

Personnel Document Management System

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in
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Approval Certificate

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Abstract

Main target of this project is to create platform unbiased internet application to manipulate and distribute digital documents using web browser. The mission solution that aims to store, track, and index all the electronic and paper documents and store them electronically in the form of records. The system controls the processes for capturing and maintaining evidence and information about personnel management of any organization through supplying a green and systematic control of statistics for the duration of the facts lifecycle, from introduction, share preserve and eventually disposal.

Authorize User are allowed to access specific files, do searching, downloading content, upload mins and route the mines to some other consumer/users for further actions for security degree. Every action taken on information by any consumer could be recorded within the gadget audit trail subsystem.

Presently, system acts as a valuable repository for facts where by way of all facts and files are to be had to be accessed by users and can be shared for a not unusual use. A security degree of ICT protection compliance process is needed.

Acknowledgment

I would like to start by expressing my deepest gratitude to the Almighty Allah for giving me the ability and the strength to finish the task successfully within the scheduled time.

This project titled “**Personnel Document Management System**” has been prepared to fulfill the requirement of MSCSE degree. I am very much fortunate that I have received sincere guidance, supervision and co-operation from various persons.

I would like to express my heartiest gratitude to my supervisor, **Dr. Mohammad Nurul Huda**, Professor and MSCSE Coordinator, United International University, for his continuous guidance, encouragement, and patience, and for giving me the opportunity to do this work. His valuable suggestions and strict guidance made it possible to prepare an well-organized project report.

Finally, my deepest gratitude and love to my parents for their support, encouragement, and endless love.

Terminology

PDMS	Personnel Document Management System
EXT	Extension
WAV	Waiver
DOC	Document
APV	Approve
REJ	Reject
REQ	Request
MAP	Mapping

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Chapter 1

Introduction

A. Objective

Personnel document manage is the practice of preserving statistics which encompass classifying, storing, securing and destruction or archival protection, which protects fragile ancient records and assures everlasting records are available and readable for years into the destiny. The main objective is to reduce physical space and files quicker seek and file archive smoothly and confirm file security.

B. Motivation

This software application is designed and developed for any organization, those wants to save document long term basis. This application can be also used to see document in public, private simultaneously. Automated report for improving performance. While authority will see file any time without knocking the person.

C. Layout

Personnel Document management software has several modules. They are- System Module (User Info, User Rights), Master Setup (Document type setup, Document Setup, Category wise Document Mapping), and Transaction module (Personnel Info, Doc Upload, replace document Publish), Approval Module (Doc Approval, Ext/Waiver Approval and Reporting).

Chapter 2

Literature Overview

2.1 Introduction to Personnel Document Management

Personnel Document Management is a web application system used to track, manage and store documents and reduce paper. An electronic document management provides how to centrally store an oversized volume of digital documents. This system embodies options for economical document retrieval.

2.1.1 Registration

Need to keep Personnel information to well organize of the organizations.

2.1.2 Edit Profile

An organization need to keep his basic information & necessary document updating time to time as per organization policy.

2.2 Existing Problem in Personnel Document Management

In Bangladesh, many organizations operating manually so that they are must devote a large portion of their office area or lease a separate space dedicated for physical file storage. The more staff and files are spread out across locations, the greater the obstacles to access.

2.3 Proposed Solution

To run the organization smoothly need to design and development a software system to save & archive document digitally. For this I propose personnel document management system to solve this problem.

2.3.1 System Module Feature

- a. User Profile: The user name, address, basic information etc.
- b. User Rights: The specific rights of users.

2.3.2 Master Setup

- a. Document Type Setup: Type of the document name setup.
- b. Document Setup: All Document Name Setup here
- c. Category Wise Document Mapping: Setup organization policy wise basic Document.

2.3.3 Transaction Module

- a. Personnel Info: All Type of the personnel info setup here.
- b. Document Upload: Any type of document file format can Captured.
- c. Document Replace: Authorize user can replace documents.
Previous document is deleted but system will archive previous Documents automatically and preserved replacing history.
- d. Extension/Waiver Request: Inadequacy or limitations for submit document person can get extension/waiver for those documents.

2.3.4 Approval Document Module:

- a. Document Authorization: Authorized user will check captured doc and must be authorized. He also rejects invalid doc.
- b. Extension/Waiver Approval: Authorized user will approve extension/waiver request.

Chapter 3

Requirement Specification

3.1 Use case Model

A use-case model is a model which specifies how different types of users interact with the system. It describes the destinations of the users, the interactions between the users and the system, and the required behavior of the system to satisfying operation.

Actor and Use case are basic element

Subject and use case package are advance model elements

Actor

Actor represents a model element.

Properties include actors name and description.

Use Case

A model element represents each *use case*.

Associations

Associations describe the relationships between actors and the use cases

Subject

A model element represents the boundary of the system of interest.

Use-Case Package

A model element used to structure the use case model to simplify analysis, planning, navigation and communications.

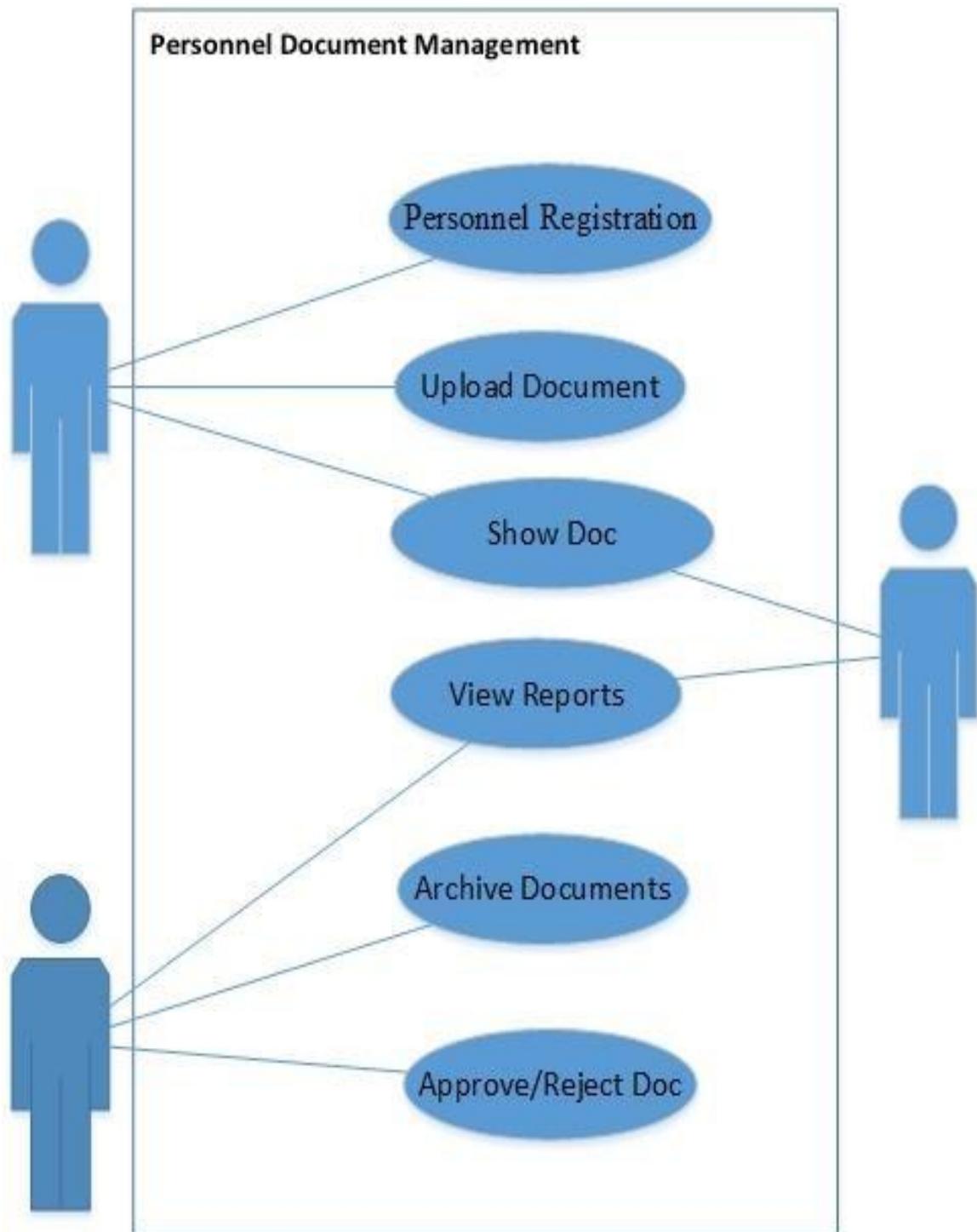


Figure 3.1: Use Case Diagram

3.2 Use Case details

Use case name : **Authorize Maker/checker User**
Precondition : Login
Actor : System User
Primary path : Key in login Id, password, Click on Login
Exceptional path : Invalid login Id or password:
Notes : Created on 20 Feb, 2018

Use case name : **Add Personnel**
Precondition : Authorize Maker User
Actor : Only Authorize Maker user Can add
Primary path : Authorize Maker user
Exceptional path : Input details of a personnel, press save
Notes : Created on 20 Feb, 2018

Use case name : **Upload Document**
Precondition : Only listed personnel
Actor : Authorize Maker User
Primary path : Capture all required document then press Save.
Exceptional path : If document unavailable to submit then create
Notes : Created on 20 Feb, 2018

Use case name : **Select Specific Document**
Precondition :Login
Actor :Authorize Maker user
Primary path :Personnel type wise select document
Exceptional path :Only Exceptional personnel
Notes :Created on 20 Feb, 2018

Use case name :**Publish Document**
Precondition :Login
Actor :Authorize Maker User
Primary path :Publish Private doc
Exceptional path Only Authorize checker user
Notes :Created on 20 Feb, 2018

Use case name : **Extension/Waiver Request**
Precondition : Login
Actor :Authorize Maker User
Primary path :Unavail doc ext/wav req
Exceptional path :Only applicable for unavailing doc
Notes :Created on 20 Feb, 2018

Use case name : **Authorize/Reject Document**
Precondition : Login
Actor : Authorize Checker User
Primary path : Select Personnel, view doc then approve/reject button and save.
Exceptional path : Only applicable for submit doc
Notes : Created on 20 Feb, 2018

Use case name : **Approve/Reject Extension/waiver req.**
Precondition : Login
Actor : Authorize Checker User
Primary path : Select Personnel, set request criteria then approve/reject button and save.
Exceptional path : Invalid request.
Notes : Created on 20 Feb, 2018

Use case name : **Send Msg for Invalid or Expired Doc.**
Precondition : Login
Actor : Authorize Checker User
Primary path : Select Personnel ,document , Invalid/Expired Flag Press on Save.
Exceptional path : Invalid req.
Notes : Created on 20 Feb, 2018

Use case name :**Send Mail For Invalid or Expired Doc.**
Precondition :Login
Actor :Authorize Checker User
Primary path : Select Personnel, Select document, Select Invalid/Expired Flag then Save.
Exceptional path : Invalid request.
Notes :Created on 20 Feb, 2018

Use case name :**Replace Document**
Precondition :Login
Actor :Authorize Maker User
Primary path : Select Personnel, Select document, Invalid/Expired Flag define then add new doc file and Save.
Exceptional path : Invalid request.
Notes :Created on 20 Feb, 2018

3. **Summary**

Use case model and details on of use case model square measure vital for package style life cycle. External tester can test all features of the software.

Chapter 4

Design

4.1 Design of Data Model

- *Data modeling* is the method of documenting simply understood diagram. Data model diagram is a blueprint for application.
- Physical, logical, conceptual and enterprise are the basic types of data modeling.
- Data modeling is also used as a technique for gathering business requirements for specific databases. It is also called *database modeling* because it is eventually implemented in a database.

4.1.1 Business Flow Chart

Business Flowcharts is a visual representations of the flow of data,

Definition

Business flowchart graphically represents the sequence of operations or step-by-step progression business model, using connecting lines and conventional symbols.

Function

Flowcharts determine the key points of program model.

Types

Three types of flowcharts: high-level, detailed and matrix. *High-level* gives birds-eye view of the key points, *detailed* and *matrix* flowcharts break down the processes and give more key points.

Uses

High-level flowchart need only for key points. If it needs more information then use *Detailed* or *Matrix* Flowchart.

Shapes

Flowchart use different shape like-boxes, circles, diamonds and triangles. Each shape represents a certain action.

Business Flow charts of Personnel Document Management system

Business Flow charts are used to depict the flow of business process.

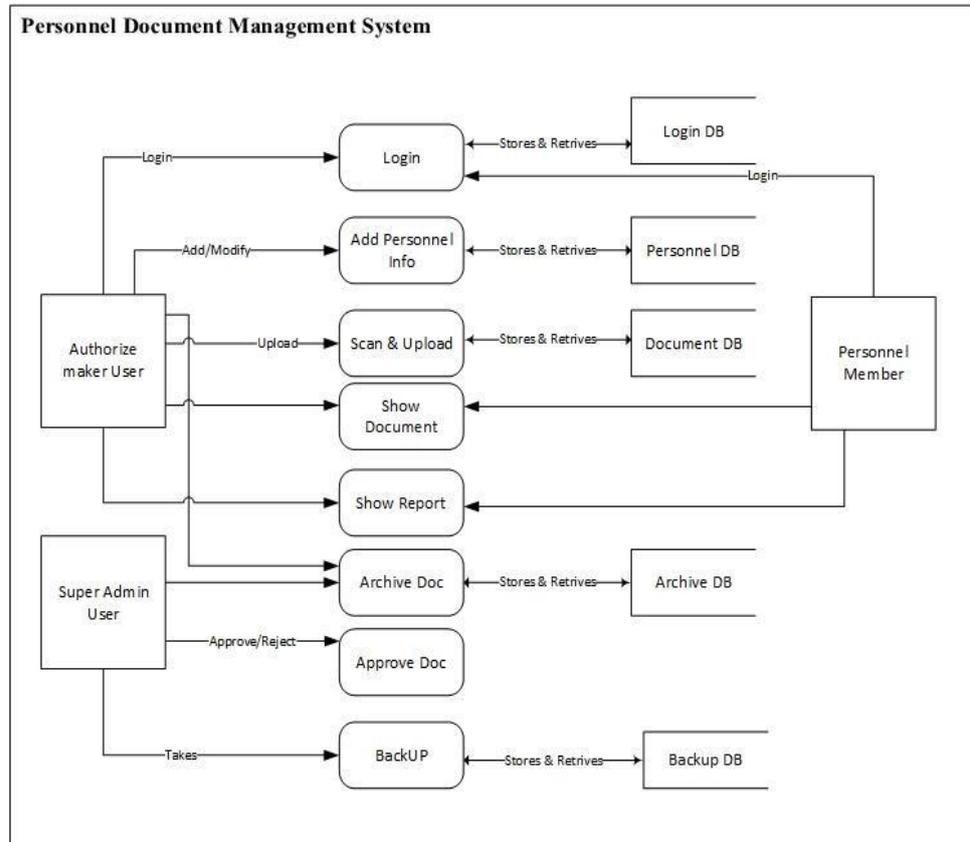


Figure 4.1: Business Flow Diagram

4.2 GUI Design and Reports

User interface is a design of software applications which focus on the user's experience and interaction.

4.2.1 Processes

There are several processes in the user interface design: -

- Functionality requirements gathering -list of the functionality required by the system to complete the goals of the applications and the needs of The users.
- User analysis – analysis of the potential users of the System either through discussion with people who work with the users

4.3 Requirements

The process to collect software requirements from client, analyze and document them is known as requirement engineering.

4.4.1 Details for Personnel Document Management System

Used Major Functionality described below:

4.4.1.1 Main menu: Menu is generated automatically based on user's role rights.

4.4.1.2 User rights: Functionality wise User rights given here. Rights will generate based on user's role. This activity will be accessible only by the Administrator user of the system. Administrator user can add or remove any rights for any specific user.

4.4.1.3 Personnel type master: All type of personnel listed here like client, customer, student, teacher and employee.

4.4.1.4 Document Type master: Documents are classified in different type like general, security, Guarantee, Lien, insurance paper, A/c info, dps paper etc. All type name listed here. User can also add or modify any type for company need.

4.4.1.5 Document master: All documents Name based on doc type stored in this table.

4.4.1.6 Map document for personnel: Personnel type wise document listed here. All document not applicable for all personnel .so for this mandatory and optional document which r different for specific personnel listed here.

4.4.1.7 Personnel master: All Personnel information is stored in this table. Personnel code is total of 6 digits; 2 digit of type code and 4 digit of serial no.

4.4.1.8 Document Record: All documents image like pdf, jpg, jpeg format stored in this table.

4.4.1.9 Document Record Archive: When documents release or replace or delete this software not deleted that document permanently. It archives this document and stored in this table.

4.4.1.10 Extension Request: Inadequacy of document personnel can request for extension for later submit.

4.4.1.11 Waiver Request: Unavailability of document personnel can request for waiver.

4.4.1.12 Document Replace: If document is expired or document file is corrupted then user replaces it adding new document file.

4.4.1.13 Authorization of Documents: Authorized user will check captured documents and must be authorized. Invalid documents can be marked for Rejected by authorized user.

4.4.1.14 Authorization of Extension Request: Authorized user will approve extension request. Invalid request can be marked for Rejected by authorized user.

4.4.1.15 Authorization of Waiver Request: Authorized user will approve waiver request. Invalid request can be marked for Rejected by authorized user.

4.4.1.16 Special Permission Document: Authorized checker user will give special permission to specific user to view selected document file.

4.4.1.17 Publish Document: Authorized checker user will publish specific document file to view all user if company need criteria.

4.4.1.18 Automatic Document Expiry Message: According to system master setup system will send SMS automatically to required users/ personnel up to the maximum time according to setup of message sending frequency

4.4.1.19 Automatic Document Expiry Mail: According to system master setup system will send Mail automatically to required users/ personnel up to the maximum time according to setup of message sending frequency

4.5 Summary

This chapter describes detail design of the application. The design of the data model, Business flowcharts of different procedure, GUI design of the system with reports and database design are described in this chapter.

Chapter 5

Implementation and Testing

5.1 Implementation Overview:

To make fast, secure and robust, latest and modern methodology and technology is used to implement the

“Personnel Document Management System”. The technology which is used to implement, makes this project user friendly, reliable and standard centralized web based system.

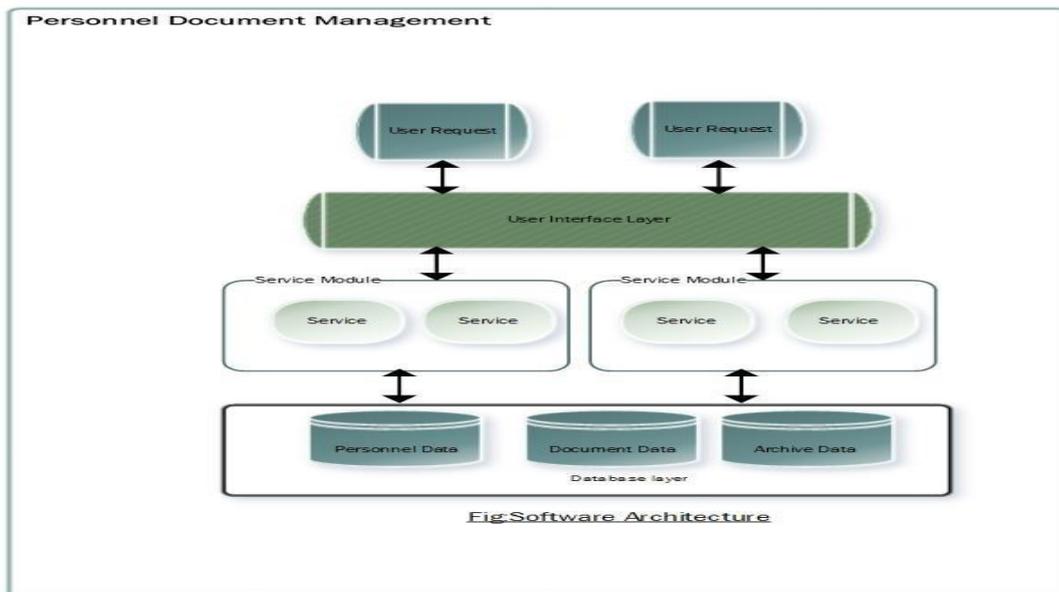


Figure 5.1: Architecture

Three tire architecture:

Client: Oracle Apex.

Application Server: Oracle Apex Listener

Database: More Secure Oracle Database 12c

5.1.2 Methodology

RDBMS: To ensure, maximum database connection performance for load balancing and increasing performance, oracle RDMBS is used in this project.

5.1.3 Technology

Microsoft Visio 2013: To design use case diagram and Flow chart.

Oracle Database 12c:_To make the application simple and light weighted, I have used Oracle database 12c.

Oracle Apex 5.1.4: I have used oracle apex to make the software with all versions of windows and Linux. This is web based so easily access software only for url calling.

Java iReport: I have used Java iReport to design and calling reports smoothly.

System Module

Login screen with user name and password at system & setting module. A valid User id and password required to system login.

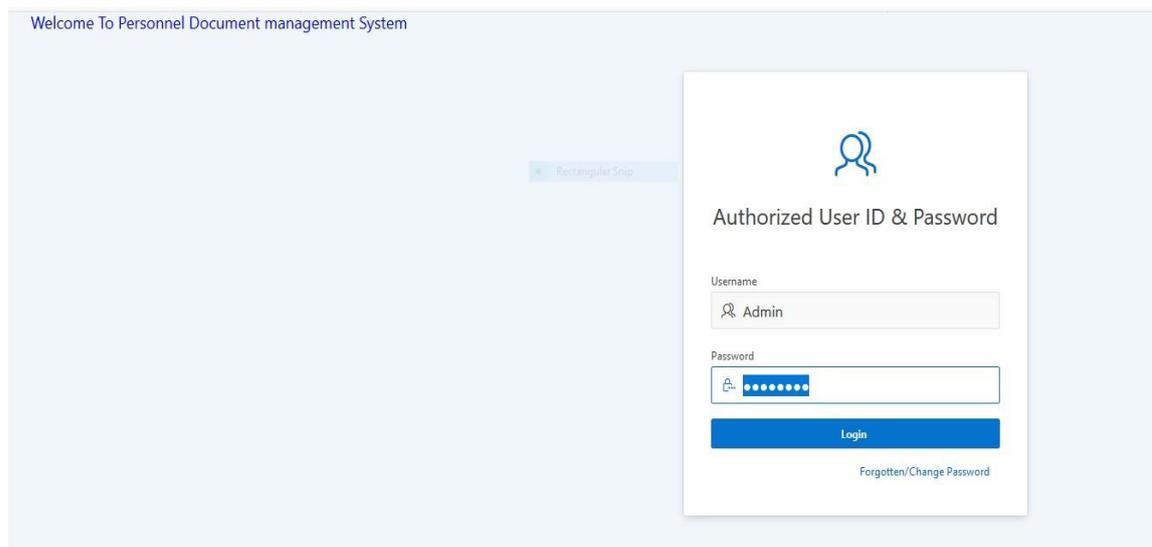


Figure 5.2: Login Screen

Menu Master

User Rights wise menu display from the following screen. This menu generated automatically based on user role. Supervisor user can be checker user.

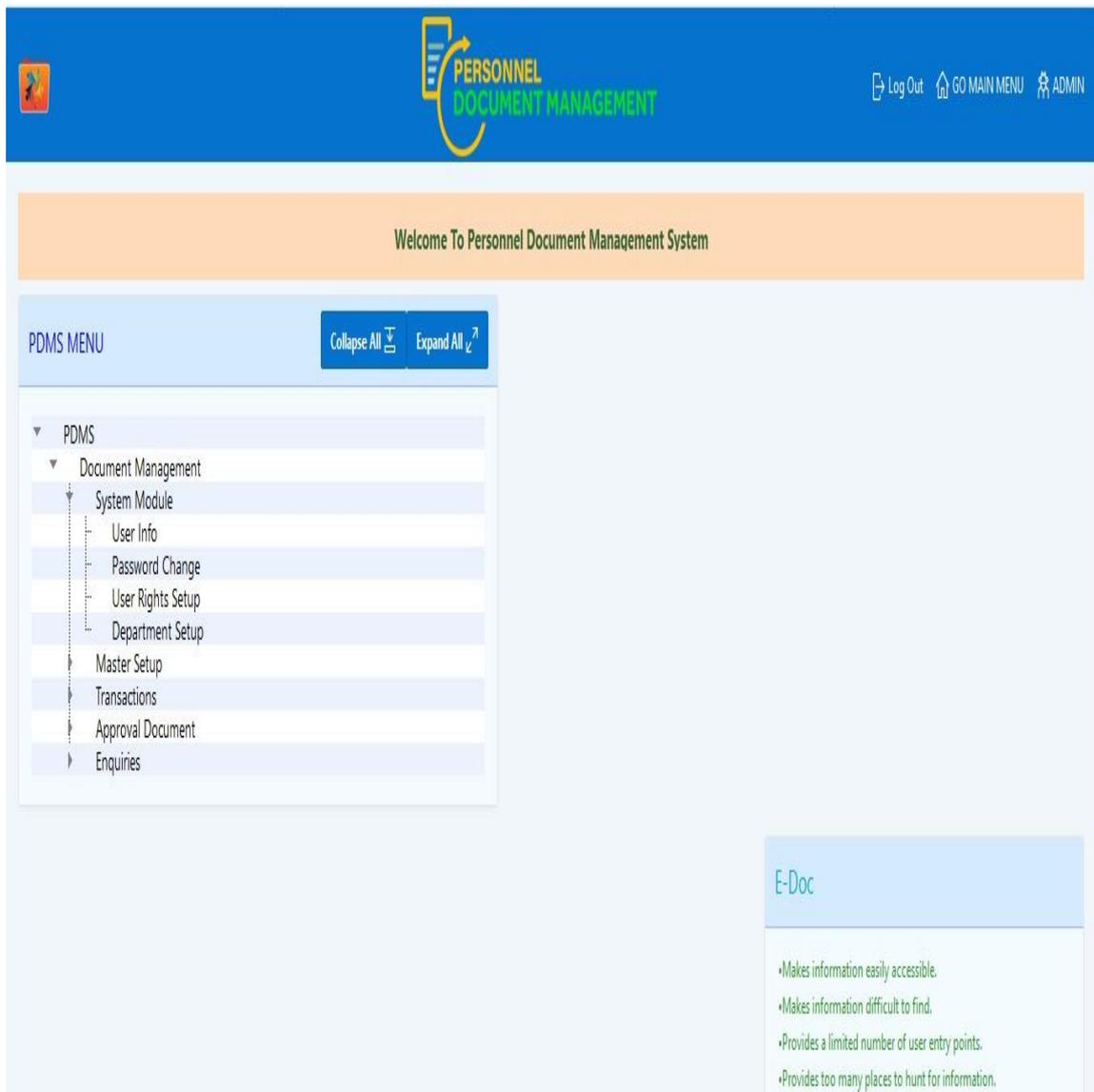


Figure 5.3: Menu Screen

User Info Screen:

User Name & group add here .This screen define maker and checker user.

PERSONNEL DOCUMENT MANAGEMENT

Log Out GO MAIN MENU ADMIN

USER MASTER

User ID: 000077

User Name: Tanjina Jahan

User Password: []

* User Mail Id: tanjina@era.com.bd

Mobile No: 01716504936

Department Code: Human Resource

User Group Code: Checker

Account Status: ACTIVE

Cancel Delete Apply Changes

Figure 5.4:User Master Screen

User Rights Screen: User Rights Setup here which menu access user individually. Admin user can add or modify any rights based on user role.

PERSONNEL DOCUMENT MANAGEMENT

Log Out GO MAIN MENU ADMIN

User Rights Setup

Search: All Text Columns Go Actions Edit Save Add Row Reset

	User ID	Program Name	Active Status	Enquiry	Add	Update	Delete	Start Time
<input checked="" type="checkbox"/>	Mr. Amir Hossain	Document Upload/Ca...	ACTIVE	YES	YES	YES	YES	0
<input type="checkbox"/>	Rupam Jahan	Document Upload/Ca...	ACTIVE	YES	YES	YES	YES	0
<input type="checkbox"/>	Mr. Serajul Islam	Document Authorizat...	ACTIVE	YES	YES	YES	YES	0
<input type="checkbox"/>	Tanjina Jahan	Document Authorizat...	ACTIVE	YES	YES	YES	YES	0

1 rows selected Total 4

release 1.0 Set Screen Reader Mode On

Figure 5.5:User Rights Screen

Department Setup:

All Department Name Setup here exist in organization.

PERSONNEL DOCUMENT MANAGEMENT

Log Out GO MAIN MENU ADMIN

Department Setup

Search: All Text Columns Go Actions Edit Save Add Row Reset

<input type="checkbox"/>	Department Code	Department Name
<input checked="" type="checkbox"/>	IT	Information Technology
<input type="checkbox"/>	MKT	Marketing
<input type="checkbox"/>	HR	Human Resource
<input type="checkbox"/>	OTH	Other

1 rows selected Total 4

release 1.0 Set Screen Reader Mode On

Figure 5.6:Department Setup Screen

Personnel Type Setup:

All type of personnel setup like Employee, customer here.

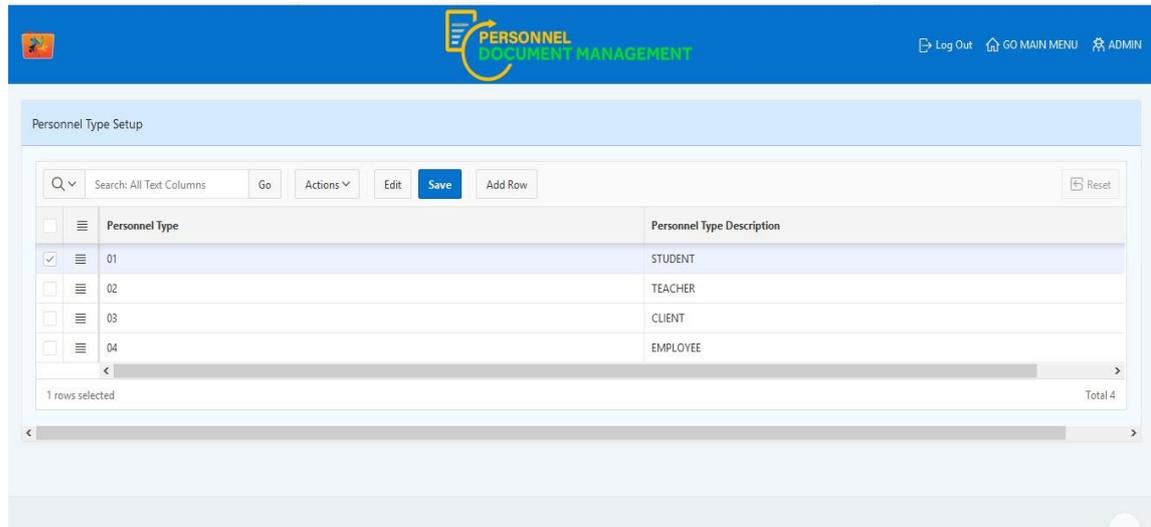


Figure 5.7:Personnel Type Setup

Document Type Setup: All Type of Document Name which are collected by personnel Setup Here like national ID, employee ID, passport(optional).

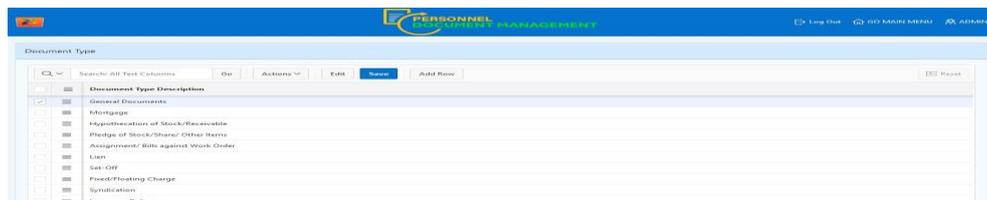


Figure 5.8:Document Type Setup

Document Setup: All Document name setup here which was required to collect personnel. Documents can be setup for mandatory or optional. Codification of required master documents and sub-documents. Having setup for multiple documents allowed or not.

	Document Code	Doc Desc	Leaf Flg	Parent Doc Code	Multiple Doc Allow	Doc Type Code	Sec Dtl Info Flg	Valid Date Req Flg	Remarks
<input checked="" type="checkbox"/>	52	Original Lease Deed	YES	ROOT	NO	General Documents	NO	YES	-
<input type="checkbox"/>	06	F.LIEN	NO	ROOT	YES	General Documents	NO	NO	-
<input type="checkbox"/>	08	H.FIXED/FLOATING C...	NO	ROOT	YES	General Documents	NO	NO	-
<input type="checkbox"/>	10	J.INSURANCE POLICY	NO	ROOT	YES	General Documents	NO	NO	-
<input type="checkbox"/>	11	L.Undertaking	NO	ROOT	YES	General Documents	NO	NO	-
<input type="checkbox"/>	12	M.GUARANTEEE	NO	ROOT	YES	General Documents	NO	NO	-
<input type="checkbox"/>	78	Re-Confirmation of Li...	YES	ROOT	NO	General Documents	NO	NO	-
<input type="checkbox"/>	79	Surrender From duly s...	YES	ROOT	NO	General Documents	NO	NO	-
<input type="checkbox"/>	80	WEDB claim for intere...	YES	ROOT	NO	General Documents	NO	NO	-
<input type="checkbox"/>	82	Deed of hypothecatio...	YES	ROOT	NO	General Documents	NO	NO	-

Figure 5.9: Document Setup

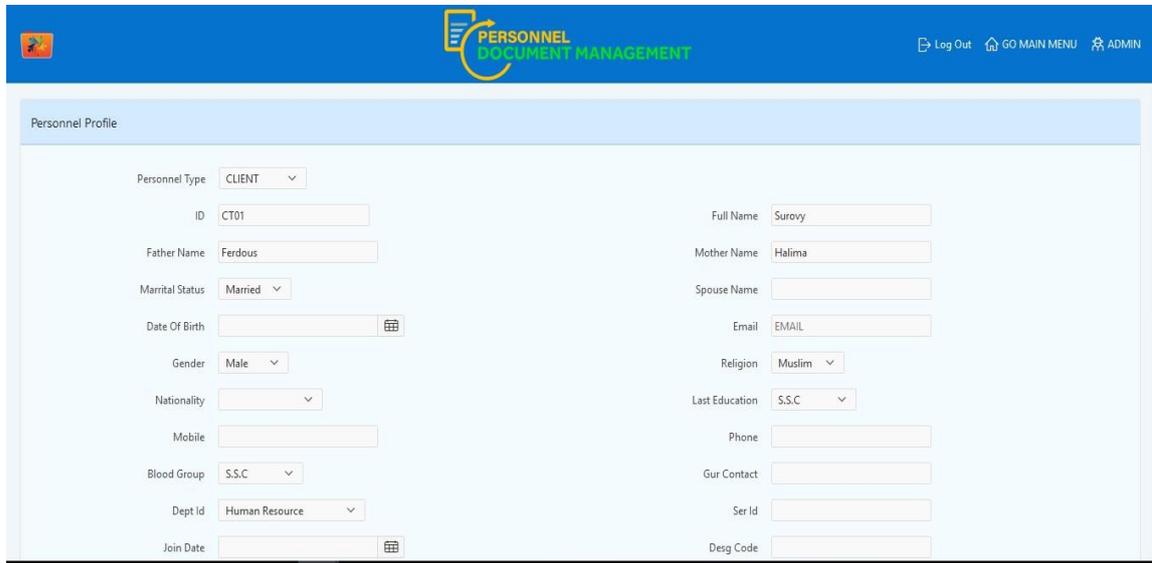
Category wise Doc Map: All types of documents may not require for all type of Personnel so Personnel Type wise Required Document Code Entry here.

	Document Code	Personnel Type	Max Submission Day	Mandatory Flg	Remarks
<input checked="" type="checkbox"/>	National ID	CLIENT	10	YES	-
<input type="checkbox"/>	National ID	EMPLOYEE	10	YES	-
<input type="checkbox"/>	National ID	STUDENT	10	YES	-
<input type="checkbox"/>	National ID	TEACHER	10	YES	-
<input type="checkbox"/>	Passport	STUDENT	10	YES	-
<input type="checkbox"/>	Passport	TEACHER	10	YES	-
<input type="checkbox"/>	Passport	CLIENT	10	YES	-
<input type="checkbox"/>	Passport	EMPLOYEE	10	YES	-

Figure 5.10: Category wise doc map

Personnel Info:

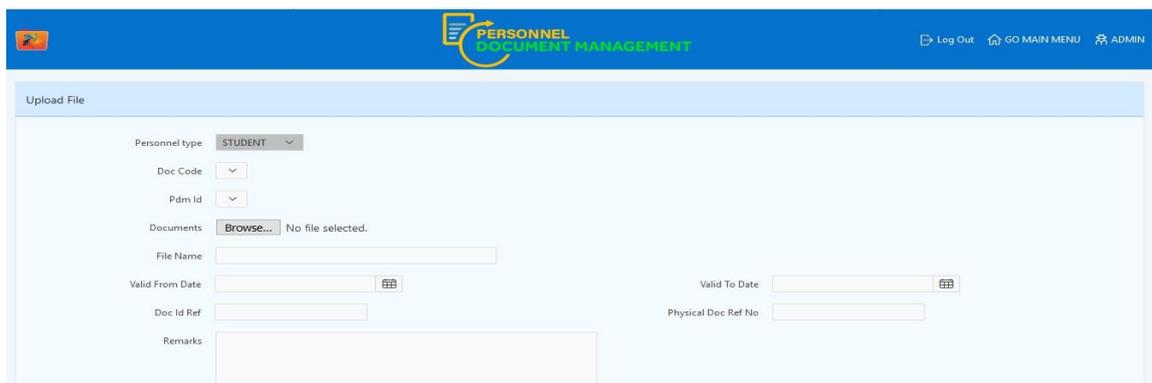
Authorize maker User will use this screen to add or edit any personnel basic information and other information.



The screenshot shows the 'Personnel Profile' form in the 'PERSONNEL DOCUMENT MANAGEMENT' system. The form is divided into two columns of input fields. The left column includes: Personnel Type (CLIENT), ID (CT01), Father Name (Ferdous), Marital Status (Married), Date Of Birth, Gender (Male), Nationality, Mobile, Blood Group (S.S.C), Dept Id (Human Resource), and Join Date. The right column includes: Full Name (Surovy), Mother Name (Halima), Spouse Name, Email (EMAIL), Religion (Muslim), Last Education (S.S.C), Phone, Gur Contact, Ser Id, and Desg Code. The top navigation bar contains 'Log Out', 'GO MAIN MENU', and 'ADMIN'.

Figure 5.11: Personnel Setup

Document Upload: Any type of document file format can be captured. Submitted Documents once captured never be deleted but auto archived into the system.



The screenshot shows the 'Upload File' form in the 'PERSONNEL DOCUMENT MANAGEMENT' system. The form includes: Personnel type (STUDENT), Doc Code, Pdm Id, Documents (Browse... No file selected.), File Name, Valid From Date, Valid To Date, Doc Id Ref, Physical Doc Ref No, and Remarks. The top navigation bar contains 'Log Out', 'GO MAIN MENU', and 'ADMIN'.

Figure 5.12: Document Upload

Document Replace: Only Authorize user can replace captured documents. Replacing of documents doesn't mean that previous document is deleted but system will archive previous documents automatically and preserved replacing history,

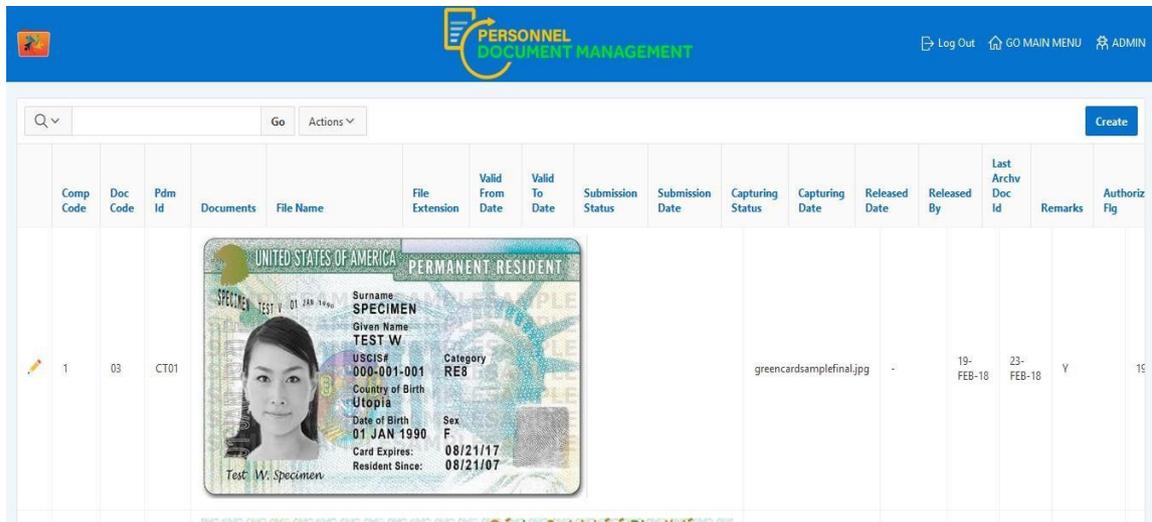


Figure 5.13: Document replace

Extension/Waiver Request: Request for Extension have to be done when capturing or uploading documents. Approval of Extension request from required document selection page



Figure 5.14: Extension Request

Document Selection: Required Documents have to select from a list of predefined documents.

Select Personnel

Personnel ID: Surovy

Select Required Document

Search: All Text Columns

<input checked="" type="checkbox"/>	Required Doc Code	Personnel Id	Mandatory Fig	Multiple Allow	Submit Status	Last Submission
<input checked="" type="checkbox"/>	t1000	t1001				

Figure 5.15: Doc Selection

Special Premised Document: If Document need special permission entry here which Documents has not predefined.

Special Permission Info

Pdm Id: Surovy

Doc Code:

Doc Id:

Special Fig: YES

Sp Reason: Immediate replace Document

Figure 5.16: Special Permission Document

Publish Document:

Checker User wants then publish specific document public to view other authorize user.

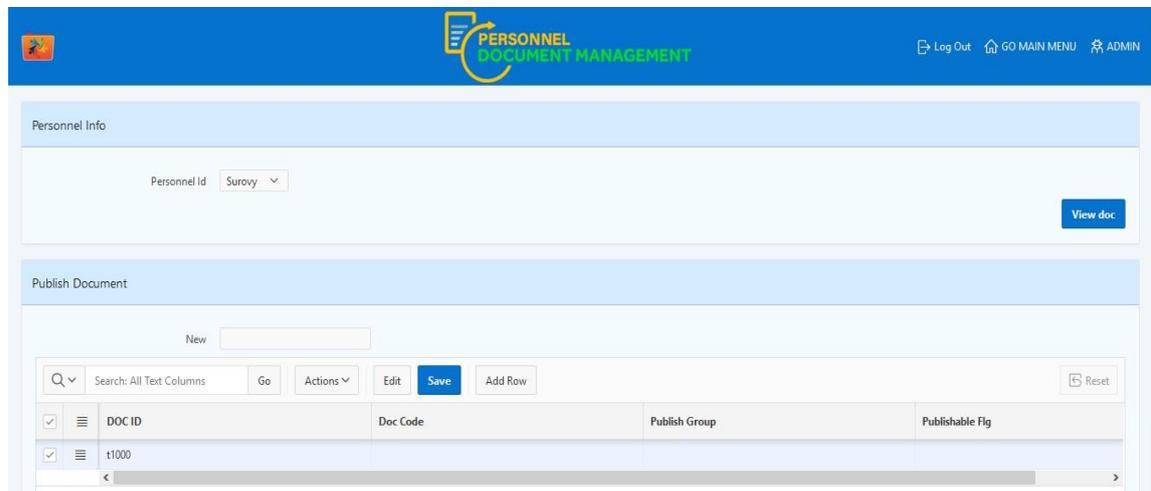


Figure 5.17: Publish Document

User Dashboard: User at a glance see different menu option and accessing easily.

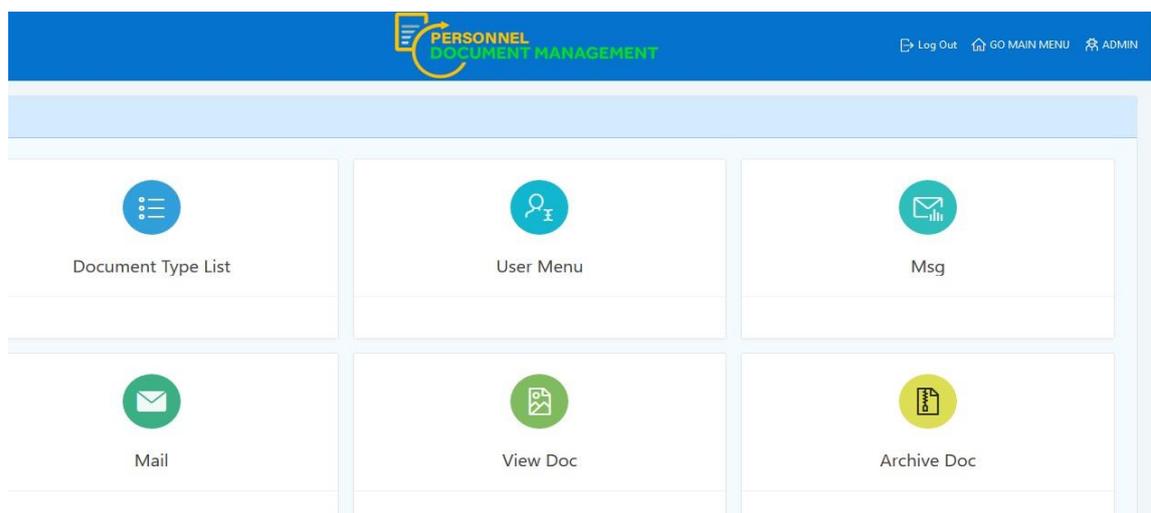


Figure 5.18: User Dashboard

Authorize Document:

Checker User approve or reject document here.If user approve or reject send notification to personnel.

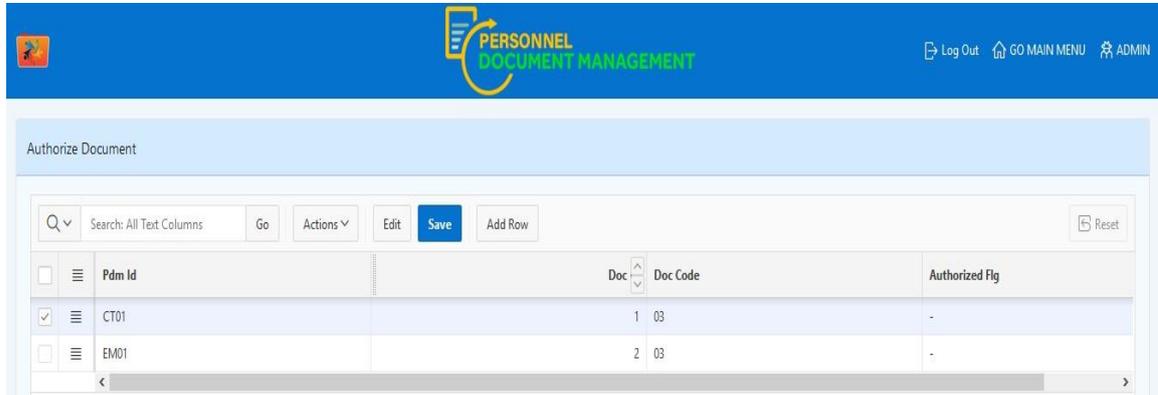


Figure 5.19: Authorize Document

Extension/Waiver Approval:

All Extension/Waiver Request Approve this screen

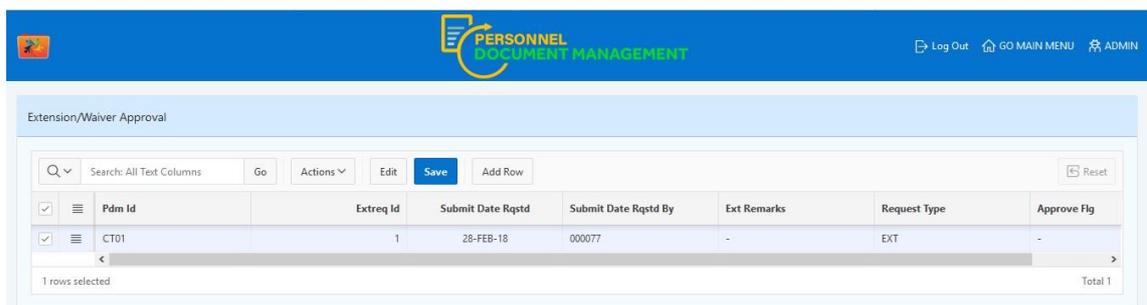


Figure 5.20: Approve Extension Request

Send Mail/Message: According to system master setup system will send mail &/or SMS automatically to required personnel up to the maximum time according to setup of message sending frequency.



The screenshot shows the 'Send Mail' interface. At the top, there is a blue header with the 'PERSONNEL DOCUMENT MANAGEMENT' logo and navigation links: 'Log Out', 'GO MAIN MENU', and 'ADMIN'. Below the header, the page title is 'Send Mail'. The form contains the following fields:

- Personnel ID: A dropdown menu showing 'Surovy Rahman'.
- Mail subject: A text input field containing 'Invalid Doc'.
- Mail body: A text area containing 'Replace Invalid Doc'.

A blue 'Send' button with a right-pointing arrow is located at the bottom right of the form.

Figure 5.21:Send Mail Screen

Enquiries:

Different Type Report Show Enquiries module. Like

- Required Documents List
- Documents Inadequacy List
- List of Documents Released/Replace
- Documents Validity Expiry Reports
- Documents Archiving History Reports

5.2 Software Testing

Software testing is the process of finding error/s in application so that application functions according to the client's requirement. Software testing is two types - *Functional* and *Non-functional*.

5.2.1 Testing methods

Static vs. dynamic testing: *Static Testing* is type of testing in which the code is not executed. It can be done manually or set of tools. This type of testing performs using work document. *Dynamic testing* is done is in operation mode performed runtime environment.

5.2.2 The box approach

Three Methods use of software Testing-Black box, white box and grey box testing which are describe below: -

- **White-Box testing:** White-box testing tests internal structures or workings of a program.

- **Black-box testing** Examining functionality without any knowledge of internal implementation.

- **Grey-box testing:** Test the application with having a limited knowledge of the internal workings of an application.

5.3 Summary

To test the module of the application, we have test all screen as visual test, and functional accuracy. We found all process is working fine and all screen can handle any exceptional data.

Chapter 6

Conclusion and Future Work

6.1 Conclusion

The Personnel Document Management system is organization file management system solution. You can operate your organization with digital solution and smoothly then you can use this solution.

Lastly I would like to say using “Personnel Document Management System” software it is very helpful to maintain the personnel information and their all document access smoothly. As a result, organization easily understood how much money they loss when using hard copy documents and this solution save money, time and also file might be secured here.

6.2 Contribution

- Making the system standalone and user friendly.
- Modifying and/or rejecting any unauthorized document.

6.3 Future Work

Following may be added to **Personnel Document Management System** in future:

- Optical Character Recognition (OCR).
- Intelligent Character Recognition.
- Barcode reader.
- Automated Forms Processing.

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