |

| SI | Emp Name | Department | Designation | Contact No. | Attendance Status Y/N | Action |
|----|----------|------------|-------------|-------------|------------------------------|---|
| | | | | | <input type="checkbox"/> Y/N | <input checked="" type="checkbox"/>   |
| | | | | | <input type="checkbox"/> Y/N | |
| | | | | | <input type="checkbox"/> Y/N | |

Class Postponed Date dd/ mm / yyyy  Reschedule Date dd/ mm / yyyy  Save & Notify   

Figure 29: Mockup for Trainee Attendance Record

Form 07: Trainee Attendance Form



3.2.3 Trainee Feedback

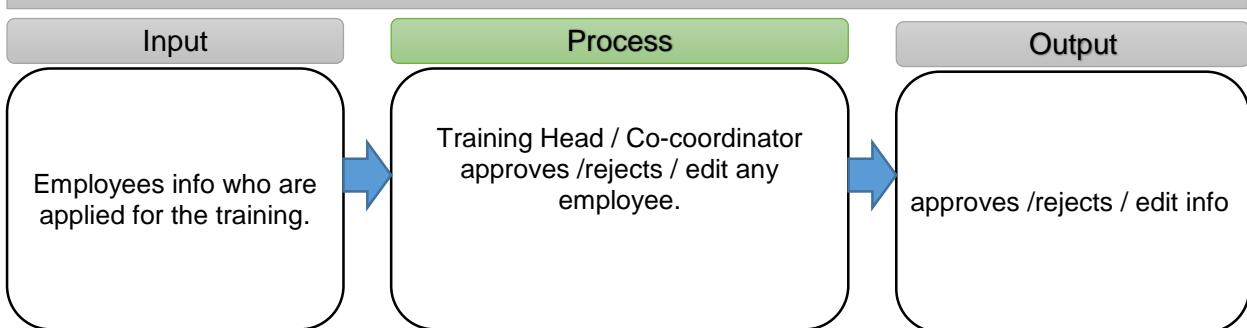
Training feedback should be taken at the end of the course from trainee. Trainee Should-

- Rating the course on the basis of its importance and objectives.
- They should also be rating trainer's knowledge and skills and fulfillment of objectives.
- There should be also an option for rating overall satisfaction on administrative and training materials.

The mockup shows a web-based form titled 'Trainee Feedback'. At the top, there are input fields for 'Trainee ID', 'Contact No.', 'Training Name', 'Location', 'Trainee Name', 'Email ID', and 'Batch ID (ACR-002)'. Below these is a rating matrix with 'Score' (5:Excellent, 4:Good, 3:Fair, 2:Okay, 1:Bad) and 'Criteria' (Administrative Arrangements, Trainer's Knowledge, Quality of Training Material, Fulfillment of Objectives, Overall Satisfaction). The matrix contains radio buttons for each criterion and score combination. At the bottom, there is a 'Total Score' input field, a 'Suggestions:' text area, and 'Save' and 'Clear' buttons.

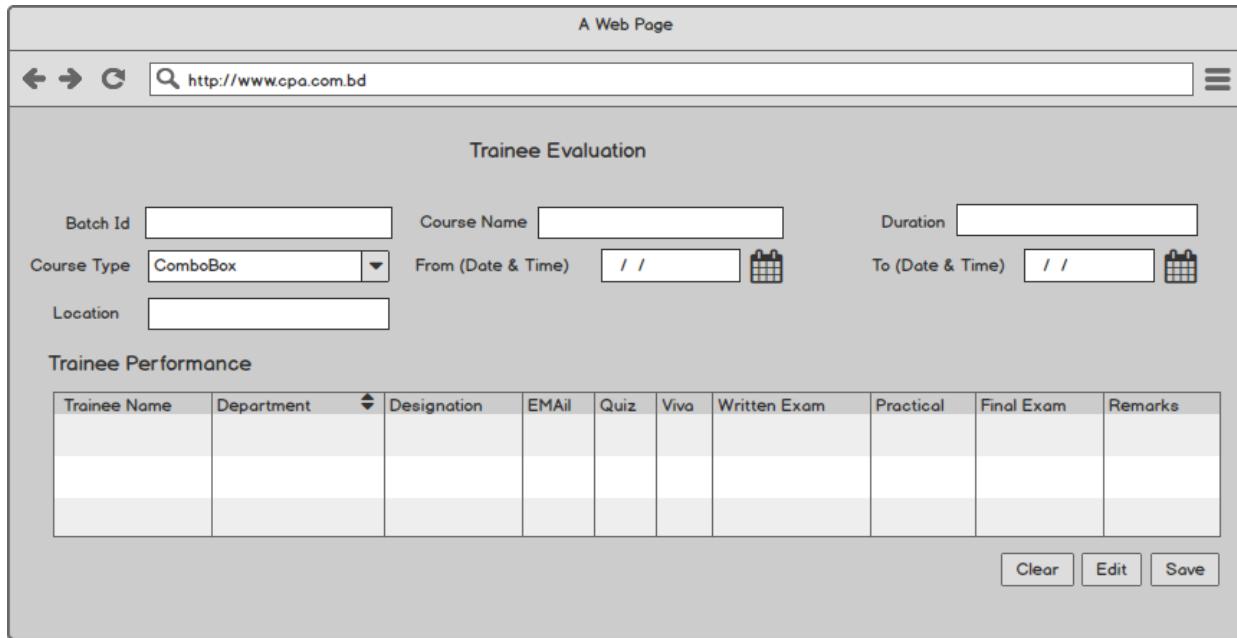
Figure 30: Mockup for Trainee Feedback

Form 08: Trainee Feedback Form



3.2.4 Trainee Evaluation

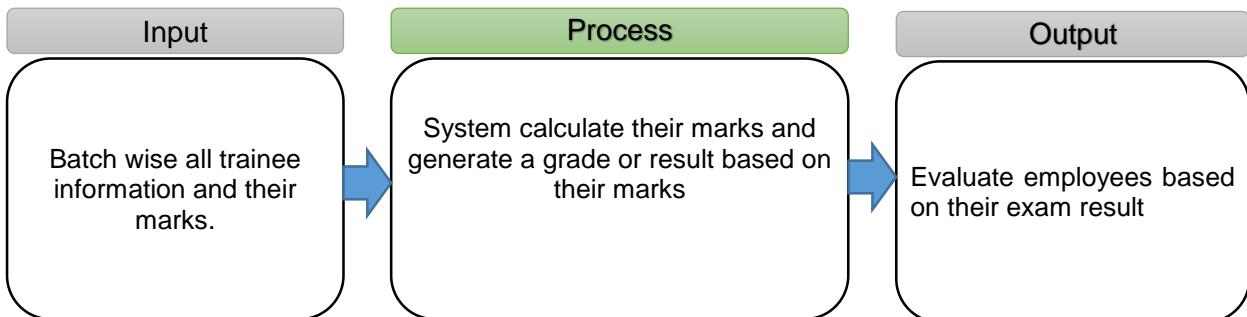
As per training schedule there may be classify evaluation into various ways. Based on the examination criteria trainee's outcome result will be saved into system and evaluate them.



The mockup shows a web-based application for Trainee Evaluation. At the top, there is a header 'A Web Page' with a back, forward, and refresh button, and a search bar with the URL 'http://www.cpa.com.bd'. Below the header, the title 'Trainee Evaluation' is displayed. The form includes fields for 'Batch Id' (text input), 'Course Name' (text input), 'Duration' (text input), 'Course Type' (ComboBox), 'From (Date & Time)' (text input with a calendar icon), 'To (Date & Time)' (text input with a calendar icon), and 'Location' (text input). Below these fields is a section titled 'Trainee Performance' containing a table with columns: Trainee Name, Department, Designation, EMAil, Quiz, Viva, Written Exam, Practical, Final Exam, and Remarks. The table has three rows. At the bottom right of the form are three buttons: 'Clear', 'Edit', and 'Save'.

Figure 31: Mockup for Trainee Evaluation

Form 09: Trainee Evaluation Form



3.3 Reports of Training Institute

- Department wise trainee information report.
- Designation wise training information report.
- Course wise training schedule.
- Batch wise training schedule.
- Date wise training schedule.
- Performance Assessment Report

4 Module: Library Management

We, CNS develop a proposed design for the Library Management module of CPA system.

The proposed module will be work on below listed ways;

- New Book Enlistment.
- Books reader Time management (Entry and exit).
- Register and provide Book for employee to read at library.
- Register and provide Book for employee to borrow to outside.
- Register and receive return Books.

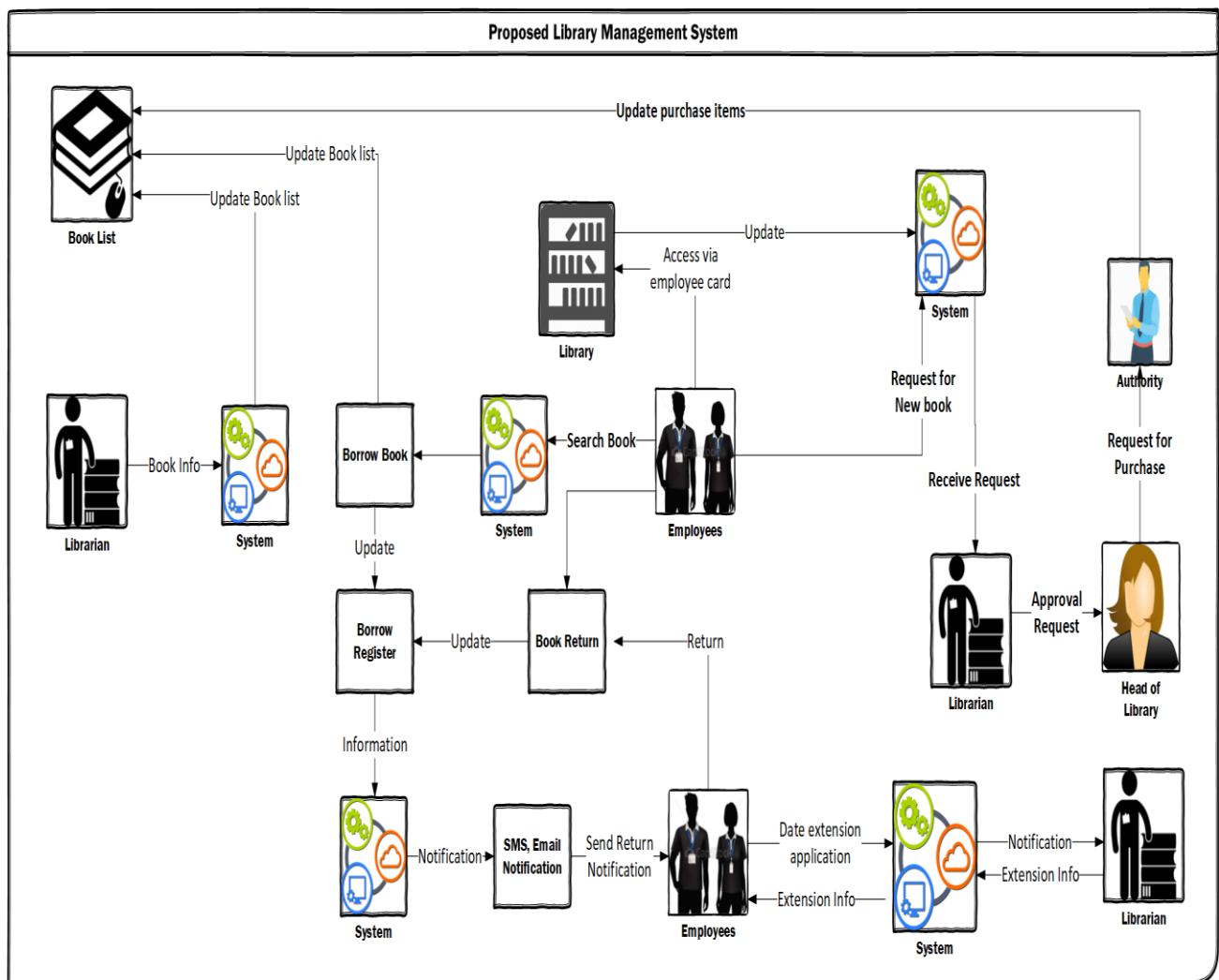


Figure 32: Library Management System

4.1 Module Relationship of Library Management

We CNS, develop an integrated system for CPA. Library Management module will use data from other modules and also provide data to another module for process.

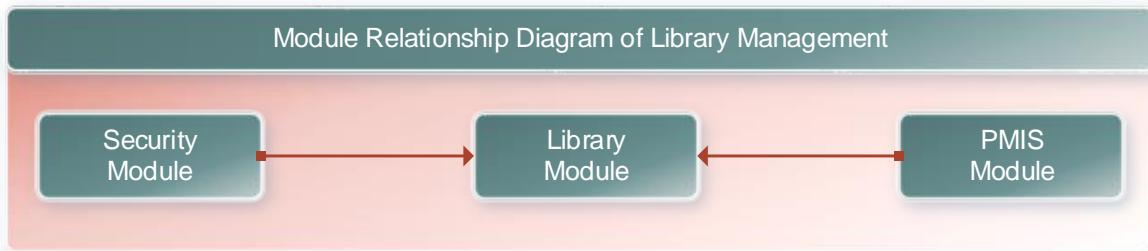


Figure 33: Module Relationship of Library Management

- Library module will use user related data from Security module.
- Library Module will use library visitors related data from PMIS module.

4.2 Business Process of Library Management

Library Management System consist with multiple business processes. These are:

- New Book Enlistment.
- Books reader Time management (Entry and exit).
- Register and provide Book for employee to read at library.
- Register and provide Book for employee to borrow to outside.
- Register and receive return Book.

4.2.1 Librarian Dashboard Management Process

Librarian play the key role of Central library. So he manages his work through his dashboard panel. From the dashboard panel librarian can manage/monitor all of his work. Register entry or exit time of visitor, read/return information register etc. may done from dashboard. Any type of query to find any item of central library can perform from librarian dashboard.

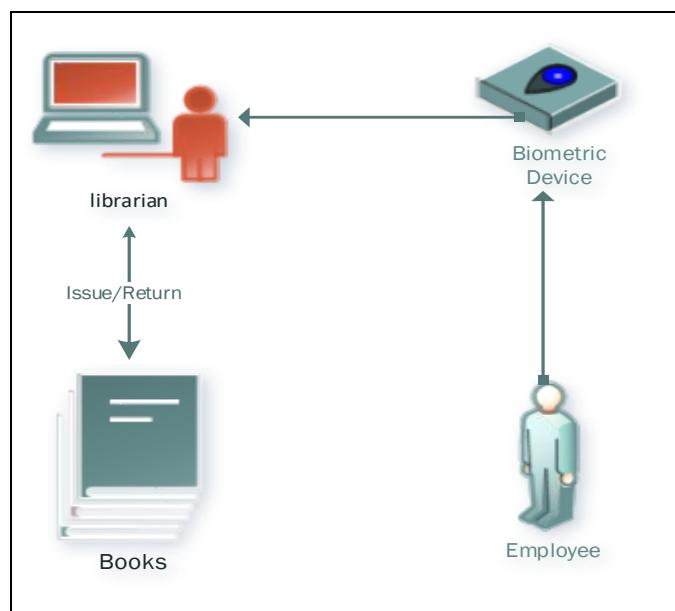


Figure 34: Use Case for Librarian Dashboard

| | |
|-------------------------------------|--|
| Use Case ID: | UC-LM-001 |
| Use Case Name: | Librarian Dashboard |
| Actors: | <ul style="list-style-type: none"> Employee Librarian System |
| Trigger: | When CPA employees visit Central Library and borrow books or other items. |
| Description: | Employees entry and exit time of central library. Search items and register for reading information maintain by system. |
| Preconditions: | <ul style="list-style-type: none"> Reader must be CPA Employee. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To insert an employee's library, visit and reading information. |
| Normal Flow: | <ul style="list-style-type: none"> Employee visit Central library to borrow, read or return items. Select item category and register by librarian into system. Librarian manage borrower & items borrow/return information. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful item borrow/return information insert. Employee entry & exit information, Item registry information will be available into system. |
| Frequency of Use: | Regularly |
| Business Rules/Constraints | <ul style="list-style-type: none"> Item Category must be listed. Employee Information should be available to the system based on their employee Id.. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

4.2.1.1 Library Management Dashboard

Library visitors will be managed by this mockup. It is possible to insert & update reader's information from here.

The dashboard interface includes the following components:

- Header:** A Web Page, back, forward, search (http://cpa.com.bd), and a menu icon.
- Employee Information:** Employee Id, Name, Department, Entry Time (with calendar icon), and Exit Time (with calendar icon).
- Search Item:** Item Type (dropdown), ISBN, Item Name, Author, Edition, Publication, Rack No, Self No, and search buttons for each field.
- Search List:** A table showing search results:

| Item Type | Name | Author | Edition | Publication | Rack No | Self No | Available Quantity | Total Quantity |
|-----------|-------------|---------------|---------|-------------------|---------|---------|--------------------|----------------|
| Books | War & Peace | Leo Tolstoy | 10th | Niloy Publication | 10 | 5 | 5 | 3 |
| Books | War & Peace | Leo Tolstoy | 10th | Niloy Publication | 10 | 5 | 2 | |
| Newspaper | Prothom Alo | Motiur Rahman | | | | | | |
- Buttons:** Read and Return.

Figure 35: Mockup of Dashboard

4.2.1.2 New Item Enlistment

New Item Enlistment is one of the major service provided by Central Library Department. First library items should be categorized as Books, Journals, Newspapers and Magazines etc. New items will add as category wise. Authority will decide to purchase new items for library on the basis of requirements and request from employees and then item register enlist new books in the system.

The New Item Enlistment form includes the following fields:

| | | | | | |
|---------------|-----------|---------|---------|----------------|-------------|
| Item Type | Item Type | ISBN | ISBN | Item Name | Name |
| Author | Author | Edition | Edition | Publication | Publication |
| Rack No | Rack No | Self No | Self No | Number Of Copy | |
| Other Details | | | 1 | | |

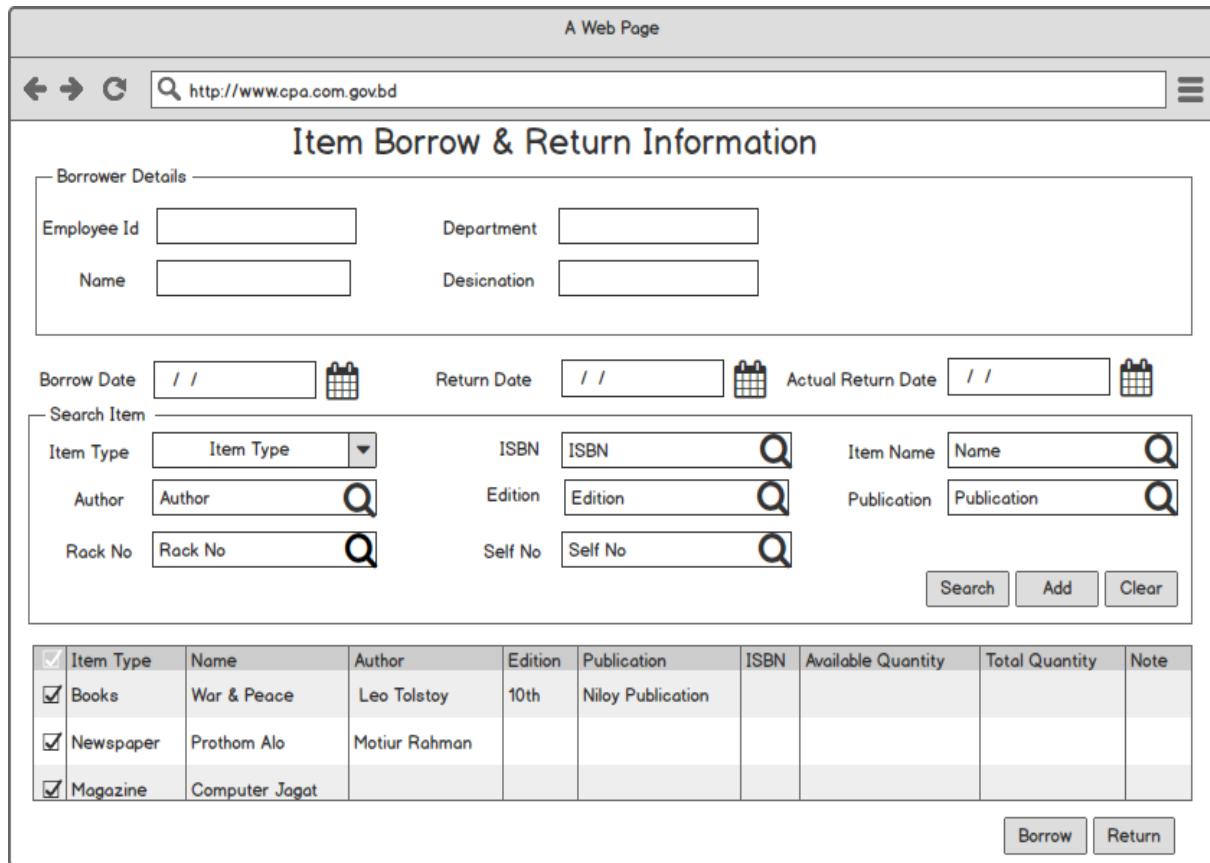
Buttons: Save and Clear.

Figure 36: Mockup of New Item Enlistment

- Item type should be Books, Journals Newspapers and Magazines.
- ISBN Number Must be a unique identifier

4.2.1.3 Item Borrow & Return Information entry

Using this service system will manage and register borrower information, update item register (quantity of the item), borrow type etc. System identify borrowers using employee identification number. System will send automatic notification for book return to the borrower by SMS & email. System will send notification to borrower if he/she can fail to return the books on time. Item return information update and adjust inventory of library.



The mockup is a web-based application for managing item borrow and return information. It features a header with a back/forward button, a search bar containing the URL 'http://www.cpa.com.gov.bd', and a menu icon. The main title is 'Item Borrow & Return Information'. Below the title, there are sections for 'Borrower Details' and 'Search Item'.

Borrower Details: Contains fields for Employee Id, Name, Department, and Designation, each with a text input box.

Search Item: Contains fields for Item Type (dropdown), Author (text input with search icon), ISBN (text input with search icon), Item Name (text input with search icon), Publication (text input with search icon), Edition (text input with search icon), Self No (text input with search icon), and Rack No (text input with search icon). It also includes date fields for Borrow Date, Return Date, and Actual Return Date, each with a date picker icon.

Table: A data grid showing borrowed items. The columns are: Item Type, Name, Author, Edition, Publication, ISBN, Available Quantity, Total Quantity, and Note. The first row is a header with checkboxes for selecting items. Three items are listed: Books (War & Peace, Leo Tolstoy, 10th, Niloy Publication), Newspaper (Prothom Alo, Motiur Rahman), and Magazine (Computer Jagat). The 'Available Quantity' and 'Total Quantity' columns are empty for the first two items.

Buttons: At the bottom right are 'Search', 'Add', and 'Clear' buttons. At the bottom center are 'Borrow' and 'Return' buttons.

Figure 37: Mockup for Item Borrow Information

- Employee details should be populated from PMIS based on employee Id.
- Item borrow information should be stored and populated based on employee id.

4.2.1.4 Request for New Items

As per requirements Employee/Reader of the Central Library can request for new items via his or her dashboard. This request received by librarian. Librarian send the request to HOD for approval the request. HOD send the purchase requisition to the authority and new item is purchase after approval of authority. Item register will be update for the new purchased items.

A Web Page

Request For New Item

Requester Details

| | | |
|-------------|-----------|-------------|
| Employee Id | Name | Department |
| Item Type | Item Type | Publication |
| Author | Edition | Quantity |
| Note | | |

Save Edit Forward

Figure 7: Mockup for New Item Request form

- If there need any agent purchase employee should write down in note section.
- Item type should be Books, journal, magazine or newspaper

4.2.1.5 Purchase Request Details for new items

Librarian receive request for item (Books, journals, magazine etc.) from employees. Librarian may update quantity of items and send it to Head of department.

A Web Page

Requested Item List

| Item Type | Name | Author | Item Requested | Item Approved | Other Details | Requester's Name | Designation | Department |
|-----------|----------------|---------------|----------------|---------------|---------------|------------------|-------------|------------|
| Books | War & Peace | Leo Tolstoy | 10 | 5 | Other details | Abdul Baten | Accountant | Accounts |
| Newspaper | Prothom Alo | Motiur Rahman | | | | | | |
| Magazine | Computer Jagat | | | | | | | |

Edit Forward

Figure 38:Mockup for Purchase Request Details

4.2.1.6 Reports of Library Management System

Library Management System important reports are-

- Date wise visitors list
- Date wise Borrower list
- List of borrower which are not return books on due time
- List of books are not return in due time.
- Item category wise total item list.
- Item stock (available items and outside from library items represent separately)

5 Module: Board Decision Computerization

We, CNS develop a proposed design for Board decision computerization module of CPA system.

The proposed module will be work on below listed ways;

- Secretary will generate board meeting event based on chairman approval
- System will require meeting agenda, participants, schedule, and location information
- System will send meeting invitation to proposed participants via SMS/Email/Employee Dash board.
- System will update the appointment/Schedule of CPA Chairman
- After completion of meeting, Secretary will update the meeting information and upload required files to system as like Meeting Minutes, Attendance list etc.
- Secretary also generate an e-File about the board meeting decision.

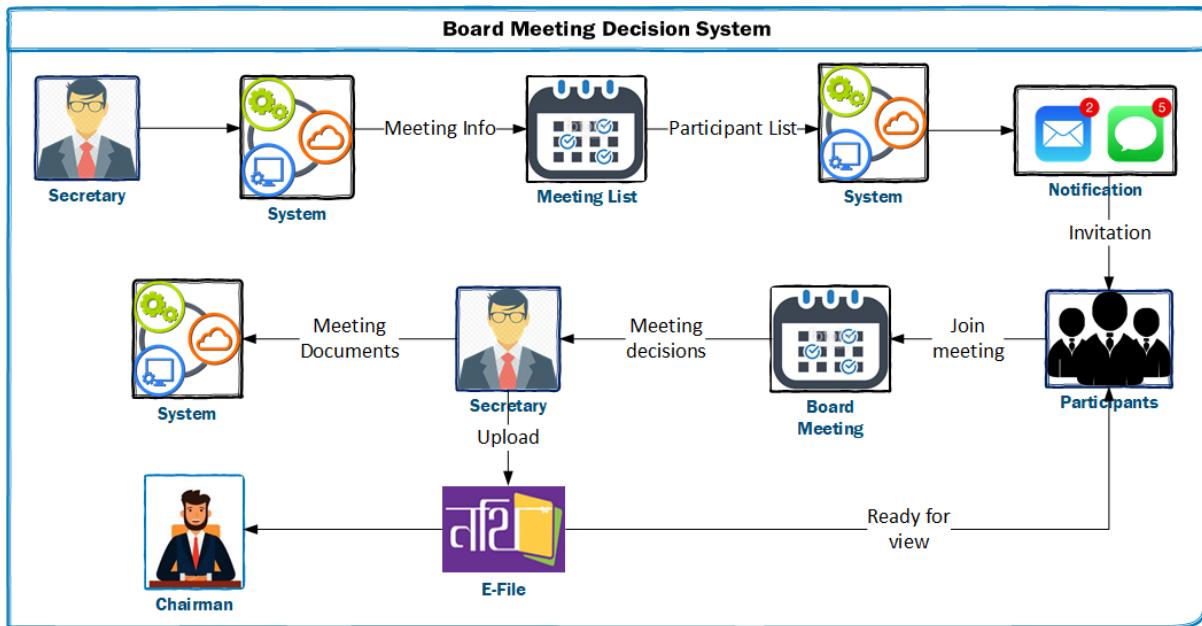


Figure 39: Board Meeting System

5.1 Module Relationship of Board Decision Computerization

We CNS, develop an integrated system for CPA. Board Meeting Computerization module will use data from other modules and also provide data to another module for process.

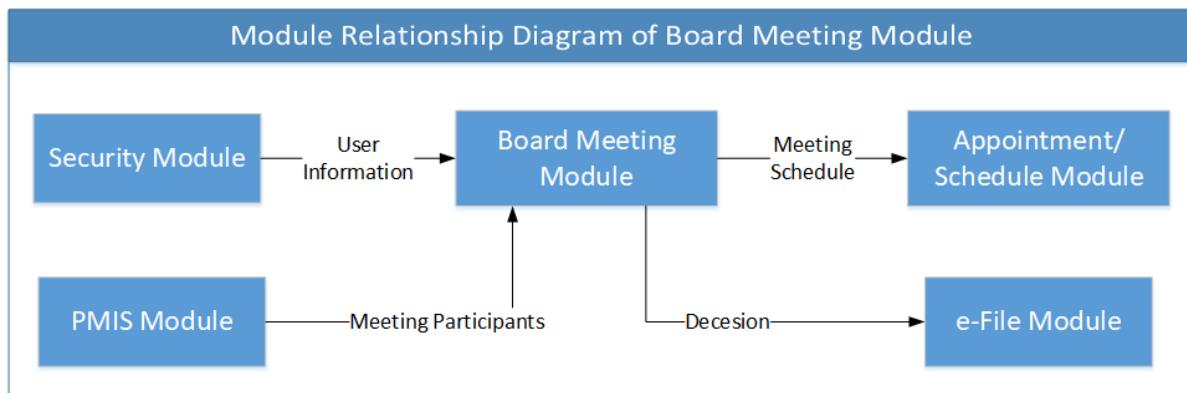


Figure 40: Module Relationship of Board Meeting System

- Board Decision module will use user related data from Security module
- Board Decision module will use participant related information from PMIS Module
- This module will provide meeting information to Appointment/Schedule module to update CPA Chairman schedule.
- This module will provide meeting decision to e-File module.

5.2 Business Process of Board Decision

Board Decision consist a single business processes i.e. Board Meeting management

5.2.1 Board Meeting Process

Due to digitalization of Board Decision system, CPA needs to log entire board meeting and decision.

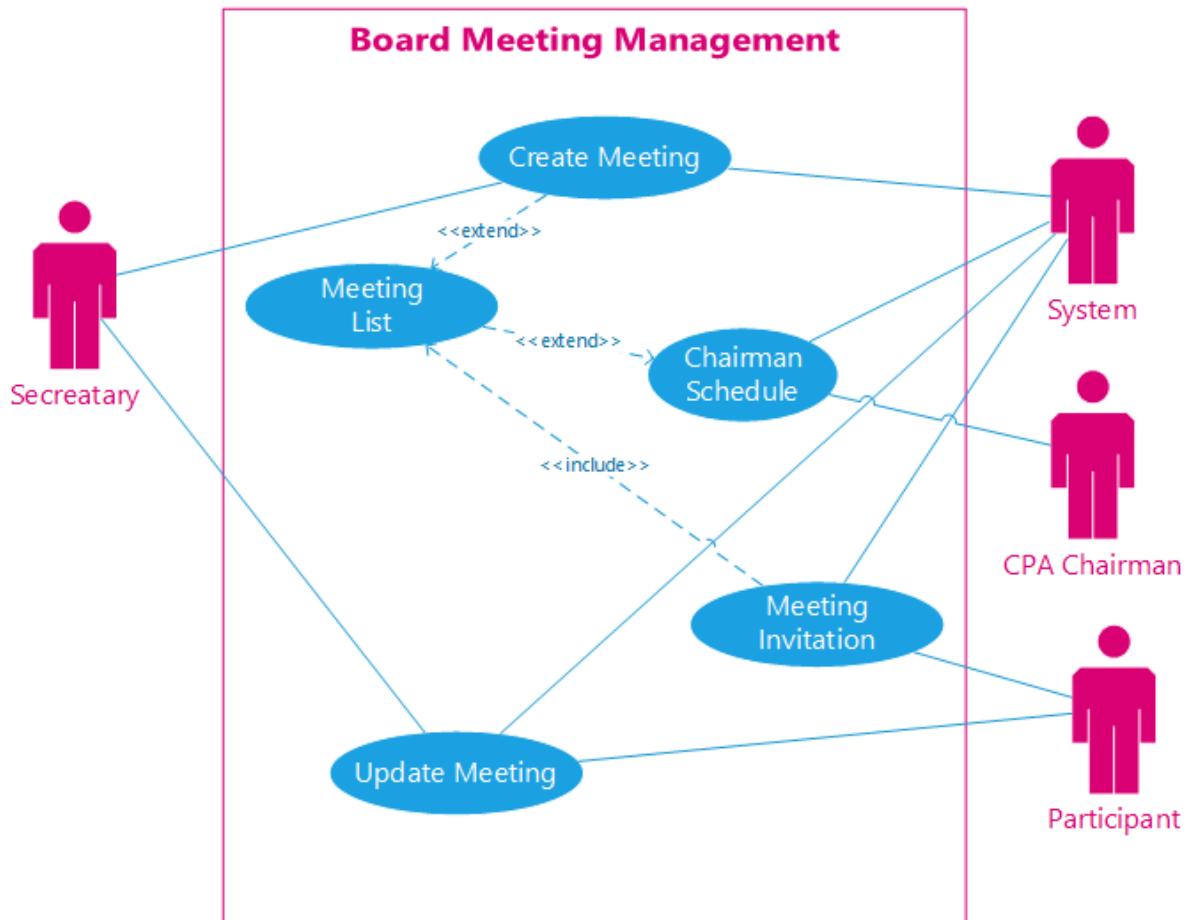


Figure 41: Use Case for Board Meeting

| | |
|------------------------|---|
| Use Case ID: | UC-BM-001 |
| Use Case Name: | Board Meeting |
| Actors: | <ul style="list-style-type: none"> Secretary System CPA Chairman Participant |
| Trigger: | When secretary intends to create or update a board meeting information to the system. |
| Description: | The functionality "Board Meeting" facilitates to create a new board meeting and update meeting decision to the system. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Board Meeting should be approved by CPA Chairman |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To create and update board meeting with decision. |
| Normal Flow: | <ul style="list-style-type: none"> Insert Meeting with subject, location, schedule and participants information. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Mandatory field missing. |

| | |
|-------------------------------------|--|
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful board meeting create or update. Configured board meeting will be available to register. Participants will get notification about board meeting. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Board Meeting must be approved by CPA Chairman. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

5.2.1.1 Board Meeting Setup

It needs to setup a board meeting to the system to track the meeting information. Also, the meeting information will also be available to the calendar of CPA chairman.

Chittagong Port Authority

http://

Board Meeting Setup

Secretary

Meeting Name: Board Meeting 2019-Feb-001

Subject: Incentive bonus 50,000/- taka allotment request by CBA due to handle record amount container.

Date: 02/02/2019 Start Time: 9:00 AM End Time: 11:00 AM

Chairperson: Rear Admiral Zulfiqur Aziz, (E) psc, BN - Chairman

Location: Board Room

Agenda:

- 1.
- 2.
- 3.
- 4.

Required Person

| SL | NAME | ORGANIZATION | DESIGNATION | DEPARTMENT | ACTION |
|----|-------------------------|--------------|------------------------------------|------------------|--------|
| 1 | Md. Zafar Alam | CPA | Member (Administration & Planning) | Administration | |
| 2 | Md. Kamrul Amin | CPA | Member (Finance) | Finance | |
| 3 | Com. Kh. Akhter Hossain | CPA | Member (Engineering) | Engineering | |
| 4 | Com. M. Shafiqul Bari | CPA | Member (Harbour & Marine) | Harbour & Marine | |
| 5 | ..... | ..... | ..... | ..... | ..... |
| 6 | ..... | ..... | ..... | ..... | ..... |

SAVE **CANCEL**

| SL | TYPE | NAME | DATE | TIME FROM | TIME TO | LOCATION | ACTION |
|----|------|------|------|-----------|---------|----------|--------|
| | | | | | | | |



Figure 42: Mockup for Board Meeting Setup

- Meeting name & subject should be inserted to the system.
- Meeting venue and schedule should be defined; it will update the appointment/schedule of CPA Chairman.
- System will send a SMS/Email to selected participants.

5.2.1.2 CPA Chairman Appointment/Schedule Calendar

System will generate update the generated board meeting to the appointment/schedule calendar of CPA Chairman.

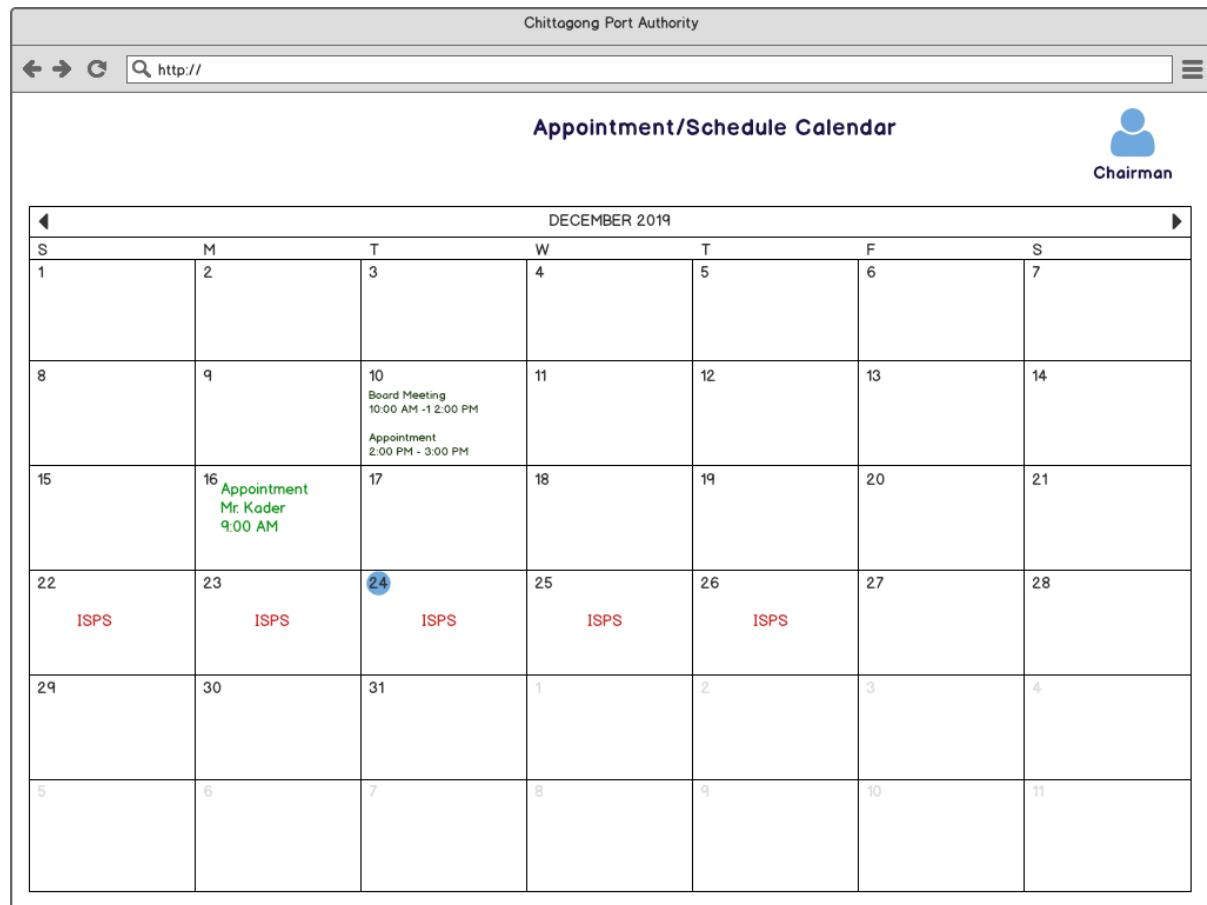
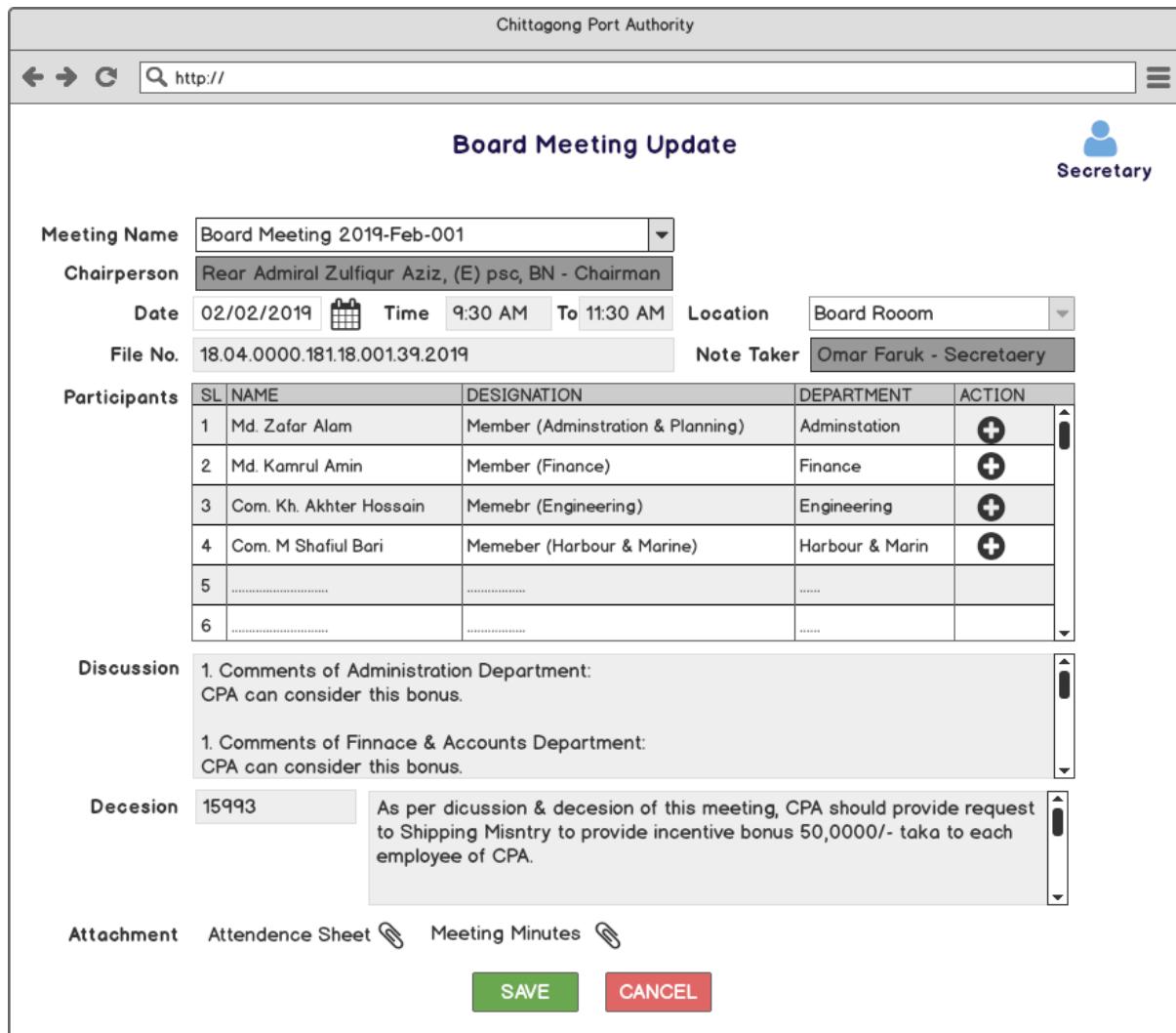


Figure 43: Mockup for CPA Chairman Appointment/Schedule Calendar

5.2.1.3 Board Meeting Decision

After completion of a meeting, it needs to update the meeting status with meeting discussion and decisions for future reference.



The mockup shows a web-based application for managing board meeting decisions. The header indicates 'Chittagong Port Authority' and the page title is 'Board Meeting Update'. A 'Secretary' user icon is visible.

Meeting details are listed:

- Meeting Name: Board Meeting 2019-Feb-001
- Chairperson: Rear Admiral Zulfiqur Aziz, (E) psc, BN - Chairman
- Date: 02/02/2019
- Time: 9:30 AM To 11:30 AM
- Location: Board Room
- File No.: 18.04.0000.181.18.001.39.2019
- Note Taker: Omar Faruk - Secretary

The 'Participants' section contains a table:

| SL | NAME | DESIGNATION | DEPARTMENT | ACTION |
|----|-------------------------|------------------------------------|------------------|--------|
| 1 | Md. Zafar Alam | Member (Administration & Planning) | Administration | |
| 2 | Md. Kamrul Amin | Member (Finance) | Finance | |
| 3 | Com. Kh. Akhter Hossain | Member (Engineering) | Engineering | |
| 4 | Com. M Shafiq Bari | Member (Harbour & Marine) | Harbour & Marine | |
| 5 | ..... | ..... | ..... |  |
| 6 | ..... | ..... | ..... |  |

The 'Discussion' section contains two items:

- Comments of Administration Department:
CPA can consider this bonus.
- Comments of Finance & Accounts Department:
CPA can consider this bonus.

The 'Decision' section shows a decision number '15993' and a detailed description: 'As per discussion & decision of this meeting, CPA should provide request to Shipping Ministry to provide incentive bonus 50,000/- taka to each employee of CPA.'

At the bottom, there are buttons for 'Attachment' (with links to 'Attendance Sheet' and 'Meeting Minutes'), and 'SAVE' and 'CANCEL' buttons.

Figure 44: Mockup for Board Meeting Decision

- File Number and Note taker information should insert here
- Attendance list should be updated here.
- Decision number and decision details should insert here.
- User will upload the attendance sheet and meeting minutes here for future reference.

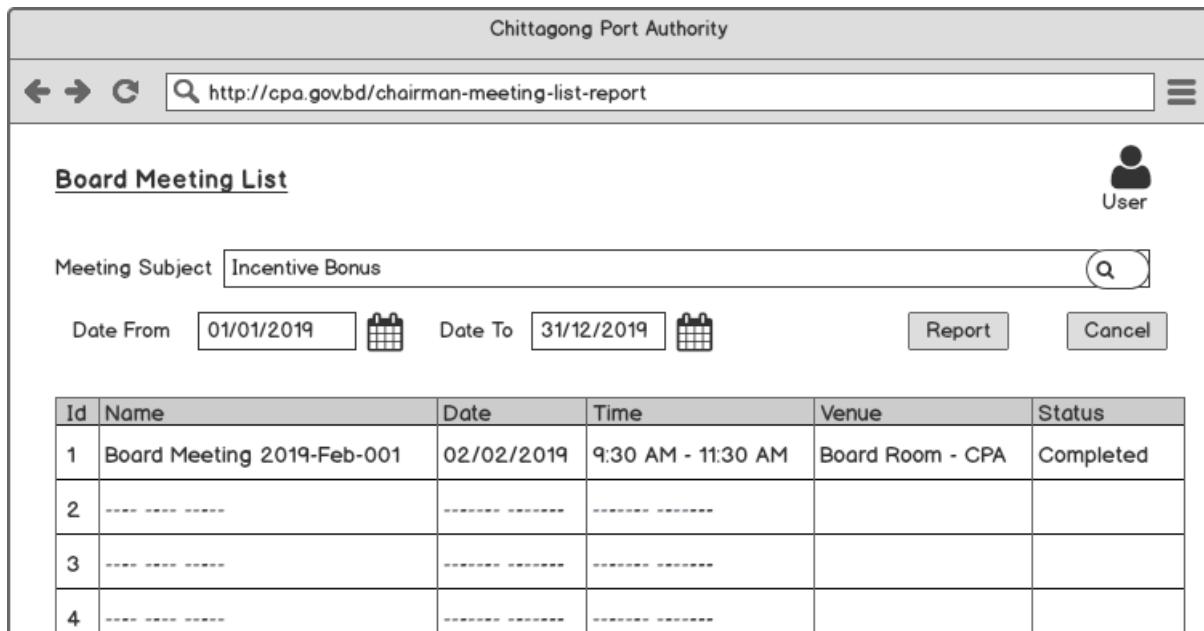
5.2.2 Board Decision Module Reports

We have listed some reports for Board Decision module.

5.2.2.1 Board Meeting List Report

System will provide facility to generate board meeting list based on multiple criterion. These are:

- Meeting Subject & Schedule



Chittagong Port Authority

Board Meeting List

Meeting Subject: Incentive Bonus

Date From: 01/01/2019 Date To: 31/12/2019

Report Cancel

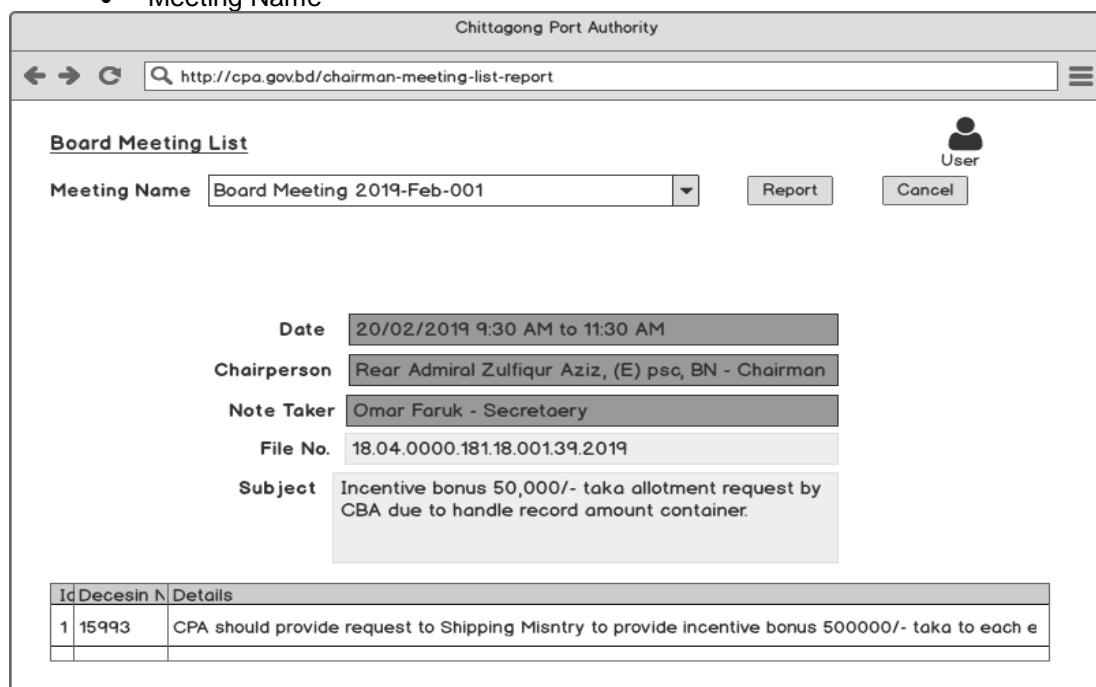
| ID | Name | Date | Time | Venue | Status |
|----|----------------------------|------------|--------------------|------------------|-----------|
| 1 | Board Meeting 2019-Feb-001 | 02/02/2019 | 9:30 AM - 11:30 AM | Board Room - CPA | Completed |
| 2 | ----- | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- | ----- |
| 4 | ----- | ----- | ----- | ----- | ----- |

Figure 45: Mockup for Board Meeting List Report

5.2.2.2 Board Meeting Decision Report

System will provide facility to generate board meeting decision list based on criterion. These are:

- Meeting Name



Chittagong Port Authority

Board Meeting List

Meeting Name: Board Meeting 2019-Feb-001

Date: 20/02/2019 9:30 AM to 11:30 AM

Chairperson: Rear Admiral Zulfiqur Aziz, (E) psc, BN - Chairman

Note Taker: Omar Faruk - Secretary

File No.: 18.04.0000.181.18.001.39.2019

Subject: Incentive bonus 50,000/- taka allotment request by CBA due to handle record amount container.

| ID | Decesin N | Details |
|----|-----------|---|
| 1 | 15993 | CPA should provide request to Shipping Misntry to provide incentive bonus 500000/- taka to each e |

Figure 46: Mockup for Board Meeting List Report

6 Module: Appointment/Schedule Management System

We, CNS develop a proposed design for Appointment/Schedule Management module of CPA system.

The proposed module will be work on below listed ways;

- Secretary generates schedule for predefined appointments/Meetings/Visits of CPA chairman.
- High official and stakeholders list will be available to the system
- Type wise Meeting list will be available to the system
- CPA Officials can send appointment/meeting request from their own dashboard
- Stakeholders will send appointment/meeting request to secretary.
- Secretary can review the requested items.
- Secretary will confirm the appointment/meeting after taking approval from CPA Chairman
- Requester will get notification via email and SMS with meeting venue and schedule
- System will update the appointment/meeting/visit schedule
- Schedule will also be available to Chairman and PA to Chairman
- CPA Chairman will be notified via Dashboard, SMS, and email before the appointment.
- CPA Chairman and Secretary can change the appointment (as like reschedule, cancel etc.) based on priority work.
- Requester will get notification via SMS/email for any change.
- System will update the schedule list based on completion.

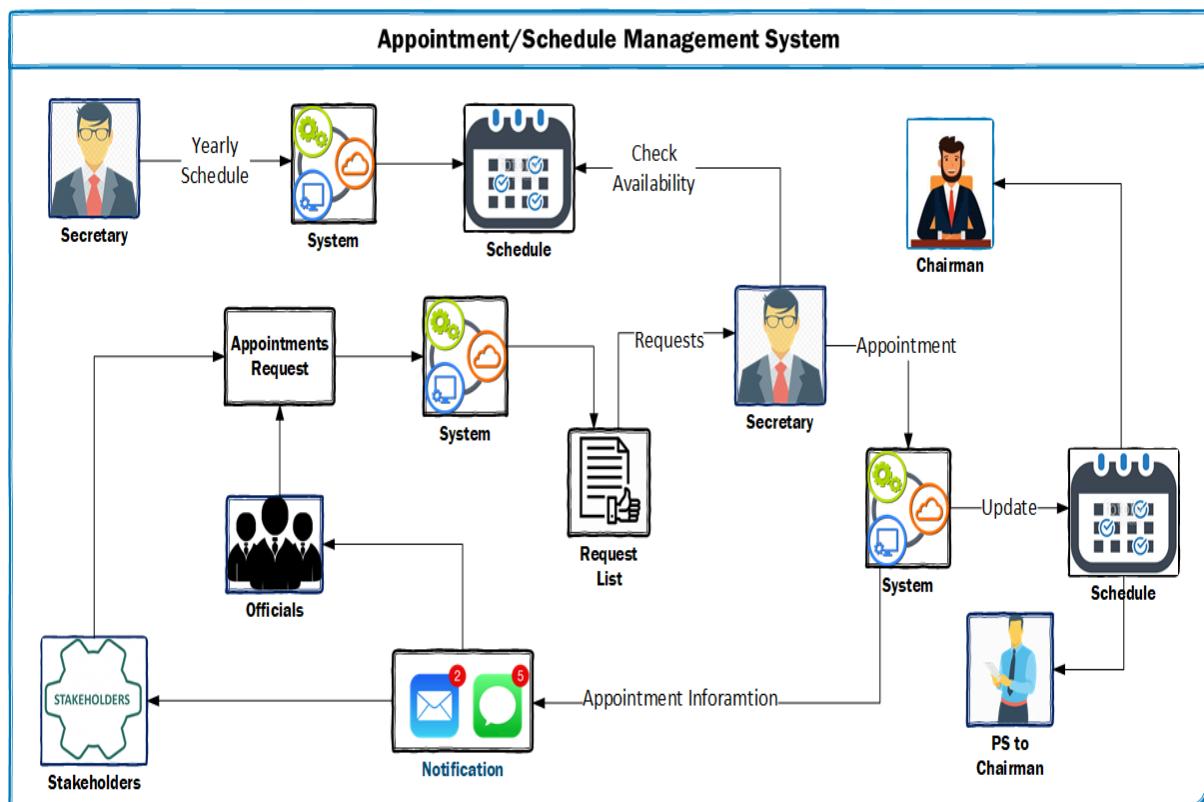


Figure 47: Appointment/Schedule Management System

6.1 Module Relationship of Appointment/Schedule Management

We CNS, develop an integrated system for CPA. Appointment/Schedule Management module will use data from other modules and also provide data to another module for process.

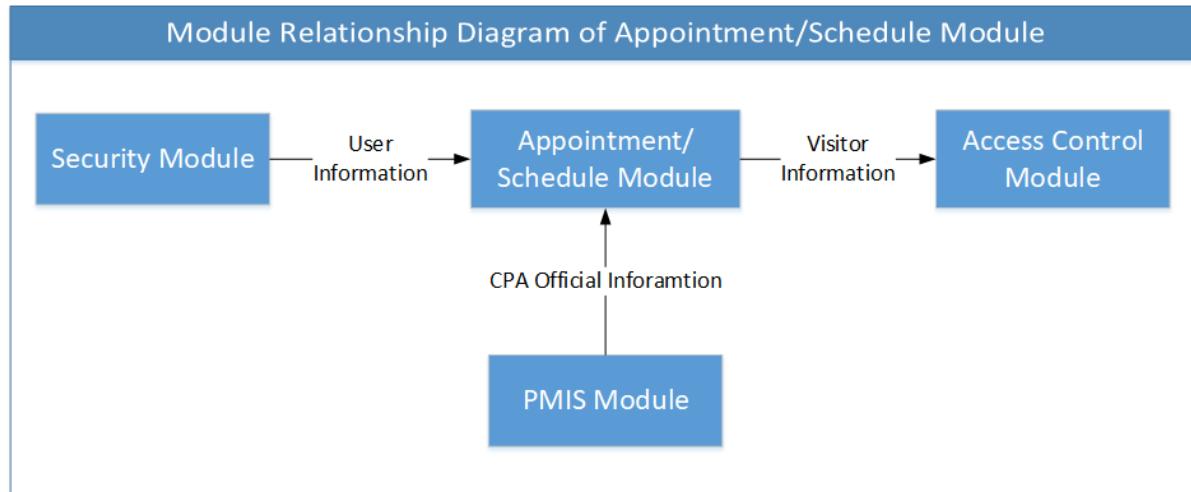


Figure 48: Module Relationship of Appointment/Schedule Management

- Appointment/Schedule module will use user related data from Security module
- Appointment/Schedule module will use CPA official related information from PMIS Module
- This module will provide visitor information to Access Control module to generate visitor card

6.2 Business Process of Appointment/Schedule Management

Appointment/Schedule Management System consist with multiple business processes. These are:

- Stakeholder Register
- Schedule Management
- Appointment Management

6.2.1 Stakeholder Register Process

Due to digitalization of Appointment/Schedule Management System, CPA needs to register entire stakeholders. Stakeholders agency also need to register to the system.

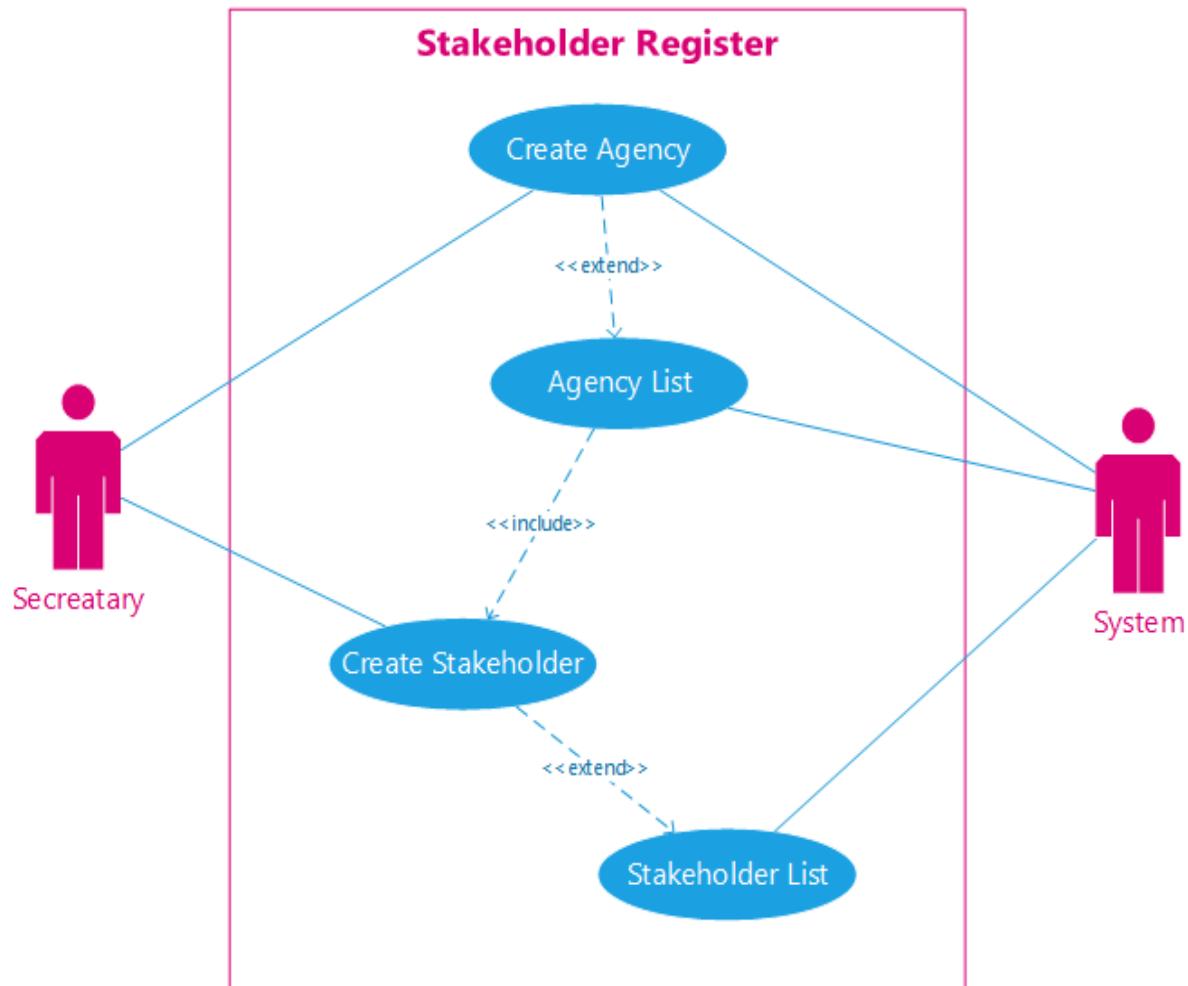
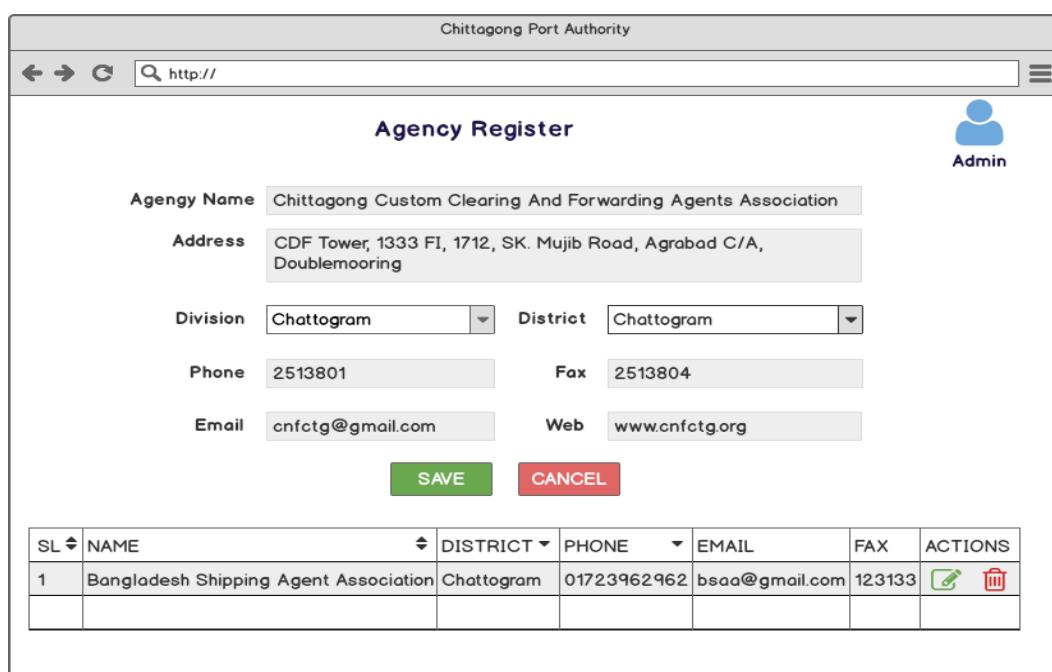


Figure 49: Use Case for Stakeholder Register

| | |
|-------------------------------------|---|
| Use Case ID: | UC-AS-001 |
| Use Case Name: | Stakeholder Register |
| Actors: | <ul style="list-style-type: none"> Secretary System |
| Trigger: | When secretary intends to insert or update any stakeholder information to the system. |
| Description: | The functionality "Stakeholder Register" facilitates to insert a new shareholder the system with agency, organization, and stakeholder designation; also update existing stakeholder information. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Equipment categories must be defined Vendor list must be available to the system |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To insert an equipment information and update the equipment register. |
| Normal Flow: | <ul style="list-style-type: none"> Insert equipment id, order number and other relevant information. Select equipment category and vendor. Upload equipment related documents. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful equipment insert. Configured equipment will be available to equipment register. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Equipment must be arrived physically at CPA. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

6.2.1.1 Agency Register

Appointment/Schedule management system will manage the agency information of stakeholders which are managed by this mockup. It is possible to insert & update agency information from here.



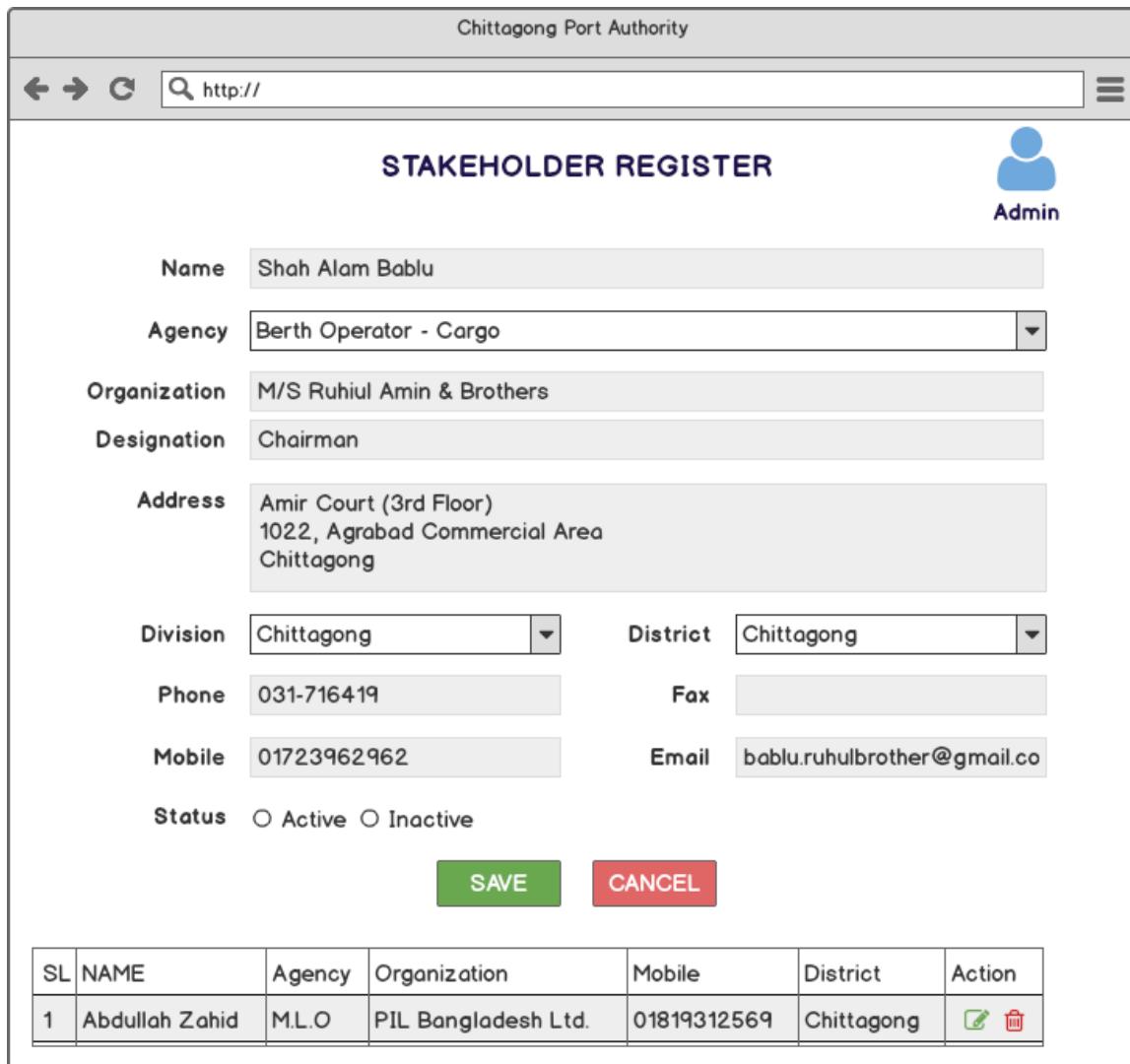
The mockup shows a web browser window for 'Chittagong Port Authority'. The title bar says 'Chittagong Port Authority'. The address bar shows 'http://'. The main content area has a header 'Agency Register' with a user icon and 'Admin' text. Below the header are form fields for 'Agency Name' (Chittagong Custom Clearing And Forwarding Agents Association), 'Address' (CDF Tower, 1333 Fl, 1712, SK. Mujib Road, Agrabad C/A, Doublemooring), 'Division' (Chatogram), 'District' (Chatogram), 'Phone' (2513801), 'Fax' (2513804), 'Email' (cnfctg@gmail.com), and 'Web' (www.cnfctg.org). At the bottom are 'SAVE' and 'CANCEL' buttons. Below the form is a table with columns 'SL', 'NAME', 'DISTRICT', 'PHONE', 'EMAIL', 'FAX', and 'ACTIONS'. The first row shows data for 'Bangladesh Shipping Agent Association'.

| SL | NAME | DISTRICT | PHONE | EMAIL | FAX | ACTIONS |
|----|---------------------------------------|-----------|-------------|----------------|--------|---|
| 1 | Bangladesh Shipping Agent Association | Chatogram | 01723962962 | bsaa@gmail.com | 123133 |   |
| | | | | | | |

Figure 50: Mockup of Agency Information

6.2.1.2 Stakeholder Information

Stakeholder information will be managed by this mockup. It is possible to insert & update stakeholder information from here.



The mockup shows a web-based stakeholder registration form for Shah Alam Bablu. The form includes fields for Name, Agency, Organization, Designation, Address, Division, District, Phone, Fax, Mobile, Email, and Status. The status field has radio buttons for Active and Inactive. Below the form is a table showing a list of stakeholders.

STAKEHOLDER REGISTER

Admin

| SL | NAME | Agency | Organization | Mobile | District | Action |
|----|----------------|--------|---------------------|-------------|------------|---|
| 1 | Abdullah Zahid | M.L.O | PIL Bangladesh Ltd. | 01819312569 | Chittagong |   |

Figure 51: Mockup of Stakeholder Information

- Stakeholder status should be defined.

6.2.2 Schedule Management Process

CPA Chairman has some predefined visit and meeting schedule as like ISPS conference, Board Meeting etc. Secretary will prepare the predefined schedule to the system.

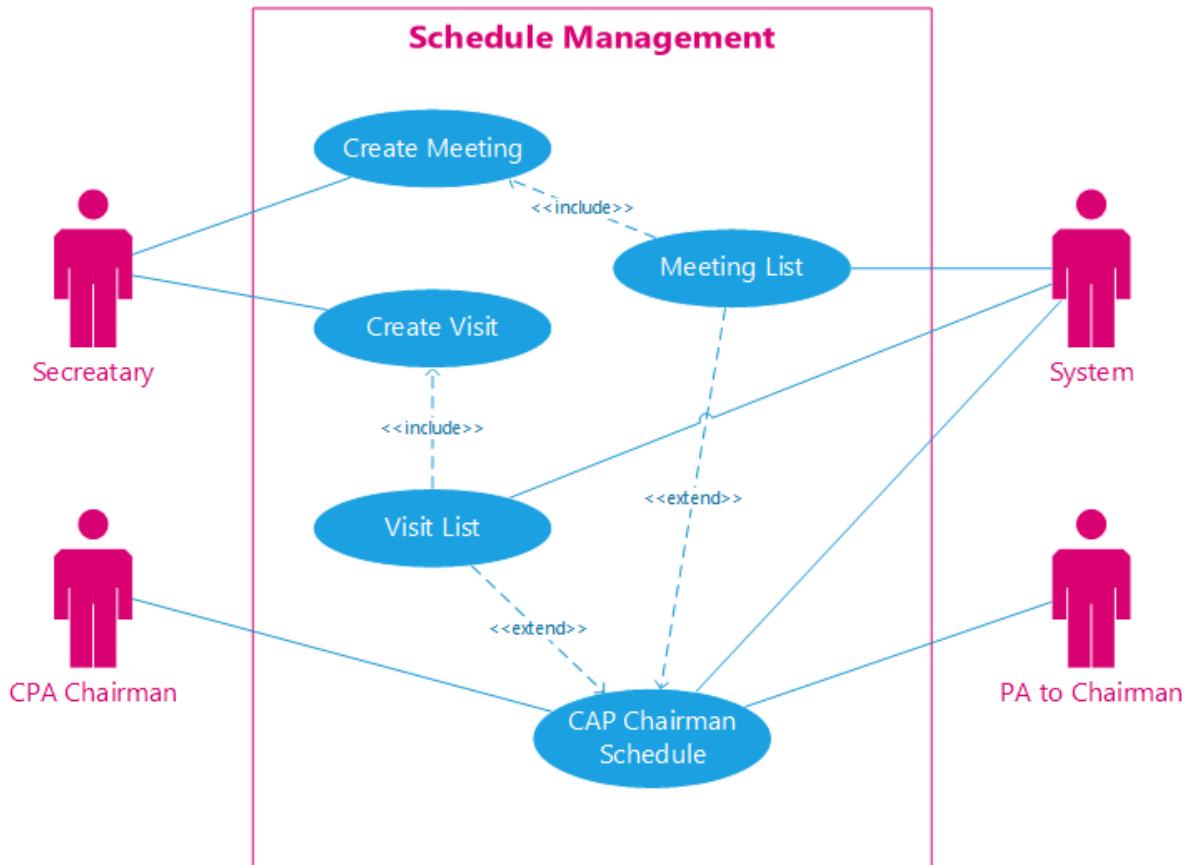


Figure 52: Use Case for Schedule Management

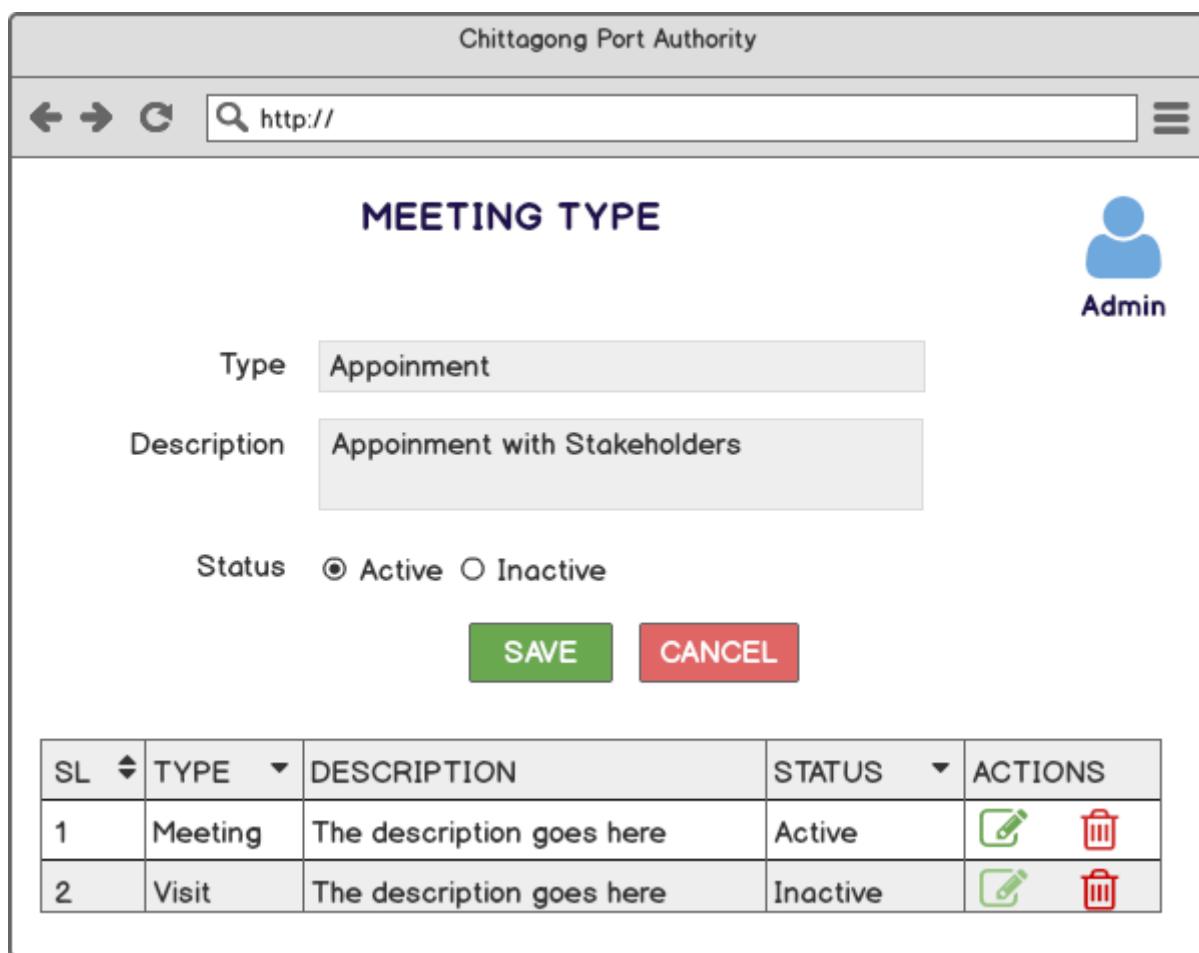
| | |
|-----------------|--|
| Use Case ID: | UC-AS-002 |
| Use Case Name: | Schedule Management |
| Actors: | <ul style="list-style-type: none"> Secretary CPA Chairman PS to Chairman System |
| Trigger: | When Secretary intends to create schedule for CPA Chairman. |
| Description: | The functionality "Schedule Management" facilitates to insert/update predefined visit and meeting; also create new meeting for CPA chairman. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Predefined visit and meeting list should be available. New meeting request. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To insert or update a CPA Chairman visit and Meeting information. |
| Normal Flow: | <ul style="list-style-type: none"> Insert Visit and Meeting information. Select schedule and participants. Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. |

| | |
|-------------------------------------|--|
| | <ul style="list-style-type: none"> • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Meeting and Visit information will be available to the system. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> • Requested meeting schedule should be empty. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

6.2.2.1 Meeting Type Information

Meeting type needs to define to the system. The meeting types may be:

- General Meeting
- Board Meeting
- Visit
- Appointment etc.



The mockup illustrates the user interface for managing meeting types. At the top, a header bar shows 'Chittagong Port Authority' and a search bar with 'http://'. On the right, there is a user icon labeled 'Admin'.

The main area is titled 'MEETING TYPE'. It contains a form with the following fields:

- Type: Appointment
- Description: Appointment with Stakeholders
- Status: Radio buttons for Active (selected) and Inactive

At the bottom of the form are 'SAVE' and 'CANCEL' buttons.

Below the form is a table listing existing meeting types:

| SL | TYPE | DESCRIPTION | STATUS | ACTIONS |
|----|---------|---------------------------|----------|---------|
| 1 | Meeting | The description goes here | Active | |
| 2 | Visit | The description goes here | Inactive | |

Figure 53: Mockup for Meeting Type Information

6.2.2.2 Chairman Visit Information

System will manage the visit information of CPA Chairman. Visit information will be available to the calendar of CPA Chairman.

Chittagong Port Authority

CPA Chairman Visit

Visit Type

Duration Day(s) Hour(s)

Start From 9:00

Unavailable From 12:00 Unavailable To 12:00

Description

Name

End To 5:00

Place Country

SAVE CANCEL

| SL | VISIT TYPE | NAME | START FROM | END TO | COUNTRY | ACTIONS |
|----|------------|------|------------|--------|---------|---------|
| 1 | | | | | | |
| 2 | | | | | | |

Figure 54: Mockup for CPA Chairman Visit Information

- Visit purpose should be inserted
- Visit date should be within range of Unavailable date
- Visit description, place and Country information need to insert.

6.2.2.3 Meeting Setup

It needs to setup a meeting to the system to track the meeting information. Also, the meeting information will also be available to the calendar of CPA chairman.

Chittagong Port Authority

← → ↻

≡

Meeting Setup

Secretary

| | | | | | |
|--------------|--|------------|---------|----------|----------|
| Meeting Type | Board Meeting | | | | |
| Meeting Name | | | | | |
| Date | / / | Start Time | 9:00 AM | End Time | 11:00 AM |
| Chairperson | Rear Admiral Zulfiqur Aziz, (E) psc, BN - Chairman | | | | |
| Location | Conference Room | | | | |
| Agenda | 1. 2. 3. 4. | | | | |

Required Person

| SL | NAME | ORGANIZATION | DESIGNATION | DEPARTMENT | MOBILE | ACTION |
|----|------------|--------------|----------------------|-----------------|-------------|--------|
| 1 | Waker Khan | CPA | Sr Computer Operator | Computer Center | 01723962962 | |
| 2 | ----- | --- | ----- | --- | ----- | |
| 3 | ----- | --- | ----- | --- | ----- | |
| 4 | ----- | --- | ----- | --- | ----- | |

SAVE
CANCEL

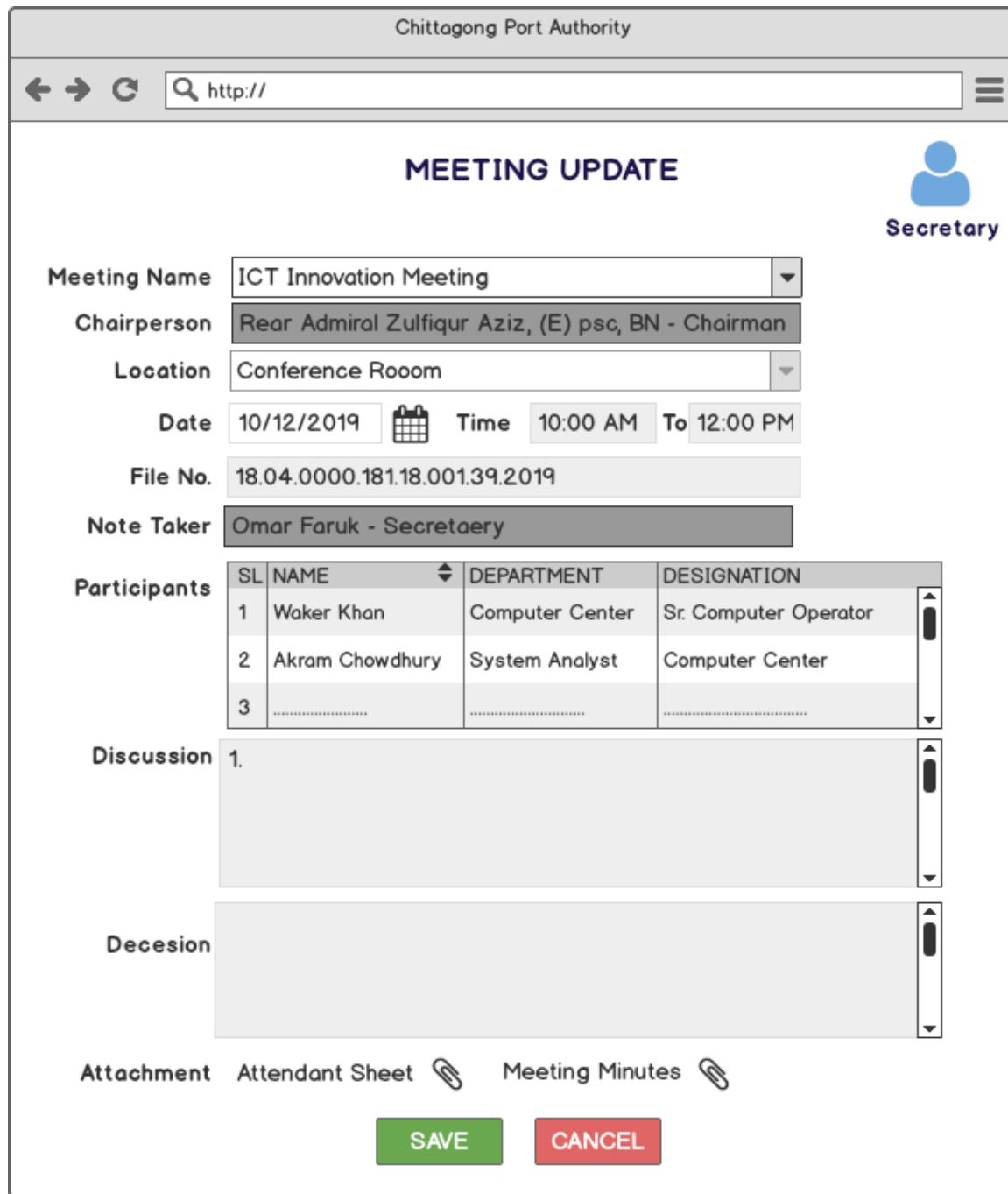
| SL | TYPE | NAME | DATE | TIME FROM | TIME TO | LOCATION | ACTION |
|----|------|------|------|-----------|---------|----------|--------|
| | | | | | | | |

Figure 55: Mockup for Meeting Setup

- Meeting type should be selected here
- User will insert the meeting name, schedule, location, and agenda
- Stakeholder and CPA official list will be available to select the meeting participants.
- System will send SMS/email notification to the participants about the meeting.

6.2.2.4 Meeting Update

After completion of a meeting, it needs to update the meeting status with meeting discussion and decisions for future reference.



The mockup shows a web-based meeting update form. At the top, it displays 'Chittagong Port Authority' and a header 'MEETING UPDATE'. On the right, there is a blue user icon labeled 'Secretary'. The form fields include:

- Meeting Name:** ICT Innovation Meeting
- Chairperson:** Rear Admiral Zulfiqur Aziz, (E) psc, BN - Chairman
- Location:** Conference Room
- Date:** 10/12/2019
- Time:** 10:00 AM
- To:** 12:00 PM
- File No.:** 18.04.0000.181.18.001.39.2019
- Note Taker:** Omar Faruk - Secretary
- Participants:** A table showing three attendees:

| SL | NAME | DEPARTMENT | DESIGNATION |
|----|-----------------|-----------------|-----------------------|
| 1 | Waker Khan | Computer Center | Sr. Computer Operator |
| 2 | Akram Chowdhury | System Analyst | Computer Center |
| 3 | ..... | ..... | ..... |
- Discussion:** A text area containing '1.'
- Decesion:** A text area (partially visible)
- Attachment:** Buttons for 'Attachment' (with a paperclip icon), 'Attendant Sheet' (with a paperclip icon), and 'Meeting Minutes' (with a paperclip icon).
- Buttons:** 'SAVE' (green) and 'CANCEL' (red).

Figure 56: Mockup for Meeting update

- Meeting will be selected from meeting list.
- User will insert File Number, Discussion and decision details here.
- Attendance list will be updated here.
- Attendance sheet and meeting Minutes (Signed copy of meeting chairperson) should be attached to the system.

6.2.3 Appointment Management Process

It need to create appointment of CPA Chairman with Stakeholders & high officials CPA. Appointment will be managed by this system. Appointment requested will get notification about the confirmation of appointment.

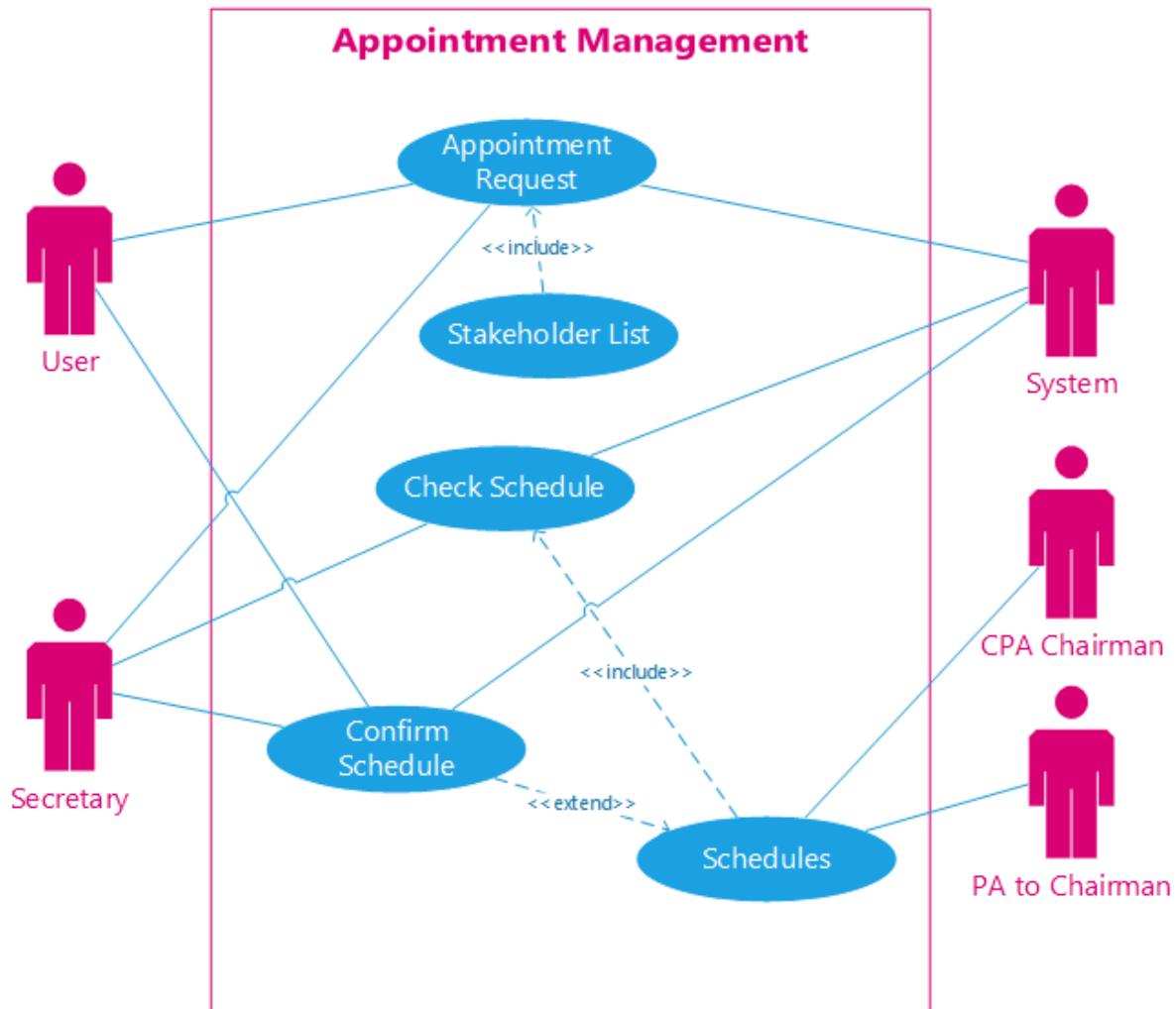
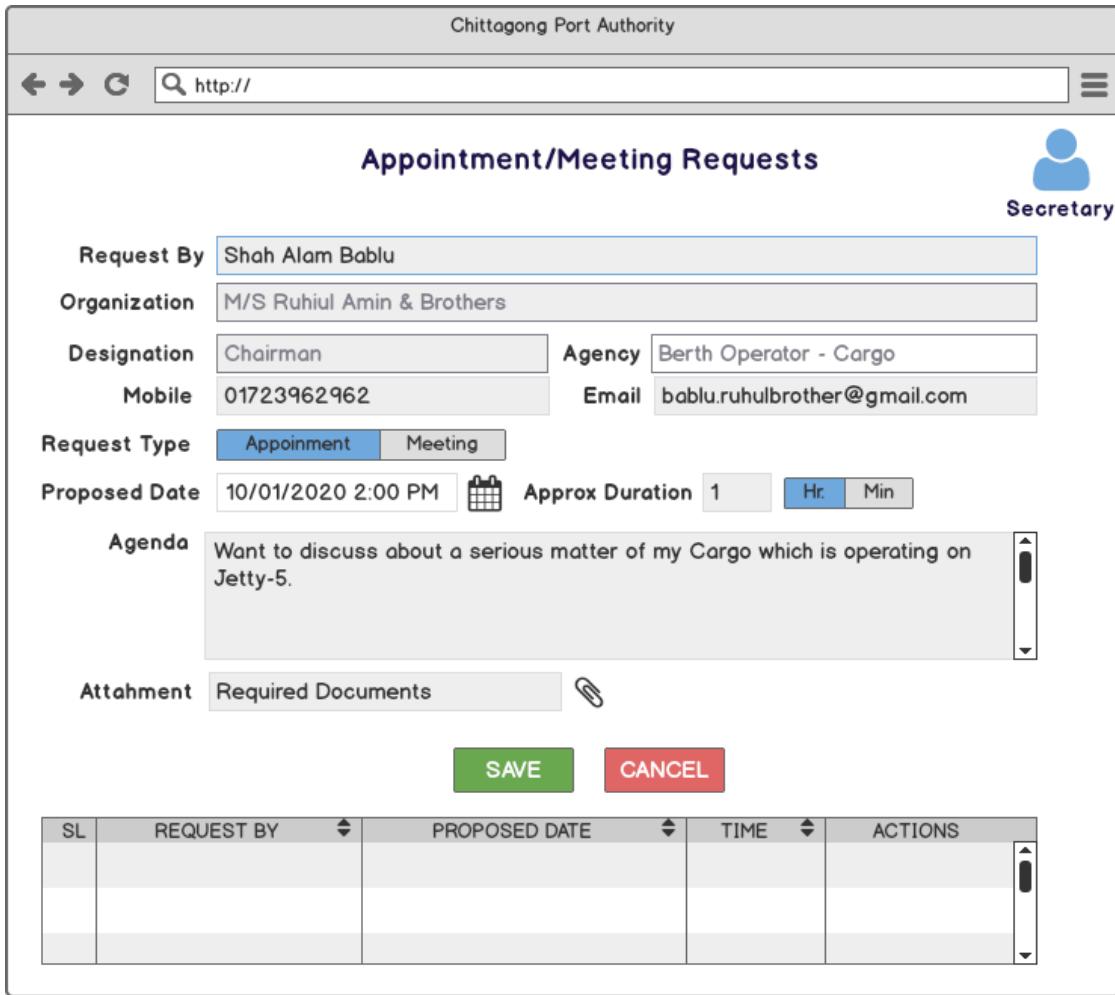


Figure 57: Use Case for Appointment Management

| | |
|-------------------------------------|---|
| Use Case ID: | UC-AS-003 |
| Use Case Name: | Appointment Management |
| Actors: | <ul style="list-style-type: none"> • User • Secretary • CPA Chairman • PA to Chairman • System |
| Trigger: | When user intends to make an appointment with CPA Chairman. |
| Description: | The functionality "Appointment Management" facilitates to request for an appointment with CPA Chairman; and confirmation of the appointment, also update the schedule calendar of CPA Chairman. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system. • Stakeholder list should be available to the system. |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To prepare the schedule. |
| Normal Flow: | <ul style="list-style-type: none"> • Select a requester with request type. • Provide proposed date and approximat duration. • Insert the agenda of appointment. • Verify the information. • Submit information to the system. |
| Alternate Flow: | <ul style="list-style-type: none"> • Secretary can create an appointment to the system. |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • Broken pages. • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Appointment Request should be stored to the system • Appointment status will be updated • Appointment requester will get update by SMS/email about status • Appointment will be available to CPA Chairman appointment calendar • CPA Chairman appointment will be available to PA to CPA Chairman |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> • Proposed appointment time slot should be available. |
| Non Functional Requirements: | N/A |
| Reference: | UC-AS-001, UC-AS-002 |

6.2.3.1 Appointment/Meeting Request

CPA official can request appointment from their own dashboard. Otherwise stakeholders can request appointment via Secretary. This functionality will be managed by this mockup.



The mockup shows a web-based appointment request form for Chittagong Port Authority. The top right corner features a blue user icon labeled 'Secretary'. The form fields include:

- Request By:** Shah Alam Bablu
- Organization:** M/S Ruhul Amin & Brothers
- Designation:** Chairman
- Agency:** Berth Operator - Cargo
- Mobile:** 01723962962
- Email:** bablu.ruhulbrother@gmail.com
- Request Type:** Appointment (selected)
- Proposed Date:** 10/01/2020 2:00 PM
- Approx Duration:** 1 Hr. 1 Min
- Agenda:** Want to discuss about a serious matter of my Cargo which is operating on Jetty-5.
- Attachment:** Required Documents (with a paperclip icon)

At the bottom are **SAVE** and **CANCEL** buttons. Below the buttons is a table with columns: SL, REQUEST BY, PROPOSED DATE, TIME, and ACTIONS.

| SL | REQUEST BY | PROPOSED DATE | TIME | ACTIONS |
|----|------------|---------------|------|---------|
| | | | | |
| | | | | |
| | | | | |

Figure 58: Mockup for Appointment/Meeting Request

6.2.3.2 Appointment/Meeting Approval

Secretary will check the current schedule of CPA Chairman and proposed a schedule for the requested appointment. After that secretary get permission from CPA Chairman to fix up an appointment. System will send a SMS/email notification to requested about the appointment. These functionalities will be managed by this mockup.

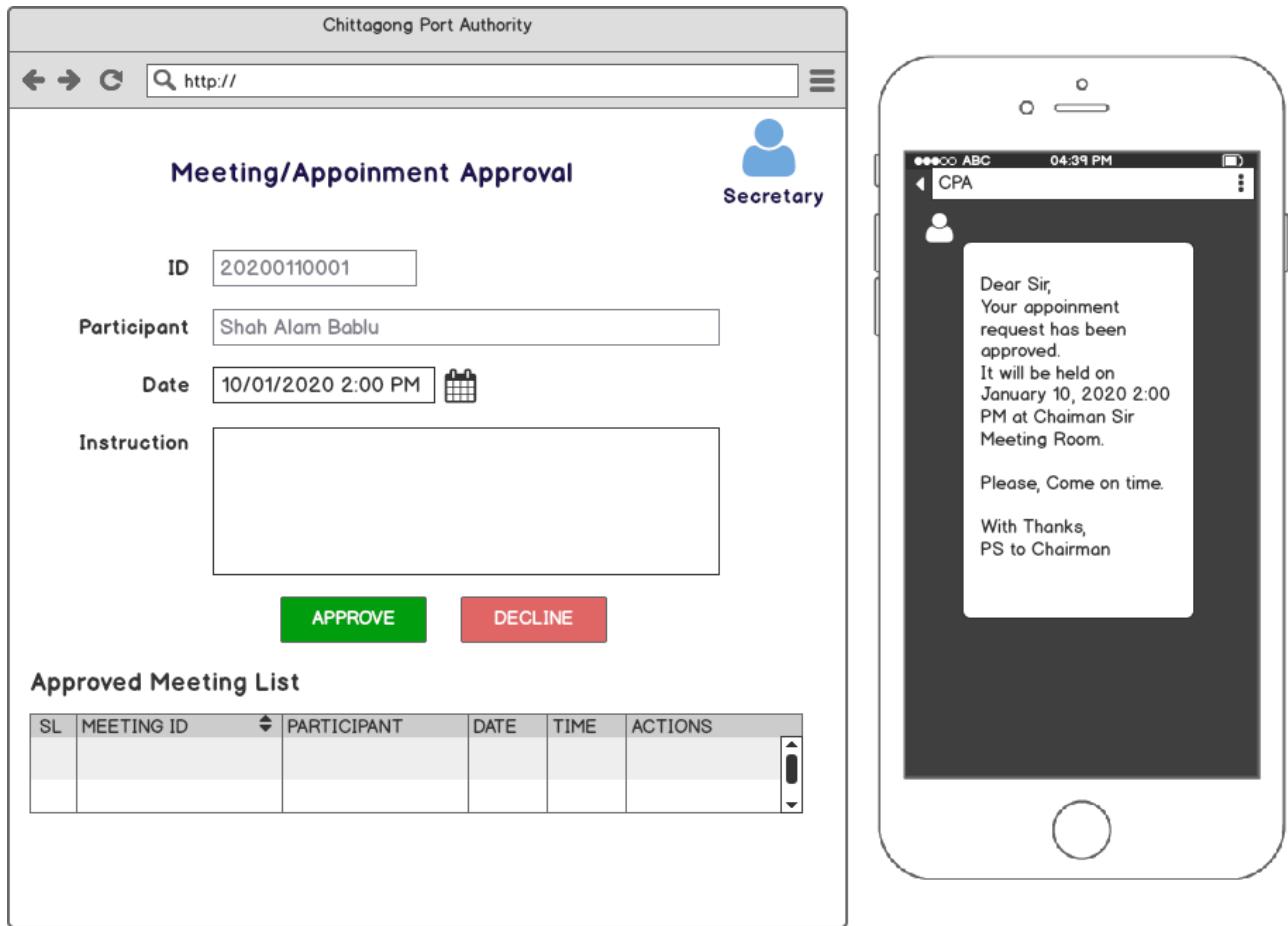


Figure 59: Mockup for Appointment/Meeting Approval

6.2.3.3 CPA Chairman Appointment/Schedule Calendar

System will generate an appointment/schedule calendar for CPA Chairman based on appointment, meeting, visit etc.

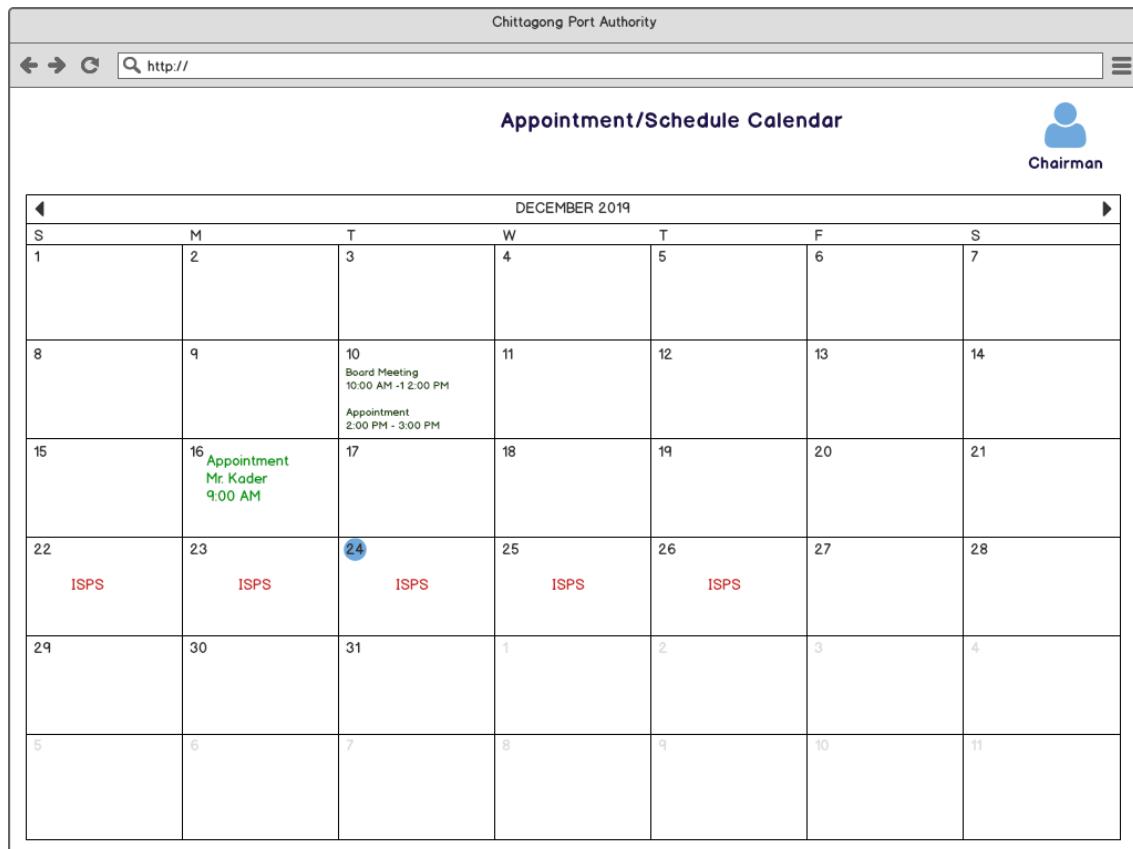


Figure 60: Mockup for CPA Chairman Appointment/Schedule Calendar

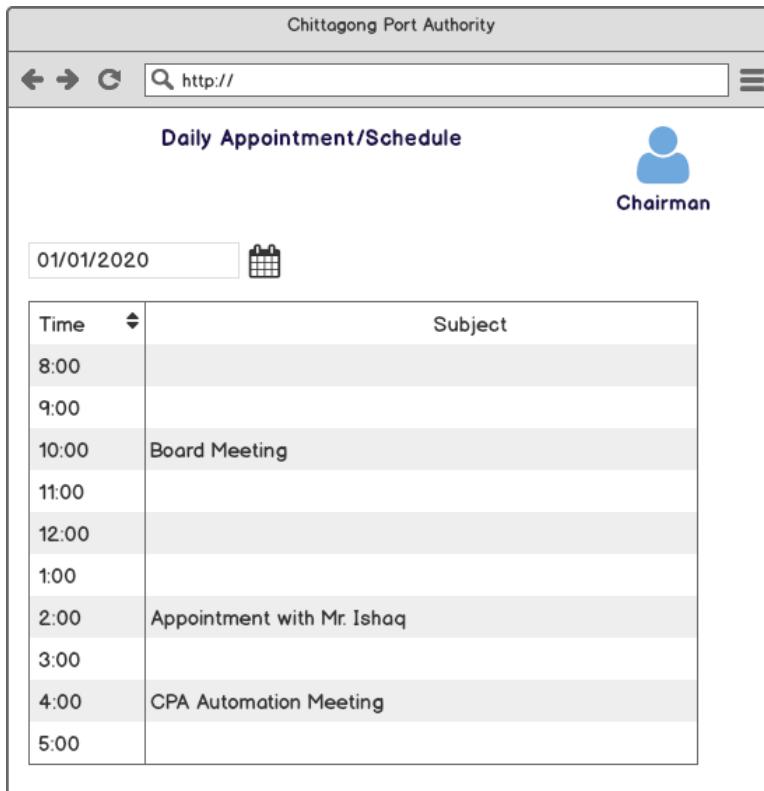


Figure 61: Mockup for the daily appointment/schedule calendar of CPA Chairman

6.2.4 Appointment/Schedule Module Reports

We have listed some reports for Appointment/Schedule module.

6.2.4.1 Agency list Report

System will provide facility to generate Agency list based on multiple criterion. These are:

- Agency Name
- Agency Location

Chittagong Port Authority

http://cpa.gov.bd/agency-report

Agency List Report

User

Parameters:

Agency: All

Division: Chittagong

District: Chittagong

Report Cancel

| ID | Name | Address | Phone | Fax | E-Mail | District |
|----|--|----------------------------|---------|---------|------------------|------------|
| 1 | Chittagong Customs C&F Agents Association | CDF Tower SK. Mujib Road | 2513801 | 2513804 | cnfctg@gmail.com | Chittagong |
| 2 | Bangladesh Shipping Agents Association | 1080 CSE Building | 714836 | | | Chittagong |
| 3 | Bangladesh Inland Container Depots Association | Aktaruzzamn Center Agrabad | 713886 | 2519610 | | Chittagong |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 62: Mockup for Agency List Report

6.2.4.2 Stakeholder list Report

System will provide facility to generate stakeholder list based on multiple criterion. These are:

- Agency
- Stakeholder Location

Chittagong Port Authority

http://cpa.gov.bd/stakeholder-report

Stakeholder List Report

User

Parameters:

Agency: Berth Operator - Cargo

Division: Chittagong

District: Chittagong

Report Cancel

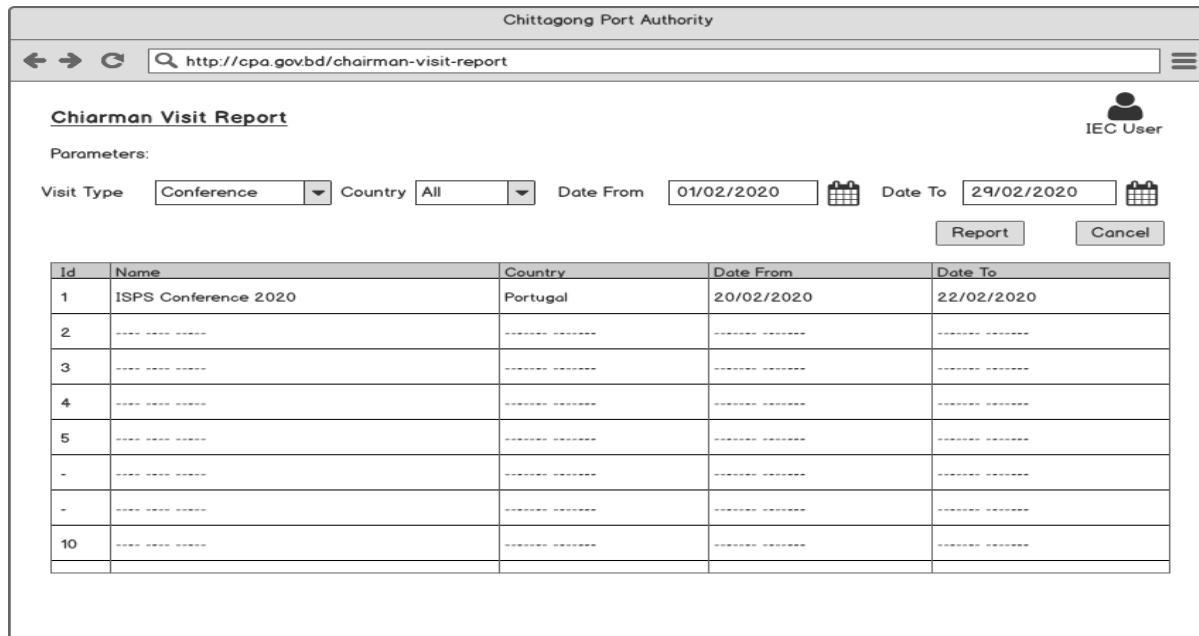
| ID | Name | Agency | Organization | Designation | Mobile | District |
|----|-----------------|------------------------|-----------------------------|-------------------|-------------|------------|
| 1 | Shah Alam Bablu | Berth Operator - Cargo | M/S Ruhul Amin & Brothers | Chairman | 01723962962 | Chittagong |
| 2 | Hossain Ahmed | Berth Operator - Cargo | M/S A W Khan & Company Ltd. | Managing Director | 01722554433 | Chittagong |
| 3 | Ekramul Karim | Berth Operator - Cargo | M/S A & Z Traders | Managing Partner | 01722334455 | Chittagong |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 63: Mockup for Stakeholder List Report

6.2.4.3 CPA Chairman Visit Report

System will provide facility to generate CPA Chairman visit list based on multiple criterion. These are:

- Visit Type
- Country
- Visit Schedule



Chittagong Port Authority

http://cpa.gov.bd/chairman-visit-report

Chairman Visit Report

IEC User

Parameters:

Visit Type: Conference, Country: All, Date From: 01/02/2020, Date To: 29/02/2020

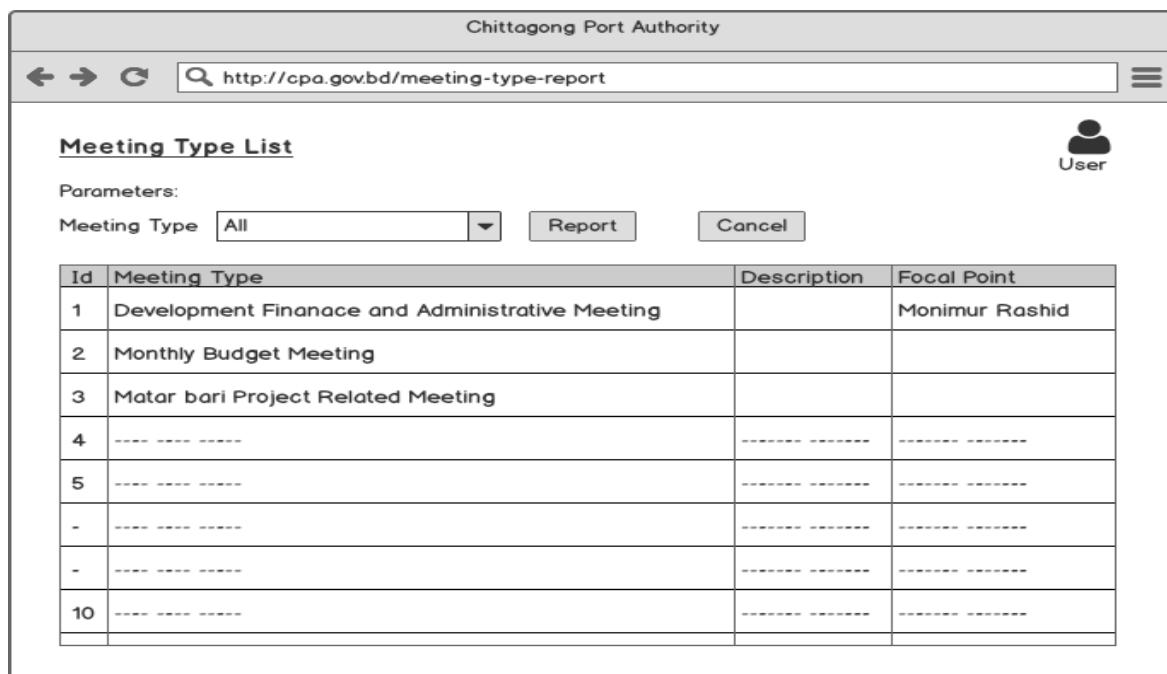
Report, Cancel

| ID | Name | Country | Date From | Date To |
|----|----------------------|----------|------------|------------|
| 1 | ISPS Conference 2020 | Portugal | 20/02/2020 | 22/02/2020 |
| 2 | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- |
| 4 | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- |

Figure 64: Mockup for Chairman Visit Report

6.2.4.4 Meeting Type Report

System will provide facility to generate Meeting type list.



Chittagong Port Authority

http://cpa.gov.bd/meeting-type-report

Meeting Type List

User

Parameters:

Meeting Type: All

Report, Cancel

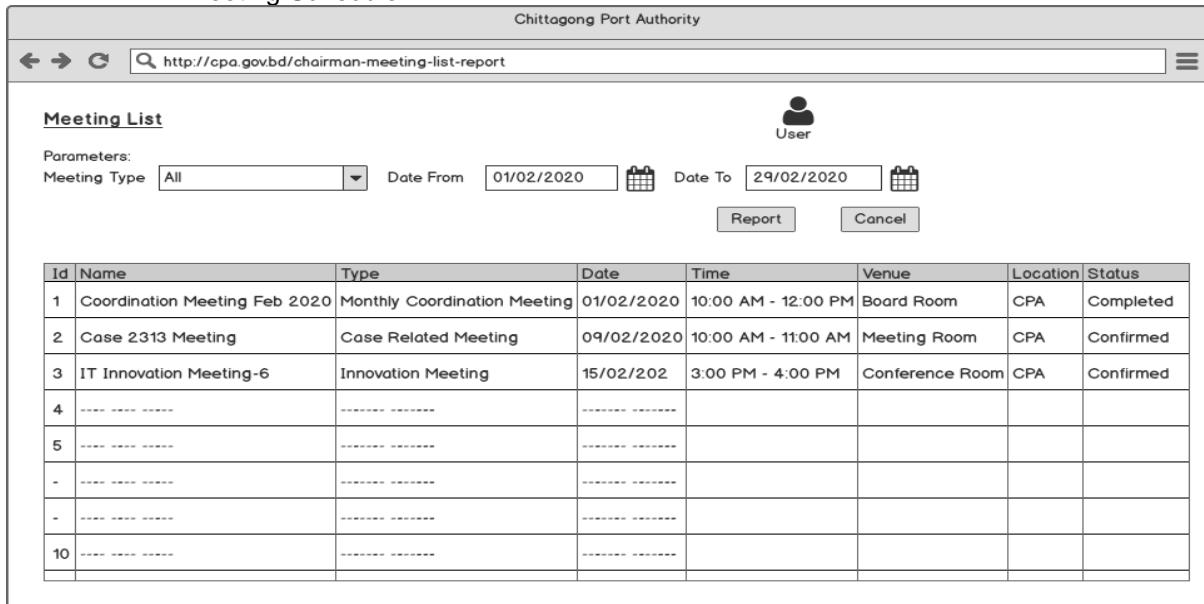
| ID | Meeting Type | Description | Focal Point |
|----|--|-------------|----------------|
| 1 | Development Finance and Administrative Meeting | | Monimur Rashid |
| 2 | Monthly Budget Meeting | | |
| 3 | Matar bari Project Related Meeting | | |
| 4 | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- |
| - | ----- | ----- | ----- |
| - | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- |

Figure 65: Mockup for Meeting type List Report

6.2.4.5 CPA Chairman Meeting Report

System will provide facility to generate CPA Chairman Meeting list based on multiple criterion. These are:

- Meeting Type
- Meeting Schedule



Chittagong Port Authority

Meeting List

Parameters:

| | | | | | |
|--------------|-----|-----------|------------|---------|------------|
| Meeting Type | All | Date From | 01/02/2020 | Date To | 29/02/2020 |
|--------------|-----|-----------|------------|---------|------------|

User

Report Cancel

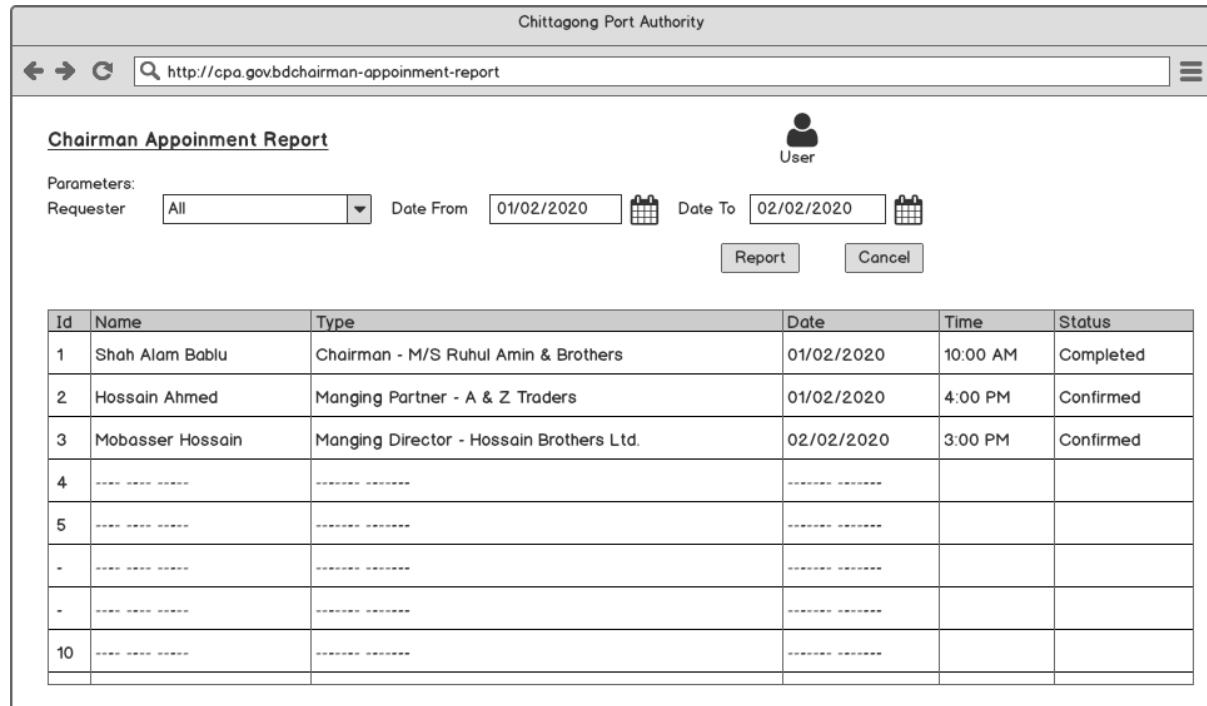
| ID | Name | Type | Date | Time | Venue | Location | Status |
|----|-------------------------------|------------------------------|------------|---------------------|-----------------|----------|-----------|
| 1 | Coordination Meeting Feb 2020 | Monthly Coordination Meeting | 01/02/2020 | 10:00 AM - 12:00 PM | Board Room | CPA | Completed |
| 2 | Case 2313 Meeting | Case Related Meeting | 09/02/2020 | 10:00 AM - 11:00 AM | Meeting Room | CPA | Confirmed |
| 3 | IT Innovation Meeting-6 | Innovation Meeting | 15/02/2020 | 3:00 PM - 4:00 PM | Conference Room | CPA | Confirmed |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 6 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 7 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 66: Mockup for CPA Chairman Meeting

6.2.4.6 CPA Chairman Appointment Report

System will provide facility to generate CPA Chairman Appointment list based on multiple criterion. These are:

- Requested Person
- Meeting Schedule



Chittagong Port Authority

Chairman Appointment Report

Parameters:

| | | | | | |
|-----------|-----|-----------|------------|---------|------------|
| Requester | All | Date From | 01/02/2020 | Date To | 02/02/2020 |
|-----------|-----|-----------|------------|---------|------------|

User

Report Cancel

| ID | Name | Type | Date | Time | Status |
|----|------------------|--|------------|----------|-----------|
| 1 | Shah Alam Bablu | Chairman - M/S Ruhul Amin & Brothers | 01/02/2020 | 10:00 AM | Completed |
| 2 | Hossain Ahmed | Manging Partner - A & Z Traders | 01/02/2020 | 4:00 PM | Confirmed |
| 3 | Mobasser Hossain | Manging Director - Hossain Brothers Ltd. | 02/02/2020 | 3:00 PM | Confirmed |
| 4 | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- |
| 6 | ----- | ----- | ----- | ----- | ----- |
| 7 | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- |

Figure 67: Mockup for CPA Chairman Appointment

7 Module: Access Control System in CPA

We, CNS develop a proposed design for Access Control System for CPA module of CPA system.

The proposed module will be work for Gate pass/Licence issue and renew on below listed ways;

- User will insert gate pass information to system.
- System will check the CPA Chairman if request come for appointment.
- Also, system will calculate the entry fee for jetty access and check the payment option.
- System will generate a SMS/email notification to applicant for card collection.
- It need finger print, Retina data, and Photo for jetty access card.
- Card will deliver to applicant.
- Card will be automatically inactive when expire date arrived.
- System will send and SMS/Email to card holder for card renewal (if required)
- Applicant can make payment via online payment gateway or security cash counter.

Some required information for gate pass:

- Two kinds of security mechanisms are being using;
 - Licensing: Applicable for C&F Agents
 - Access Control: Maintained by issuing Gate Pass.
- There are two (2) infrastructures for Gate Passes issue process;
 - Port Authority Building
 - Jetty Gates
- There are two types of Gate Passes for Visitors;
 - Temporary: Issue for 1 to 28 days, which is renewable.
 - Permanent: Issue for 1 year, which is also renewable.
- There are two types of Vehicle Passes;
 - Truck/Lorry/Covered Van
 - Only for one (1) day
 - Issued only at Jetty gate
 - Motor Cycle/Private Car/ CNG Auto rickshaw
 - issued for 1 to 28 days
 - Special case it may be one year (based on need)
 - Issued at Gate pass section of Security building
- Different fees structure is followed-
 - For Visitor-
 - Temporary Gate Pass charge: Tk.10.004 per day
 - Permanent Gate Pass charge: Tk. 300 per Year
 - For Vehicle -
 - Truck/Lorry/Covered Van Pass charge: Tk. 50.00 per day
 - Motor Cycle/CNG Pass charge: Tk. 20.00 per day
 - Private Car Pass Charge: Tk. 30.00 per day

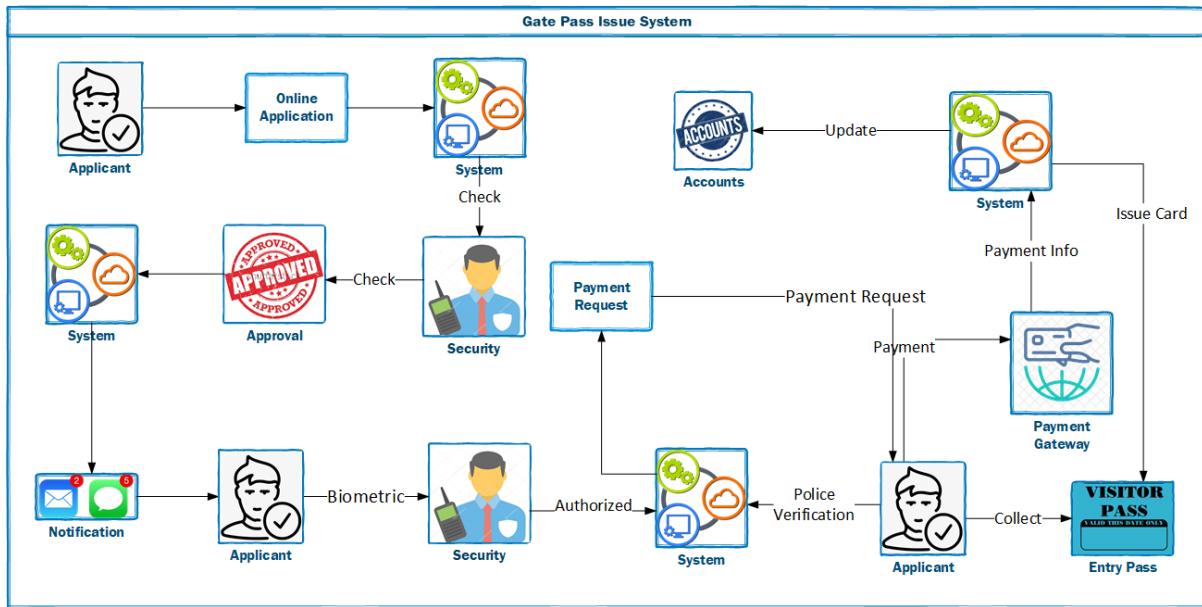


Figure 68: Gate Pass Issue Process

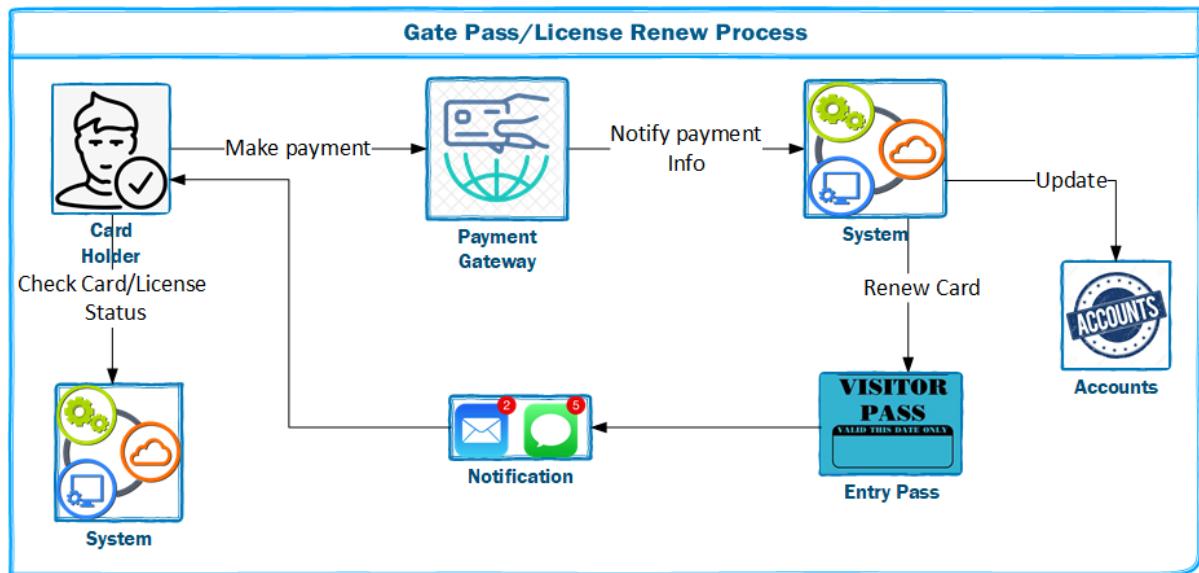


Figure 69: Gate Pass Renewal Process

7.1 Module Relationship of Access Control System in CPA

We CNS, develop an integrated system for CPA. Access control system module will use data from other modules and also provide data to another module for process.

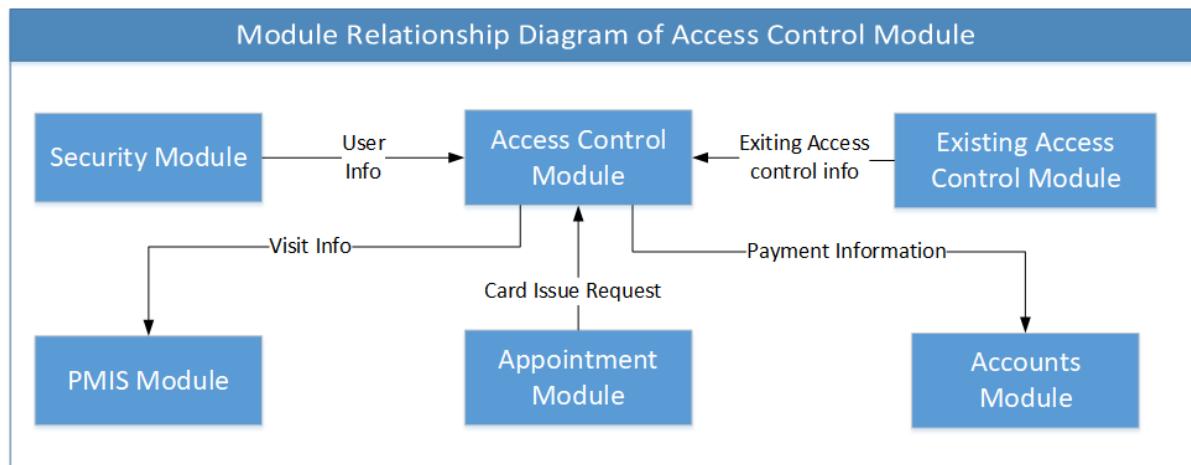


Figure 70: Module Relationship of Access Control System

- Access control module will use user related data from Security module.
- It will use existing access control data.
- It will use data from Appointment/Schedule module to generate temporary access card for appointment.
- This module will provide visitors attendance data to PMIS module.
- Access Control will provide payment related information to Accounts module

7.2 Business Process of Access Control

Access control System consist some business processes; these are:

- Gate pass/License Application Process
- Gate Pass/License Application Verify & payment Process
- Gate Pass Rate Chard
- Gate Pass Issue & Delivery
- Gate Pass Renewal

7.2.1 Gate Pass/License Application Process

Due to digitalization of CPA, it need to digitalize the gate pass/license application issue process.

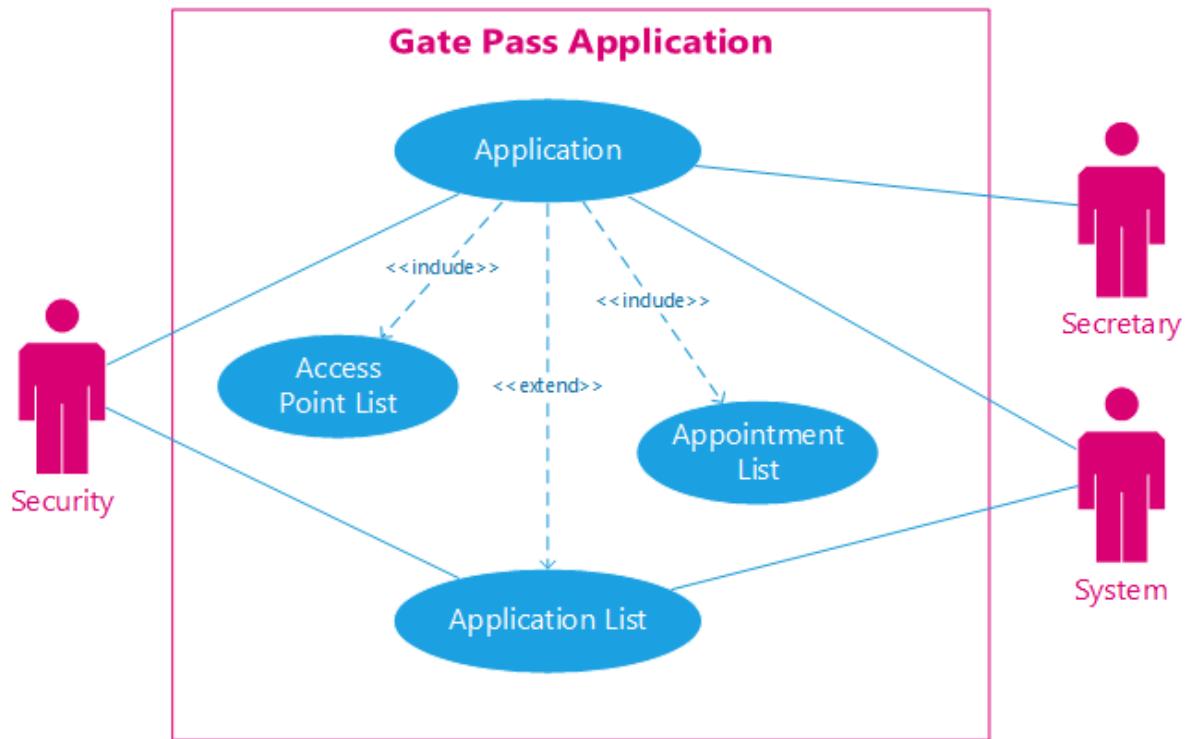


Figure 71: Use Case for Gate Pass Application

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CAC-001 |
| Use Case Name: | Gate Pass Application |
| Actors: | <ul style="list-style-type: none"> • Security • Secretary • User • System |
| Trigger: | When user intends to provide gate pass application. |
| Description: | The functionality "Gate Pass Application" facilitates to provide gate pass to access CPA Building & Jetty area; and vehicle to access jetty area. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Existing access control data should be available to storage. |
| Assumption: | <ul style="list-style-type: none"> • API is ready. |
| Goal: | To submit the gate pass application to the system. |
| Normal Flow: | <ul style="list-style-type: none"> • Insert application data • NID integration to verify applicants. • BRTA integration to verify vehicle information. • System will save the information. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • API is not working. |
| Post conditions: | Access Card application should be receive by the system. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | N/A |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

7.2.1.1 CPA Building Gate Pass – Bangladeshi

Sometimes it need to issue visitor card to Bangladeshi citizen to access CPA Building; it may happen due to appointment with CPA Chairman, CPA Vendors etc.

Chattogram Port Authority
← → ↻
🔍 http://
≡

CPA Building Gate Pass - Bangladeshi
Security

Nationality Bangladeshi Foreigner

NID If the system integrated with NID server then Full Name, Picture, Father & Mother Name, Permanent & Present Address will be pulled automatically

Date Of Birth If the system integrated with NID server then Full Name, Picture, Father & Mother Name, Permanent & Present Address will be pulled automatically

Name

Father's Name Mother's Name

Mobile Email

Permanent Address

Division District

Police Station

Post Office Post Code

Same as Permanent Address

Present Address

Division District

Police Station

Post Office Post Code

Organization

If Organization as - Others

Designation Address

Purpose

Card Type Card No.

Issue Date If the system integrated with NID server then Full Name, Picture, Father & Mother Name, Permanent & Present Address will be pulled automatically

Validity Day(s)

Expire Date

SAVE
CANCEL

Gate Pass Holder List

Q search
🔍

| SI | NAME | ORGANIZATION | DESIGNATION | CARD NO | PURPOSE | ISSUE DATE | EXPIRY DATE | ACTION |
|----|--------------------|--------------|------------------------|---------|-----------------|------------|-------------|---|
| 1 | Md. Mehedi Hossain | CNS Ltd | Ass. Software Engineer | 001 | System Analysis | 01/01/2020 | 31/12/2021 | Edit Delete |

<<
1
2
3 >>

Figure 72: Mockup of CPA Building Gate Pass Application – Bangladeshi

7.2.1.2 CPA Building Gate Pass – Foreigner

Foreign delegates, shipping agency related foreigner, and other foreigner need to visit CPA Building for meeting, appointment or other relevant task.

Chattogram Port Authority

CPA Building Gate Pass - Foreigner

Security

Nationality Bangladeshi Foreigner

Name

Passport No. Valid Till

Date Of Birth Arrival

Country

Address

Current Address

Organization Designation

Purpose

Local Contact NID

Mobile Email

Card Type Card No.

Issue Date Validity Day(s)

Expire Date

SAVE CANCEL

Gate Pass Holder List

| SL | NAME | ORGANIZATION | DESIGNATION | CARD NC | PURPOSE | ISSUE DATE | EXPIRY DATE | ACTIONS |
|----|------------------|--------------|-------------------|---------|-----------------|------------|-------------|---------|
| 1 | Md. Mehedi Hasan | CNS Ltd | Ass. Software Eng | 001 | System Analysis | 01/01/2020 | 31/12/2021 | |

Showing 8 of 100 << 1 2 3 >>

Figure 73: Mockup of CPA Building Gate Pass – Foreigner

7.2.1.3 Jetty Gate Pass – Bangladeshi

It needs to access jetty areas for Bangladeshi citizens.

Chatogram Port Authority

http://

Jetty Pass Application - Human - Bangladeshi

Security

Jetty Pass For: Human Vehicle Nationality will appear only for Human

Nationality: Bangladeshi Foreigner

NID: 61230104462

Date Of Birth: 01/01/1990

Name: Md. Akhter Hossain

Father's Name: Md. Shohrab Hossain

Mother's Name: Mrs. Khaleda Hossain

Mobile: 01700112233

Email: akterdhaka@gmail.com

Permanent Address: House#445, Block#Ka, Road# 9, Hali Shahor

Division: Chittagong

District: Chittagong

Police Station: Agrabad

Post Office: Halishahor

Post Code: 3310

Same as Permanent Address

Present Address: House#445, Block#Ka, Road# 9, Hali Shahor

Division: Chittagong

District: Chittagong

Police Station: Agrabad

Post Office: Halishahor

Post Code: 3310

Organization: Akram C&F Ltd.

Designation: Agent

Purpose: Others

If select 'Others' then a text box will appear

Gate Pass Type: Temporary Permanent

Issue From: 11/01/2020

No. Of Days: 20 Day(s)

Expire Date: 30/01/2020

Amount: 223.00 Taka

Payment Mode: Cash Digital

Attachment: Office Id Card Business Card Authorization Letter

Recommended By: Major Reza - 000454

Operation Head - Security

Recommendation Letter

SAVE **CANCEL**

Jetty Gate Pass Application List

Q search

| SL | Id | NAME | ORGANIZATION | Type | LENGTH | PAYMENT | ACTIONS |
|---------------------|----------|------------------|--------------|-----------|---------|---------|---------|
| 1 | 20201001 | Md. Mehedi Hasan | BSC | Temporary | 20 days | Paid | |
| Showing 8 of 100 | | | | | | | |
| << 1 2 3 4 5 10+ >> | | | | | | | |

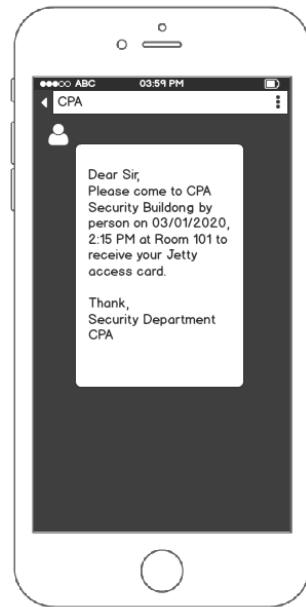


Figure 74: Mock up for Jetty Gate Pass - Bangladeshi

7.2.1.4 Jetty Gate Pass – Foreigner

It needs to access jetty areas for foreigners.

Chattogram Port Authority

http://

Jetty Pass Application - Human - Foreigner

Security

Jetty Pass For Human Vehicle Nationality will appear only for Human

Nationality Bangladeshi Foreigner

Name GARCAO DE MAGALHAES

Passport No. 17000044 Valid Till 16/06/2022

Date Of Birth 07/04/1974 Arrival 31/12/2019

Country Thailand

Address 22, Yonk Road, Ching Rai
Wiagne - 5708, Thailand

Current Address Hotel Peninsula, Dampara, Chittagong, Bangladesh
Room No# 4501

Organization Chiang Seaqn Port Authority Designation Cheif Auditor

Purpose Port Visit

Local Contact Md. Abdul Kuddus NID 69852233555

Mobile 01798653214 Email a.kuddush@gmail.com

Gate Pass Type Temporary Permanent Issue From 11/01/2020

No. Of Days 20 Day(s) Expire Date 30/01/2020

Amount 223.00 Taka

Payment Mode Cash Digital

Attachment Office Id Card Business Card Authorization Letter

Recommended By Major Reza - 000454 Operation Head - Security Recommendation Letter

SAVE **CANCEL**

Jetty Gate Pass Application List

Q search

| SL | Id | NAME | Country | Type | LENGTH | PAYMENT | ACTIONS |
|----|----------|---------|----------|-----------|---------|---------|---------|
| 1 | 20201001 | Mc Glen | Thailand | Temporary | 20 days | Paid | |

Showing 8 of 100 << 1 2 3 >>

Figure 75: Mock up Jetty Gate Pass - Foreigner

7.2.1.5 Jetty Gate Pass – Vehicle

Vehicles need to move around jetty area due some activities like container loading – unloading, meeting, inspection etc.

Chattogram Port Authority

← → C
http://
≡
🔍

Jetty Gate Pass Application : Vehicle

User
Security

Jetty Pass For
 Human
 Vehicle

If integrated with BTRA server then vehicle information will be pulled automatically

Vehicle Registration No.

Vehicle Type

Color

Engine No.

Chassis No.

Agency Name

Purpose

Driver Name

NID

Driving License

Mobile

Gate Pass Type
 Temporary
 Permanent

Issue Date

Expire Date

No. Of Days

Day(s)

Amount

Taka
Payment Mode
 Cash
 Digital

Attach:
 Authorization Letter
 Driving Licence
 Driver NID
📎

SAVE
CANCEL

Jetty Gate Pass Application List: Vehicle
🔍
≡
Q search
MICROPHONE

SL
VEHICLE REG NO.
VEHICLE TYPE
AGENCY NAME
DRIVER NAME
DRIVING LICENSE
PURPOSE
ACTIONS

| SL | VEHICLE REG NO. | VEHICLE TYPE | AGENCY NAME | DRIVER NAME | DRIVING LICENSE | PURPOSE | ACTIONS |
|----|-----------------|--------------|-------------|-------------|-----------------|---------|---------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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3
>>

7.2.2 Gate Pass Application Verification & Payment process

Due to digitalization of CPA access control, it need to digitalize the verification & payment system of gate pass issue & renewal.

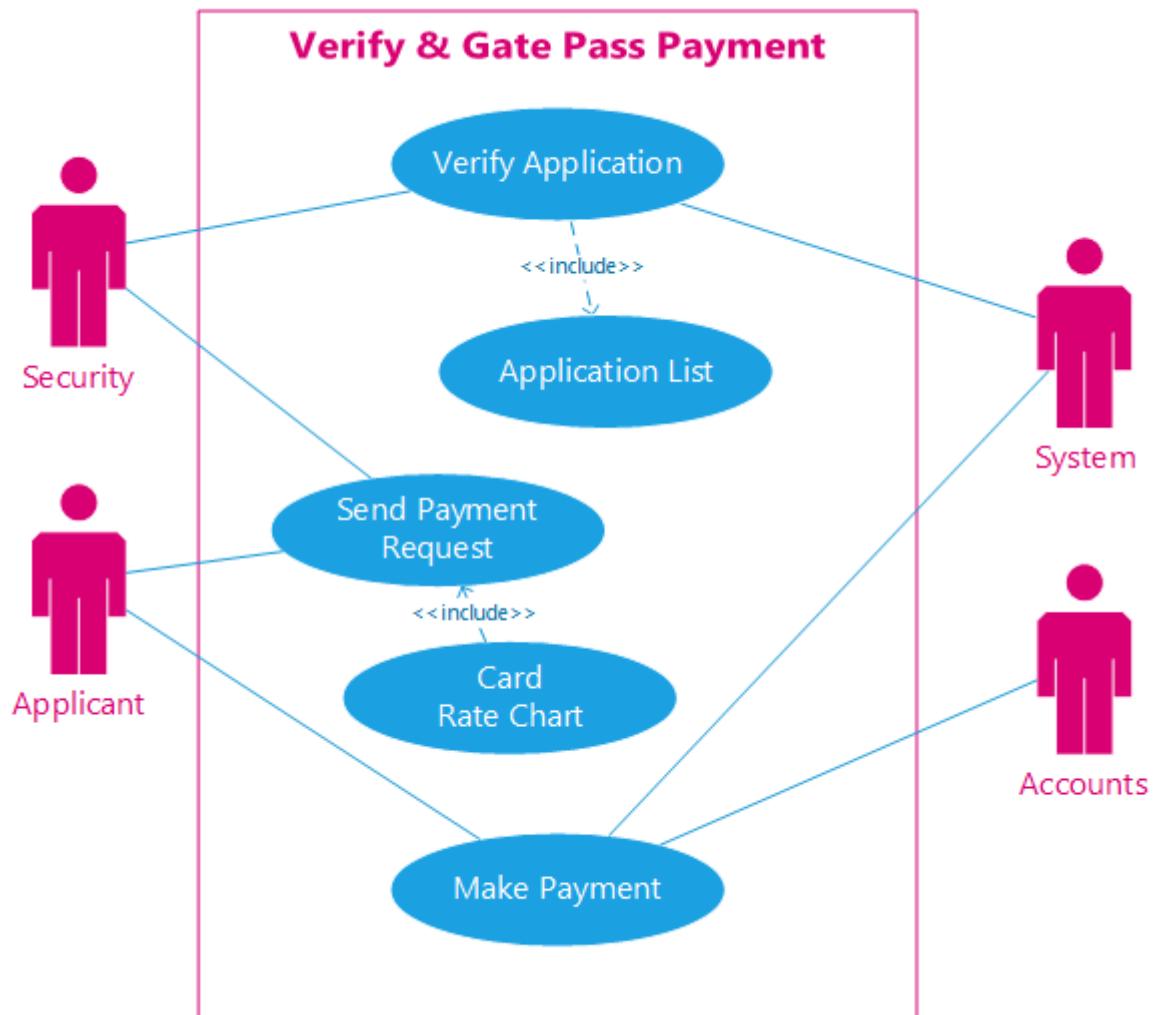


Figure 76: Use Case for Gate Pass Application Verify & Payment

| | |
|-------------------------------------|---|
| Use Case ID: | UC-CAC-002 |
| Use Case Name: | Gate Pass Application Verify & Payment |
| Actors: | <ul style="list-style-type: none"> • Security • Applicant • Accounts • System |
| Trigger: | <ul style="list-style-type: none"> • When user intends to verify gate pass application • When applicant intent to make payment for gate pass. |
| Description: | The functionality "Gate Pass Application verify & payment" facilitates to verify gate pass application information and complete the payment process. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Gate Pass application must be submitted to the system. |
| Assumption: | <ul style="list-style-type: none"> • Application is valid. |
| Goal: | To submit verify the application and complete the payment. |
| Normal Flow: | <ul style="list-style-type: none"> • Select an application to verify • Security marked application as certified. • System provide SMS/email to applicant to complete the payment • Applicant made the payment (direct to CPA or payment gateway) • System get payment notification. • System will save the information. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • API is not working. |
| Post conditions: | <ul style="list-style-type: none"> • Access Card application should be receive by the system. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> • Visitor Temporary Jetty Gate pass duration: 1 to 28 days • Visitor Permanent Jetty Gate pass duration: 1-year max • Vehicle: Category – I i.e. Truck, Lorry, Covered Van duration: only 1 day • Vehicle: Category – II i.e. Private Car duration: 1 – 28 days • Vehicle : Category – III i.e. Moto Cycle, CNG Auto Riksaw etc. duration : 1 – 28 days |
| Non Functional Requirements: | N/A |
| Reference: | UC-CAC-003 |

7.2.3 Gate Pass Rate Chart process

CPA has a predefined rate chart for visitor and vehicle, which need to move on jetty area.

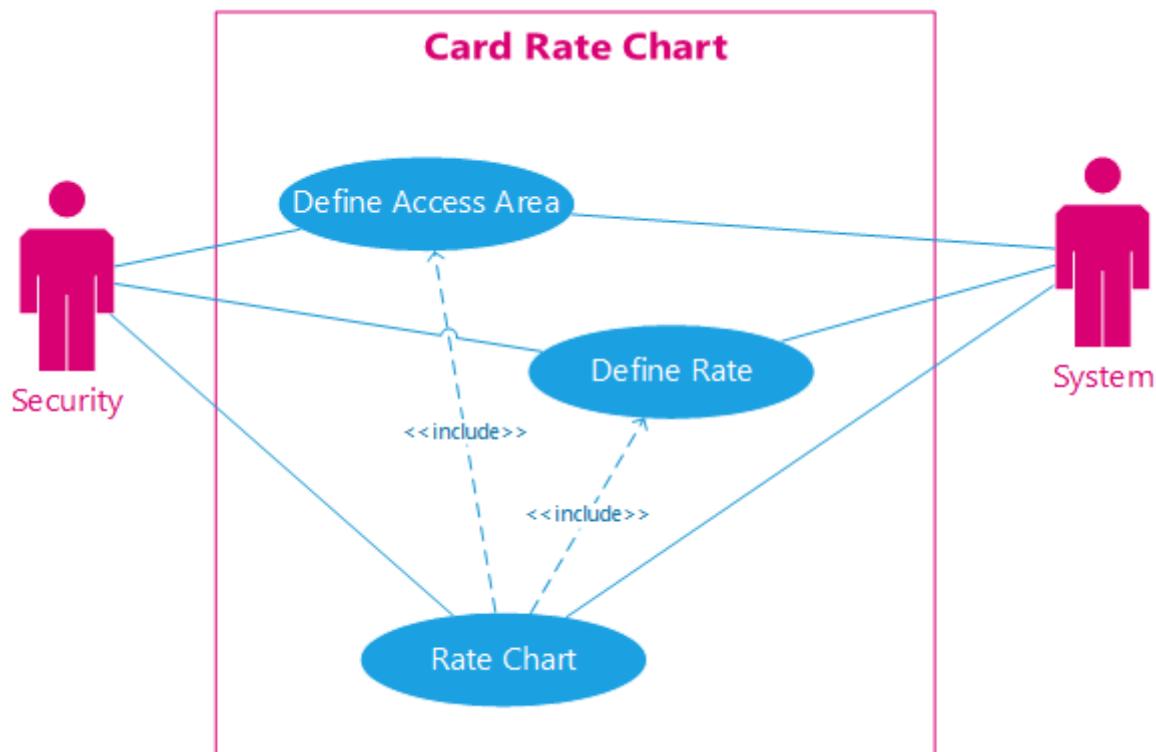


Figure 77: Use Case for Gate Pass Rate Chart

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CAC-003 |
| Use Case Name: | Gate Pass Rate Chart |
| Actors: | <ul style="list-style-type: none"> Security System |
| Trigger: | <ul style="list-style-type: none"> When user intends define rate chart. |
| Description: | The functionality "Gate Pass Rate Chart" facilitates to insert rate information. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Gate Pass area should be defined. |
| Assumption: | <ul style="list-style-type: none"> NA. |
| Goal: | To define the gate pass rate chart. |
| Normal Flow: | <ul style="list-style-type: none"> Select visitor/vehicle Define Rate System will save the information. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. |
| Post conditions: | <ul style="list-style-type: none"> Access Card rate chart should be ready for use. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Visitor Temporary Jetty Gate pass: 10 taka per day Visitor Permanent Jetty Gate pass: 300 taka per year Vehicle: Category – I i.e. Truck, Lorry, Covered Van: 50 taka per day Vehicle: Category – II i.e. Private Car: 30 taka per day Vehicle : Category – II i.e. Moto Cycle, CNG Auto Riksaw: 20 taka per day |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

7.2.4 Gate Pass Issue & Delivery process

After verification & payment. CPA security department issue and deliver gate pas to the applicant.

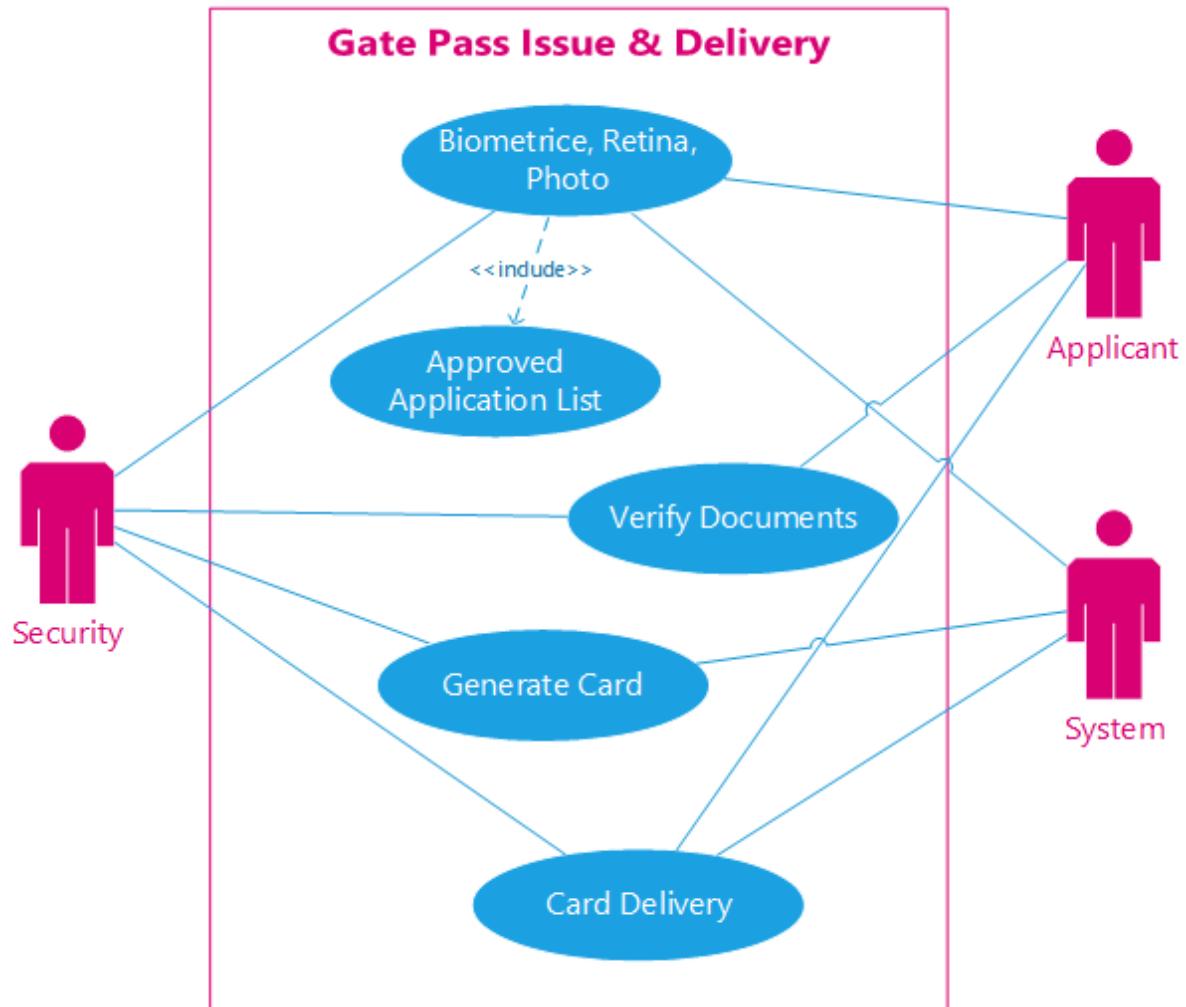


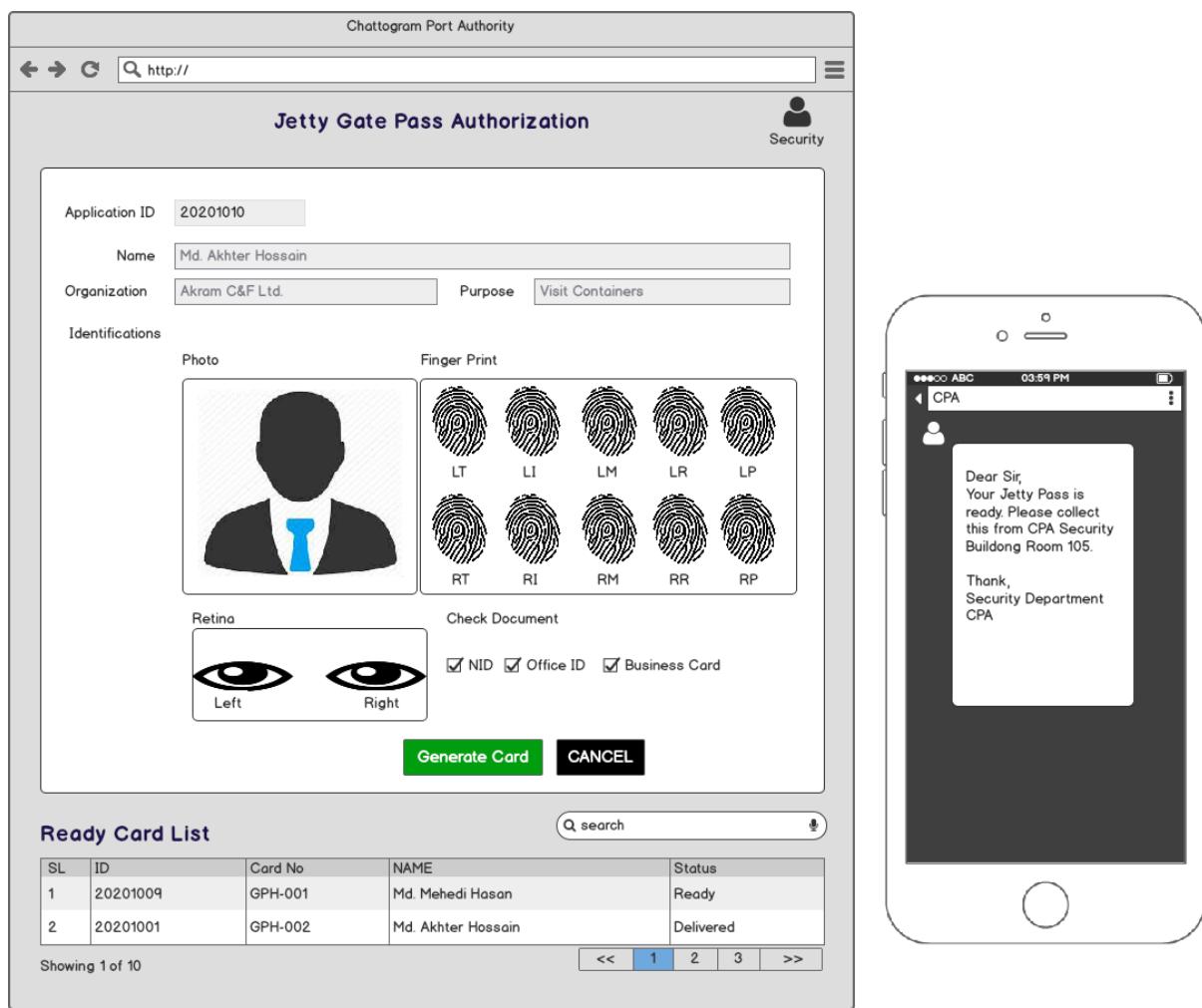
Figure 78: Use Case for Gate Pass Rate Chart

| | |
|------------------------|---|
| Use Case ID: | UC-CAC-004 |
| Use Case Name: | Gate Pass Issue & Delivery |
| Actors: | <ul style="list-style-type: none"> • Security • System • Applicant |
| Trigger: | <ul style="list-style-type: none"> • When user intends generate gate pass. • When user intend to deliver gate pass |
| Description: | The functionality "Gate Pass Issue & Delivery" facilitates to insert/update gate pass issue and delivery information. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Gate Pass should have approved. • Payment should be confirmed. |
| Assumption: | <ul style="list-style-type: none"> • Payment completed with approval |
| Goal: | To generate gate pass & delivery |
| Normal Flow: | <ul style="list-style-type: none"> • Select approved application • Receive Biometric, retina, and image • Generate card • Deliver Card • System will save the information. |
| Alternate Flow: | N/A |

| | |
|-------------------------------------|--|
| Failure: | • Connection Lost. |
| Post conditions: | • Access Card should be generated & delivered. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | • Delivery information should be updated. • Card will be inactive when over the expire date |
| Non Functional Requirements: | N/A |
| Reference: | UC-CAC-001, UC-CAC-002, UC-CAC-003 |

7.2.4.1 Jetty Gate Pass Authorization - Human

Applicant need to visit CPA security department to authorize a card by providing finger prints, retina, and photo.



The figure displays a web-based application interface for 'Jetty Gate Pass Authorization' and a corresponding mobile phone notification.

Web Application (Left):

- Header:** Chatogram Port Authority, Jetty Gate Pass Authorization, Security.
- Form Fields:**
 - Application ID: 20201010
 - Name: Md. Akhter Hossain
 - Organization: Akram C&F Ltd.
 - Purpose: Visit Containers
- Identifications:**
 - Photo: Placeholder image of a person in a suit.
 - Finger Print: A grid of 10 fingerprint images labeled LT, LI, LM, LR, LP, RT, RI, RM, RR, RP.
 - Retina: Placeholder image of two eyes labeled Left and Right.
- Check Document:** Checkboxes for NID, Office ID, Business Card.
- Buttons:** Generate Card (green), CANCEL (black).

Mobile Phone (Right):

- Header:** ABC, 03:59 PM, CPA.
- Message:**

Dear Sir,
Your Jetty Pass is ready. Please collect this from CPA Security Building Room 105.

Thank,
Security Department
CPA

Ready Card List (Bottom):

| SL | ID | Card No | NAME | Status |
|----|----------|---------|--------------------|-----------|
| 1 | 20201009 | GPH-001 | Md. Mehedi Hasan | Ready |
| 2 | 20201001 | GPH-002 | Md. Akhter Hossain | Delivered |

Showing 1 of 10 << 1 2 3 >>

Figure 79: Mock up for Jetty Gate Pass Authorization

- System will generate a SMS/email to applicant about card information

7.2.4.2 Access Card Delivery

Applicant need to receive the access card from CPA security.

Chattogram Port Authority

← → C ≡

Jetty Gate Pass Delivery Security

Application ID Name

Card No. Issue On ≡

Valid From ≡ To ≡

Deliver To Own Other Delivered On ≡

Name Mobile

Relation NID ≡

Authorization Letter [🔗](#)

Delivery CANCEL

Delivered Card List Q search

| SL | ID | Card No | NAME | Status | Delivered By |
|----|----------|---------|--------------------|---------------------|---------------------|
| 1 | 20201009 | GPH-001 | Md. Mehedi Hasan | 03/01/2020 2: 50 PM | Delivered S.I Akram |
| 2 | 20201001 | GPH-002 | Md. Akhter Hossain | 03/01/2020 4:00 PM | Delivered S.I Akram |

<< 1 2 3 >>

Figure 80: Gate Access Card Delivery

- It is possible to receive access card by nominated person with an authorized letter.

7.2.5 Gate Pass Renew Process

After expiration of jetty gate pass, it need to renew the card for next time access

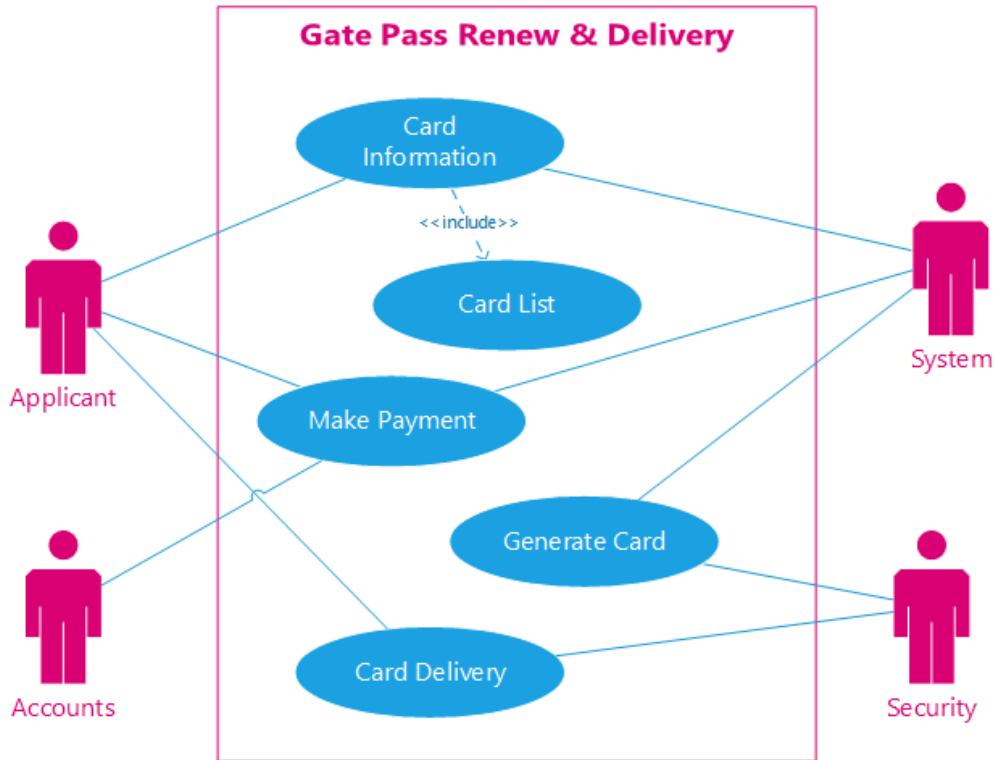


Figure 81: Use Case for Gate Pass Renew

| | |
|-------------------------------------|---|
| Use Case ID: | UC-CAC-005 |
| Use Case Name: | Gate Pass Issue & Delivery |
| Actors: | <ul style="list-style-type: none"> Security System Applicant Account |
| Trigger: | <ul style="list-style-type: none"> When user intends renew a gate pass. |
| Description: | The functionality "Gate Pass Renew" facilitates to renew gate pass. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system Gate Pass should be expired. Payment should be confirmed. |
| Assumption: | <ul style="list-style-type: none"> Payment completed with approval |
| Goal: | To generate renewal of gate pass & delivery |
| Normal Flow: | <ul style="list-style-type: none"> Select payment completed application Update card validity System will save the information. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. |
| Post conditions: | Access Card should be renewal. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Renewal information should be updated |
| Non Functional Requirements: | N/A |
| Reference: | UC-CAC-001, UC-CAC-002, UC-CAC-003, UC-CAC-004 |

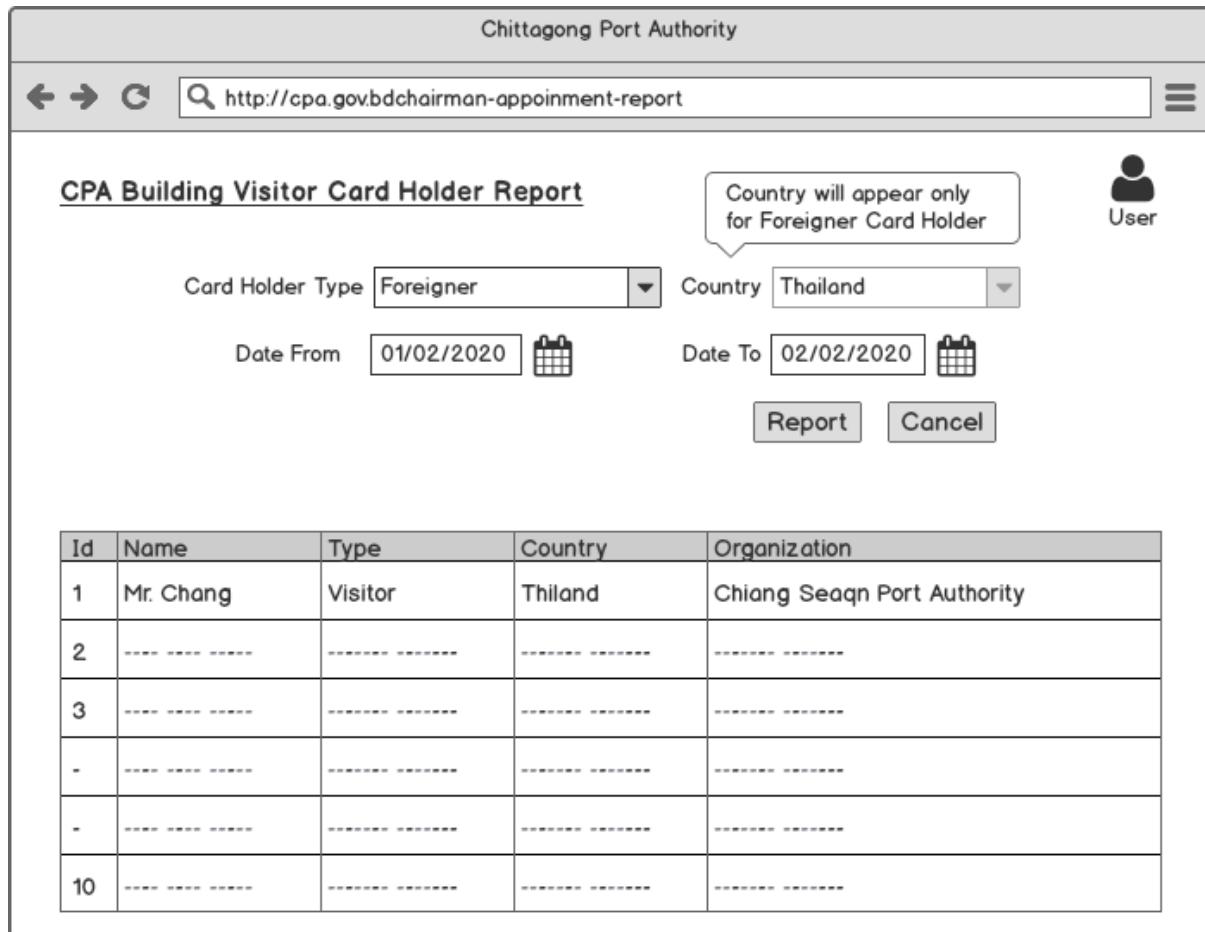
7.2.6 Access Control Module Reports

We have listed some reports for Access Control module.

7.2.6.1 CPA Building Visitor Report

System will provide facility to generate data share report based on multiple criterion. These are:

- Card Holder Type
- Duration



The mockup shows a web browser interface for the Chittagong Port Authority. The title bar says 'Chittagong Port Authority'. The address bar shows the URL 'http://cpa.gov.bd/Chairman-Appointment-Report'. The main content area has a heading 'CPA Building Visitor Card Holder Report'. A tooltip says 'Country will appear only for Foreigner Card Holder'. On the right, there is a user icon labeled 'User'. Below the heading are two dropdown menus: 'Card Holder Type' set to 'Foreigner' and 'Country' set to 'Thailand'. Below these are two date pickers: 'Date From' set to '01/02/2020' and 'Date To' set to '02/02/2020'. At the bottom are 'Report' and 'Cancel' buttons. Below this is a table with the following data:

| Id | Name | Type | Country | Organization |
|----|-----------|---------|---------|-----------------------------|
| 1 | Mr. Chang | Visitor | Thiland | Chiang Seaqn Port Authority |
| 2 | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- |

Figure 82: Mockup for CPA Building Visitor Report

7.2.6.2 Jetty Gate Pass Holder Report

System will provide facility to generate data share report based on multiple criterion. These are:

- Card Holder Type
- Duration

Chittagong Port Authority

<http://cpa.gov.bd/chairman-appointment-report>

Jetty Gate Pass Application Report

Country will appear only for Foreigner Card Holder

User

Applicant's Type: Foreigner Country: Thailand

Date From: 01/11/2019 Date To: 02/02/2020

Report Cancel

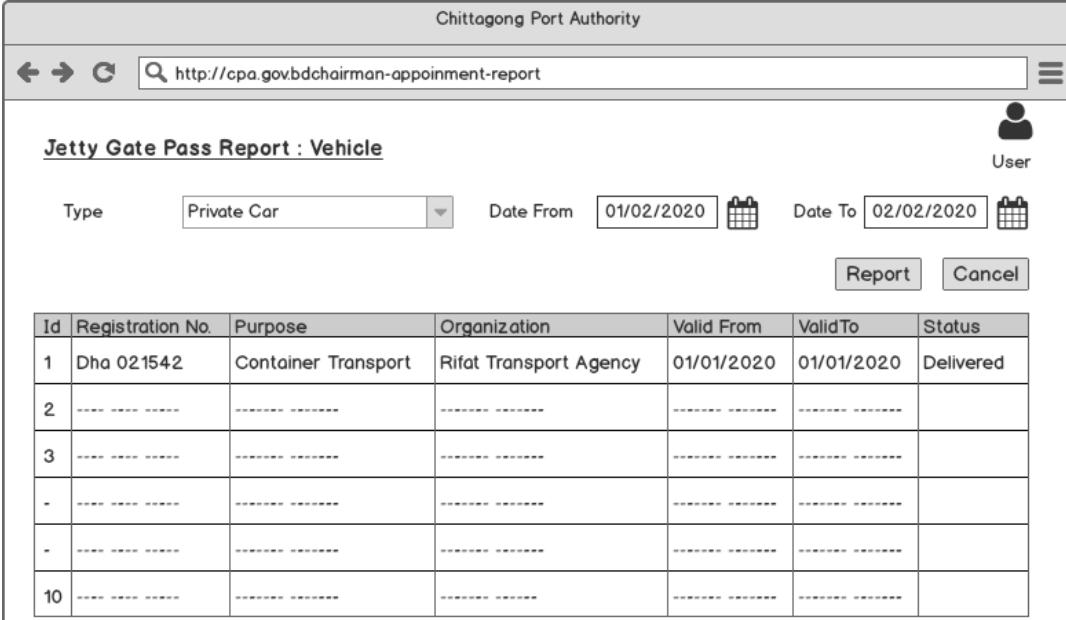
| ID | Name | Type | Country | Organization | Status | Delivery Time |
|----|-----------|---------|---------|-----------------------------|-----------|---------------|
| 1 | Mr. Chang | Visitor | Thiland | Chiang Seaqn Port Authority | Delivered | 01/12/2019 |
| 2 | ----- | ----- | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- | ----- | ----- |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 83: Mockup for Jetty Card Visitor Report

7.2.6.3 Jetty Gate Pass Vehicle Report

System will provide facility to generate data share report based on multiple criterion. These are:

- Vehicle Type
- Duration



Chittagong Port Authority

http://cpa.gov.bd/chairman-appointment-report

User

Jetty Gate Pass Report : Vehicle

Type: Private Car Date From: 01/02/2020 Date To: 02/02/2020

Report Cancel

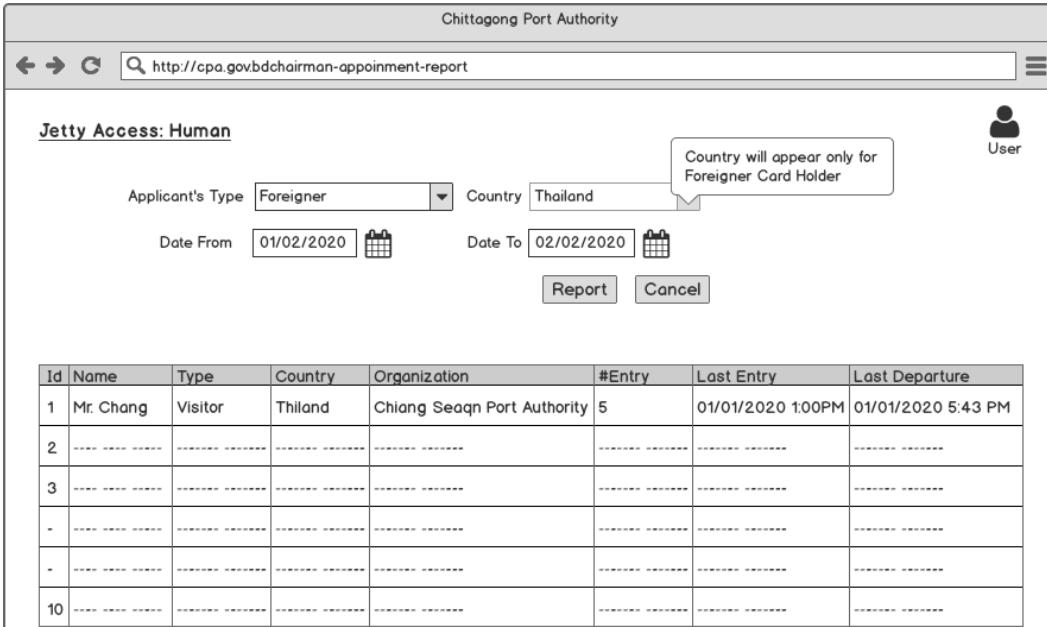
| ID | Registration No. | Purpose | Organization | Valid From | Valid To | Status |
|----|------------------|---------------------|------------------------|------------|------------|-----------|
| 1 | Dha 021542 | Container Transport | Rifat Transport Agency | 01/01/2020 | 01/01/2020 | Delivered |
| 2 | ----- | ----- | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 84: Mockup for Jetty Gate Pass Vehicle Report

7.2.6.4 Jetty Access – Visitor Report

System will provide facility to generate data share report based on multiple criterion. These are:

- Visitor Type
- Duration



Chittagong Port Authority

http://cpa.gov.bd/chairman-appointment-report

User

Jetty Access: Human

Applicant's Type: Foreigner Country: Thailand

Country will appear only for Foreigner Card Holder

Date From: 01/02/2020 Date To: 02/02/2020

Report Cancel

| ID | Name | Type | Country | Organization | #Entry | Last Entry | Last Departure |
|----|-----------|---------|---------|-----------------------------|--------|-------------------|--------------------|
| 1 | Mr. Chang | Visitor | Thiland | Chiang Seaqn Port Authority | 5 | 01/01/2020 1:00PM | 01/01/2020 5:43 PM |
| 2 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 85: Mockup for Jetty Access - Visitor Report

7.2.6.5 Jetty Access – Vehicle Report

System will provide facility to generate data share report based on multiple criterion. These are:

- Vehicle Type
- Duration

| Id | Type | Registration No | Purpose | Organization | #Entry | Last Entry | Last Departure |
|----|-----------|-----------------|---------------------|-----------------|--------|-------------------|--------------------|
| 1 | Cover Van | Dha 021542 | Container Transport | Rifat Transport | 1 | 01/01/2020 1:00PM | 01/01/2020 5:43 PM |
| 2 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 3 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 6 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 7 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 8 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 9 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 86: Mockup for Jetty Access – Vehicle Report

8 Module: CCTV in CPA Area

We, CNS develop a proposed design for CCTV in CPA area module of CPA system.

The proposed module will be work on below listed ways;

- CCTV area will be defined
- CCTV installation details will be defined
- CCTV Storage information
- CCTV Status should be updated
- Storage should be available for review

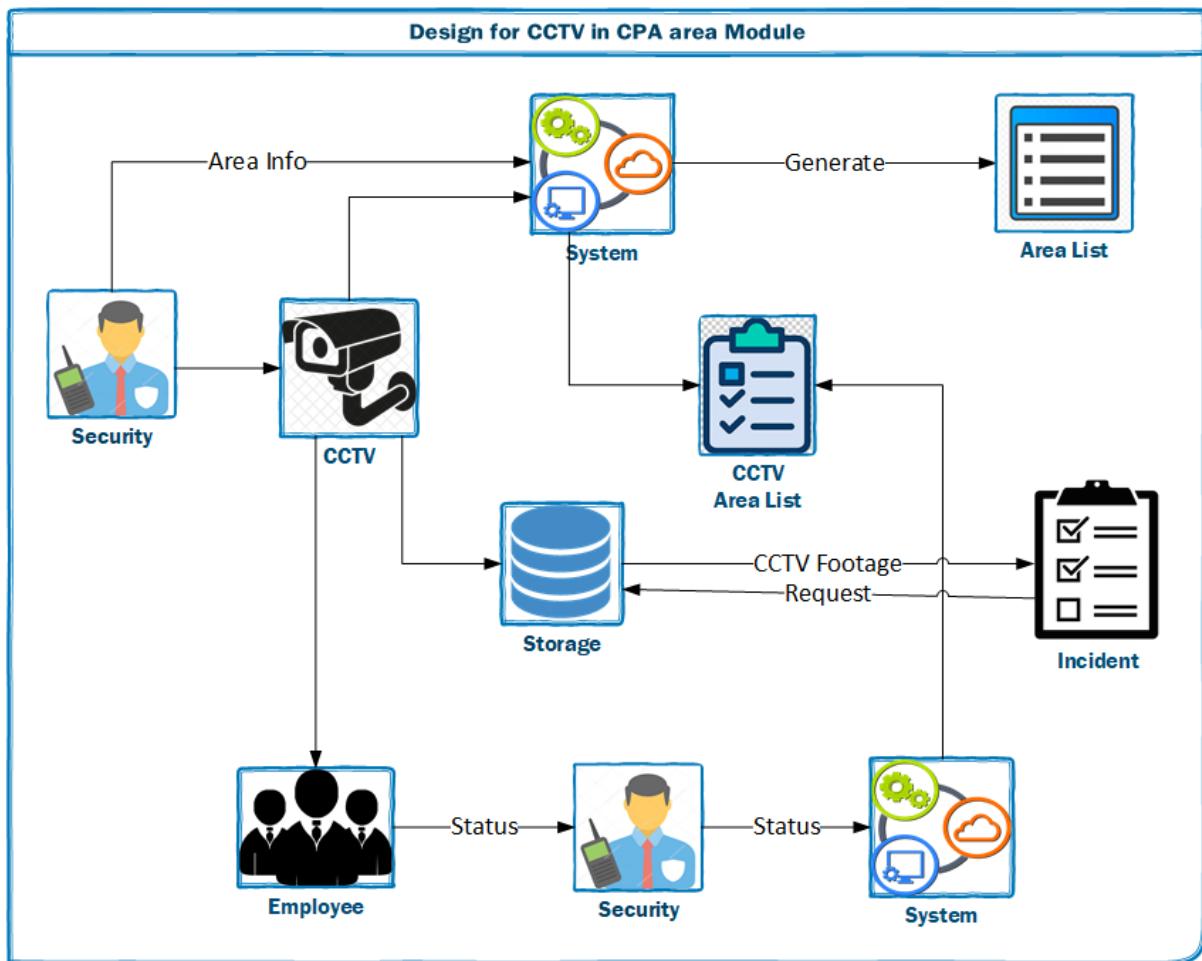


Figure 87: CCTV in CPA area System

8.1 Module Relationship of CCTV Module

We CNS, develop an integrated system for CPA. CCTV module will use data from other modules and also provide data to another module for process.

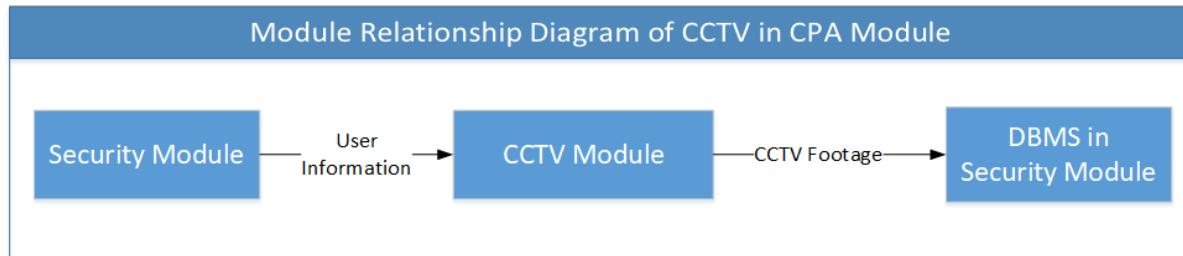


Figure 88: Module Relationship of Board Meeting System

- CCTV module will use user related data from Security module
- This module will provide CCTV footage to DBMS in Security module due to incident management and other relevant task.

8.2 Business Process of CCTV in CPA area

CCTV in CPA area module consist a multiple business processes, these are:

- CCTV Point Management
- CCTV Management

8.2.1 CCTV Point Management Process

Due to digitalization of CCTV module, CPA needs to log the CCTV point to define CCTV covered area information. This list will be update day by day.

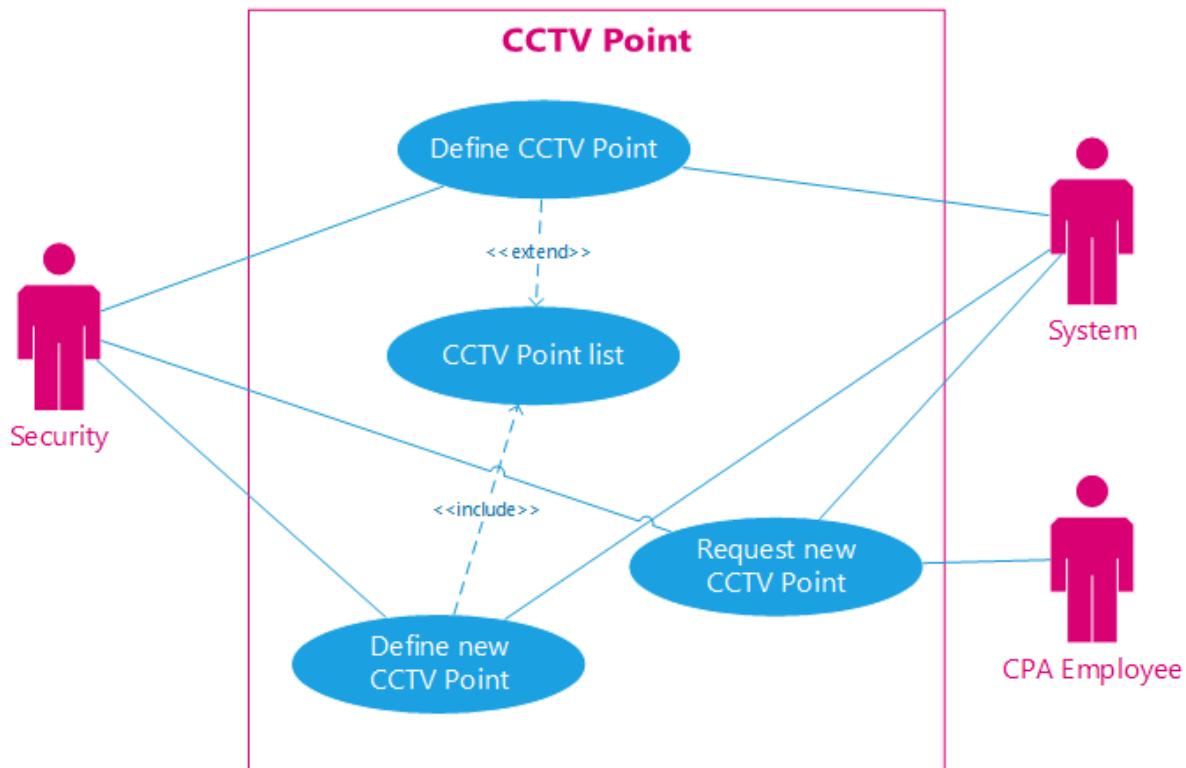


Figure 89: Use Case for CCTV Point

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CC-001 |
| Use Case Name: | CCTV Point |
| Actors: | <ul style="list-style-type: none"> • Security • System • CPA Employee |
| Trigger: | When Security department intends to create or update a CCTV point information to the system. |
| Description: | The functionality "CCTV points" facilitates to create or update a new CCTV point with CCTV coverage area. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To create and update CCTV point area. |
| Normal Flow: | <ul style="list-style-type: none"> • Insert CCTV point name. • Define the area • Verify the information. • Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Notifications about successful CCTV point create or update, |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> • CCTV points must be located within CPA area. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

8.2.1.1 CCTV Point Setup

It needs to setup the required points of CCTV where those will be installed.

Chittagong Port Authority

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CCTV Point Information

Security

| Point Name | <input type="text" value="CPA Main Gate"/> | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-------------------|----------|--------|----|-------|----------|----------|--------|---|-----------------------------|-------------------|---|--|---|--------------------------|--------------|----|--|---|------------|----------------|---|--|
| Location | <input type="text" value="CPA Building"/> ▼ | | | | | | | | | | | | | | | | | | | | | | | |
| Required CCTV | <input type="text" value="4"/> | | | | | | | | | | | | | | | | | | | | | | | |
| Specific Location | <div style="border: 1px solid #ccc; padding: 5px; width: 100%;"> 1. Left side of CPA Main Gate 2. Right side of CPA Main Gate 3. inner side of CPA Main Gate 4. Outer side of CPA Main Gate </div> | | | | | | | | | | | | | | | | | | | | | | | |
| Covered Area | <div style="border: 1px solid #ccc; padding: 5px; width: 100%;"> 1. CPA Main gate Left side to CPA foyara. 2. CPA Main gate Right side to CPA training center gate. 3. CPA main gate to CPA building full road 4. CPA main gate to Custom House </div> | | | | | | | | | | | | | | | | | | | | | | | |
| Status <input checked="" type="radio"/> Active <input type="radio"/> In active | | | | | | | | | | | | | | | | | | | | | | | | |
| Point Image <input type="text" value="CPA Main Gate"/> (Multiple) | | | | | | | | | | | | | | | | | | | | | | | | |
| SAVE CANCEL | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">SL</th> <th style="width: 40%;">Point</th> <th style="width: 25%;">Location</th> <th style="width: 15%;">Required</th> <th style="width: 15%;">Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Security Building main gate</td> <td>Security Building</td> <td>4</td> <td> </td> </tr> <tr> <td>2</td> <td>CPA Building Car Parking</td> <td>CPA Building</td> <td>12</td> <td> </td> </tr> <tr> <td>3</td> <td>Radar Gate</td> <td>Potenga Ragdar</td> <td>2</td> <td> </td> </tr> </tbody> </table> | | | | | SL | Point | Location | Required | Action | 1 | Security Building main gate | Security Building | 4 | | 2 | CPA Building Car Parking | CPA Building | 12 | | 3 | Radar Gate | Potenga Ragdar | 2 | |
| SL | Point | Location | Required | Action | | | | | | | | | | | | | | | | | | | | |
| 1 | Security Building main gate | Security Building | 4 | | | | | | | | | | | | | | | | | | | | | |
| 2 | CPA Building Car Parking | CPA Building | 12 | | | | | | | | | | | | | | | | | | | | | |
| 3 | Radar Gate | Potenga Ragdar | 2 | | | | | | | | | | | | | | | | | | | | | |

Figure 90: Mockup for CCTV Point Setup

8.2.2 CCTV Management Process

Due to digitalization of CCTV module, CPA needs to manage the CCTVs with purchase, installation, maintenance information.

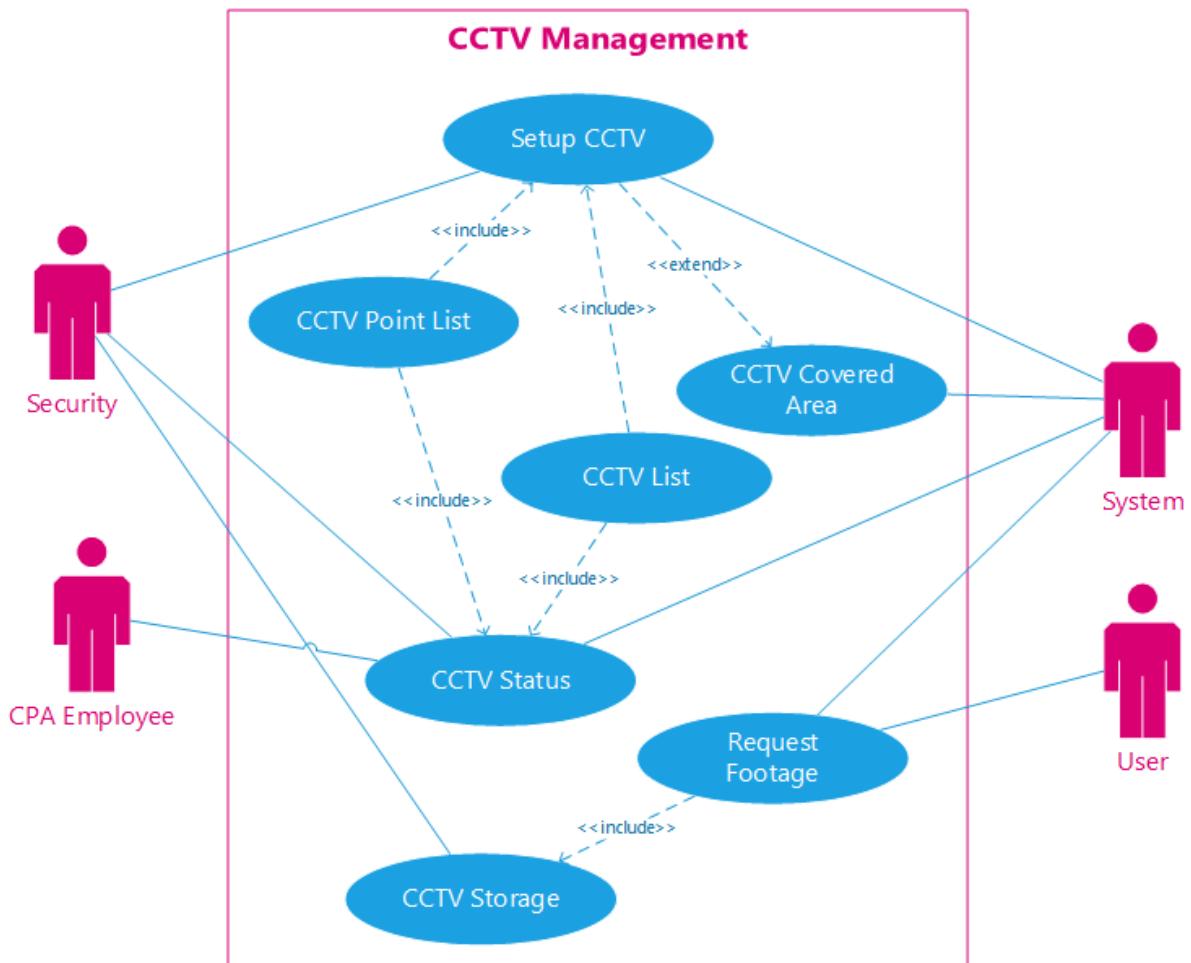


Figure 91: Use Case for CCTV Point

| | |
|------------------|--|
| Use Case ID: | UC-CC-002 |
| Use Case Name: | CCTV Management |
| Actors: | <ul style="list-style-type: none"> • Security • System • CPA Employee • User |
| Trigger: | When Security department intends to install a CCTV to a CCTV point. |
| Description: | The functionality "CCTV Management" facilitates to create or update record about CCTV installation. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To install a CCTV to a CCTV point area. |
| Normal Flow: | <ul style="list-style-type: none"> • Select CCTV. • Select CCTV Point • Define the Coverage area and other relevant information • Verify the information. • Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Notifications about successful CCTV installation |

| | |
|-------------------------------------|--|
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> CCTV points must be located within CPA area. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

8.2.2.1 CCTV Register

It needs to maintain a register about CCTV.

The form is titled 'CCTV REGISTER' and is for an 'Admin' user. It contains the following fields:

- EQUIPMENT ID: CPA-CCTV-005
- CATEGORY: CCTV
- EQUIPMENT NAME: Day Night CCTV
- Model: Hikvision 230125
- REMARKS: Record in both colour and black & white. Wide variety of sizes available. Infrared capability
- Received By: Khairul Kabir
- Order No.: CPA-2019-01
- Order By: Md. Akram Chowdhury
- Vendor: Flora Limited
- Manufacture: Shenzhen Xonz Technology Co., Ltd.
- Value: 15,000.00
- Purchase Date: 01/01/2019
- Warranty Date: 31/12/2020

Below the form is a table of registered cameras:

| SL | ID | NAME | MODEL | ACTIONS |
|----|-------------|----------------------------|------------------|---------|
| 1 | CPA-CCTV-01 | PTZ Pan Tilt & Zoom Camera | Hikvision 230129 | |
| 2 | CPA-CCTV-01 | C-mount Camera | Hikvision 230130 | |

Figure 92: Mockup for CCTV Register

8.2.2.2 CCTV Allotment

Purchased and repaired CCTV should be installed in CCCTV points. CPA need to track CCTV information as per points.

The form is titled 'CCTV Installation Information' and is for an 'Admin' user. It contains the following fields:

- CCTV Point: CPA Main gate
- Equipment Id: CPA-CCTV-005
- Model: Hikvision 230125
- Installed Location: Left side of CPA Main Gate
- Coverage: CPA Main gate Left side to CPA foyara.
- Status: Operation
- Order No.: CPA Building
- Equipment Name: Day Night CCTV
- Manufacture: Shenzhen Xonz Technology Co., Ltd.
- Installed Date: 02/02/2019

Below the form is a table of installed cameras:

| SL | ID | NAME | Point | Location | Status |
|----|-------------|------------------------|-----------------------|-------------|--------|
| 1 | CPA-CCTV-01 | CPA Main Gain | Left Side of CPA Gate | Operational | |
| 2 | CPA-CCTV-02 | Security Building Gate | In front of Gate | Maintenance | |

Figure 93: Mockup for CCTV Installation

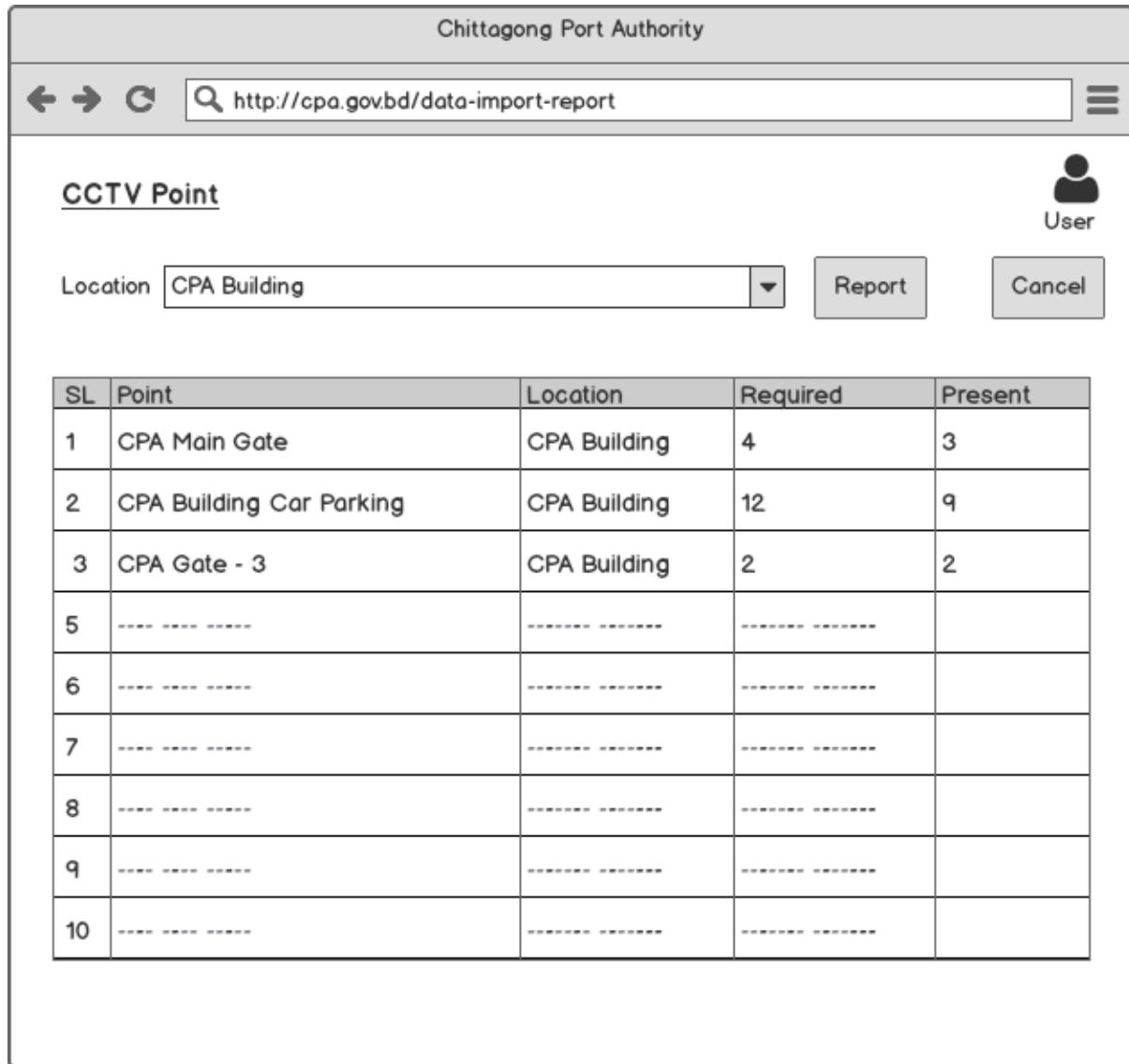
8.2.3 CCTV in CPA Module Reports

We have listed some reports for Board Decision module.

8.2.3.1 CCTV Point Report

System will provide facility to generate CCTV point list based a criterion which is:

- Location



The mockup shows a web browser window for the Chittagong Port Authority. The URL in the address bar is <http://cpa.gov.bd/data-import-report>. The page title is "CCTV Point". On the right, there is a user icon and a "User" label. Below the title, there is a dropdown menu labeled "Location" with "CPA Building" selected, and two buttons: "Report" and "Cancel". The main content is a table with 10 rows, each representing a CCTV point with columns for SL, Point, Location, Required, and Present.

| SL | Point | Location | Required | Present |
|----|--------------------------|--------------|----------|---------|
| 1 | CPA Main Gate | CPA Building | 4 | 3 |
| 2 | CPA Building Car Parking | CPA Building | 12 | 9 |
| 3 | CPA Gate - 3 | CPA Building | 2 | 2 |
| 5 | ----- | ----- | ----- | ----- |
| 6 | ----- | ----- | ----- | ----- |
| 7 | ----- | ----- | ----- | ----- |
| 8 | ----- | ----- | ----- | ----- |
| 9 | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- |

Figure 94: Mockup for CCTV Point List Report

8.2.3.2 CCTV Allotment Report

System will provide facility to generate CCTV allotment report list based on criterion. These are:

- Location
- CCTV Point
- Status

Chittagong Port Authority

http://cpa.gov.bd/data-import-report

CCTV Details

User

Location: CPA Building Status: Operational

Point: CPA Main Gate Report Cancel

| SL | CCTV | Location | Point | Installation Date | #Maintenance | Status |
|----|---------------------|--------------|---------------|-------------------|--------------|-----------|
| 1 | Day Night CCTV | CPA Building | CPA Main Gate | 05/02/2019 | 3 | Operation |
| 2 | C-mount Camera | CPA Building | CPA Main Gate | 06/02/2019 | 0 | Operation |
| 3 | Night Vision Camera | CPA Building | CPA Main Gate | 07/02/2019 | 1 | Operation |
| 5 | ----- | ----- | ----- | | | |
| 6 | ----- | ----- | ----- | | | |
| 7 | ----- | ----- | ----- | | | |
| 8 | ----- | ----- | ----- | | | |
| 9 | ----- | ----- | ----- | | | |
| 10 | ----- | ----- | ----- | | | |

Figure 95: Mockup for CCTV Details Report

9 Module: Integration of existing access control & surveillance system for CPA

We, CNS develop a proposed design for integration of existing access control & surveillance system for CPA module of CPA system.

The proposed module will be work on below listed ways;

- Integrate entire access control & surveillance system together.
- Access controlled data should be controlled from a single point.
- Biometric, retina, and access card system control will work together for salary and over-time calculation.
- Current status of human location will be generated from this module.

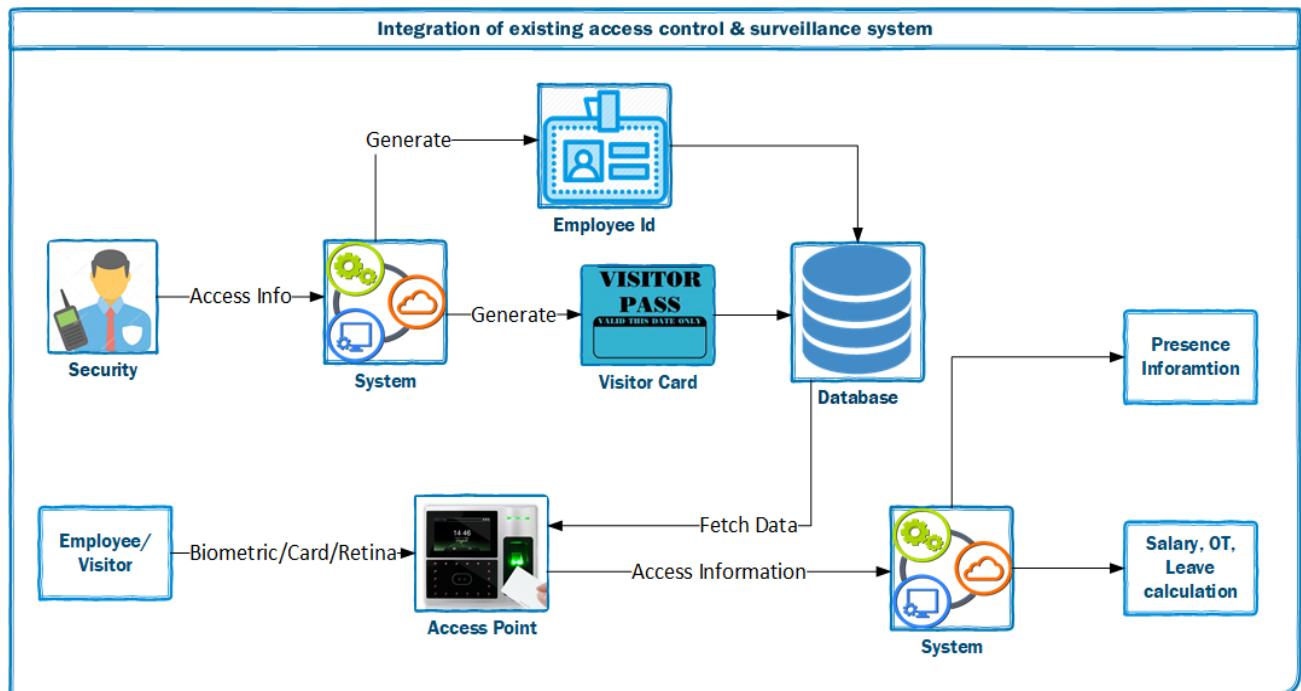


Figure 96: Access control integration System

9.1 Module Relationship of Access Control Integration System

We CNS, develop an integrated system for CPA. Existing access control system module will use data from other modules and also provide data to another module for process.

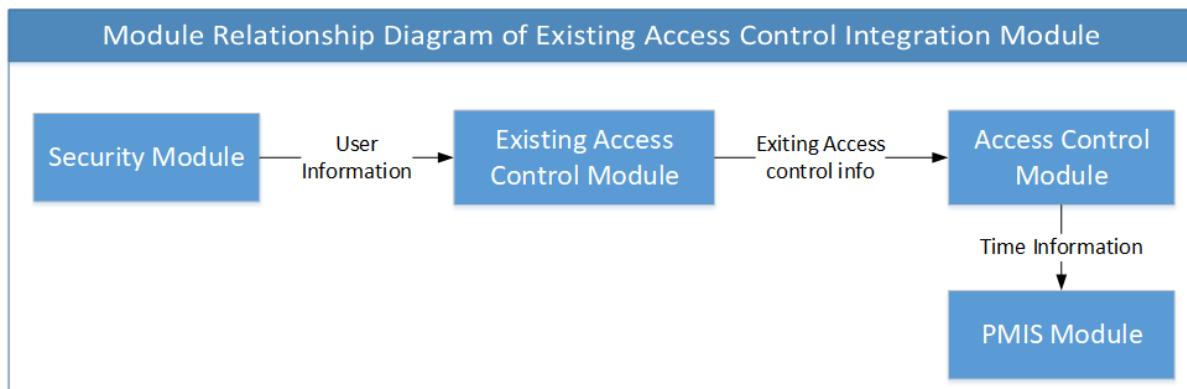


Figure 97: Module Relationship of existing access control integration Management

- Existing access control module will use user related data from Security module
- This module will provide existing information to Access Control module to process Salary, OT, and Leave.

9.2 Business Process of Integration of existing access control

Integration of existing access control System consist a business processes which is:

- Existing Data Sharing

9.2.1 Existing Data Sharing Process

Due to digitalization of CPA, it need to access existing access control data to new system.

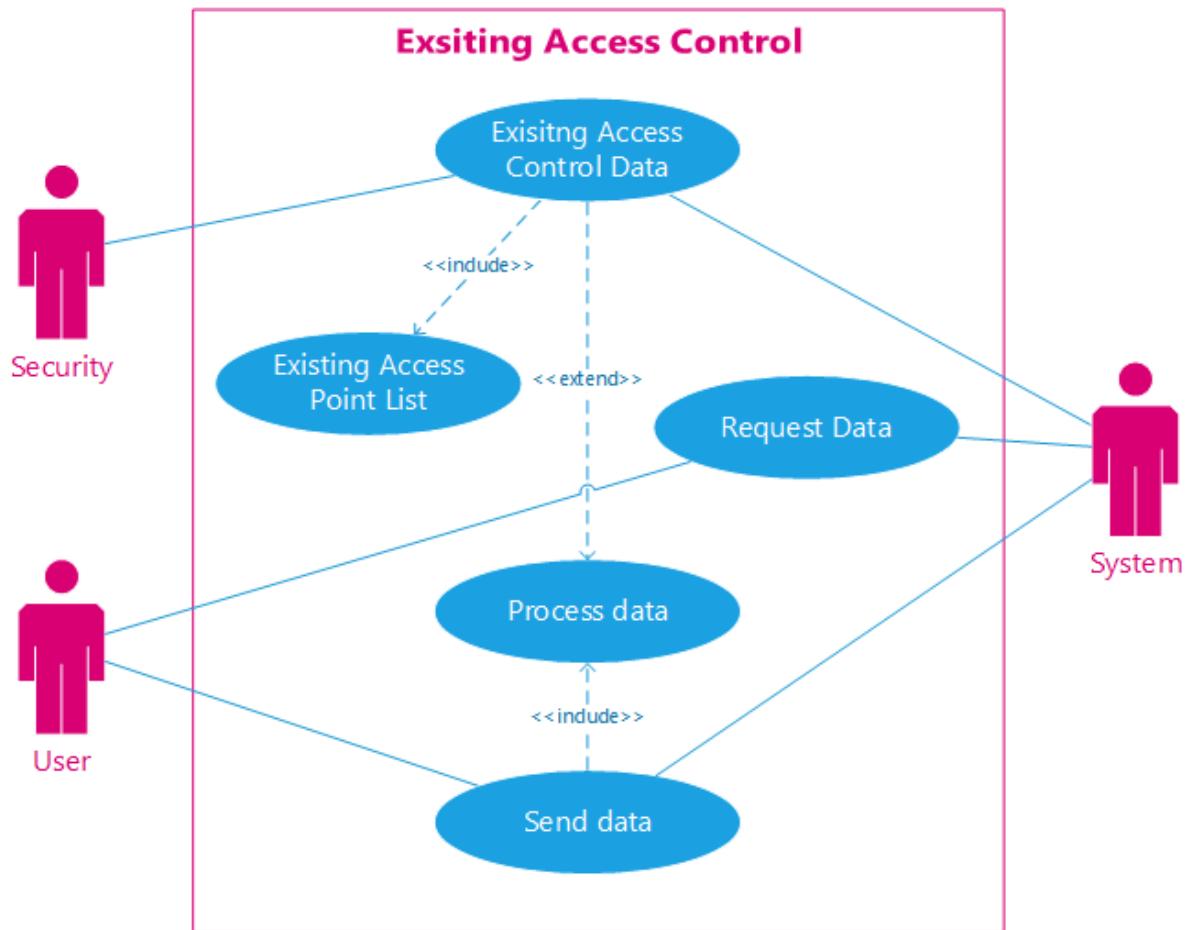


Figure 98: Use Case for Stakeholder Register

| | |
|----------------|---|
| Use Case ID: | UC-AC-001 |
| Use Case Name: | Existing Data Sharing |
| Actors: | <ul style="list-style-type: none"> • Security • User • System |
| Trigger: | When user intends to receive existing access control data. |
| Description: | The functionality "Existing Data Sharing" facilitates to provide existing access control data to new access control module to generate salary, OT, and leave. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Existing access control data should be available to storage. |
| Assumption: | <ul style="list-style-type: none"> • API is ready. |
| Goal: | To insert existing access control data to new access control system. |
| Normal Flow: | <ul style="list-style-type: none"> • Send request for data. • System will validate the request. • Data will be processed • Data will be shared. • New system data will be updated. |

| | |
|-------------------------------------|---|
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • API is not working. |
| Post conditions: | Existing access control data should be available to new system. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | N/A |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

9.2.1.1 Data Request

User will request data from existing access control by using this mockup.

Chittagong Port Authority

← → ⌛ ⌚

Data Request

User

Request Data From To

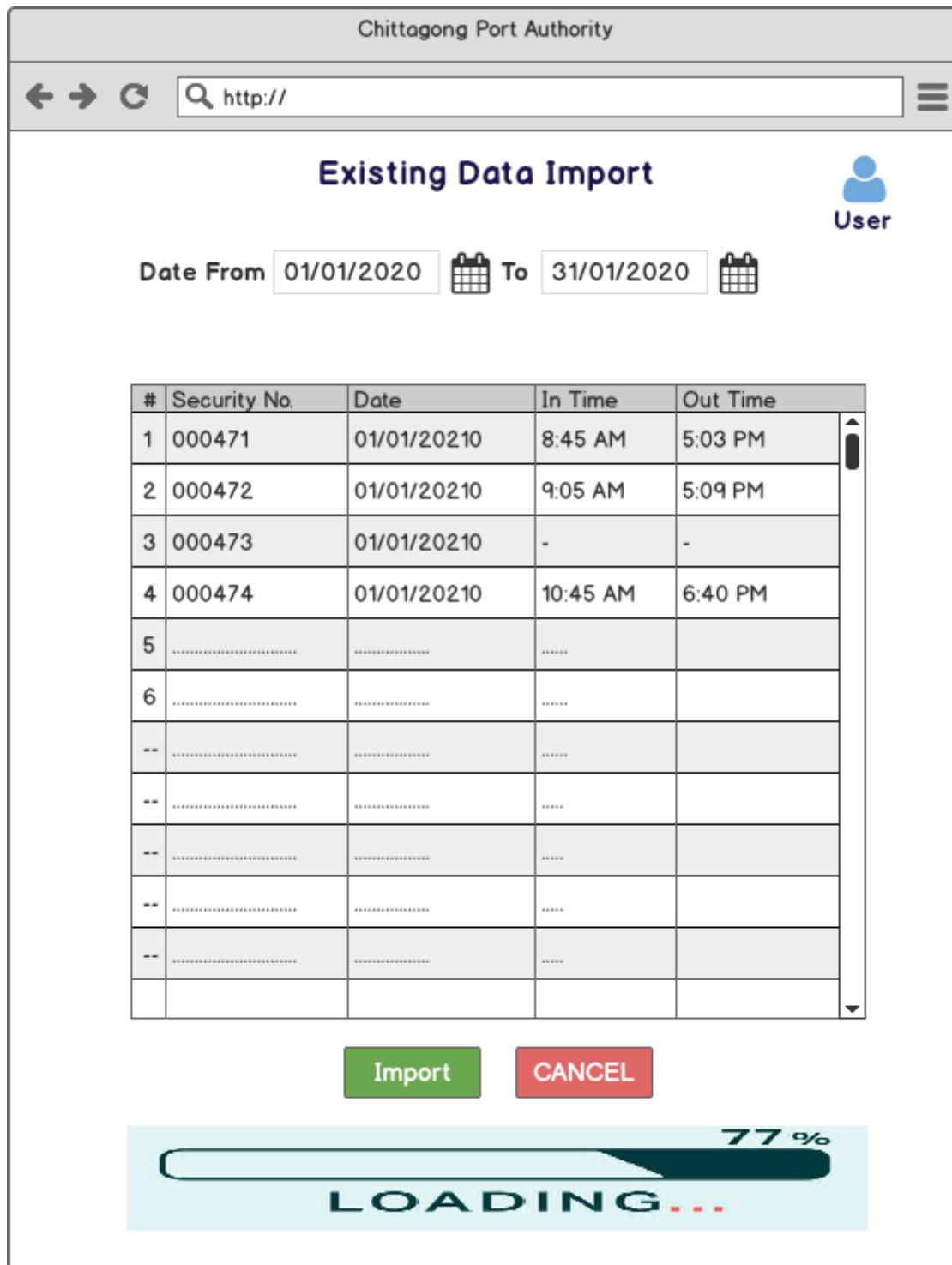
Export **CANCEL**

| # | Request date | Request From | Request To | Status |
|---|--------------|--------------|------------|-----------|
| 1 | 01/01/2020 | 1/12/2019 | 31/12/2019 | Completed |

Figure 99: Mockup of Existing Data Request

9.2.1.2 Data Import

Exported data should be import to new system by this mockup. It will delete previously imported data from system, if user request same data several times.



Chittagong Port Authority

http://

Existing Data Import

User

Date From 01/01/2020 To 31/01/2020

| # | Security No. | Date | In Time | Out Time |
|----|--------------|------------|----------|----------|
| 1 | 000471 | 01/01/2020 | 8:45 AM | 5:03 PM |
| 2 | 000472 | 01/01/2020 | 9:05 AM | 5:09 PM |
| 3 | 000473 | 01/01/2020 | - | - |
| 4 | 000474 | 01/01/2020 | 10:45 AM | 6:40 PM |
| 5 | ..... | ..... | ..... | ..... |
| 6 | ..... | ..... | ..... | ..... |
| -- | | | | |
| -- | | | | |
| -- | | | | |
| -- | | | | |
| -- | | | | |
| | | | | |

Import CANCEL

77 %

LOADING....

Figure 100: Mockup of Data Import

9.2.2 Existing Access Control Module Reports

We have listed some reports for Appointment/Schedule module.

9.2.2.1 Existing access control data share report

System will provide facility to generate data share report based on multiple criterion. These are:

- Data Schedule

| # | Request Date | Data From | Data To | To Export Data | Total Import Data | Status |
|----|--------------|------------|------------|----------------|-------------------|-----------|
| 1 | 01/11/2019 | 01/10/2019 | 31/10/2019 | 799520 | 798500 | Completed |
| 2 | 01/12/2019 | 01/11/2019 | 30/11/2019 | 812320 | 0 | Abandam |
| 3 | 01/12/2019 | 01/11/2019 | 30/11/2019 | 812320 | 800300 | Completed |
| 4 | 01/01/2020 | 01/12/2019 | 31/12/2019 | 832320 | 810300 | Completed |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- |
| 6 | ----- | ----- | ----- | ----- | ----- | ----- |
| 7 | ----- | ----- | ----- | ----- | ----- | ----- |
| 8 | ----- | ----- | ----- | ----- | ----- | ----- |
| 9 | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 101: Mockup for Data Share Report

10 Module: Computer related equipment and peripherals maintenance Management System

We, CNS develop a proposed design for Computer related equipment and peripherals maintenance Management module of CPA system.

The proposed module will be work on below listed ways;

- Computer center will create the equipment and peripheral list.
- They also generate employee/section wise assigned equipment list.
- User will create service ticket to the system with specific issue.
- Created service ticket will be updated the service log book
- Service supervisor will assign a ticket to a service engineer
- Assigned Service engineer will visit the ticket provider premises
- Service engineer will request for equipment movement (if required)
- Concern employee will send the equipment to service room
- After that Service engineer will start investigation of the equipment; it may resolve issue here.
- Service engineer send requisition to System Analyst if it need any parts or peripheral to resolve the equipment.
- System Analyst will inspect the equipment and forward the requisition to Member Finance for purchase approval
- After approval of Member Finance, system will send the purchase request to purchase section
- Service room will notify when the required parts or peripheral available to CPA
- Service Engineer will update the ticket when s/he completed his/her job; System will automatically notify the concern person about the readiness of his/her equipment.
- Concern person will receive the equipment and update letter status.

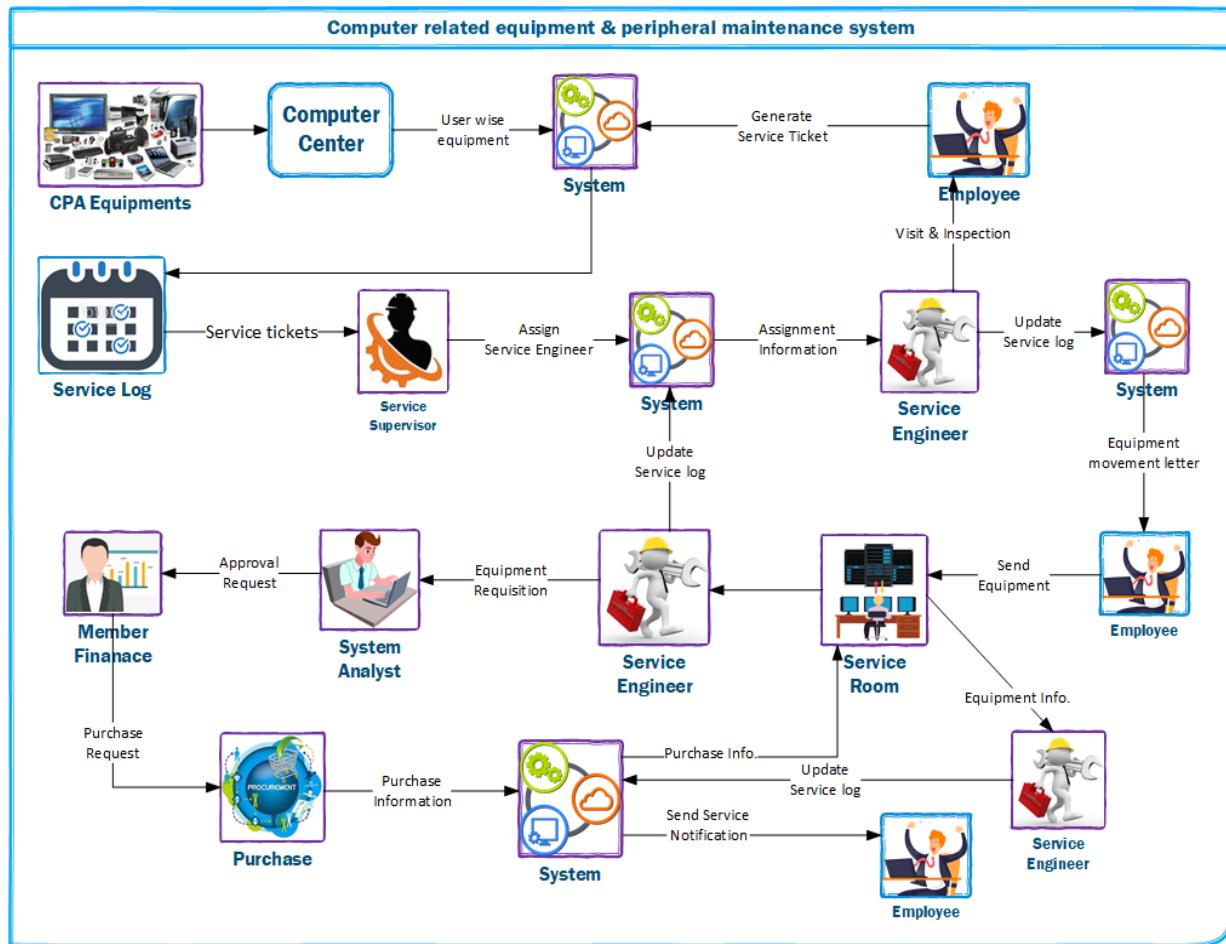


Figure 102: Computer Equipment Maintenance System

10.1 Module Relationship of Case Management

We CNS, develop an integrated system for CPA. Computer maintenance module will use data from other modules and also provide data to another module for process.

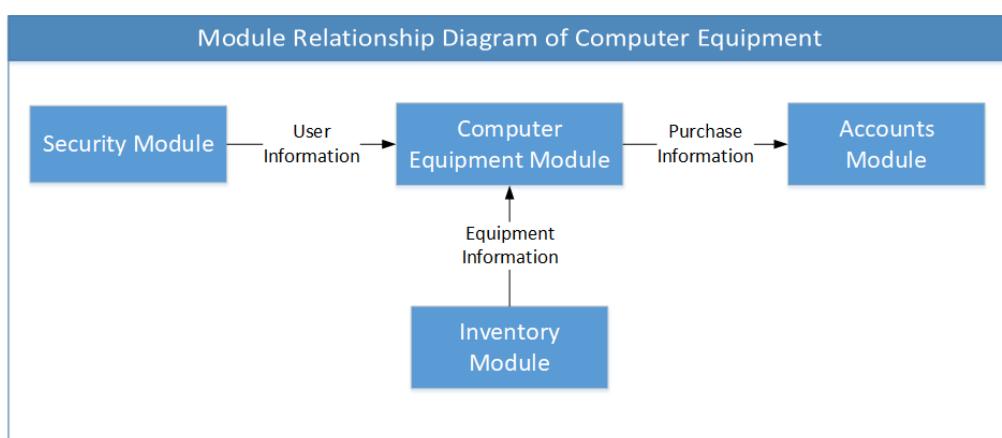


Figure 103: Module Relationship of Computer Equipment Maintenance System

- Computer equipment module will use user related data from Security module
- Computer equipment module will use equipment related information from Inventory Module
- This module will provide purchase related data to Accounts module

10.2 Business Process of Computer Equipment Maintenance System

Case Management System consist with multiple business processes. These are:

- Computer Equipment Register
- Computer Equipment Assignment
- Computer Equipment Service ticket generation
- Ticket Assignment
- Computer Equipment Servicing

10.2.1 Computer Equipment Register Process

Due to digitalization of computer equipment maintenance process, Computer center needs to track entire computer related equipment. CPA purchase the equipment from vendors who may be enlisted or not.

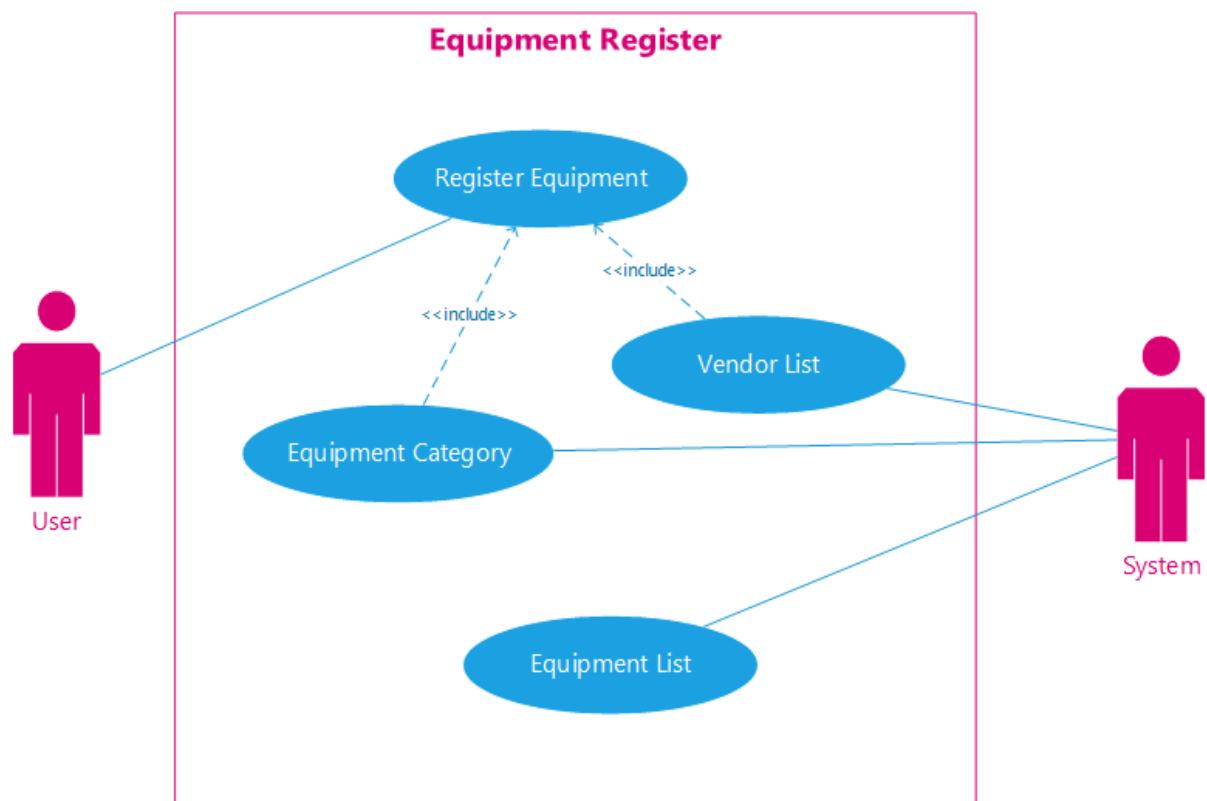


Figure 104: Use Case for Equipment Register

| | |
|-----------------------|---|
| Use Case ID: | UC-CE-001 |
| Use Case Name: | Equipment Register |
| Actors: | <ul style="list-style-type: none"> • User • System |
| Trigger: | When user intends to insert an equipment information to the system. |
| Description: | The functionality "Equipment Register" facilitates to insert a new equipment to the system with definition of equipment category and vendor information. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system • Equipment categories must be defined • Vendor list must be available to the system |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To insert an equipment information and update the equipment register. |
| Normal Flow: | <ul style="list-style-type: none"> • Insert equipment id, order number and other relevant information. • Select equipment category and vendor. • Upload equipment related documents. |

| | |
|-------------------------------------|---|
| | <ul style="list-style-type: none"> Verify the information. Submit information to the system. |
| Alternate Flow: | N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Notifications about successful equipment insert. Configured equipment will be available to equipment register. |
| Frequency of Use: | Occasionally |
| Business Rules/Constraints | <ul style="list-style-type: none"> Equipment must be arrived physically at CPA. |
| Non Functional Requirements: | N/A |
| Reference: | N/A |

10.2.1.1 Computer Equipment Category

Computer equipment categories will be managed by this mockup. It is possible to insert & update computer equipment category from here.

The mockup shows a web browser interface for managing computer equipment categories. The title bar reads "Chittagong Port Authority". The main content area has a header "EQUIPMENT CATEGORY" and a user icon labeled "Admin". Below this, there are input fields for "CATEGORY" (containing "PC") and "DESCRIPTION" (containing "Personal Computer"). At the bottom are "SAVE" and "CANCEL" buttons. Below the form is a table with columns "SL", "CATEGORY", "DESCRIPTION", and "ACTIONS". The table contains two rows: one for "Printer" and one for "Scanner". Each row has edit and delete icons in the "ACTIONS" column.

| SL | CATEGORY | DESCRIPTION | ACTIONS |
|----|----------|-------------|---------|
| 1 | Printer | Printer | |
| 2 | Scanner | Scanner | |

Figure 105: Mockup of Computer Equipment Category

10.2.1.2 Computer Equipment Vendor Information

Enlisted Computer Equipment Vendor information will be managed by this mockup. It is possible to insert & update computer equipment vendor from here.

Chittagong Port Authority

http://

EQUIPMENT VENDOR REGISTER

Admin

| | | | | |
|---|--|------------------|-------------|---------|
| VENDOR NAME | Flora Limited | | | |
| ADDRESS | 30, 1st Floor, Suraiya Mansion Agrabad Commercial Area Chittagong 4100 | | | |
| CONTACT NO. | 031-715363 | | | |
| CONTACT PERSON | Mr. Shohel | | | |
| MOBILE | 0171122558844, 0192211445566 | | | |
| EMAIL | shohel@florabd.com | | | |
| Enlistment Date | 12/01/2015 <input type="button" value="CALENDAR"/> | | | |
| Status | <input checked="" type="radio"/> Active <input type="radio"/> in active | | | |
| <input type="button" value="SAVE"/> <input type="button" value="CANCEL"/> | | | | |
| SL | VENDOR NAME | CONTACT PERSON | MOBILE | ACTIONS |
| 1 | SR Engineering Solution | Md. Mehedi Hasan | 01723962962 | |
| 2 | Maruf Enterprise | Maruf Hossain | 01817691652 | |
| 3 | Rifat Trading | Rifatul Alalm | 01717691652 | |

Figure 106: Mockup of Vendor Information

10.2.1.3 Computer Equipment Register

Computer equipment information will be managed by this mockup.

| SL | ID | NAME | CATEGORY | ACTIONS |
|----|------------|-----------------|----------|---------|
| 1 | CPA-PC-02 | DELL PC | PC | |
| 2 | CPA-PRT-01 | CANON Lajer Jet | PRINTER | |

Figure 107: Mockup for Case Information

- Equipment ID should be unique.
- Equipment should have a category.
- Only active vendors list is populated here.
- Value & purchase date should be defined.
- Purchase Date should not be more than warranty date.

10.2.2 Computer Equipment Assignment Process

CPA records their computer equipment and assign user. Assigned user will be responsible to back the equipment to CPA.

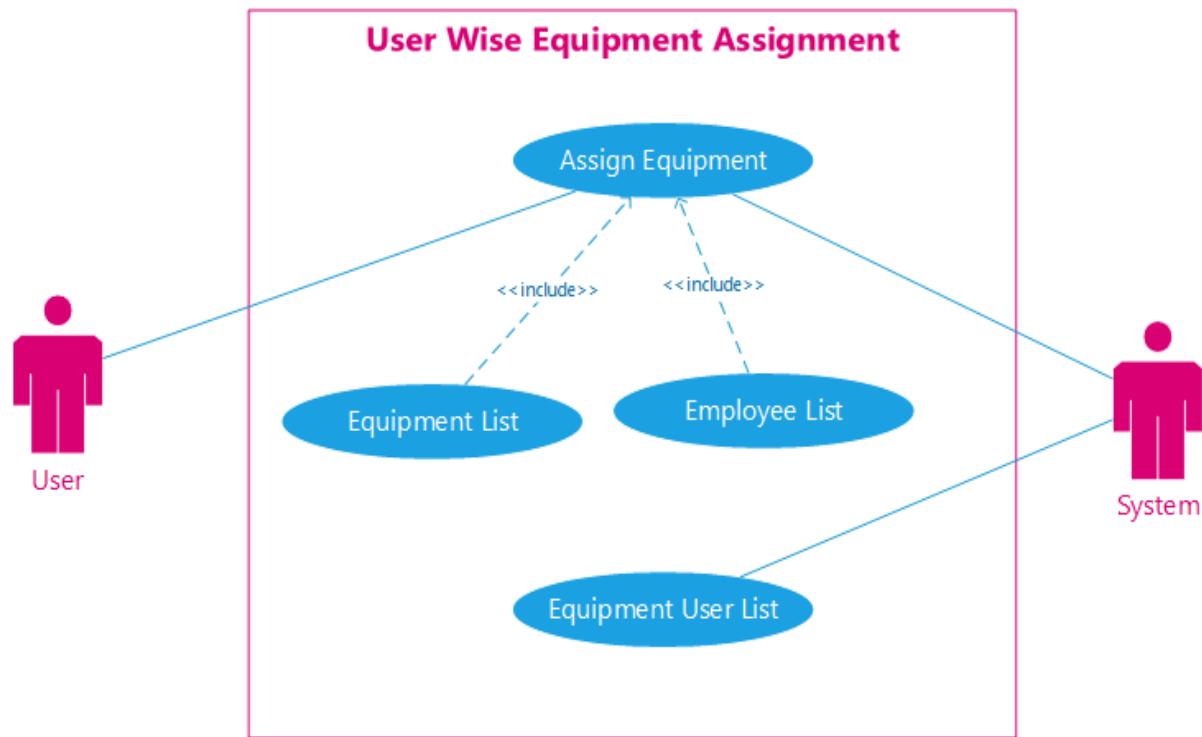


Figure 108: Use Case for Lawyer Assignment

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CE-002 |
| Use Case Name: | User wise equipment assignment |
| Actors: | <ul style="list-style-type: none"> User System |
| Trigger: | When user intends to assign an equipment to an employee or section. |
| Description: | The functionality "User wise equipment assignment" facilitates to assign a user to operate an equipment. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system. Equipment should be recorded. Employee should be entitled. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To assign an equipment to a user. |
| Normal Flow: | <ul style="list-style-type: none"> Select equipment from equipment register. Assign equipment to an employee or section. Verify the information. Submit information to the system. |
| Alternate Flow: | <ul style="list-style-type: none"> NA |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Equipment assignment listing. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Equipment should be registered. Employee should be on-roll status. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CE-001 |

10.2.2.1 Computer Equipment Assignment

Computer equipment assignment related information will be managed by this mockup.

The mockup is a web-based application for managing computer equipment assignments. It features a header with the Chittagong Port Authority logo and a search bar. The main title is 'User wise Equipment'. On the right, there is a user icon and the word 'User'. The form contains fields for Employee (Wakar Khan), Designation (Sr. Computer Operator), Department (Finance & Accounts), Section (Computer Center), Location (CPA Building), and Room No (201). Below this, a table lists equipment details: 1. CPA-PC-005 (HP PC) received on 01/01/2019, warranty until 31/12/2021, marked 'Yes' for warranty. 2. CPA-SC-01 (Canon Printer) received on 01/01/2016, warranty until 31/12/2018, marked 'No' for warranty. At the bottom are 'Save' and 'Cancel' buttons.

| sl | Eqp Id | Name | Receive Date | Warrenty Date | Warrenty? | |
|----|------------|---------------|--------------|---------------|-----------|--|
| 1 | CPA-PC-005 | HP PC | 01/01/2019 | 31/12/2021 | Yes | |
| 2 | CPA-SC-01 | Canon Printer | 01/01/2016 | 31/12/2018 | No | |

Figure 109: Mockup for Computer Equipment Assignment

- Equipment wise user should be assigned.
- Equipment user list will be updated.

10.2.3 Computer Equipment Service ticket generation Process

Computer equipment user will generate service ticket to the system for any type of equipment maintenance. Also, user will generate service ticket for the support of internet and conference room service. Based on the user request, system will generate a service log.

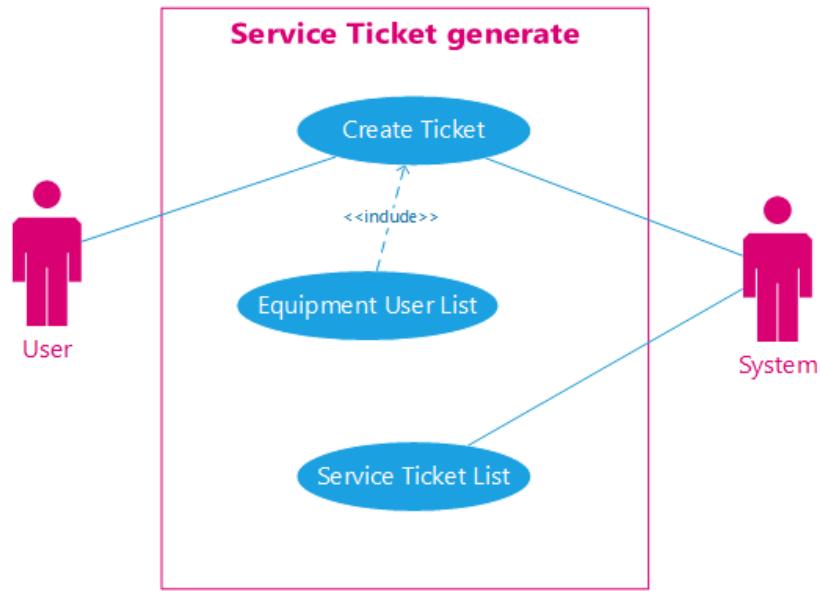


Figure 110: Use Case for Generate Service Ticket

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CE-003 |
| Use Case Name: | Generate Service Ticket |
| Actors: | <ul style="list-style-type: none"> User System |
| Trigger: | When user intends to create a service ticket. |
| Description: | The functionality "Generate Service ticket" facilitates to generate a service ticket for equipment maintenance, internet related issues, and conference room related task. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system. Equipment wise user should be defined. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To generate a service ticket. |
| Normal Flow: | <ul style="list-style-type: none"> User will select the employee. Equipment location with room details will be provided. User will define the problem type from list User will select the equipment User need to provide detail about required service. Verify the information. Submit information to the system. |
| Alternate Flow: | <ul style="list-style-type: none"> N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Service ticket will be generated and update to the service log. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Equipment should be registered. User should be associate with equipment. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CE-001, UC-CE-002 |

10.2.3.1 Maintenance request

User will submit the form to the system to get computer equipment related service.

Chittagong Port Authority

MAINTENANCE REQUEST

User

| EMPLOYEE | Wakar Khan | DESIGNATION | Sr. Computer Operator | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------|-----------------------|--------------------|------------------|--------------|------------|--------------------|------------------|--------|---|-----------|------------|-----|---|------|--|--|--|--|--|--|--|--|
| DEPARTMENT | Finance & Accounts | SECTION | Computer Center | | | | | | | | | | | | | | | | | | | | | |
| LOCATION | CPA Building | ROOM NO | 201 | | | | | | | | | | | | | | | | | | | | | |
| PROBLEM TYPE | Hardware & Software | | | | | | | | | | | | | | | | | | | | | | | |
| EQUIPMENT | CPA-PC-005 | HP PC | | | | | | | | | | | | | | | | | | | | | | |
| Details | <p>I was working with my PC from today morning. But the MS Office is crashing multiple times. Now I am not able to open MS Word application.</p> | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="button" value="SAVE"/> <input type="button" value="CANCEL"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>REQUEST LIST</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SL</th> <th>EQUIPMENT</th> <th>Receive DATE</th> <th>IN WARRANT</th> <th>NO. OF MAINTENANCE</th> <th>MAINTENANCE COST</th> <th>ACTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CPA-PC-00</td> <td>01/01/2019</td> <td>YES</td> <td>2</td> <td>1000</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | SL | EQUIPMENT | Receive DATE | IN WARRANT | NO. OF MAINTENANCE | MAINTENANCE COST | ACTION | 1 | CPA-PC-00 | 01/01/2019 | YES | 2 | 1000 | | | | | | | | |
| SL | EQUIPMENT | Receive DATE | IN WARRANT | NO. OF MAINTENANCE | MAINTENANCE COST | ACTION | | | | | | | | | | | | | | | | | | |
| 1 | CPA-PC-00 | 01/01/2019 | YES | 2 | 1000 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

This section will appear for Conference

Conference Room Meeting Support

Schedule

12/01/2020 9:30 AM



There is a meeting at conference room on 12/01/2020 at 9:30 AM. Please make sure the service availability.

Figure 111: Mockup for Maintenance Request

- Equipment user with his/her location should be define here.
- Problem type must be selected.
- User should insert problem details.

10.2.3.2 Maintenance Log

Maintenance log will be generated based on service ticket.

Figure 112: Mock up for Maintenance Log

10.2.4 Service Ticket Assignment Process

Chief Service engineer assign service ticket to enlisted service engineers. Assigned service tickets will be available on the system portal of service engineer. Based on assignment, service engineer starts work with the specific item.

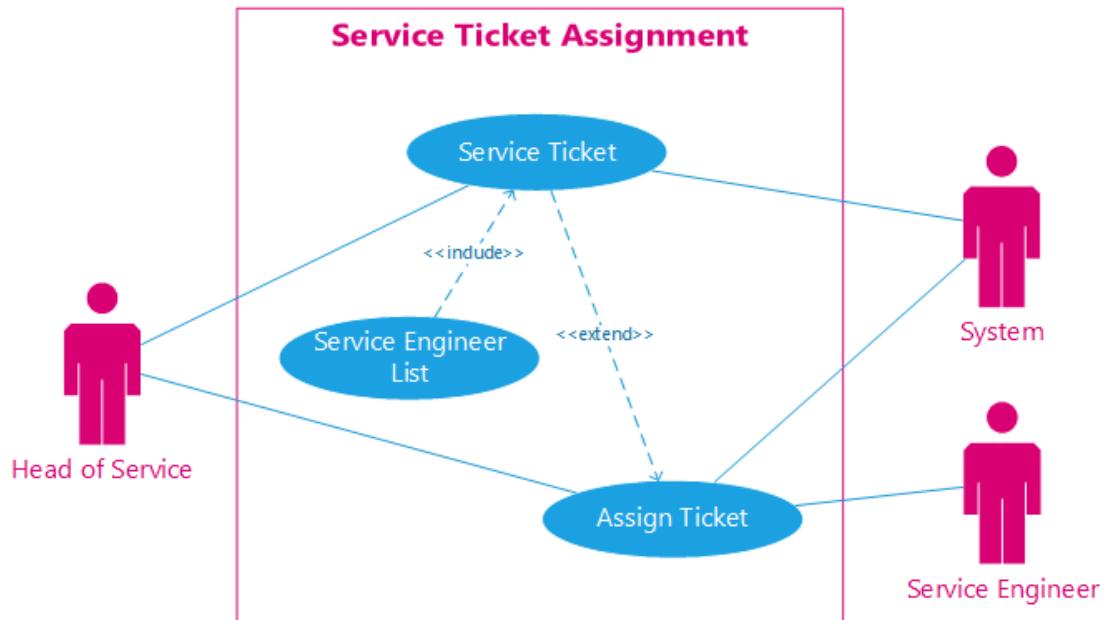
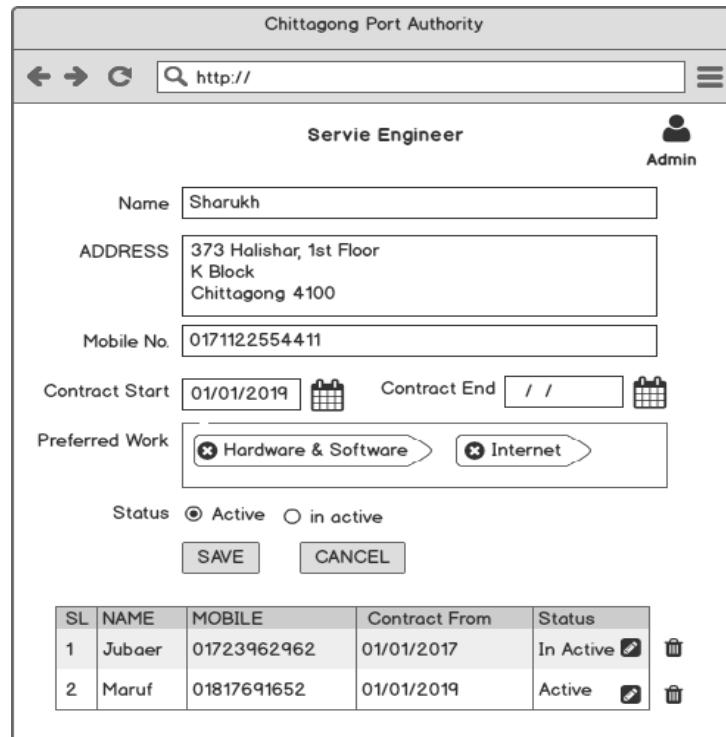


Figure 113: Use Case for Service ticket assignment

| | |
|-------------------------------------|--|
| Use Case ID: | UC-CE-004 |
| Use Case Name: | Service Ticket Assignment |
| Actors: | <ul style="list-style-type: none"> Head of Service Service Engineer System |
| Trigger: | When Head of Service user intends to assign a service ticket to any service engineer. |
| Description: | The functionality "Service Engineer Assignment" facilitates to assign a service ticket to a service engineer. |
| Preconditions: | <ul style="list-style-type: none"> User must have landed on CPA system. Service engineer must be listed. |
| Assumption: | <ul style="list-style-type: none"> Provided valid inputs. |
| Goal: | To prepare and disburse lawyer bills. |
| Normal Flow: | <ul style="list-style-type: none"> Open a service ticket from service log. Select a service engineer to complete the task. Assign the service ticket to the selected service engineer. Submit information to the system. |
| Alternate Flow: | <ul style="list-style-type: none"> N/A |
| Failure: | <ul style="list-style-type: none"> Connection Lost. Broken pages. Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> Service ticket will be assigned to a service engineer. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> Service engineer should be enlisted. Service ticket should be in Open or In Progress status. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CE-001, UC-CE-002, UC-CE-003 |

10.2.4.1 Service Engineer Information

Service Engineer will be enlisted by using this mockup.



The mockup shows a web-based form for enlisting a Service Engineer. The title bar says 'Chittagong Port Authority'. The form is titled 'Servie Engineer' and is marked as 'Admin'. It contains the following fields:

- Name: Sharukh
- ADDRESS: 373 Halishar, 1st Floor
K Block
Chittagong 4100
- Mobile No.: 0171122554411
- Contract Start: 01/01/2019
- Contract End: / /
- Preferred Work: Hardware & Software, Internet
- Status: Active (radio button selected)
- Buttons: SAVE, CANCEL

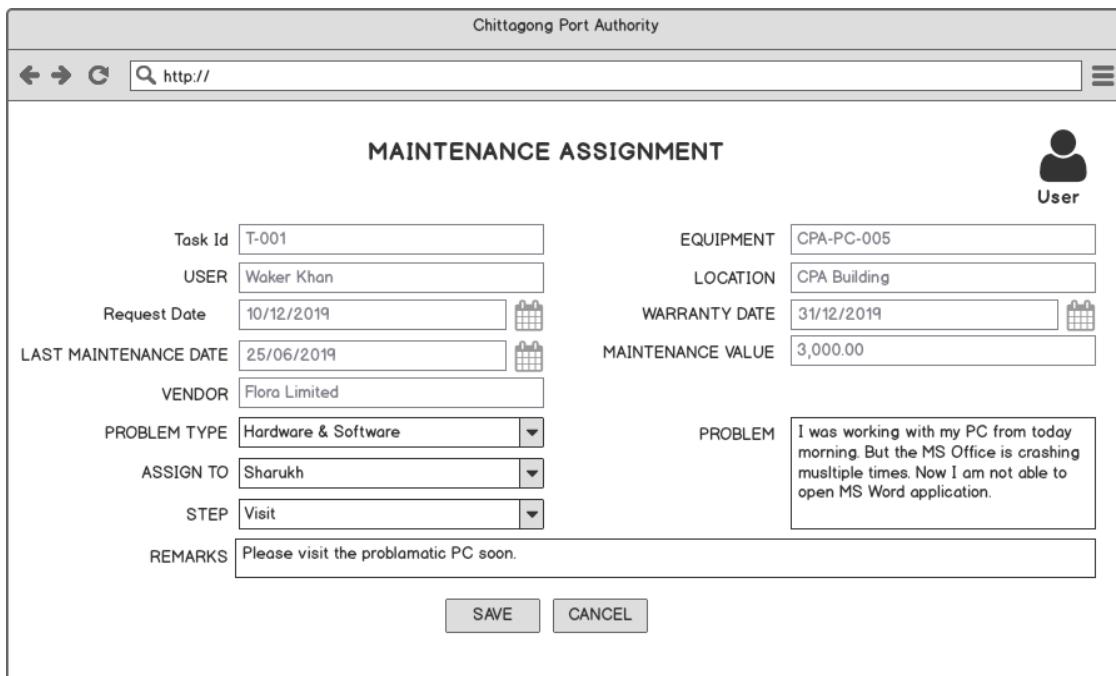
Below the form is a table showing a list of service engineers:

| SL | NAME | MOBILE | Contract From | Status |
|----|--------|-------------|---------------|-----------|
| 1 | Jubaer | 01723962962 | 01/01/2017 | In Active |
| 2 | Maruf | 01817691652 | 01/01/2019 | Active |

Figure 114: Mockup for Service Engineer Information

10.2.4.2 Service Engineer Assignment

Service Engineer will be enlisted by using this mockup.



The mockup shows a web-based form for assigning a maintenance task. The title bar says 'Chittagong Port Authority'. The form is titled 'MAINTENANCE ASSIGNMENT' and is marked as 'User'. It contains the following fields:

| | |
|--|--|
| Task Id: T-001 | EQUIPMENT: CPA-PC-005 |
| USER: Waker Khan | LOCATION: CPA Building |
| Request Date: 10/12/2019 | WARRANTY DATE: 31/12/2019 |
| LAST MAINTENANCE DATE: 25/06/2019 | MAINTENANCE VALUE: 3,000.00 |
| VENDOR: Flora Limited | PROBLEM: I was working with my PC from today morning. But the MS Office is crashing multiple times. Now I am not able to open MS Word application. |
| PROBLEM TYPE: Hardware & Software | |
| ASSIGN TO: Sharukh | |
| STEP: Visit | |
| REMARKS: Please visit the problematic PC soon. | SAVE CANCEL |

Figure 115: Mock up for Service Ticket Assignment

- Head of Service assign an enlisted service engineer
- Also, select next step of work & put a remark.

10.2.4.3 Service Engineer Work Log

Assigned service ticket will be available on Service Engineer work log which will be using this mockup.

| TASK ID | ASSIGN DATE | STATUS | STEP |
|---------|-------------|-------------|-------|
| T-001 | 01/01/2019 | In Progress | Visit |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Figure 116: Mock up for Service Engineer work log

10.2.5 Computer Equipment Servicing Process

Service engineer need to work with assign ticket. S/he need to visit the equipment and try to resolve this issue. If required, then they request to equipment owner to transfer the equipment to service room. Sometime it needs some parts to resolve equipment problem then service engineer send requisition for new parts/equipment to system analyst. System analyst verify the request and send a purchase approval to Member Finance. Based on Member approval purchase department buy the parts/equipment and provide to the service room. Finally, service engineer resolves the problem and send the equipment to owner.

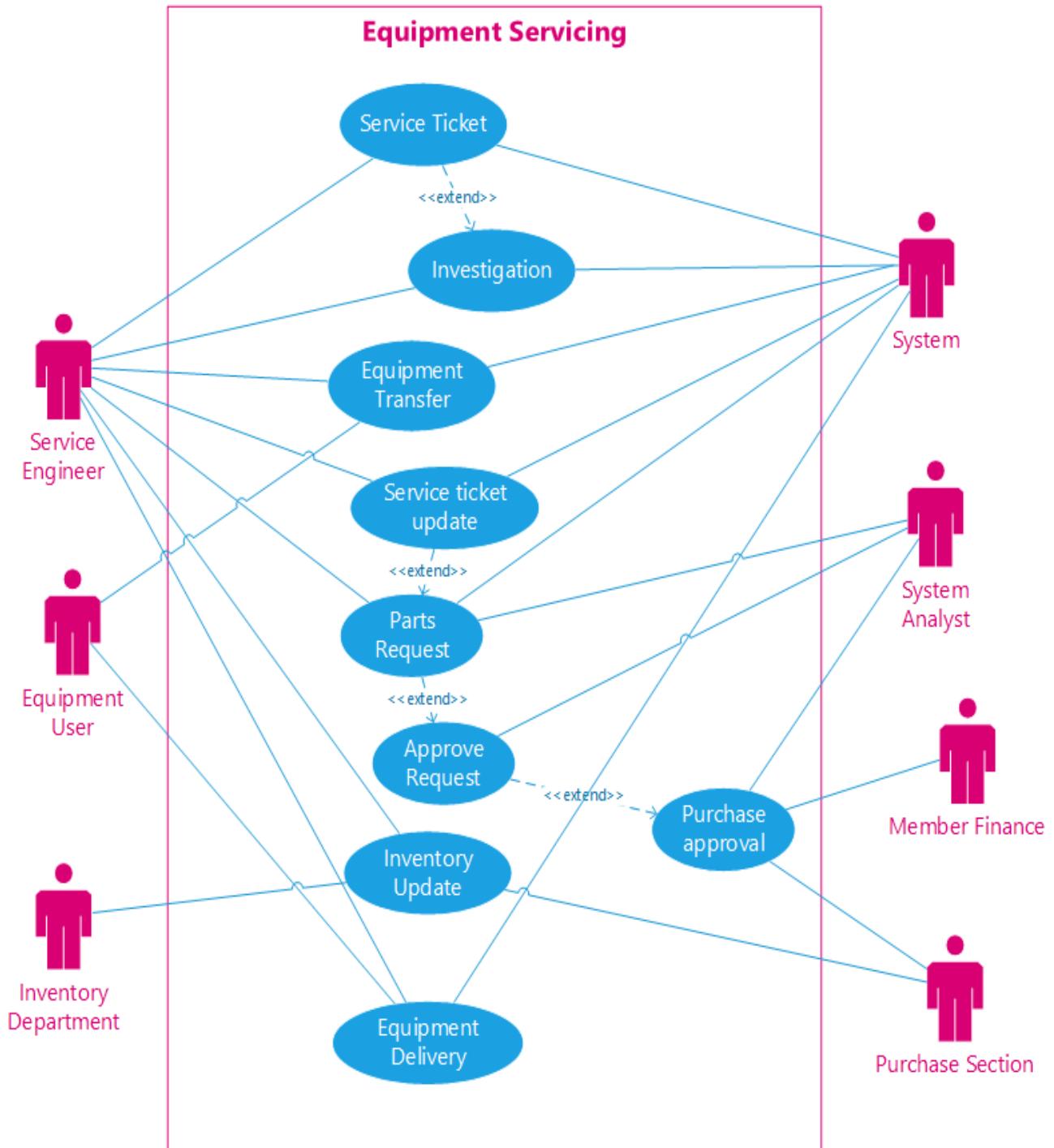


Figure 117: Use Case for Computer Equipment Servicing

| | |
|-------------------------------------|---|
| Use Case ID: | UC-CE-005 |
| Use Case Name: | Computer Equipment Servicing |
| Actors: | <ul style="list-style-type: none"> • Service Engineer • System • Equipment User • System Analyst • Member Finance • Purchase Section • Inventory Department |
| Trigger: | When user intends to provide service to any computer equipment. |
| Description: | The functionality "Computer Equipment Servicing" facilitates to provide service against any service ticket. |
| Preconditions: | <ul style="list-style-type: none"> • User must have landed on CPA system. • Service ticket must be assigned. |
| Assumption: | <ul style="list-style-type: none"> • Provided valid inputs. |
| Goal: | To prepare and disburse lawyer bills. |
| Normal Flow: | <ul style="list-style-type: none"> • Open a service ticket from service engineer work log. • Visit the equipment. • Request to send equipment to service room, if required. • Investigate the equipment • Send requisition for new parts/equipment • System analyst review the requisition • System analyst send request to Member Finance for purchase approval. • Purchase section buy the equipment/parts and send it to service team after enlistment of Inventory • Service engineer complete the maintenance and deliver the system to user. |
| Alternate Flow: | <ul style="list-style-type: none"> • N/A |
| Failure: | <ul style="list-style-type: none"> • Connection Lost. • Broken pages. • Mandatory field missing. |
| Post conditions: | <ul style="list-style-type: none"> • Service ticket will be resolved. |
| Frequency of Use: | Frequently |
| Business Rules/Constraints | <ul style="list-style-type: none"> • Service engineer should be enlisted. • Service ticket should be assigned. • Equipment/parts need should be authorised • Purchase request should be approved • New equipments/parts should be enlisted • Service ticket should be Resolved status. |
| Non Functional Requirements: | N/A |
| Reference: | UC-CE-001, UC-CE-002, UC-CE-003, UC-CE-004 |

10.2.5.1 Service Engineer Visit Result

Service Engineer will be update the service ticket as per his/her visit.

Chittagong Port Authority

← → C
http://
≡

Service Engineer Visit Result

SE

TASK ID

Equipment

Request DATE ≡

VISIT DATE ≡

PROBLEM DETAILS

Service Status

NEXT STEP

SAVE
CANCEL

| SL | TASK ID | EQUIPMENT | Req Date | Solved at | Status |
|----|---------|-----------|------------|------------|-------------|
| 1 | T-003 | CPA-SC-01 | 10/12/2019 | 10/12/2019 | Resolved |
| 2 | T-005 | CPA-PC-10 | 11/12/2019 | - | In Progress |

Figure 118: Mockup for Service Engineer Information

- Service engineer update service status after visit. It will be resolved if the equipment issue has been completed by visit.
- Service engineer will update next step of service, if s/he required.

CNS/CPA/SDD-01

Version 1.0

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10.2.5.2 Equipment Receive

It needs to track the equipment movement record. So, service room will receive the equipment and update the system by using this mockup.

The mockup displays a web-based application for equipment receive. At the top, the header reads "Chittagong Port Authority" and the URL "http://". On the right, there is a user icon labeled "SE". The main title is "EQUIPMENT RECEIVE". The form fields include:

- TASK ID:** T-001
- EQUIPMENT ID:** CPA-PC-005
- EQUIPMENT:** HP PC
- Enginner Statement:** Did not recognise the problem. It need long investigation.
- Investigation Date:** 14/12/2019
- Receive Date:** 15/12/2019
- RECEIVED BY:** Habib
- RECEIVE FROM:** Abdul Baten
- Receive Remark:** Not Working. Only PC

At the bottom are "SAVE" and "CANCEL" buttons. Below the form is a table showing a history of equipment receive records:

| SL | TASK ID | EQUIPMENT | Recv Date | Recv By |
|----|---------|-----------|------------|---------|
| 1 | T-003 | CPA-SC-01 | 10/12/2019 | Habib |
| 2 | T-005 | CPA-PC-10 | 11/12/2019 | Sharukh |
| 3 | T-007 | IPhone X | 11/12/2019 | Saber |

Figure 119: Mockup for Service Engineer Information

- Equipment receive date should be automatically pulled from system based on system entry.

10.2.5.3 New Equipment/Parts Request

Sometimes it need new items to complete the service. The requisition will be available to System Analyst panel.

The mockup shows a web-based application for a 'New Parts Request'. The header indicates 'Chittagong Port Authority'. The main form includes fields for Task ID (T-001), Equipment (CPA-PC-005 - HP PC), Equipment Value (50,000.00), Purchase Date (01/01/2019), Warranty Date (31/12/2020), Previous Cost (20,000.00), and an Investigation Report stating 'RAM is damaged'. A table for REQUESTED ITEMS lists one item: RAM (16 GB, Qty 2). The REQUESTED BY field shows 'Sharuk'. Below the form is a summary table with the same data.

| SL | TASK ID | EQUIPMENT | REQUESTED ITEMS | Qty | Previous Cost | LAST MAINTENANCE |
|----|---------|------------|-----------------|-----|---------------|------------------|
| 1 | T-001 | CPA-PC-005 | RAM 16 GB | 2 | 20000.00 | 10/10/2019 |

Figure 120: Mockup for Equipment/Parts Requisition

- Service engineer will provide investigation report here.
- Required item should be listed here with description and quantity.

10.2.5.4 Requisition log and Verification

System Analyst will verify the requisition. If required, then s/her send a purchase request to Member Finance.

Chittagong Port Authority

http://

REQUISITION LOG

SYSTEM ANALYST

| SL | TASK ID | EQUIPMENT | REQUESTED ITEMS | Qty | Previous Cost | LAST MAINTENANCE |
|----|---------|------------|-----------------|-----|---------------|------------------|
| 1 | T-001 | CPA-PC-005 | RAM 16 GB | 2 | 20000.00 | 10/10/2019 |

Request For Purchase Approval

| | | | |
|-----------|------------|------|------------|
| EQUIPMENT | CPA-PC-005 | USER | Waker Khan |
|-----------|------------|------|------------|

| ITEMS | Sl | item | Qty | Action | Remarks | Approx. Value |
|-------|----|------------|-----|------------------|---------------|---------------|
| | 1 | RAM 16 GB | 2 | Purchase Request | Required ASAP | 5000 |
| | 2 | Head phone | 1 | Not Approved | No need | - |

SAVE CANCEL

| SL | TASK ID | EQUIPMENT | REQUESTED ITEMS | Qty | Req Date | Status |
|----|---------|------------|-----------------|-----|------------|-----------|
| 1 | T-001 | CPA-PC-005 | RAM 16 GB | 2 | 17/12/2019 | Requested |

Figure 121: Mockup for Requisition Verification

- System Analyst provide approximate value of the required item.

10.2.5.5 New Equipment/Parts Purchase Approval

Member Finance provide the purchase order of computer equipment. After that purchase section procure the item and provide to service section.

Chittagong Port Authority

http://

PURCHASE REQUEST APPROVAL

HOD

| SL | TASK ID | EQUIPMENT | REQUESTED ITEMS | Qty | Req Date | Status |
|----|---------|------------|-----------------|-----|------------|-----------|
| 1 | T-001 | CPA-PC-005 | RAM 16 GB | 2 | 17/12/2019 | Requested |

TASK ID: T-001 EQUIPMENT: CPA-PC-005 - HP PC

Eqp. VALUE: 50,000.00 PURCHASE DATE: 01/01/2019

WARRANTY DATE: 31/12/2020 Previous Cost: 20,000.00

Investigation Report: RAM is damaged

Verification Report: Required ASAP

REQUESTED ITEMS:

| SL | ITEM | DESCRIPTION | QUANTITY | Approx. Cost | ACTION |
|----|------|-------------|----------|--------------|----------|
| 1 | RAM | 16 GB | 2 | 5000 | Approved |

SAVE CANCEL

Figure 122: Mockup for Equipment/parts Purchase Approval

10.2.6 Computer Equipment Maintenance Module Reports

We have listed some reports for Case module.

10.2.6.1 Equipment list Report

System will provide facility to generate equipment list based on multiple criterion. These are:

- Category
- Vendor
- Status

Chittagong Port Authority

http://

Equipment List Report

Parameters:

Category: All Vendor: All Status: All

Report Cancel

| # | Eqp. Id | Category | Name | Vendor | Price | Purchase Dt. | Warranty Dt. | Status |
|----|-------------|----------|-----------------|-----------------|----------|--------------|--------------|--------------|
| 1 | CPA-PC-005 | PC | HP PC | Flora Limited | 50000.00 | 01/01/2017 | 31/12/2019 | Working |
| 2 | CPA-PRT-001 | Printer | Canon laser Jet | Computer Source | 21500.00 | 01/01/2019 | 31/12/2019 | Working |
| 3 | CPA-SCR-001 | Scanner | Promax 2100 | Daffodil PC | 9700.00 | 01/01/2018 | 31/12/2018 | Servicing |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | Out of Order |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | Working |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- | Out of Order |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- | Servicing |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | Working |

Figure 123: Mockup for Equipment List Report

10.2.6.2 Equipment wise maintenance Report

System will provide facility to generate equipment wise maintenance report. These are:

- Category
- Equipment
- Status

Chittagong Port Authority

Equipment wise Maintenance Report

Parameters:

| | | | | | |
|----------------|------------|--------------------|---|--------|-----|
| Category | PC | Equipment | CPA-PC-001 | Status | All |
| | | | <input type="button" value="Report"/> <input type="button" value="Cancel"/> | | |
| EQUIPMENT ID | CPA-PC-005 | CATEGORY | PC | | |
| EQUIPMENT NAME | HP PC | VENDOR | Flora Limited | | |
| PURCHASE DATE | 01/01/2015 | WARRANTY DATE | 31/12/2020 | | |
| VALUE | 50,000.00 | No. Of Maintenance | 2 | | |
| User | Waqar Khan | Maintennace Cost | 12500.00 | | |

| # | Ticket Date | Problem | Resolved Date | Parts | Parts Value |
|---|-------------|--------------------|---------------|-------|-------------|
| 1 | 10/12/2015 | Software & Harware | 14/12/2015 | --- | --- |
| 2 | 01/06/2018 | Harware | 10/06/2018 | RAM | 6000 |
| 2 | 01/06/2018 | Harware | 10/06/2018 | HDD | 6250 |

Figure 124: Mockup for Equipment wise maintenance List Report

10.2.6.3 Vendor List Report

System will provide facility to generate vendor list based on multiple criterion. These are:

- Status
- Enlistment Date

Chittagong Port Authority

Vendor List Report

Parameters:

Status: All | Enlistment From: 01/01/2015 |

| # | Name | Address | Phone No. | Contact Person | Enlistment Date | Status |
|----|-----------------|-----------------------|------------|----------------|-----------------|-----------|
| 1 | Flora Limited | 30 Agrabad Chittagong | 031-715363 | Shohel Ahmed | 01/01/2017 | Active |
| 2 | Computer Source | 45 Kazir Deori | 031-456521 | Humayun Kabir | 01/01/2015 | Active |
| 3 | Narasibad PC | 92 Hali Shahhar | 031-420420 | Iqbal Hasan | 01/01/2014 | In Active |
| 4 | ----- | ----- | ----- | ----- | ----- | Active |
| 5 | ----- | ----- | ----- | ----- | ----- | Active |
| - | ----- | ----- | ----- | ----- | ----- | In Active |
| - | ----- | ----- | ----- | ----- | ----- | Active |
| 10 | ----- | ----- | ----- | ----- | ----- | Active |

Figure 125: Mockup for Vendor List Report

10.2.6.4 Service Engineer List Report

System will provide facility to generate service engineer list based on multiple criterion. These are:

- Status
- Expertise

Chittagong Port Authority

Service Engineer List Report

Parameters:

Status: All | Expertise: All |

| # | Name | Address | Mobile | Work Start Dt | Expertise | Status |
|----|----------------|-----------------------|------------|---------------|---------------------|-----------|
| 1 | Sharuk Ahmed | 30 Agrabad Chittagong | 0171123344 | 01/01/2017 | Hardware & Software | Active |
| 2 | Jubaer Hossain | 45 Kazir Deori | 031-456521 | 01/01/2015 | Internet | Active |
| 3 | Maruf Khan | 92 Hali Shahhar | 031-420420 | 01/01/2014 | Hardware | In Active |
| 4 | ----- | ----- | ----- | ----- | ----- | Active |
| 5 | ----- | ----- | ----- | ----- | ----- | Active |
| - | ----- | ----- | ----- | ----- | ----- | In Active |
| - | ----- | ----- | ----- | ----- | ----- | Active |
| 10 | ----- | ----- | ----- | ----- | ----- | Active |

Figure 126: Mockup for Service Engineer List Report

10.2.6.5 Maintenance Service Ticket Report

System will provide facility to generate maintenance service ticket list based on multiple criterion.

These are:

- Category
- Problem
- Status

Chittagong Port Authority

http://

Maintenance Report

Parameters:

Category: All Problem: All Status: All

Report Cancel

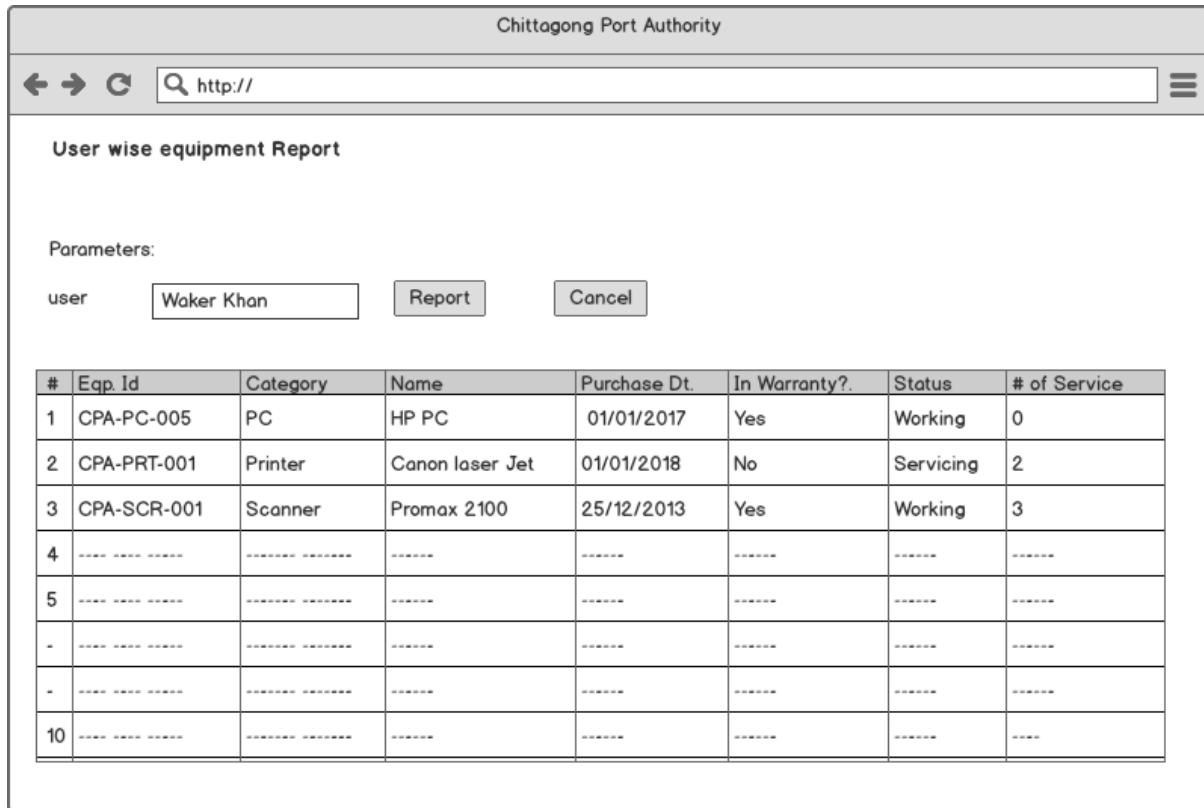
| # | Ticket Date | Eqp. Id | Category | Problem | Service Engineer | Status |
|----|-------------|-------------|----------|--------------------|------------------|-------------------|
| 1 | 10/12/2019 | CPA-PC-005 | PC | Software & Harware | Sahruk | In Progress |
| 2 | 11/12/2019 | CPA-PRT-001 | Printer | Hardware | Nazmul | Waiting for Parts |
| 3 | 11/12/2019 | CPA-SCR-001 | scanner | Hardware | --- | New |
| 4 | ----- | ----- | ----- | ----- | ----- | New |
| 5 | ----- | ----- | ----- | ----- | ----- | Resolved |
| - | ----- | ----- | ----- | ----- | ----- | In Progress |
| - | ----- | ----- | ----- | ----- | ----- | Resolved |
| 10 | ----- | ----- | ----- | ----- | ----- | New |

Figure 127: Mockup for ticket List Report

10.2.6.6 User wise equipment Report

System will provide facility to generate user wise equipment report based on multiple criterion. These are:

- User



The mockup shows a web browser interface for a 'User wise equipment Report'. The title bar says 'Chittagong Port Authority'. The address bar shows 'http://'. The main content area is titled 'User wise equipment Report'. It displays a table of equipment data with the following columns: #, Eqp. Id, Category, Name, Purchase Dt., In Warranty?, Status, and # of Service. The table has 10 rows, with rows 4 through 9 being empty. Row 10 contains data for a 'HP PC'.

| # | Eqp. Id | Category | Name | Purchase Dt. | In Warranty? | Status | # of Service |
|----|-------------|----------|-----------------|--------------|--------------|-----------|--------------|
| 1 | CPA-PC-005 | PC | HP PC | 01/01/2017 | Yes | Working | 0 |
| 2 | CPA-PRT-001 | Printer | Canon laser Jet | 01/01/2018 | No | Servicing | 2 |
| 3 | CPA-SCR-001 | Scanner | Promax 2100 | 25/12/2013 | Yes | Working | 3 |
| 4 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 5 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| - | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 10 | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

Figure 128: Mockup for User wise equipment Report

11 Module: E-GP

National e-Government Procurement (e-GP) portal i.e. <https://www.eprocure.gov.bd> of the Government of the People's Republic of Bangladesh is developed, owned and being operated by the Central Procurement Technical Unit (CPTU), IME Division of Ministry of Planning. The e-GP system provides an on-line platform to carry out the procurement activities by the Public Agencies - Procuring Agencies (PAs) and Procuring Entities (PEs).

The e-GP system is a single web portal from where and through which PAs and PEs will be able to perform their procurement related activities using a dedicated secured web based dashboard. The e-GP system is hosted in e-GP Data Center at CPTU, and the e-GP web portal is accessible by the PAs and PEs through internet for their use.

11.1 Proposed System of E-GP (E-Tendering System)

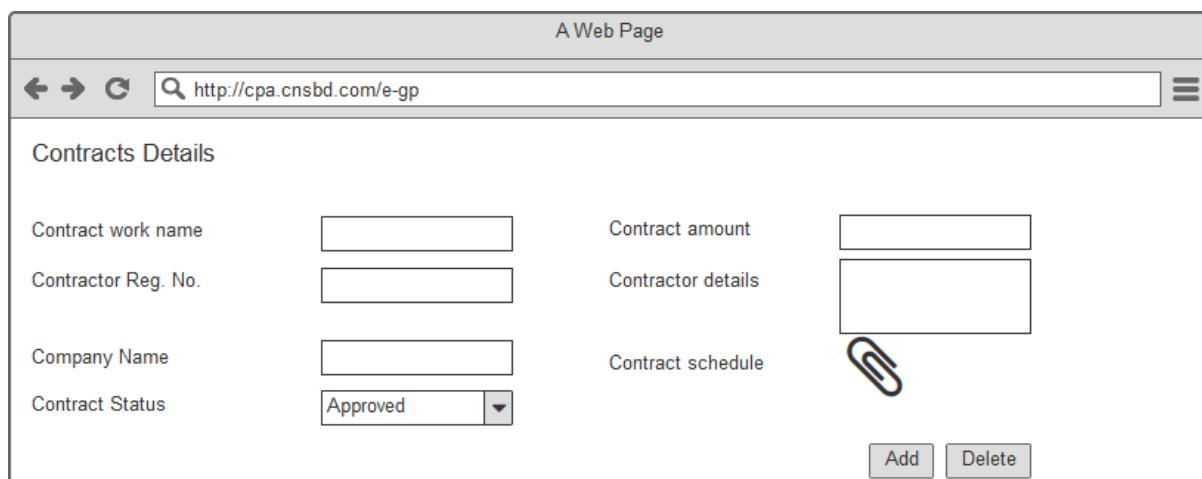
CNS can implement eProcurement either in two ways:

- e-GP integration (if CPA can arrange)
- Manual Input

The designs of E-GP Module are illustrated below with proper justifications.

11.1.1 Contract Details

The purpose of Training Details is to enter detail information regarding contracts,



The mockup shows a web browser window with the URL <http://cpa.cnsbd.com/e-gp>. The page title is 'A Web Page'. The main content area is titled 'Contracts Details'. It contains several input fields: 'Contract work name' (input box), 'Contract amount' (input box), 'Contractor Reg. No.' (input box), 'Contractor details' (input box), 'Company Name' (input box), 'Contract schedule' (input box), 'Contract Status' (dropdown menu with 'Approved' option), and a 'Clip' icon. At the bottom are 'Add' and 'Delete' buttons.

Figure 129: Mockup for Contract Detail

11.1.2 Reports of E-GP

- Department wise No. of Tenders/ Proposals Invited
- Department wise No. of Tenders/ Proposals being processed
- Department wise No. of Contracts Awarded
- Total No. of Tenders/ Proposals Invited for CPA
- Total No. of Tenders/ Proposals being processed for CPA
- Total No. of Contracts Awarded for CPA

12 Module: E-Filing System

Uses of e-Filing in CPA is in a remarkable stage. Every employee has his/her own dashboard in e-Filing System. Their dashboards depict summary (in Quantity) of e-Filing.

National e-Filing portal i.e. <https://nothi.gov.bd> of the Government of the People's Republic of Bangladesh is developed, owned and being operated by the a2i, Prime Minister's Office. This e-Filing system provides an on-line platform to carry out the transactions of file. Filing activities by the CPA (Internal) as well as other public/ private organizations are being carried out by this.

12.1 Proposed System of e-Filing

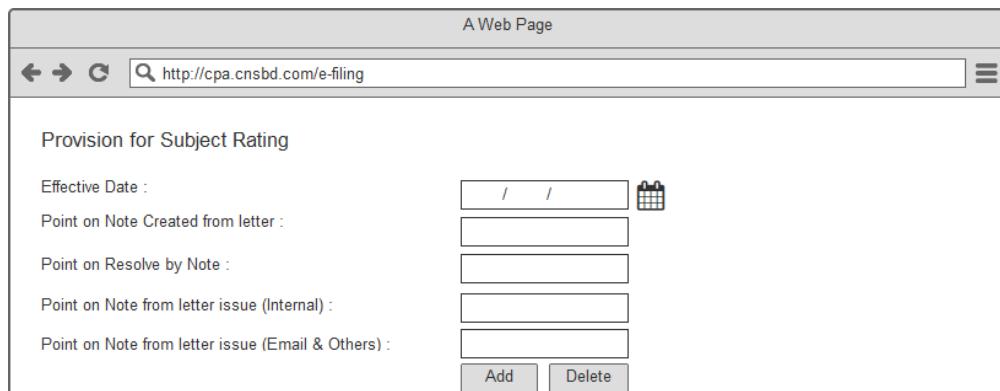
CNS can implement e-Filing either in two ways:

- I. e-Filing integration with the <https://nothi.gov.bd> (if CPA can arrange)
- II. Manual Input

The designs of E-GP Module are illustrated below with proper justifications.

12.1.1 Provision for Subject Rating

The purpose of Subject Rating is to provide points on e-Filing activities.



A Web Page

http://cpa.cnsbd.com/e-filing

Provision for Subject Rating

Effective Date : / /

Point on Note Created from letter :

Point on Resolve by Note :

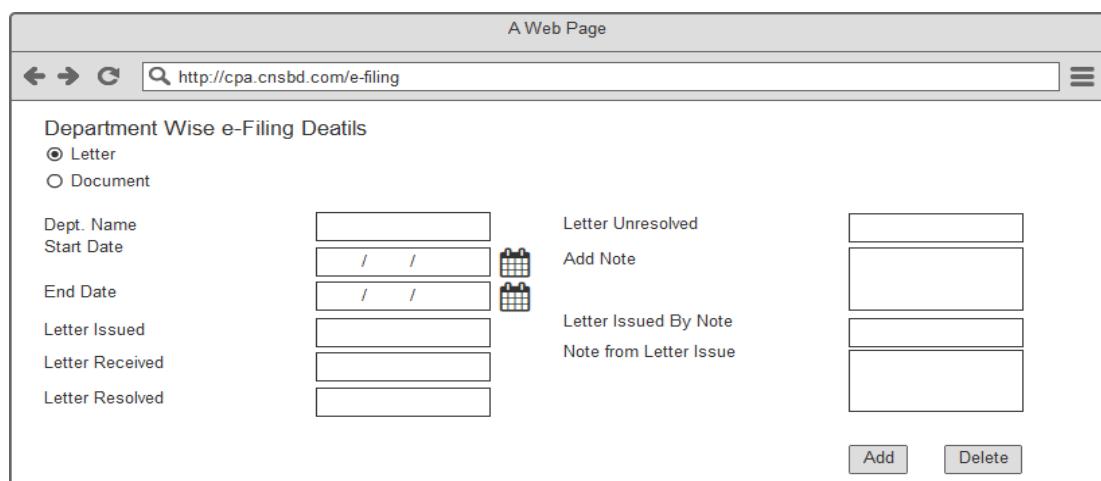
Point on Note from letter issue (Internal) :

Point on Note from letter issue (Email & Others) :

Figure 130: Mockup for Provision of Subject Rating

12.1.2 e-Filing Details

To integrate with the existing system or to input manually, the following input fields are required for Letter as well as Documents respectively.



A Web Page

http://cpa.cnsbd.com/e-filing

Department Wise e-Filing Details

Letter
 Document

Dept. Name

Start Date / /

End Date / /

Letter Issued

Letter Received

Letter Resolved

Letter Unresolved

Add Note

Letter Issued By Note

Note from Letter Issue

Figure 131: Mockup for Department wise e-File Details

12.1.3 Reports for e-File

System should be able to generate several reports as follows:

Report 1: Department wise e-Filing summary report (in Quantity) should be as below:

| Current Activities | Today | Previous | As of Today |
|------------------------|-------|----------|-------------|
| Letter Receive | | | |
| Letter Resolve | | | |
| Letter Unresolved | | | |
| Add Note | | | |
| Letter Issued By Note | | | |
| Note from Letter Issue | | | |
| Total Unresolved | | | |
| Letter Issued | | | |

Report 2: Department wise pending e-Filing summary report (in Quantity) should be as below:

| Pending Activities | 5+ Day | 10+ Day | 15+ Day | 30+ Day |
|--------------------|--------|---------|---------|---------|
| Letter | | | | |
| Document | | | | |

Report 3: e-Filing summary (in Quantity) for the whole CPA should be as below:

| Description | Today | Previous | As of Today |
|-------------------------|-------|----------|-------------|
| Letter Receive | | | |
| Letter Resolve | | | |
| Letter Unresolved | | | |
| Self-Explanatory Note | | | |
| Note create from letter | | | |
| Note from letter issue | | | |
| Resolve by Note | | | |
| Total Unresolved | | | |
| Letter Issued | | | |

Report 4: Dashboard will show the below table.

| SL | Department (User) | Note from letter | Letter Issue | Note Resolved | Note Unresolved | Point (Previous Month) | Point (Current Month) | Rank (Previous Month) | Rank (Current Month) |
|----|-------------------|------------------|--------------|---------------|-----------------|------------------------|-----------------------|-----------------------|----------------------|
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| | Total | | | | | | | | |

13 Module: Automation of Marine Department

The designs of Marine & Hydrography are illustrated below with proper justifications.

Major services provided by Marine department are given below:

- Berthing Service
- Pilotage Service
- Fresh-Water supply
- Swing Mooring Service
- License Service
- Craft Management
- Radio Control Room

13.1 Berthing Service

Vessel berthing service is one of the major service provided by Marine Department. Vessel berthing process started for a ship after formal application submission by Shipping Agent to the Harbour Master. Usually, a berthing meeting is arranged on regular basis around 11:00am with all parties involved in berthing. Conclusion of this meeting results a berthing schedule which is sent to the pilots to provide service.

| Software in use | Covered Area | Remark |
|--------------------------------|--|---|
| Digital Berthing System | Berthing related Services <ul style="list-style-type: none"> • Berth scheduling • Berth • Un-berth • Shifting etc. | Integration will be done with the digital berthing software which is currently in use at CPA to collect required data. |

13.2 Pilotage Service

Pilotage Services are provided by the pilots of CPA. Pilots are assigned for pilotage service by Harbour master according to the berthing schedule. Pilot guides foreign ships from entering to Karnaphuli River to berth area and return from berth area to Sea area. CPA Pilots are expert about river channel and communicate with local vessels on the way. This is a global practice of ship navigation. Pilot service includes:

- **Inward Service:** Providing Piloting to foreign vessel from Outer Anchorage to Berthing area
- **Outward Service:** Providing Piloting to foreign vessel from Berthing area to Outer Anchorage
- **Shifting Service:** Providing Piloting for shifting of foreign vessel from one berth to another berth
- **Night Navigation Service:** Navigating of foreign vessel at night time
- **Tug Service:** Providing Tug-boat service to foreign vessel to assist while navigation

| Software in use | Covered Area | Remark |
|-----------------|---|--|
| No | <ul style="list-style-type: none"> • Pilotage Services (inward) • Pilotage Services(outward) • Shifting service • Night navigation • Tug service | New application will be developed for both Web and Mobile Apps |

13.2.1 Pilotage service process

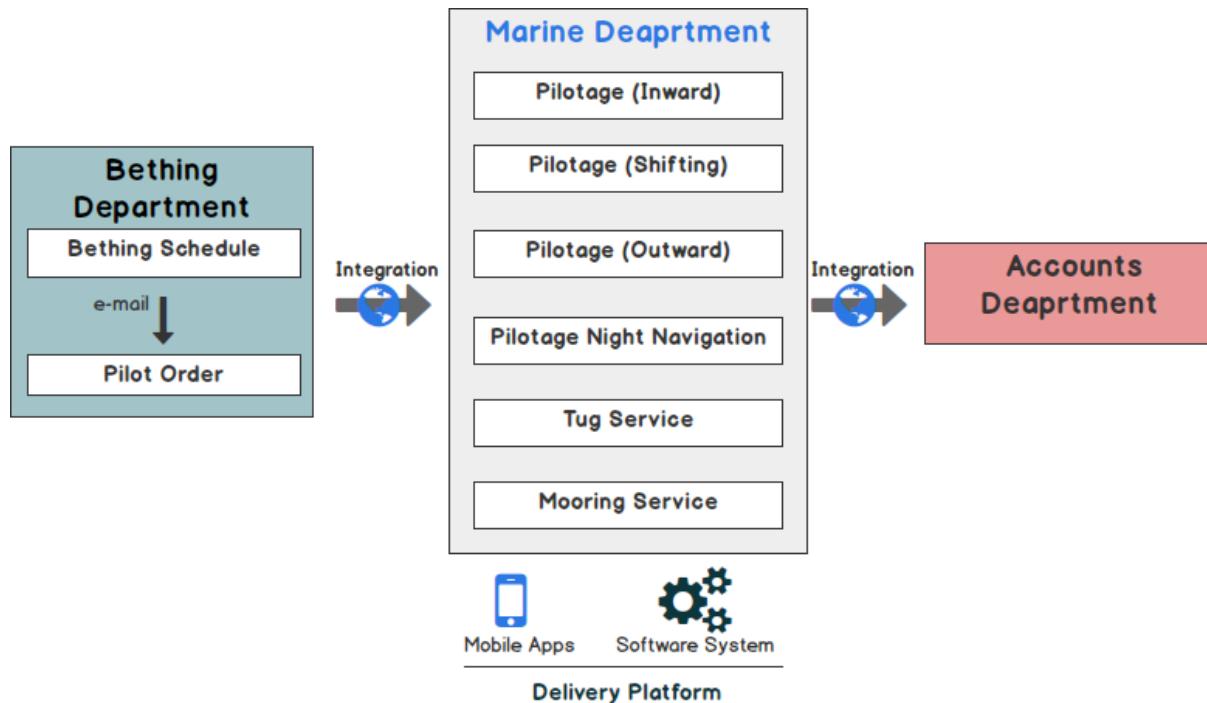


Figure 132: Pilotage Service Process

Berthing Section (Harbour): Berthing department produces a berthing schedule on regular basis by conducting berthing meeting with shipping agents, traffic and other department concern person. Berthing schedule contains the list with time of next berths going to be at the port. Berthing department already uses a software, 'digital berthing' where berthing schedule is maintained. According to the schedule, Harbour master assigns pilots to provide pilotage service. And the assigning is confirmed by a mail to pilots. **Integration** will be done between Digital Berthing & Proposed System.

Marine Department: Pilots are employee of Marine department. After assigning from Harbour master by email, pilots move for pilotage service and they usually carry pilotage forms. After providing pilotage service, forms are filled-up by pilots and signed by the mother vessel master/captain. Pilots submit those forms in marine department for billing purpose. Marine department check those forms and add/edit data if necessary then forwarded to the accounts department.

Pilotage services will be delivered through **Mobile Apps** and **Web-based** system in proposed system.

Accounts Department: Accounts department receives the pilotage forms and required data from marine department then process the bill. Marine Department will communicate with Accounts department in application level in Proposed System.

13.2.1.1 Pilotage Services (inward)

After berthing meeting, assigned pilots move with pilot ship and one tug boat (usually) to outer anchorage area to provide pilotage services to Mother Vessel. Usually, one Tug Boat moves with the pilot ship to assist the navigation. Inward pilotage ranges from outer anchorage area to jetty area.

Pilotage Certificate (Inward)

Chittagong Port Authority

Save Exit

| | | | |
|-------------------|--|--------------------|--|
| Registration No | <input type="text" value="search from Arrival"/> | Master Name | <input type="text" value="LOV Arrival"/> |
| Registration Date | <input type="text" value="LOV Arrival"/> | Vessel Types | <input type="text" value="LOV Arrival"/> |
| Agent Type | <input type="text" value="LOV Arrival"/> | GRT | <input type="text" value="LOV Arrival"/> |
| Vessel Name | <input type="text"/> | Deck Cargo | <input type="text" value="LOV Arrival"/> |
| M Vessel Name | <input type="text"/> | Exchange Rate (\$) | <input type="text"/> |
| Entry Date | <input type="text"/> | Last Port | <input type="text" value="LOV Arrival"/> |
| | | Next Port | <input type="text" value="LOV Arrival"/> |

Details

| | | | |
|------------------------|----------------------|-----------|----------------------|
| Pilot Name | <input type="text"/> | | |
| Berthing Date | <input type="text"/> | Add Pilot | <input type="text"/> |
| Berthing Time From | <input type="text"/> | Time To | <input type="text"/> |
| Berthing From | <input type="text"/> | | |
| Berth To | <input type="text"/> | | |
| Port Dues Status | <input type="text"/> | | |
| Additional Port Status | <input type="text"/> | | |

Mooring Info

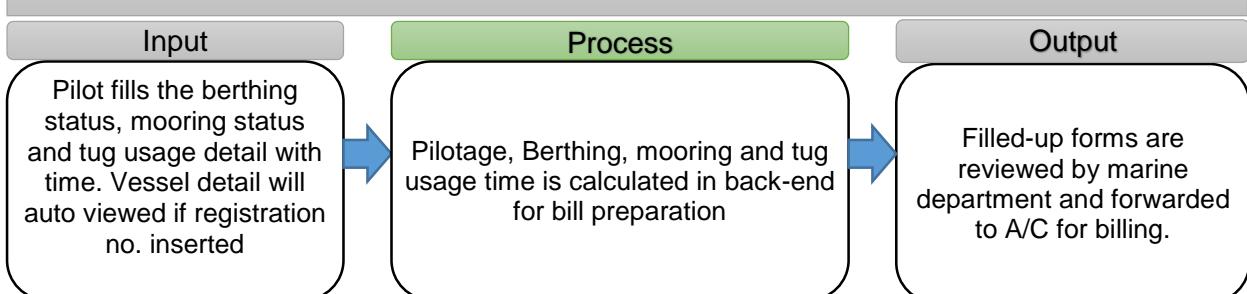
| | |
|----------------------|----------------------|
| Number of Fixed Moor | <input type="text"/> |
| Number of Swing Moor | <input type="text"/> |

Tug Info

| | |
|-------------------------|----------------------------------|
| Tug In Out (Additional) | <input type="text"/> |
| Tug In Out (Time) | <input type="text"/> |
| Tug In Out (Can) | <input type="text"/> |
| Default Tug Out (Can) | <input type="text" value="No"/> |
| | <input type="text" value="Yes"/> |

Figure 133: Inward Pilotage Service

Form 01: Marine – Pilotage (Inward)



Note:

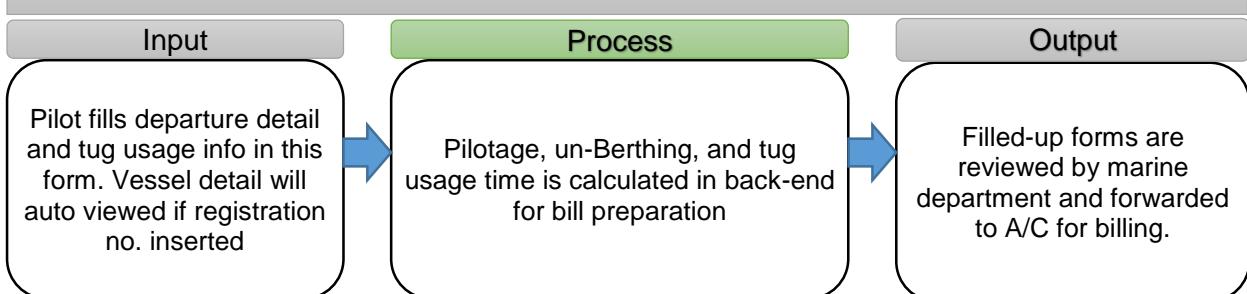
1. Inward pilotage of mother vessel happens when high tides
2. Pilot can use multiple tugs for better movements
3. Pilots take sign from mother vessel captain on pilotage paper as acknowledgement

13.2.1.2 Pilotage Services (outward)

As per berthing meeting, assigned pilots move with pilot ship and one tug boat (usually) to berth area to provide outward pilotage services to Mother Vessel. Usually, one Tug Boat moves with the pilot ship to assist the navigation. Outward pilotage service ranges from jetty area to outer anchorage area.

Figure 134: Pilotage Service - Outward

Form 02: Marine – Pilotage (Outward)



Note:

1. Outward pilotage of mother vessel happens when high tides
2. Pilot can use multiple tugs for better movements
3. Pilots take sign from mother vessel captain on pilotage paper as acknowledgement

13.2.1.3 Pilotage Services (Shifting)

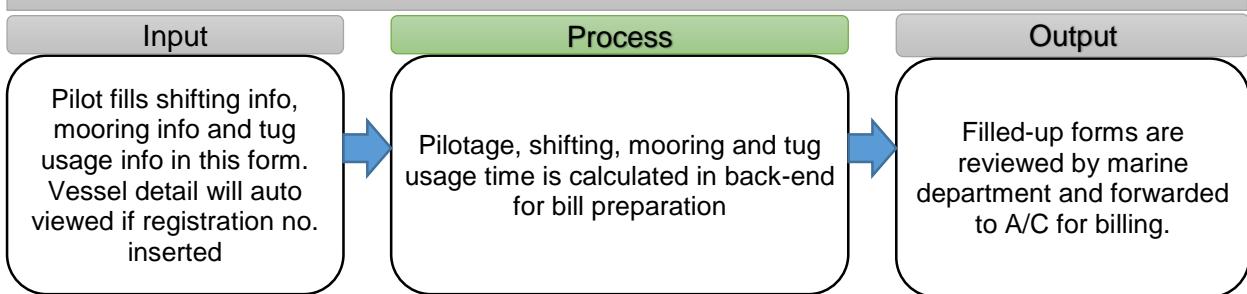
As per berthing meeting, assigned pilots move with pilot ship and one tug boat (usually) to berth area to provide shifting pilotage services to Mother Vessel. Usually, one Tug Boat moves with the pilot ship to assist the navigation. Shifting pilotage service ranges from one jetty area to another area.

Pilotage Certificate (Shifting)

| | | | |
|--------------------|----------------|-------------------------|-------------|
| Registration No | search Arrival | Master Name | LOV Arrival |
| Registration Date | LOV Arrival | Vessel Types | LOV Arrival |
| Agent Type | LOV Arrival | GRT | LOV Arrival |
| Vessel Name | LOV Arrival | Deck Cargo | LOV Arrival |
| M Vessel Name | LOV Arrival | Exchange Rate | LOV Arrival |
| Entry Date | LOV Arrival | Last Port | LOV Arrival |
| | | Next Port | LOV Arrival |
| Details | | Mooring Info | |
| Pilote Name | | Number of Fixed Moor | |
| Shifting Date | | Number of Swing Moor | |
| Shifting Time From | | Tug Info | |
| Shifting From | | Tug In Out (Additional) | |
| Shifting To | | Tug In Out (Time) | |
| | | Tug In Out (Can) | |
| | | Default Tug Out(Can) | Yes |
| | | | NO |

Figure 135: Pilotage Service - Shifting

Form 03: Marine – Pilotage (Shifting)



Note:

1. Shifting pilotage of mother vessel happens when high tides
2. Pilot can use multiple tugs for better movements
3. Pilots take sign from mother vessel captain on pilotage paper as acknowledgement

13.2.1.4 Pilotage Services (Night Navigation)

Pilotage service means navigating the vessel. If any navigation of vessel happens in night time (as defined by CPA), pilot keeps the record in pilotage form with acknowledge of the vessel captain. Night time navigation is costlier than day time navigation. 6:00pm to 6:00am is the duration for night navigation.

13.3 Fresh Water Supply

Foreign ships require fresh water supply to keep their generators running all the time. Usually shipping agents submit fresh-water demand through formal application to the Dock Master. Dock Master approves the quantity required and orders Radio Control Room (RCR) to arrange fresh-water supply. RCR assigns water vessel to supply water.

| Software in use | Covered Area | Remark |
|-----------------|--|-----------------------------------|
| No | Fresh-water supply at outer-anchorage using water vessel | New application will be developed |

13.3.1 Fresh Water Supply Process

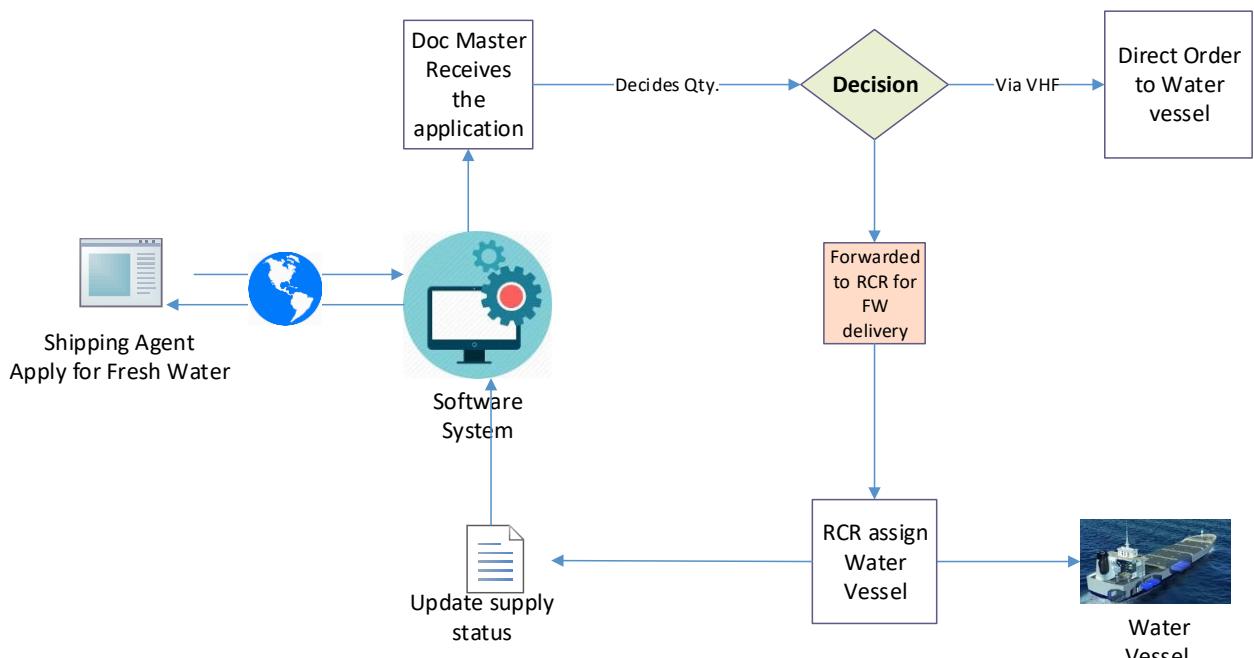


Figure 136: Fresh Water Supply Process

A Web Page

http://www.cpa.gov.bd/fwrequisition

[Shipping Agent Name]

FRESH WATER REQUISITION FORM

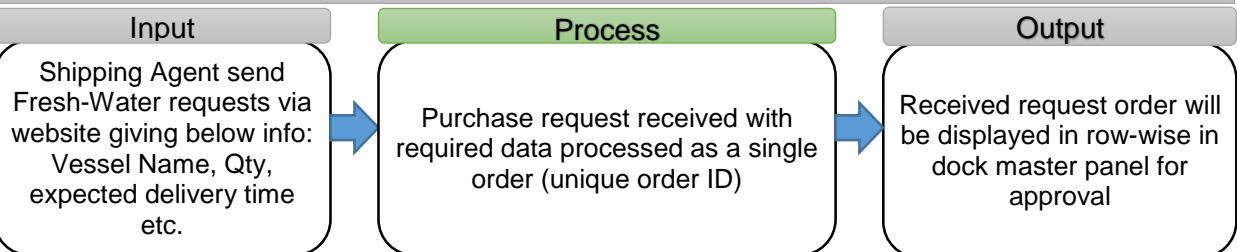
Requisition Entry

| | | |
|----------------------------------|---------------------------|---------------------------------------|
| Vessel Name | ComboBox | Date & Time [Current Date & Time] |
| | MV Augusta MV Janifer | |
| Quantity Required | Ton | |
| Anchorage Area | Anchorage Area | |
| | O/A RM/8 | |
| Time/Date (expected delivery) | [Date picker] | |
| Agent Name | ABC Shipping Company Ltd. | |
| Remarks | Add Note/Comment | |

Save

Figure 137: Mockup for Fresh Water Requisition

Form 01: Marine – Fresh-Water Request



Note:

1. There will be auto-generated 'order id' in process for each order.
2. Shipping agent can give any note for detail

A Web Page

http://www.cpa.gov.bd/approval process

Chittagong Port Authority
Fresh-Water Request Approval

Date [current date]

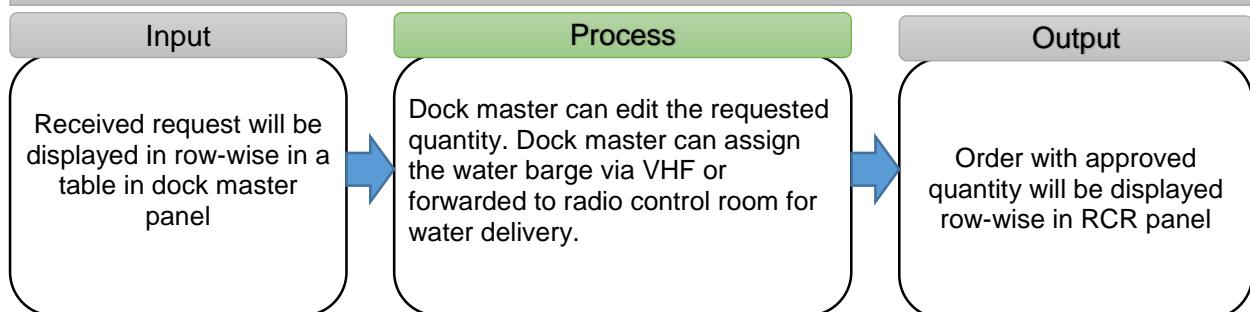
Select Date Range

From 10/10/2019 To 10/11/2019

| SL No. | Vessel Name | Shipping Co | Qty.(Ton) | Anchorage | Exp. Delivery | Approval | Assign | Delivery |
|--------|--------------|--------------------|-----------|-----------|---------------|---------------|-------------|----------|
| 1 | MV Simon | Sikder shipping | 200 | Alpha | 05/11/2019 | Accept \| Edit | ^Jalpari 01 | Pending |
| 2 | MV Augusta | Monsur Shipping | 300 | Bravo | 07/11/2019 | Accept \| Edit | ^ RCR | Pending |
| 3 | MV Sea Queen | See Pearl Shipping | 500 | Charlie | 09/11/2019 | Accept \| Edit | ^ RCR | Pending |

Figure 138: Mockup for Fresh water requisition approval

Form 02: Marine – Fresh-Water Request Approval – Doc Master



Note:

1. Dock master can deny the request, if denied, order will be canceled
2. Dock master decides the quantity considering urgency

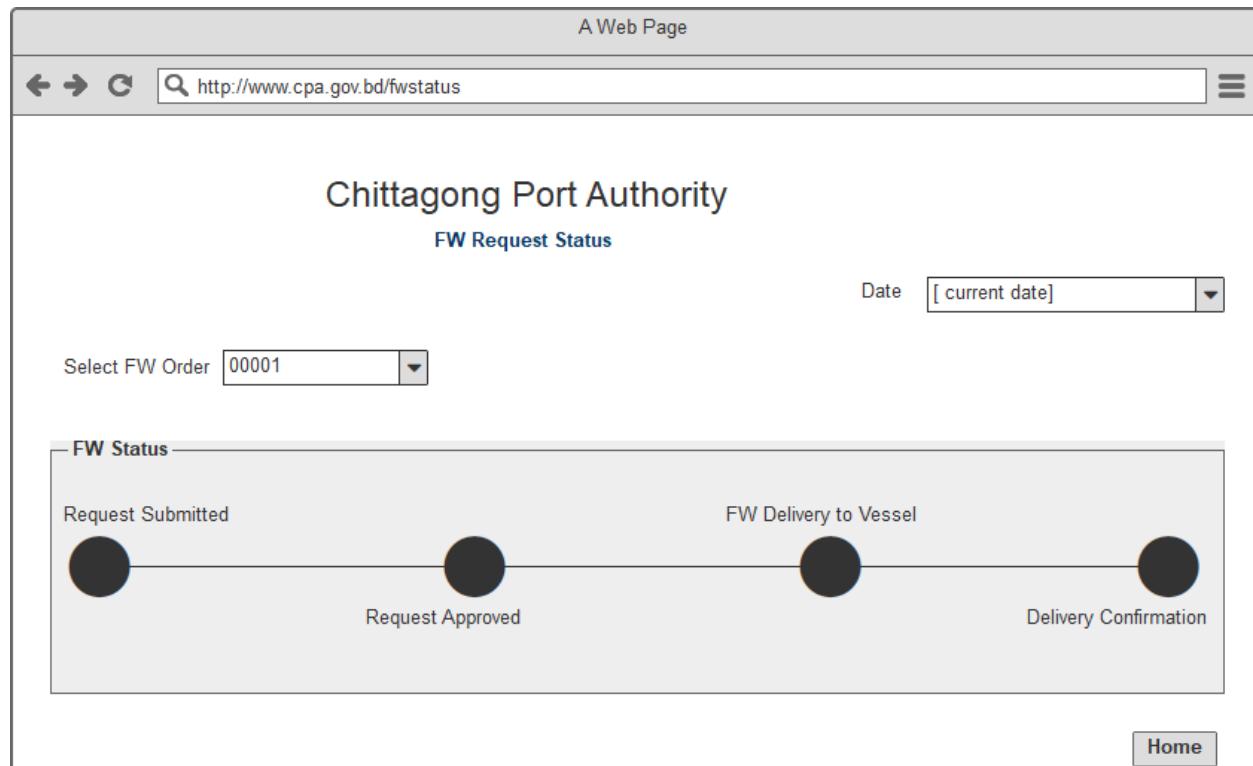
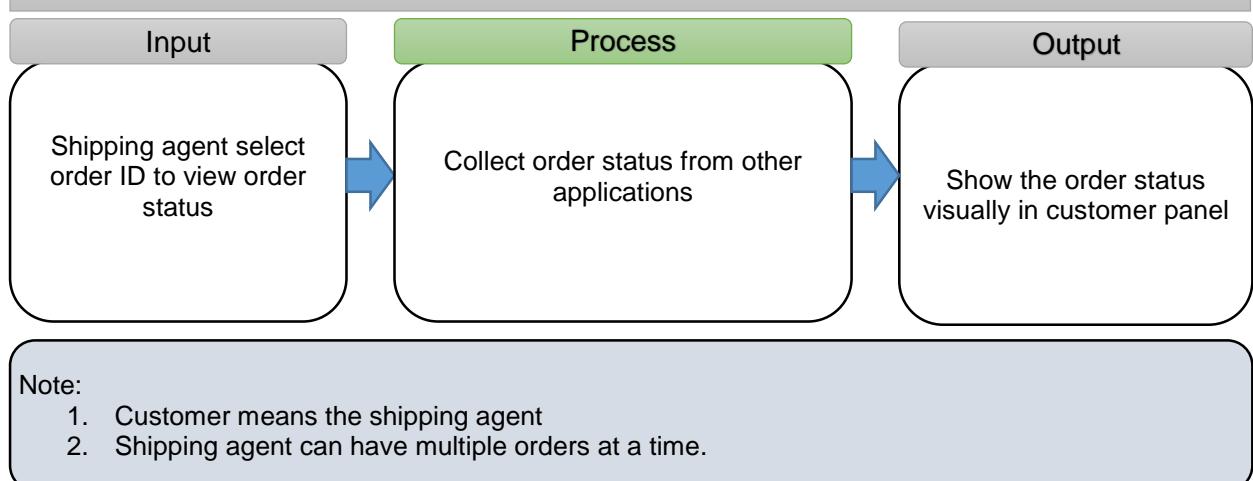


Figure 139: Mockup for Fresh Water Request Status

Form 03: Marine –FW Customer view



Chittagong Port Authority
Fresh-Water Request Approval

Date [current date]

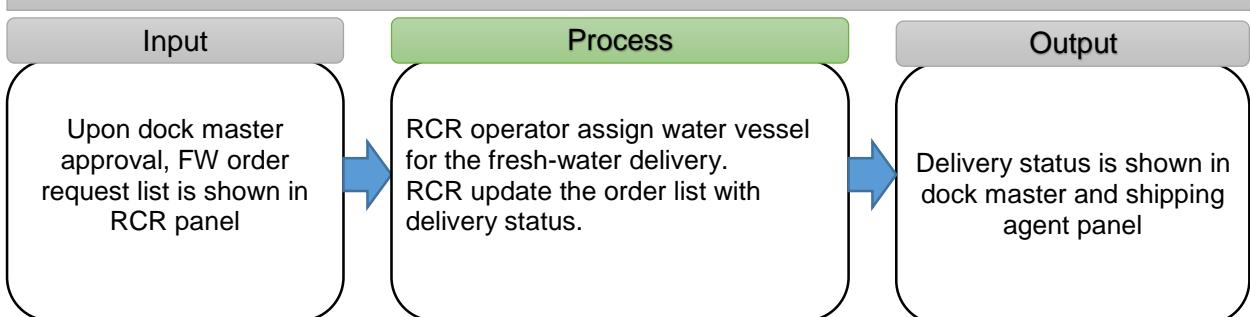
From 10/10/2019 To 10/11/2019

| SL No. | Vessel Name | Shipping Co. | Qty.(Ton) | Anchorage | Exp. Delivery | Approved by | Vessel | Delivery |
|--------|--------------|--------------------|-----------|-----------|---------------|-------------|-------------|-----------|
| 1 | MV Simon | Sikder shipping | 200 | Alpha | 05/11/2019 | Doc Master | ^Jalpari 01 | Pending |
| 2 | MV Augusta | Monsur Shipping | 300 | Bravo | 07/11/2019 | Doc Master | ^Jalpari 02 | Delivered |
| 3 | MV Sea Queen | See Pearl Shipping | 500 | Charlie | 09/11/2019 | Doc Master | ^Jalpari 03 | Delivered |

Save Back

Figure 140: Mockup for Fresh Water Request Approval

Form 04: Marine – FW delivery-RCR



Note:

1. If dock master assign the water vessel via VHF, then he will notify the RCR to update the delivery status

13.4 Swing Mooring Service

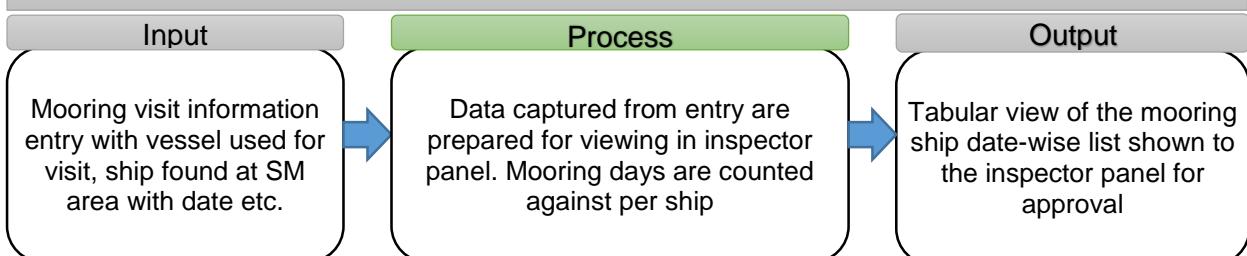
CPA provides Swing Mooring services for local vessel. There are specific areas in Karnaphuli River for local vessel parking with safe anchoring facilities. These parking is marked by 'Boya', and there are few dozens of ship parking facility from which, CPA earns revenue for each day parking. Usually, parked ships are surveyed by CPA officials and listed down for billing. List is verified by an Inspector before sending to accounts department.

| Software in Use | Covered Area | Remark |
|-----------------|---|----------------------------|
| No | Swing Mooring status and billing automation | It will be newly developed |

| Date: | SM No. | SL No. | Ship Name - Currently Staying in Swing-Mooring Area |
|----------|--------|--------|---|
| 01/10/19 | 01 | 1 | MV Nova |
| 01/10/19 | 01 | 2 | MV. Sameer |
| 01/10/19 | 01 | 3 | MV J-Abedin |
| 01/10/19 | 01 | 4 | MB Samiya |
| 02/10/19 | 02 | 5 | MT Energy-4 |
| 02/10/19 | 02 | 6 | FV SeaBird |
| 02/10/19 | 02 | 7 | - |
| 03/10/19 | 03 | 8 | - |
| 03/10/19 | 03 | 9 | - |
| 03/10/19 | 03 | 10 | - |

Figure 141: Mockup for Swing Mooring Data Entry

Form 01: Mooring – Swing Mooring data entry



Note:

1. Mooring list is prepared by visit officers and entry at the system by LM operator.
2. Data entry to be done immediate after the visit
3. Mooring list is reviewed by the inspector. Approved list is sent to A/C department

A Web Page

http://www.cpa.gov.bd/swingmooringapproval

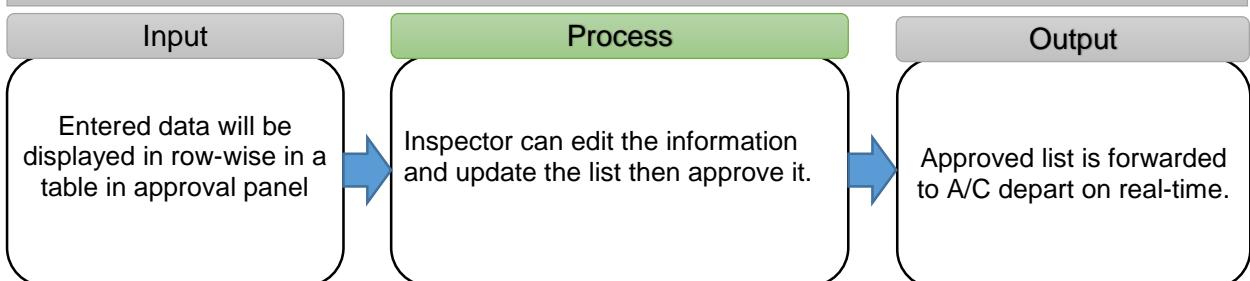
Chittagong Port Authority
Marine Department
Inspector Approval

From Date: To Date: Inspector:

| SM No. | From Date: | To Date: | Day Count | Ship Name - Currently Staying in Swing-Mooring Area | Edit | Approve |
|--------|------------|----------|-----------|---|-------------------------------------|--|
| 01 | 01/10/19 | 03/10/19 | 02 | MV Nova | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 01 | 01/10/19 | 03/10/19 | 02 | MV. Sameer | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 01 | 01/10/19 | 03/10/19 | 02 | MV J-Abedin | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 01 | 01/10/19 | 03/10/19 | 02 | MB Samiya | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 02 | 02/10/19 | 07/10/19 | 05 | MT Energy-4 | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 02 | 02/10/19 | 07/10/19 | 05 | FV SeaBird | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 02 | 02/10/19 | 07/10/19 | 05 | - | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 03 | 03/10/19 | 09/10/19 | 06 | - | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 03 | 03/10/19 | 09/10/19 | 06 | - | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |
| 03 | 03/10/19 | 09/10/19 | 06 | - | <input type="button" value="Edit"/> | <input type="button" value="Approve"/> |

Figure 142: Mockup for Inspector Approval

Form 02: Mooring – Approval process- Inspector



Note:

1. Mooring list is reviewed by the inspector. Inspector must be the different person than data entry operator
2. Ship staying at SM area and days count are calculated at back-end and used for bill preparation

13.5 License Service

CPA provides license services to ship owners to operate shipping services locally in Karnafuli River.

CPA also collects Port Dues & River Dues from local vessels and also collects license renewal fees from ship agents on periodical basis.

There are three license offices in three separate locations to carryout above activities. Usually, collections are made in 'Cash'.

13.5.1 Collection process

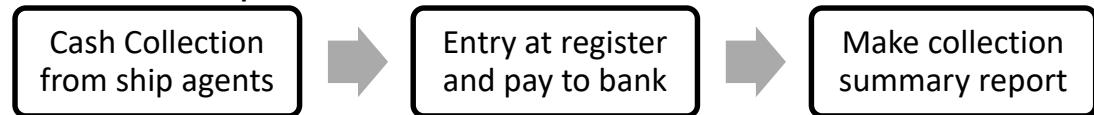


Figure 143: License Office Collection Process

| Software in Use | Covered Area | Remark |
|-----------------|---|--|
| No | License renewal Service, port & river dues collection from local vessels. | It will be newly developed in our system |

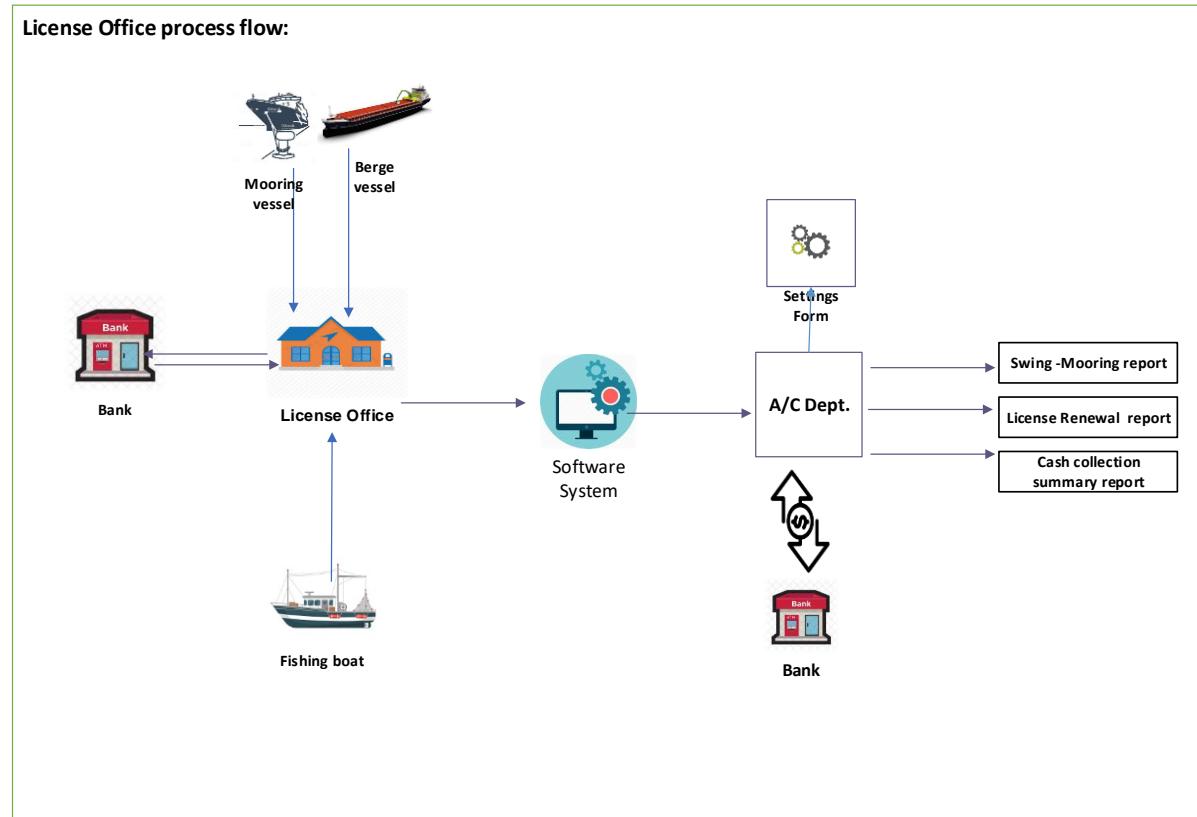


Figure 144: Proposed Process of License Office

All collections of License office can be done using one single form: i.e. **miscellaneous bill collection from. This form will be available from A/C module.**

13.5.1.1 Cash Collection Slip

The mockup shows a web page titled 'Chittagong Port Authority Cash Collection Slip License Office'. At the top, there are navigation icons and a search bar with the URL 'http://www.cpa.gov.bd/cash collection'. Below the title, there are fields for 'Form No.' and 'Date' (set to '[current date]'). A 'Group Name' field is also present. The main form area contains the following fields:

- Select Vessel:** A dropdown menu showing 'Marine Vessel' and 'Boat'.
- Port Dues:** A text input field with the placeholder '[insert amount]'.
- River Dues:** A text input field with the placeholder '[insert amount]'.
- VAT:** A text input field with a '%' placeholder and a button '[auto calculate]'.
- Select Period:** Two dropdown menus for 'From date' and 'To date'.

At the bottom of the form are two buttons: 'Clear' and 'SAVE'.

Figure 145: Mockup for Cash Collection Slip

Vessel Selection:

There are two types of vessel who are subjected to pay.

- Marine Vessel
- Boat

Types of Payment:

There are two types of payment collection:

- River Dues
- Port Dues

VAT Calculation:

If VAT (in %) is given, then, VAT amount will be calculated automatically on collected amount.

Period:

'Period' means the approved time for that vessel/boat to operate in port area against this payment.

Approval:

Filled up forms, if saved, forwarded to the Deputy Conservator Panel for further approval. Upon his, approval, this collection slip will be sent to the A/C department module.

Payment Authority:

Vessel or Boat owners are liable to pay to Chittagong Port. They are identified by a license given by Chittagong Port.

13.6 Craft Management

CPA has own vessels both with engines and without engines. Engine vessels include pilot vessels, tug vessels, water supply vessels etc. and without engine vessels include floating pontoon. Vessels with engines mentioned as 'craft' are managed by Dock Master of Marine Department. Categories of craft is given below:

- Tug
- Pilot
- Fresh water
- BLV
- Solid waste collect
- Harbour Security/Petrol
- Dreiser ECRV
- Mooring
- Ambulance
- Container Carrier

Managing these craft requires below functional services. We are showing how these services are covered in our proposed solution.

Table 3: Craft Management System

| SL# | Type of Services | Our proposal |
|-----|---|--|
| 1 | Vessel profile (profile of vessel with detail vessel info/spec, vessel type, job role etc. vessel profile will be created by Marine Department with approval process) | Will be managed in web-based Vessel/vehicle management system module |
| 2 | Manning Service (vessel operator/pilot & crew assigning procedure and their roaster duty detail information for that vessel. Manning service) | Will be managed in web-based Vessel/vehicle management system module |
| 3 | Fuel Supply (Regular fuel supply detail with requisition process, approval, fuel load from supplier, usage and billing etc.) | Will be managed in web-based Inventory module |
| 4 | Periodical Maintenance (vessel repair service, spare parts & lubricants) | Will be managed in web-based Repair/Maintenance/Workshop module |

13.7 Radio Control Room (RCR)

Chittagong Port Authority (CPA) has a Radio Control Room (RCR) with latest devices and equipment. Radio Control Room handles all VHF communication between Vessel and Port. There are VHF operators who keep record of all communication for future use. RCR also deals with any incident happen in river or sea area and acts as solution provider between victim and port. According to the nature of communication, we can categorize them into below four type of forms:

- **Vessel Registration**
- **Fresh-Arrival List**
- **VHF Log entry**
- **Any incident information entry**

Below is the framework of Radio Control and our proposed system:

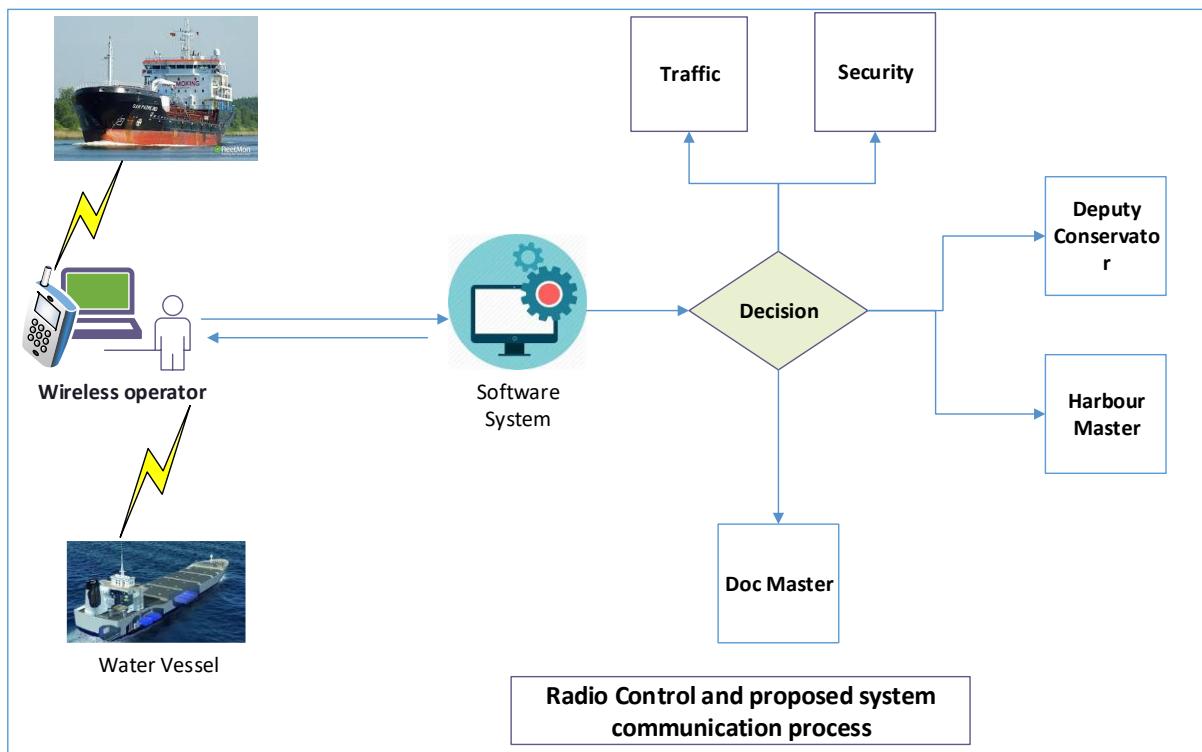


Figure 146: Proposed RCR Work Process

13.7.1 Vessel Registration

Vessel registration is one of the fundamental procedure to record incoming vessel information. Radio Control operator does it under supervision of Harbour Master.

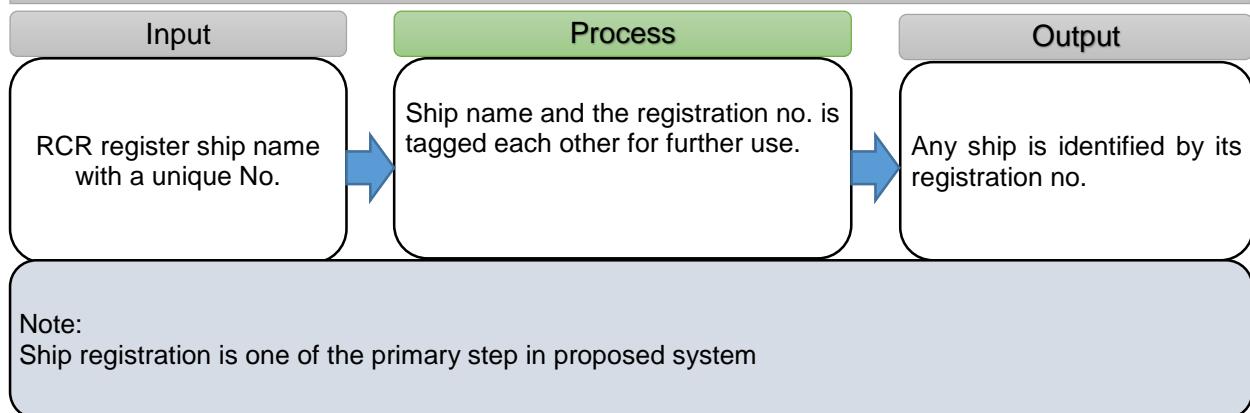
One unique no. is given to a ship which refers to detail information of that ship.

| Registration Information | |
|--------------------------|--------------|
| Registration/Rot No | 2019/3228 |
| Arrival Date | 30/09/2019 |
| Vessel Name | DARYA JAMUNA |

NB: Need integration with ASYCUDA then Registration number will be automated

Figure 147: Mockup for Vessel Registration

Form 01: RCR – Vessel Registration



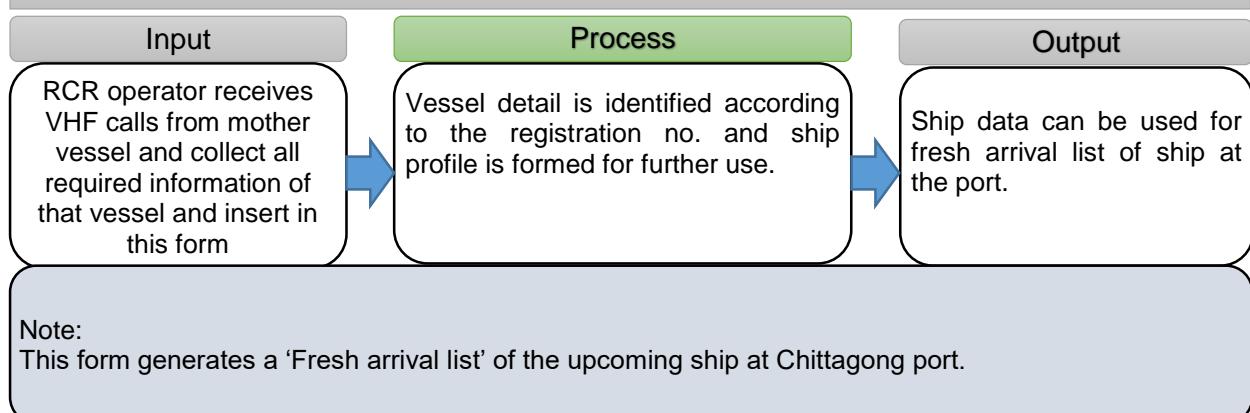
13.7.2 Vessel Arrival List

This list shows the daily fresh arrival of new vessel at Chittagong Port Area. This list is prepared for using in further process.

The mockup shows a web-based form titled 'Arrival Information' under the 'Chittagong Port Authority' header. The form includes fields for Registration No (with a search function), Registration Date (List of Value), Shipping Agent, Vessel Name (List of Value), Vessel Flag, Vessel Type, Master Name, Arrival Date, Port Limit, Anchorage Area, GRT, NRT, Deck Cargo, Last Port, Next Port, Port Limit Crossing Time, Draft (with a dropdown menu), and Remarks. There are 'Save' and 'Exit' buttons at the top right, and a 'USER' icon on the right.

Figure 148: Mockup for Vessel Arrival List

Form 02: RCR – Vessel Arrival List



13.7.3 VHF Log Entry

A Web Page

http://www.cpa.gov.bd/VHFLogentry

Chittagong Port Authority
(Radio Control Room)

VHF LOG ENTRY FORM

Date Time

Log ID

From To

Issue

R Operator

Comment

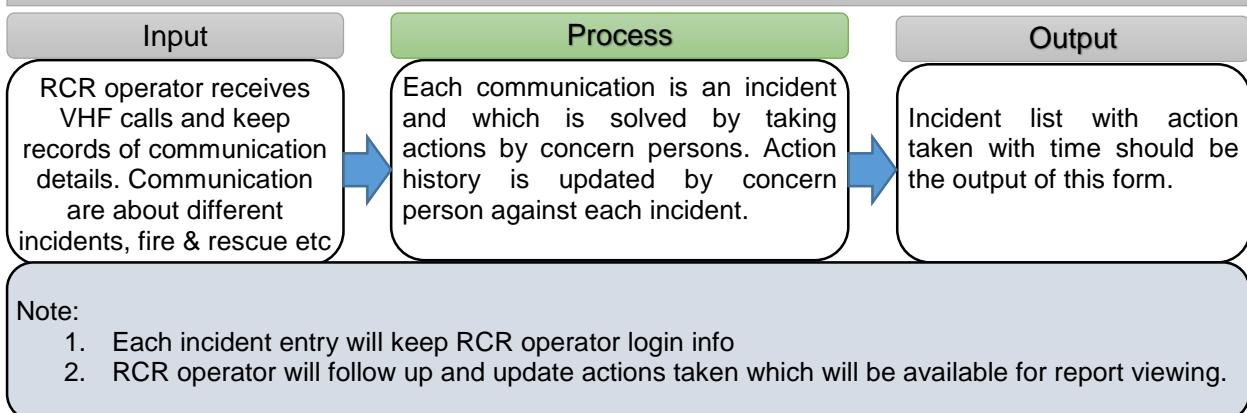
VHF Log/Incident List:

| Incident ID | Incident Category | Location | Shipname | Incident Description |
|-------------|-------------------|--------------|------------|----------------------------|
| 00001 | Fire | Alpha | MV Augusta | Fire on deck |
| 00002 | theft | Bravo | MV Simon | Crew fall from deck |
| 00003 | Collision | Mooring Area | MV Queen | Collision with Queen Maria |
| | | | | |

Doc Master
 Harbour Master
 Deputy Conserv

Figure 149: Mockup for VHF Log Entry

Form 03: RCR – VHF Log Entry



13.7.4 Incident Information

A Web Page

http://www.cpa.gov.bd/anyincident

Chittagong Port Authority
(Radio Control Room)

Incident Action Form

Select Date Range

From Date To Date

| Incident ID | Incident Category | Location | Shipname | Incident Description | Action Taken |
|-------------|-------------------|--------------|------------|----------------------------|---|
| 00001 | Fire | Alpha | MV Augusta | Fire on deck | insertfire ship sent <input type="button" value="Add Action"/> |
| 00002 | theft | Bravo | MV Simon | Crew fall from deck | insertrescue team sent <input type="button" value="Add Action"/> |
| 00003 | Collision | Mooring Area | MV Queen | Collision with Queen Maria | insertinspection team ass <input type="button" value="Add Action"/> |

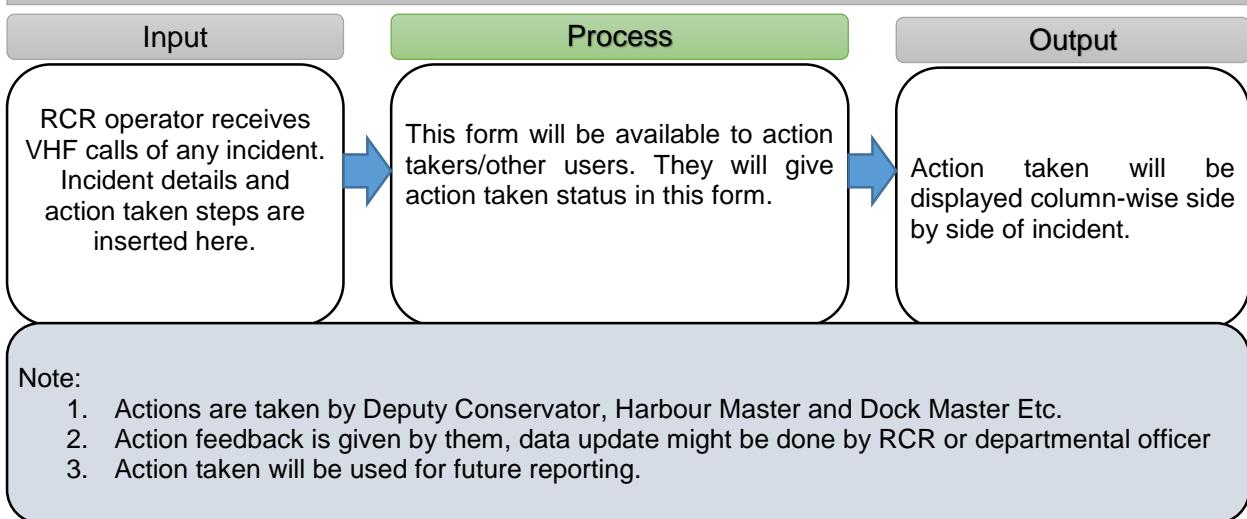
If 'Add Action' button pressed, then below section will appear.

Action Detail:

[insert action detail]

Figure 150: Mockup for Incident Information

Form 02: RCR – Incident entry



13.8 Report Requirements of Marine Department

Below is the list of required reports of Marine Department:

Table 4: Report Requirement of Marine Department

| SL No | Section Name | Report List |
|-------|-----------------------------------|---|
| 1 | Berthing Section | We will integrate with the existing digital berthing software and collect required data to show at dashboard. |
| 2 | Pilotage service | <ul style="list-style-type: none"> • Monthly Inward service report • Monthly Outward service report • Monthly shifting service report |
| 3 | Fresh-water supply | <ul style="list-style-type: none"> • Monthly water-supply to O/A • Monthly water-supply from Dock • Monthly Water-supply vessel-wise report • Fresh-Water Demand List report |
| 4 | Swing Mooring service | <ul style="list-style-type: none"> • Monthly swing-mooring report |
| 5 | License service | <ul style="list-style-type: none"> • Monthly new license issue report • Monthly license renew report • Daily collection report |
| 6 | Craft management | <ul style="list-style-type: none"> • Craft Status Report • Daily/monthly roster report • Daily/monthly fuel demand report • Craft-wise fuel demand report |
| 7 | Radio Control Room (VTMIS) | <ul style="list-style-type: none"> • Daily Fresh arrival report • Daily Container list • Monthly Any incident report • Fresh-water delivery report • Vessels staying in O/A & Kutubdia |

14 Module: Vessel Traffic Management Information System (VTMIS)

VTMIS is a visually monitoring software used by Radio Control Room (RCR). VTMIS is located in RCR room at CPA. RCR operators use this software to visually track movement of vessels at Karnaphuli River and O/A. VTMIS runs stand-alone and used by senior management of CPA to monitor real-time incoming & outgoing vessels of Chittagong Port.

| Software in Use | Covered Area | Remark |
|-----------------|--|--|
| VTMIS | Vessel Monitoring & Tacking | Already LIVE. We will do Integration for reporting. |
| No | Radio Control Room and our proposed system communication process | It will be newly developed in our web-based system |

15 Module: Hydrographic Automation System

Hydrographic department does survey and other related works (dredging & Lease) to ensure smooth movement of the ships within Port Area (2.5 kilo back of Kalurghat bridge to Patenga light-house) of around 29.5 kilometer of river area and 13 kilometer Radius of Sea area from Patenga light-house area. There are nine (9) jorip (survey) boats to do **River side survey & Land side survey**.

Survey Software in use: **HyPac, CARIS GIS, Dredge Pack, Geotide**.

Hydrography department has 6 sections:

- i. River Survey section
- ii. Gauge Reading section
- iii. Data Processing section
- iv. Dredging work section
- v. Survey Vessel section
- vi. Dredger 'Khanak'

Objective: Hydrography department requires online chart/map selling system, where electronic payment option will be available: Below are the forms and process which explains our proposed plan regarding online chart/map selling process.

- The request will be coming through online with user authentication.
- There will be hierarchical approval process in the system.
- If approved, then, customer can make payment online and only then deliverables will be prepared
- Customer will be notified and deliverables will be available online for download.
- Customer will be able to track order process online

| Software in Use | Covered Area | Remark |
|-----------------|---|--|
| No | Survey chart/map selling through online with online payment | It will be newly developed in our web-based system |

15.1 Online Chart/Map selling process

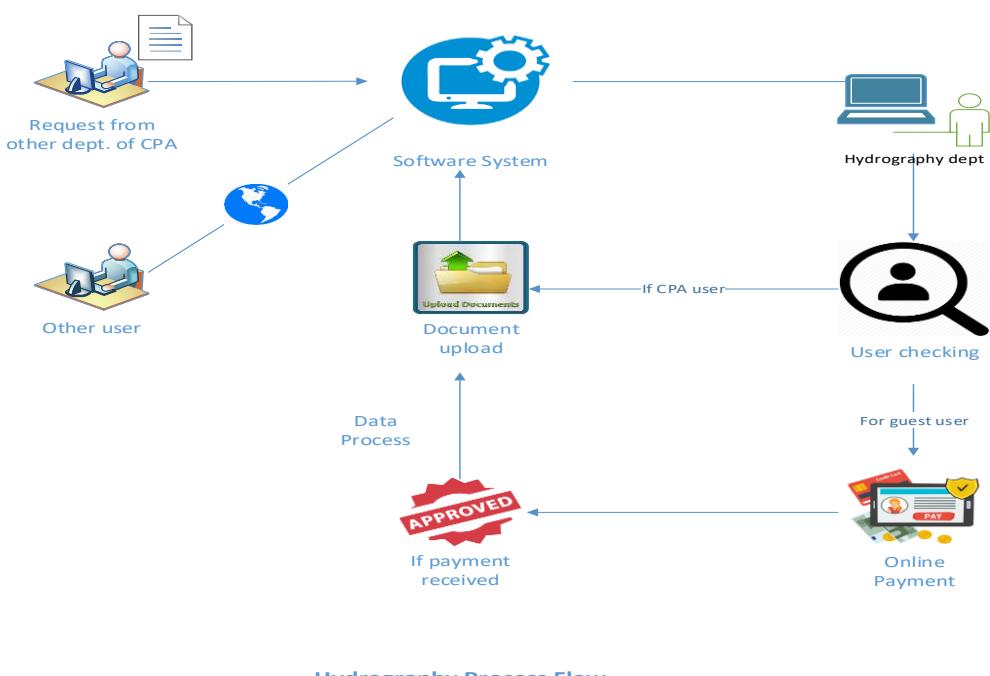


Figure 151: Online Chart/Map Selling Process

15.1.1 Customer Requisition Form

A Web Page

http://www.cpa.gov.bd/productrequest

Chittagong Port Authority

Customer Requisition Form

Date [current date]

Product Request

Order ID [Auto generated order ID]

Select Product Survey Chart

Product Quantity 1

Select Delivery Format PDF

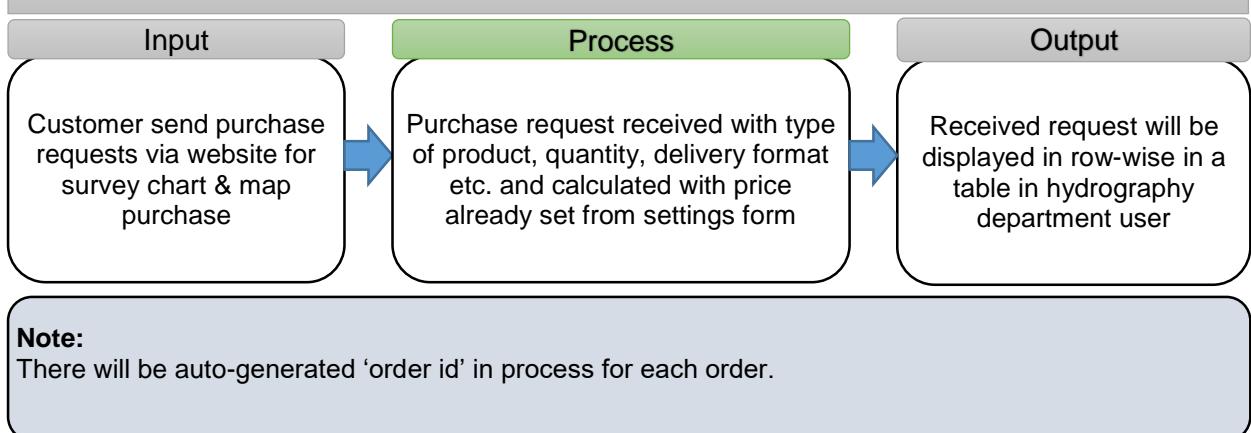
Expected Delivery Date 10-11-19

Detail of Request

Submit

Figure 152: Mockup for Customer Requisition

Form 01: Hydrography – Product Purchase Request



15.1.2 Customer Request Approval 01

A Web Page

http://www.cpa.gov.bd/approval process

Chittagong Port Authority
Customer Request Approval

Date 29-10-2019

Select Date Range

From 10/10/2019 To 10/11/2019

| SL No. | Item Name | Request Entity | Qty. | Unit Price | Price | Approval |
|--------|--------------|----------------|------|------------|--------|---------------|
| 1 | Survey Chart | CCC | 2 | 10,000 | 20,000 | Accept \| Deny |
| 2 | Survey Map | CUET | 2 | 15,000 | 30,000 | Accept \| Deny |
| 3 | Survey Map | BUET | 1 | 50,000 | 50,000 | Accept \| Deny |

If 'Accept' is clicked, then below row will be displayed beside the request.

Approving Authority

Sr. Hydrographer Chief Hydrographer Member Chairman

Done

Figure 153: Mockup for Customer Request Approval

Form 02: Hydrography – Approval process

Input

Process

Output

Received request will be displayed in row-wise in a table in hydrography department user

User can accept/deny the request. If accept, then approval entities will be displayed below. Approved request will be forwarded to the checked user.

Forwarder request is displayed in row-wise with edit/Note column in the Assigned user panel

Note:

1. Approval entities are set in settings form.
2. Forwarded step in approval will follow department hierarchy
3. Department user can accept/deny the request with a feedback note

15.1.3 Customer Request Approval 02

A Web Page

http://www.cpa.gov.bd/Approval02

Chittagong Port Authority
Customer Request Approval

Date 28/10/2019 4:00pm

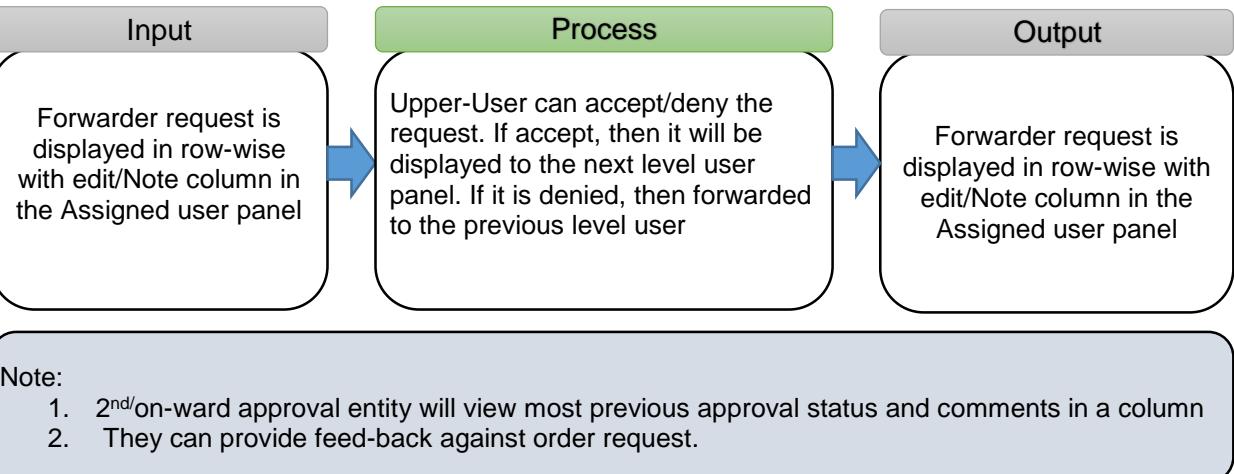
User: Member 02
Dept: Department of Marine

| SL No. | Item Name | Request Entity | Qty. | Unit Price | Price | Previous Approval | *Note | Approval |
|--------|--------------|----------------|------|------------|--------|--------------------|-----------|---------------|
| 1 | Survey Chart | CCC | 2 | 10,000 | 20,000 | Chief Hydrographer | Upto 2018 | Accept \| Deny |
| 2 | Survey Map | CUET | 2 | 15,000 | 30,000 | | | Accept \| Deny |
| 3 | Survey Map | BUET | 1 | 50,000 | 50,000 | | | Accept \| Deny |

Done

Figure 154: Mockup for Request Approval

Form 03: Hydrography – Approval process – Member



15.1.4 Customer Payment

A Web Page

http://www.cpa.gov.bd/payment

Chittagong Port Authority
Customer Payment

Date: 29-10-2019

1. Form Submitted 3. Payment 5. Delivery

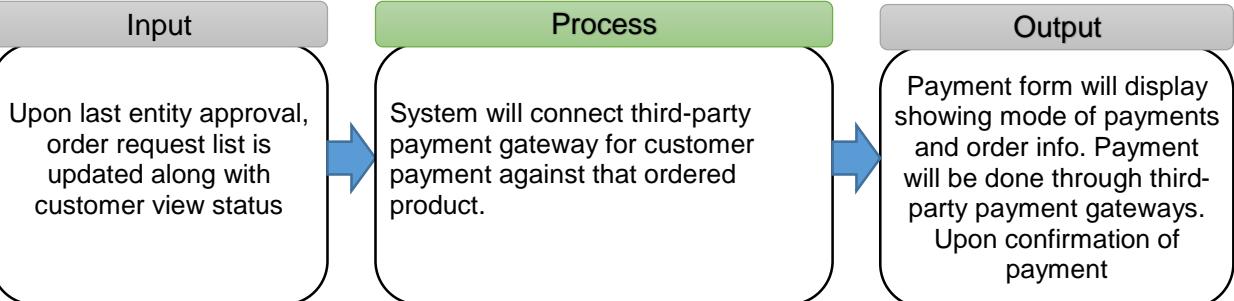
2. Request Approved 4. Data Process

Payment
Order ID: 0000001
Survey Chart
File Size: 9.5 MB
File Type: MS-Excel

Select Options
 Credit Card
 Mobile Banking

Figure 155: Mockup for Customer Payment

Form 04: Hydrography – Payment



Note:

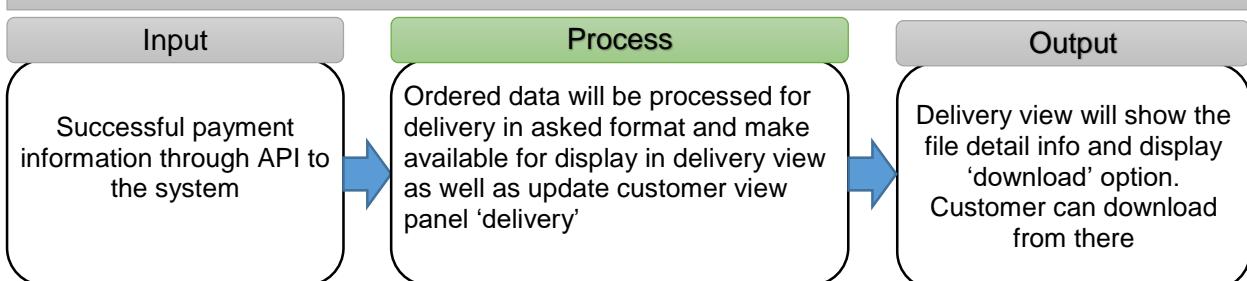
1. There will be third-party payment gateway service provider for online payment
2. CPA will provide bank A/C to collect payment

15.1.5 Customer Product Delivery

The mockup shows a web page for Chittagong Port Authority's Customer Product Delivery. At the top, there is a navigation bar with back, forward, and search buttons, and a URL bar showing <http://www.cpa.gov.bd/productdelivery>. Below the navigation is the Chittagong Port Authority logo and the text 'Customer Product Delivery'. A date selector shows '29-10-2019'. A horizontal timeline with five green circular markers represents the process: 1. Form Submitted, 2. Request Approved, 3. Payment, 4. Data Process, and 5. Delivery. Below the timeline is a box titled 'Survey Chart' with 'Order ID: 0000001'. It shows 'File Size: 9.5 MB' and 'File Type: MS-Excel', and a 'Download' button.

Figure 156: Mockup for Product Delivery

Form 05: Hydrography – Delivery



Note:

Customer will be able to download directly from this panel. Download option will be available for a certain period (maybe)

15.1.6 Report Requirements of Hydrography Department

Below is the list of required reports from Hydrography Department:

Table 5: Report Requirement of Hydrography Department

| SL No | Section Name | Report List |
|-------|------------------------|--|
| 1 | Hydrography Department | <ul style="list-style-type: none"> - Monthly/yearly Chart or Survey data sale report - Customer-wise Chart or Survey data sale report - Pending Delivery Report (till date) |