Secured Document System

A PROJECT REPORT

Submitted by

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180540107045

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING
in
Computer Engineering
Darshan Institute of Engineering and Technology - Rajkot

Gujarat Technological University, Ahmedabad

April, 2022

Darshan Institute of Engineering and Technology

At hadala, Rajkot – Morbi highway, Gujarat, India

CERTIFICATE

This is to certify that the project report submitted along with the project **Secured Document System** entitled has been carried out by **Mr. Dipamkumar Udaykumar Donga** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2021-22.

Mr. Jadeja Pradyumansinh Udaysinh
Internal Guide

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Head of the Department

Darshan Institute of Engineering and Technology

At hadala, Rajkot – Morbi highway, Gujarat, India

DECLARATION

We hereby declare that the Project report submitted along with the project entitled **Secured Document System** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Computer Engineering** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at **Darshan Institute of Engineering and Technology, Rajkot** under the supervision of **Prof. Jadeja Pradyumansinh** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference

Name of the Student — Sign of Student

Dipamkumar Udaykumar Donga

ACKNOWLEDGEMENT

I take this opportunity to express my deepest gratitude and appreciation to all those people who made this project work easier with words of encouragement, motivation and helped me towards the successful completion of this project work.

First, I would like to express my sincere gratitude to my Project Guide and Professor, Department of Computer Engineering, Prof. Pradyumansinh Jadeja, Darshan Institute of Engineering & Technology, At Hadala, Rajkot-Morbi highway, Gujarat for his insightful advice, motivating suggestions, invaluable guidance, help and lots of moral support in successful completion of this Project and for his constant encouragement and advice throughout my B.E. (Computer Engineering) program.

I would like to thank all other teaching staff for their valuable teaching and constant advice which made me to finish this program successfully.

Finally, my deepest gratitude goes to my parents who have given me much needed comfort, support, encouragement and inspiration for completing this project.

Dipamkumar U. Donga (180540107045)

Abstract

Secured Document System *is a platform where user can add their documents as par different category. User can also upload images for their documents. They can add bank, loan, investment, insurance related data in different category.*

There is also an additional feature available where user can store passwords for their websites and applications. All these passwords are stored in encrypted form

There is one more additional session managed so because of that user will automatically logged out form the website and to reuse the website user must first login and then and only than they can be able to access the data.

All the documents of the user are stored securely. There is a encryption added for the data security wherever needed.

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1. Introduction to Project

1.1 Project

Secured Document System is a web-based platform that provides different services i.e. user can upload their documents with all the details and images. There is an additional service available where user can store their passwords for different websites with the URL

1.2 Purpose

The main purpose of the project is to reduce hectic work of managing documents of different categories, this platform will store all the details for different types of documents like loan, investment, insurance, etc. Because of this user can able to access all their documents from the one place. So, our website is basically providing secure platform where all the documents can be stored and managed.

1.3 Objective

The intended audiences for this document are:

- Software Project Managers
- Software Engineers
- Software Developers

1.4 Scope

1.4.1 What it can do

- It provides service for storing and managing documents.
- There is a specific different service available for managing different types of documents
- User can also store bank details.
- There is a service available by which user can manage and store password for different websites and applications.

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1.4.2 What it can’t do

- System cannot apply stored password to the particular websites, user have to manually copy past password from the website.

1.5 Technology and Literature Review

Here I use ASP.NET webforms to develop this website because the main reason of .Net webforms is cross platform support that enables the application to run on Windows, Mac, and Linux OS.

The website is made in asp.net webforms because it is cross platform support that enables the application to run on Windows, Mac and Linux OS. In front-end use bootstrap, jQuery, JavaScript & jQuery data table. jQuery data table is to find & filter the data in table

Main reason Web Forms supports Rich server controls. ASP.NET server control detects the browser and generates appropriate html.

1.6 Project Planning

1.6.1 Project Development Approach and Justification

- Here I used waterfall model approach, initially started with its design, then implementation, verification, and maintenance
- Here we use three tier architecture because it is easy to manage the how system works.

1.6.2 Project Effort and Time, Cost Estimation

- Its designing took 1 month time, then database part took 5 days, its implementation in asp.net webforms took 1 and half month, remaining integration took 5 days to complete.

1.6.3 Roles and Responsibilities

- Here my role was a full stack developer
- Front-end & Back-end was built from the scratch.

1.6.4 Group Dependencies

- It was an individual project.

1.7 Project Scheduling

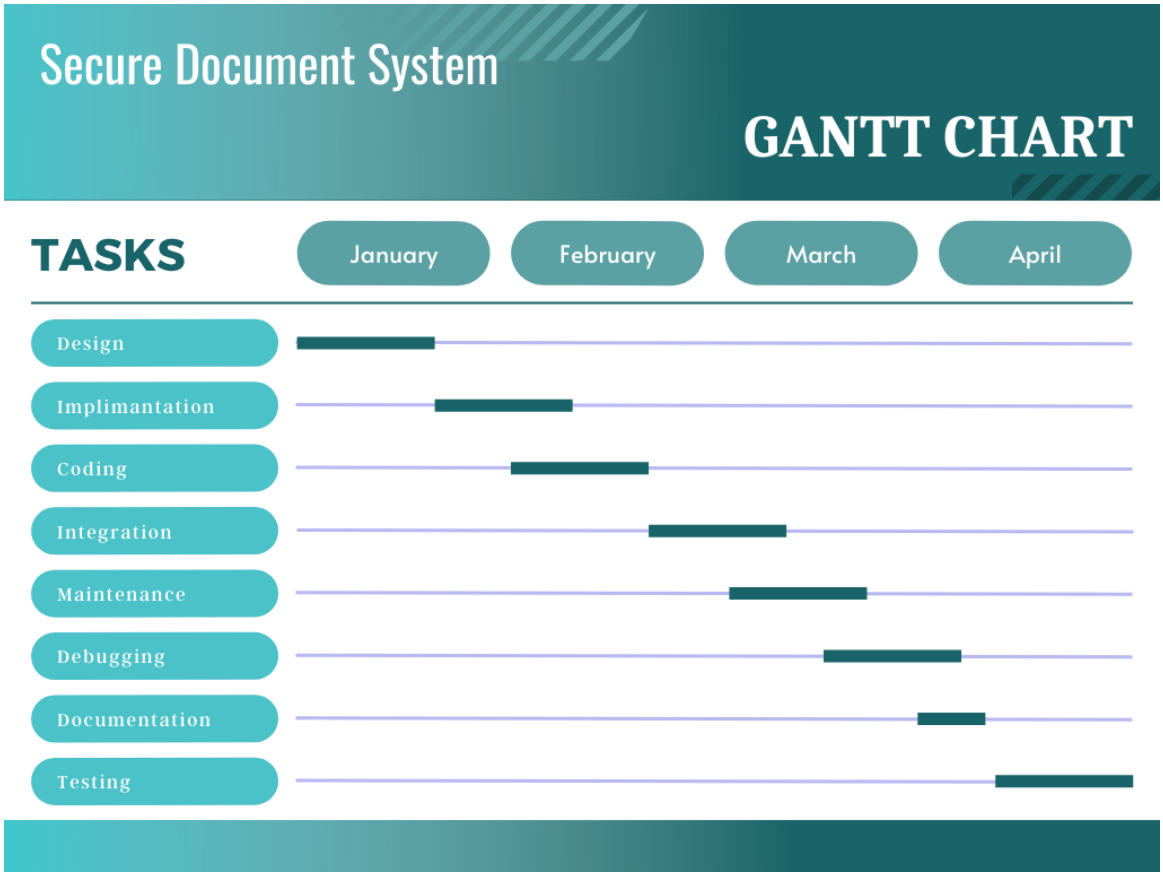


Fig 1.7 Project Scheduling Gantt Chart

2. System Analysis

2.1 Study of Current System

- First thing in the Analysis model is Study of Existing System, which is available. Without Study of Existing system Analysis Model cannot proceed.
- Here current system is manual system. In manual system all the documents were stored in cupboard.
- Then on the basis of different types of documents all the documents were stored in different files
- Whenever user want brief details of their documents like document no. expiry date, etc. Every time they need to find that documents and then they can do further procced.
- By using this service user can add details of all documents, loan details, investment details, bank details, everything they can find from their device using over website so it will save their time and thing can done quickly.

2.2 Problem and Weaknesses of Current System

- Editing and maintenance of data is tedious as well as costlier
- Lack of integration
- To operate manual system requires technical expertise on process detail

2.3 Requirement of New System

The product will be operating in a windows environment for Manager and Assistant Manager. The only requirement to use this product would be the internet connection.

User	Particulars	Client System	Server System
Admin, Customer And Service Provider (Windows Application)	Operating System	Windows	Windows Server
	Processor	Dual core (Minimum)	Pentium 4.0 GHz or higher
	Hard disk	1 GB (Minimum)	1 GB
	RAM	512 MB (Minimum)	8 GB

Table 2.3.1 Requirements Table

2.4 System Feasibility

2.4.1 Does the system contribute to the overall objectives of the organization?

- It can handle medium traffic but system can't handle the large traffic to handle that we need to use API's

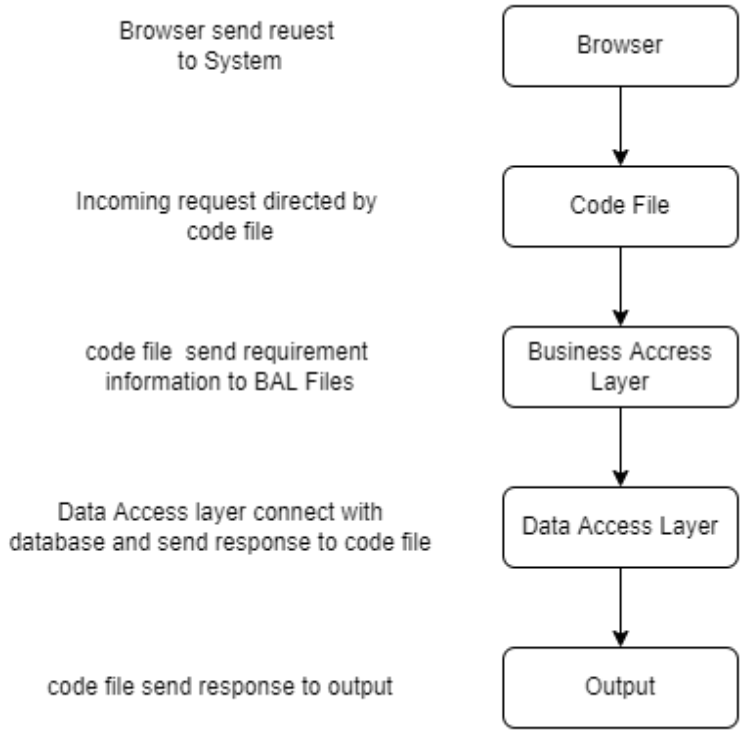
2.4.2 Can the system be implemented using the current technology and within the given cost and schedule constraints

- Yes, system is made in three tier architecture which is good for maintenance

2.4.3 Can the system be integrated with other systems which are already in place?

- Here I used entity framework , so in backend can be anything like MS SQL, Mongo DB.

2.5 Process in New System



(Fig 2.5 Sign up and login process)

- In this browser send request to the business access layer, business access layer send the request to the data access layer & data access layer send the request to the presentation layer.

2.6 Features of New System

The features that are available to the administrator

1. Add User Details
    a. New entries must be entered in database
2. Update User Details
    a. Any changes in articles should be updated in case of update.
3. Delete User Details
    a. Wrong entry must be removed from system
4. Inquiry User Details
    a. Inquiry all current enrolled members to view their details

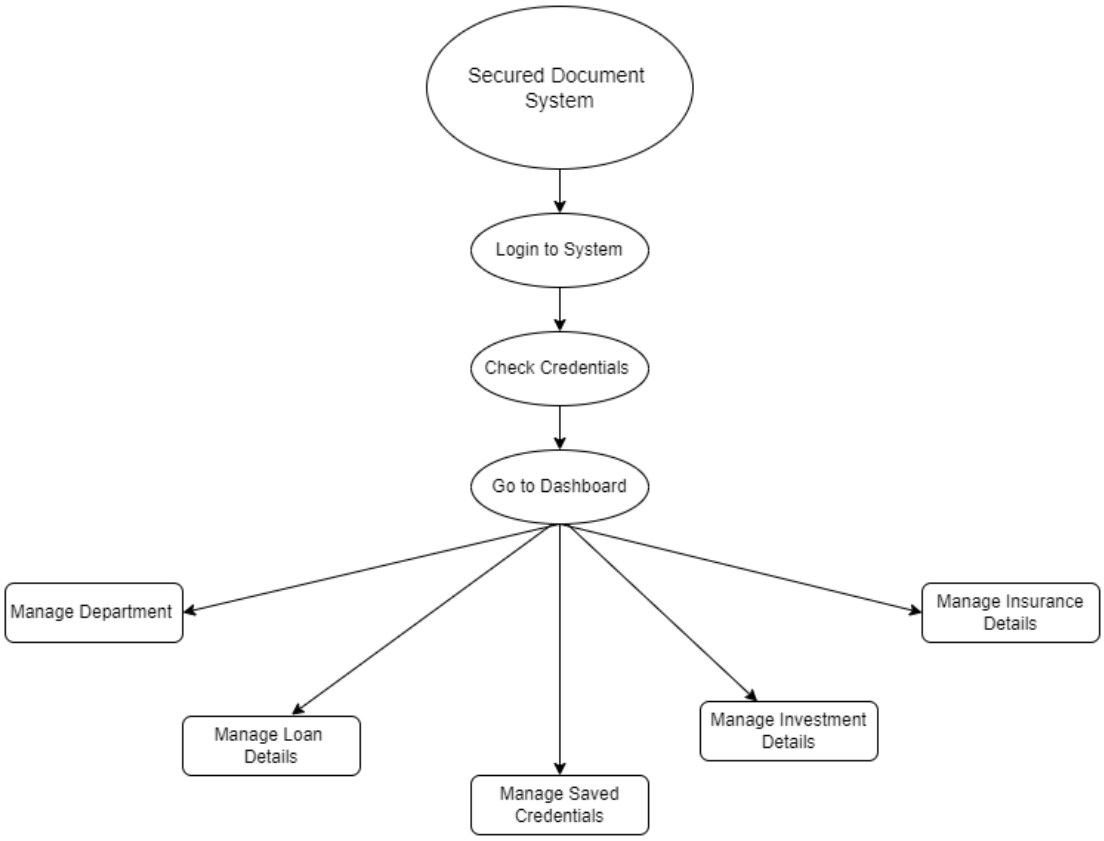
The features that are available to the users

1. Authentication
    a. User must authenticate before accessing system
2. Search Documents
    a. User can search any Document
3. Add Bank Details
    a. User can add bank details
4. Update Bank Details
    a. User can update expenses as per category
5. Delete Bank Details
    a. User can delete expenses as per category
6. Add Loan/Investment Details
    a. User can add Loan/Investment Details
7. Update Loan/Investment Details
    a. User can update Loan/Investment Details
8. Delete Loan/Investment Details
    a. User can delete Loan/Investment Details
9. Print Document
    a. After successful searching member mark this document as requested for printing

10. Check Account

    a. This use case is used to check account details

2.7 Processes



(Fig 2.7 Processes of Secured Document System)

2.8 Methodology

- Three tier architecture is a methodology or architectural pattern used for efficiently relating the user interface to underlying data models and organizing to relate the application code. Three tier architecture is primarily used to separate an application into three main components: personation layer, business access layer, data access layer.

3. System Design

3.1 System Design and Methodology

Server

Operating System: Windows

Processor: Pentium 3.0 GHz or higher

RAM: 2 GB or more

Hard Drive: 40 GB or more

Client

Operating System: Windows

Processor: Pentium III or 2.0 GHz or higher or Octa.

RAM: 512 Mb or more

Database: MSSQL Server

Development Tools: Visual Studio, SQL server Management Studio

Communication between server and application system need the internet connection into system. Because all the data will be available in server database. Using the web services fetch the data from the server

Customer

1. Authentication
    a. User must authenticate before accessing system
2. Upload images for related documents
    a. User can able to upload images along with documents for respective documents.
3. Add new document
    a. User can add new document as per requirement
4. Update document
    a. User can update document
5. Delete document
    a. User can delete document as per requirement
6. Manage details related to the bank, loan, investment, insurance
    a. User can able to add, update or delete details related to the bank

account, loan, investment, insurance.

7. User can manage passwords for respective websites or application
    a. User can store passwords for websites and applications along with userid.
8. User can print brief details of all their documents.
    a. User is able to print documents in the pdf form.

3.2 Database Design

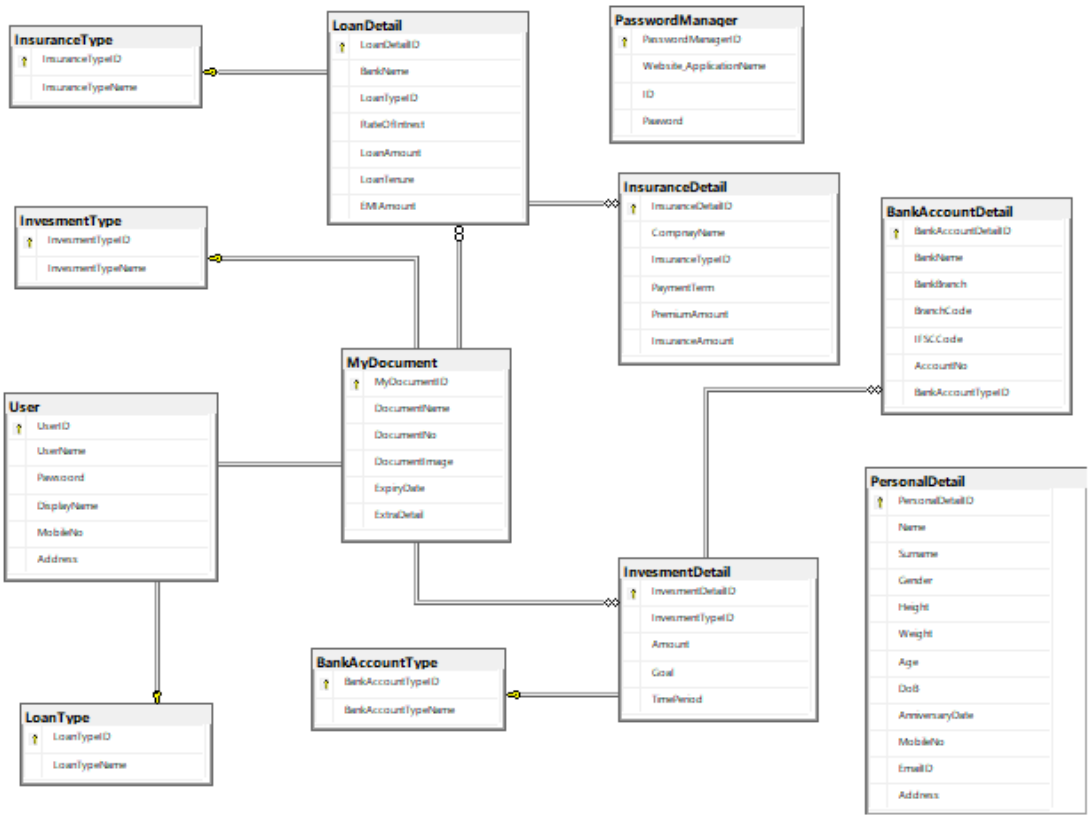


Fig 3.2 Database Schema diagram of Secure Document System

3.3 Input / Output and Interface Design

3.3.1 State Transition Diagram

- State diagram of Password Manager

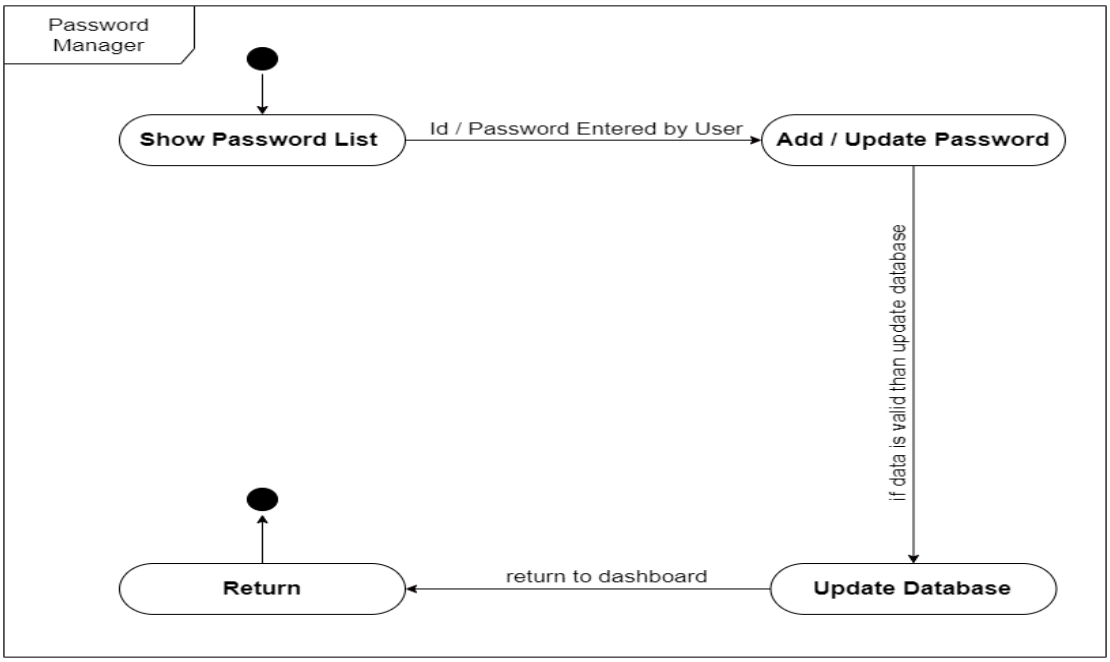
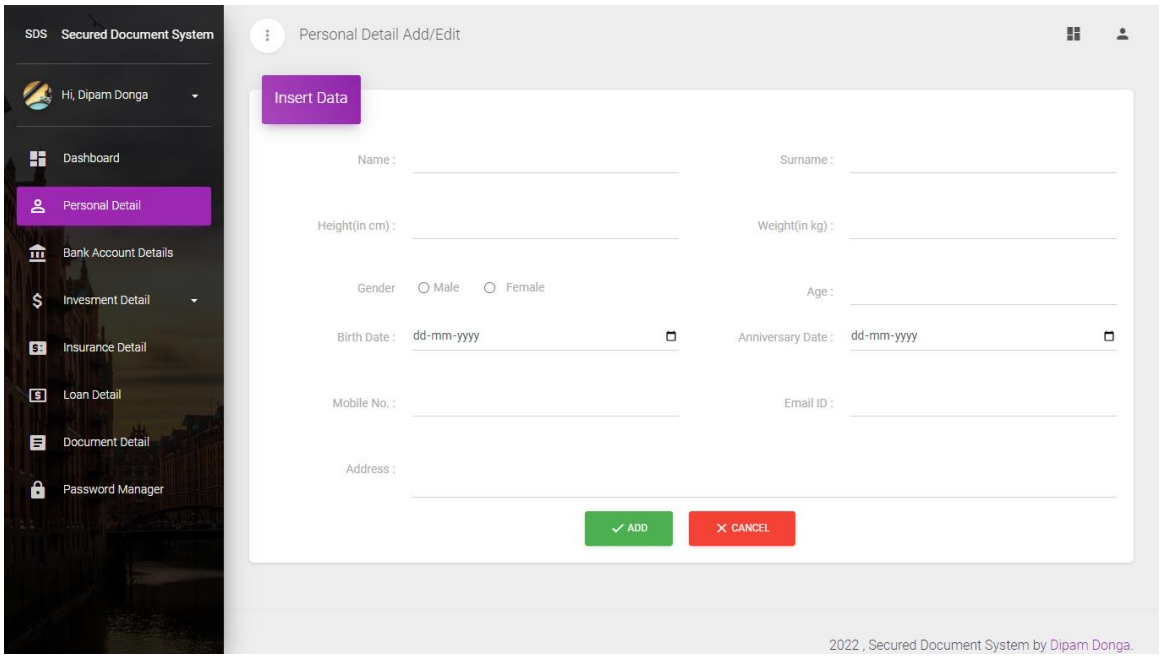


Fig 3.1.1 State diagram for Password Manager

3.3.2 Samples of Forms, Reports, and Interface

- Personal Details Add screen

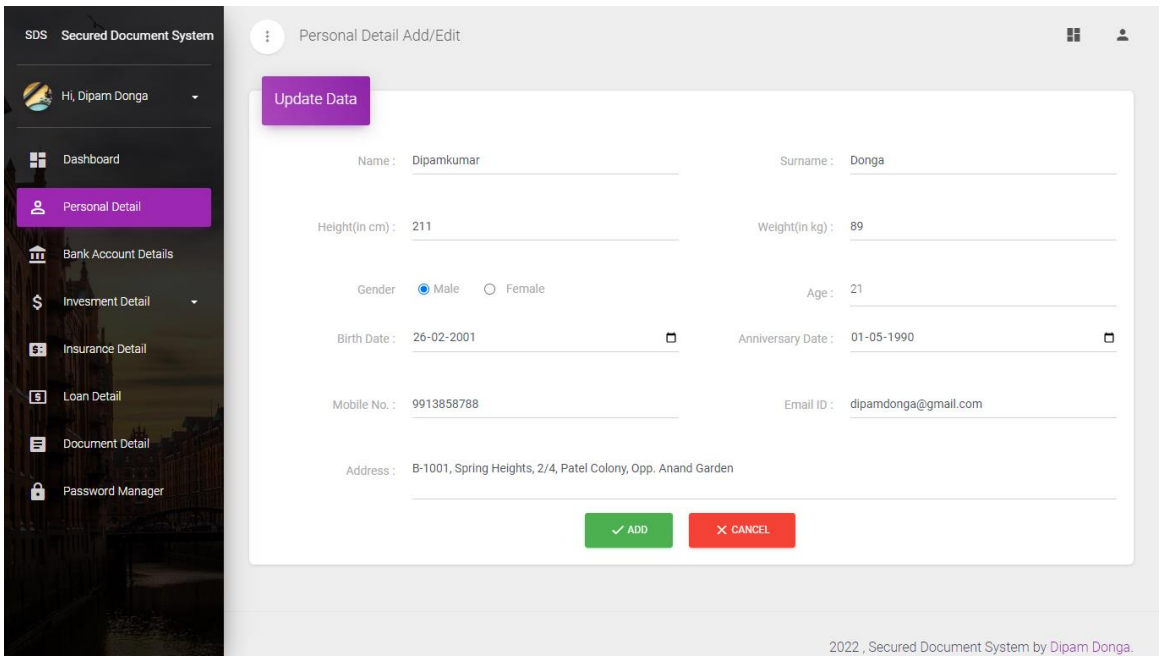


This is a screen for personal details of user.

From here different users are added.

There is a validation for every necessary.

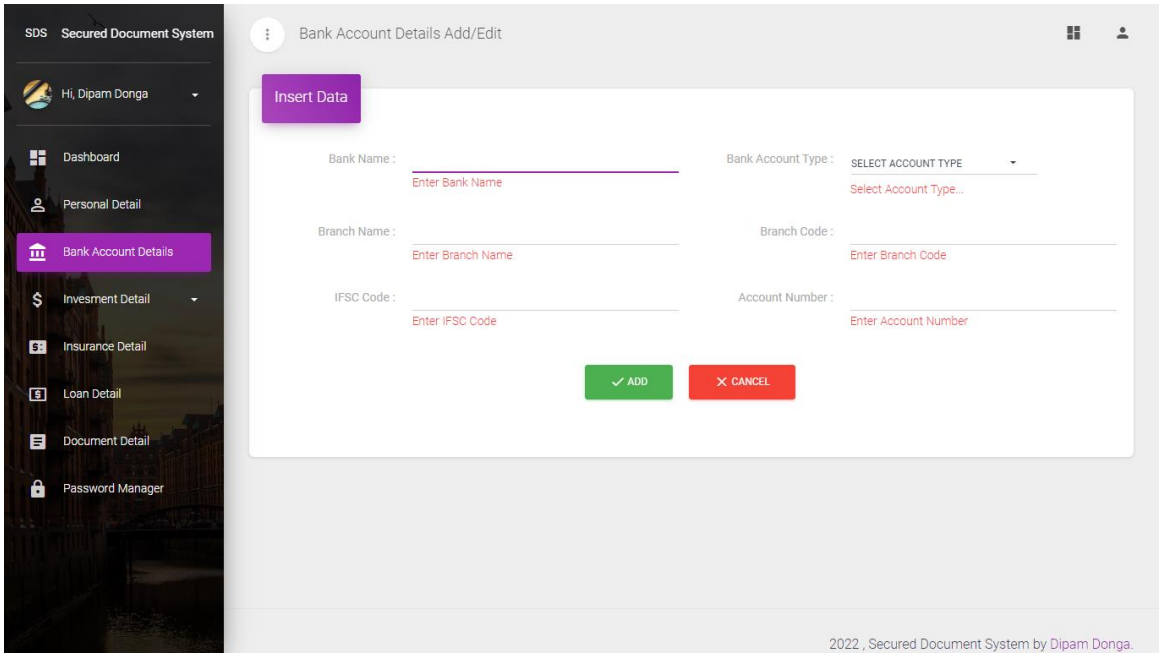
- Personal Details Edit screen



This is a edit screen for personal detail manager

In every edit screen all the stored details of that particular data will filed automatically form the database.

- Validation for data entry



There is a validation on every screen for data entry.

4. Implementation

4.1 Implementation

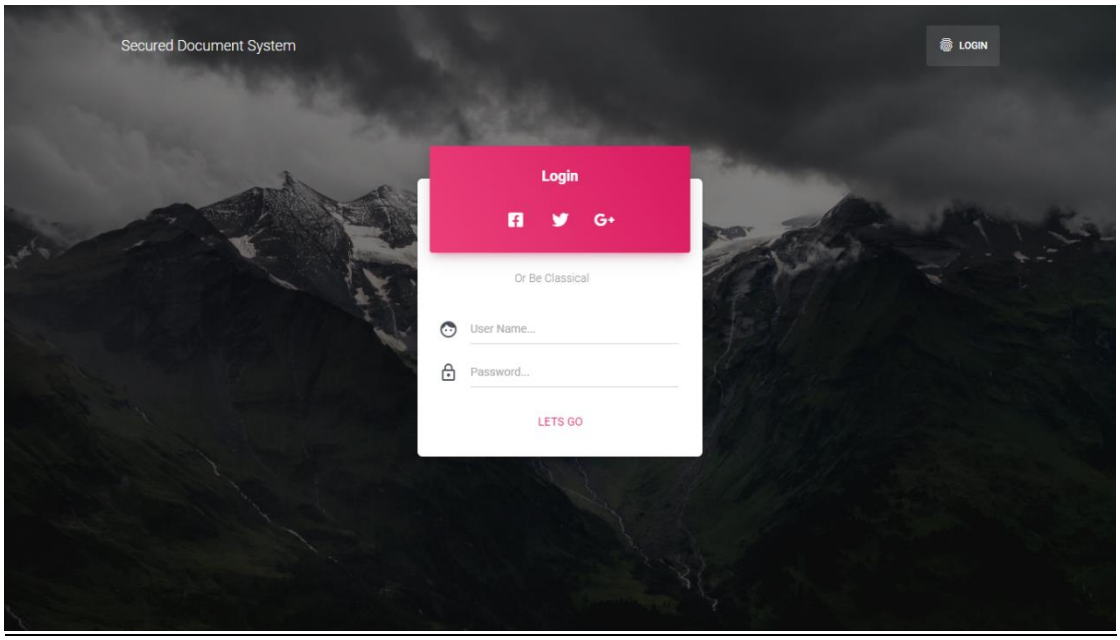
- Challenges identified for successful design and implementation of this project are dominated by: complexity, reliability/availability, documents data access while respecting security.
- The project was a result of an individual consequences. Guided by internal guide. This software is basically GUI related Data access System. User can easily work through this system. It has user friendly interface.
- Web Based System is created.

4.2 Module Specification

- This system is developed to bring more service providers. System GUI must be as simple and user friendly as anyone can use it.
- I have created a various form to insert and delete records from data base. Different types of user controls are used in this system so it will become very attractive and easy to understand the process of that control. There is also a restriction given to this system which prevents the system from garbage data and prevent system from generating run time error

4.3 Outcomes

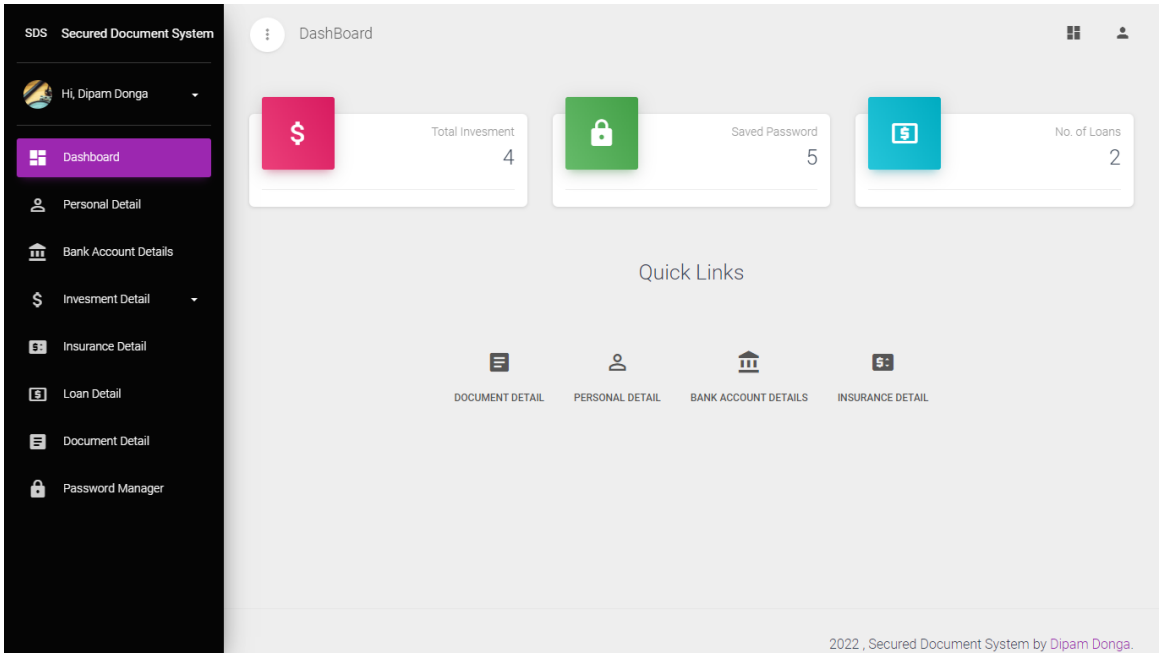
- Login screen



This is a login screen of the project, from here user is authenticated and redirected to the dashboard screen.

There is a validation for username and password.

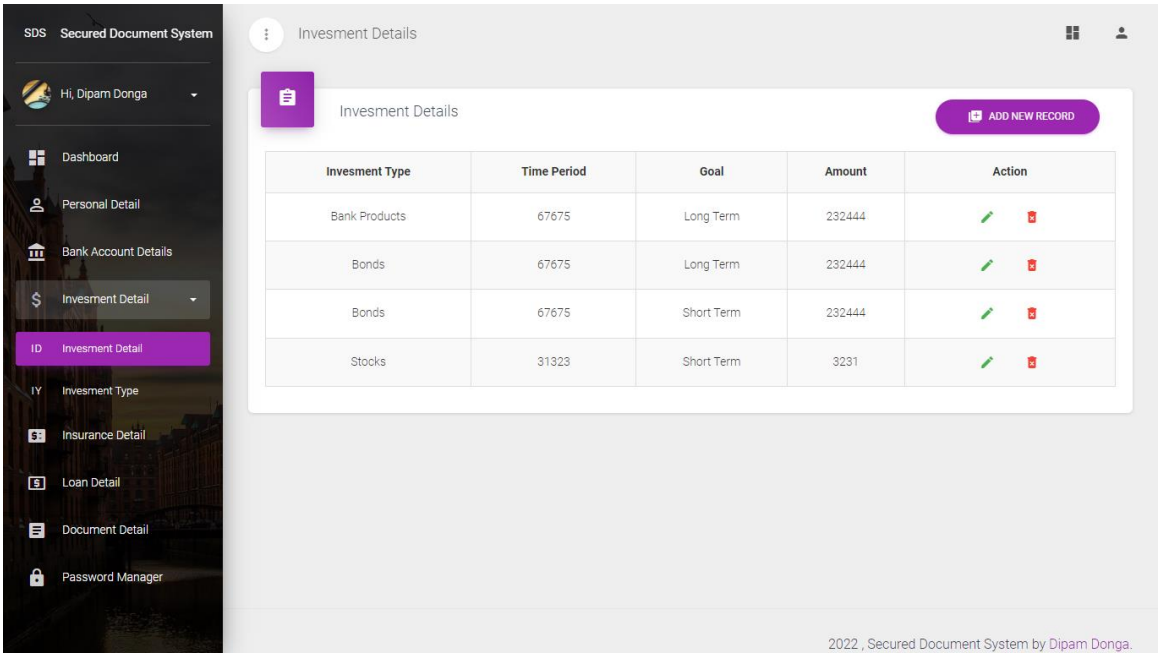
- Dashboard screen



This is a dashboard screen here user can show count details for their documents

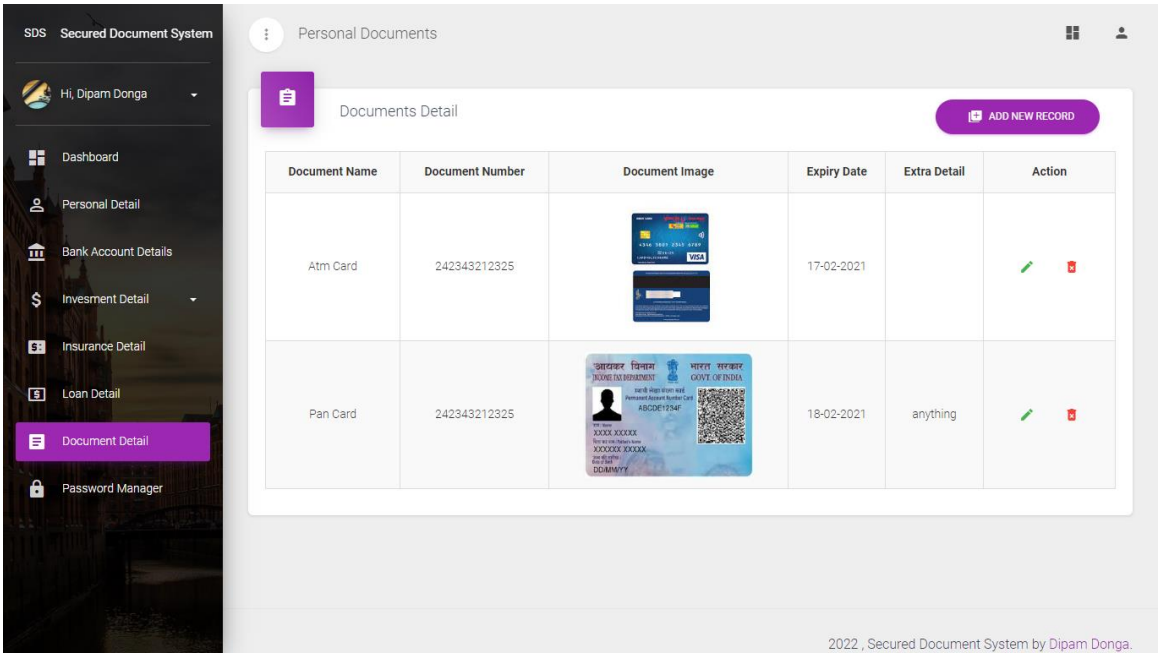
They can directly goto any screen of the project form the dashboard screen

- Investment Details screen



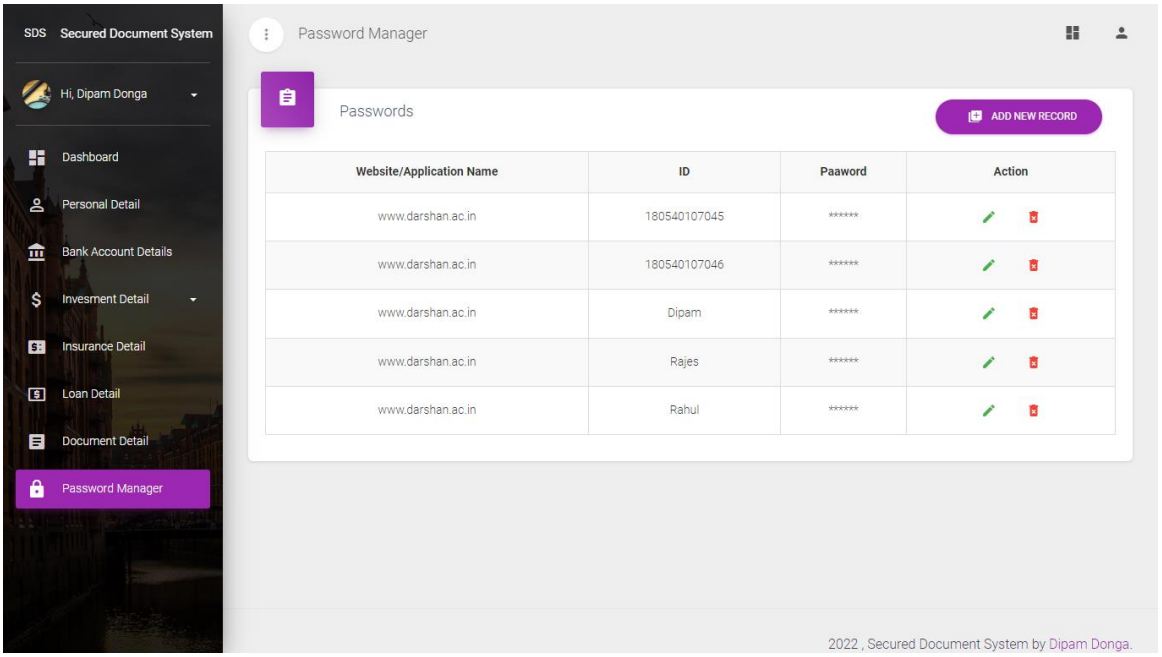
This is a Investment screen here user can manage all the details of investment like investment type, time period, goal, amount

- Document Details screen



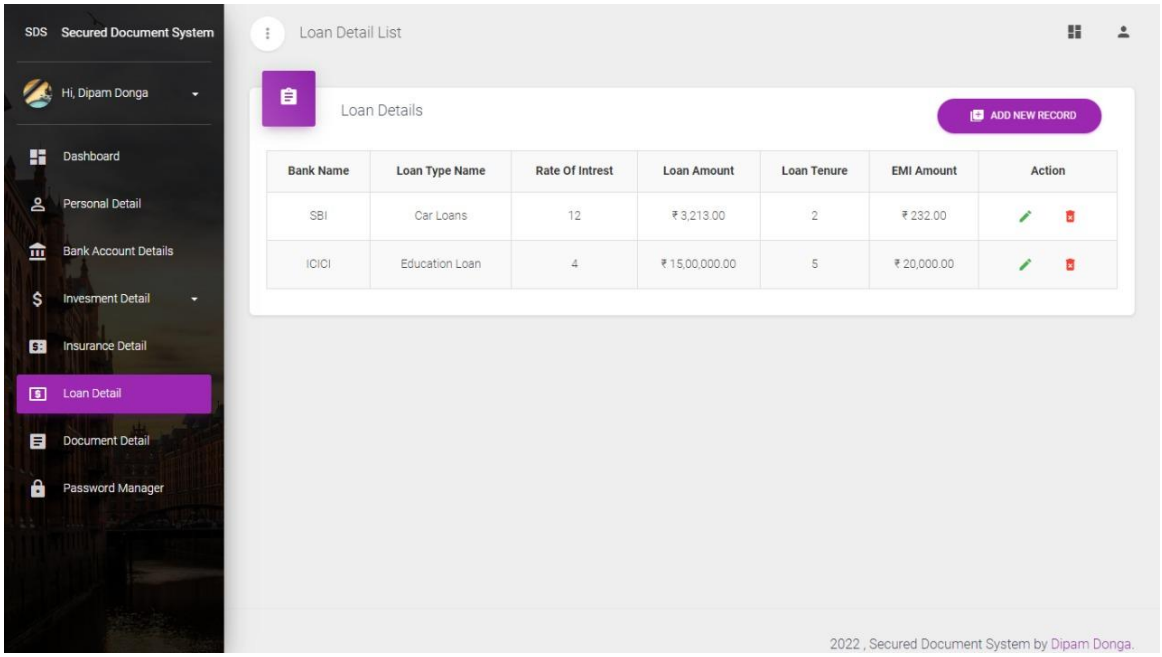
In this screen user can upload images for particular documents.

- Password Manager screen



Passwords are managed securely as shown here.

- Loan Details



These is a screen for loan details

All the screen of the project is designed as this screen

4.4 Deliberation

This document serves as a briefing as to what this definition will serve to do and what type of functionality the application will need to have as part of final deliverable.

Secured document system is a platform where the user can store all the details related to the documents with the different categories, also they can upload images related to the documents. There is functionality with different categories like load, investment, insurance, Bank account where user can add/edit/delete all the details. There is an additional functionally called password manager, where user can store and manage all the password for the different websites and different applications.

Home page and other public pages would be accessible without logging in i.e. About us, FAQs etc.

- ✓ **Administration users (Administrators):**

Admin users would be able to access all the functionality of project.

- Admin should be able to see all the registered users and should be able to approve first time registered users.
- Admin has access to the database so if there are any problems related to the user data or any other data they can solve that.

5. Testing

5.1 Testing Plan

In this following testing were done:

- Unit Testing
  - In this smallest piece of software is checked like login modal form.
- System Testing
  - In this it conducts a complete, integrated system to evaluate the system's compliance with its specific requirements

5.2 Testing Result and Analysis

5.2.1 Test Cases

a. Login

1.Abbreviated Title	Login
2.Actors	Customer, Service Provider, Admin
3. Description: To interact with the system, AAA will validate its registration with this system. It also defines the actions a user can perform in AAA.	
3.1 Pre Conditions: User must have proper client installed on user terminal	
3.2.Task Sequence 1. System show Login Screen 2. User Fill in required information. Enter email and password 3. System acknowledge entry	
3.3.Post Sequence: 1. System transfer control to user main screen to proceed further actions	
3.4. Exception 1. If in step 3 no user found then system display Invalid email or password error message and transfer control to Task Sequence no.1	
4.Modification history: Date 22-Feb-2022	
5.Author:Pradyumansinh Jadeja Project ID SDS	

Table 5.2.1 Login Test Case Analysis

b. Search Document

1.Abbreviated Title	Search Document
2.Actors	User
3. Description: Search document makes it easy to search for a document on SDS. With this search companion, users can specify several search criteria. For example, document name, document type, Expiry Date etc.	
3.1.Pre Conditions: The user must be login	
3.2. Task Sequence: 1. System will show a searching screen 2. User enter required information. It can be a user name, Document Comments, etc 3. By pressing the search button system will list down all search results	
3.2. Post Sequence: 1. User can view his desired results 2. User can also request an article to reserve for this check use case 3. Request Document	
3.4.Exception 2. If in step 3 no user found then system display Invalid user name password error message and transfer control to Task Sequence no.1	
4.Modification history: Date 22-jan-2022	
5.Author:Pradyumansinh Jadeja Project ID SDS	

Table 5.2.2 Search Document Test Case Analysis

c. Check User Details

1.Abbreviated Title	Check Account
2.Actors	User
3. Description: System will show members current details.	
3.1.Pre Conditions: The user must be login to the system	
3.2. Task Sequence 1. System will display all user history	
3.3. Post Sequence: 1. User will be on the member status screen	
4.Modification history: Date 5-feb-2022	
5.Author:Pradyumansinh Jadeja Project ID SDS	

Table 5.2.3 User Details Test Case Analysis

d. Maintain Loan/Investment Details

1.Abbreviated Title	Maintain Loan/Investment Details
2.Actors	User
3. Description: From this use case system will maintain Datasets	
3.1.Pre Conditions: The user must be login with their account	
3.2. Task Sequence 1. System will open the display page 2. On this screen users can add, update or delete new items to datasets	
3.3.Post Sequence: 1. System can have an updated system database	
position 4.Modification history: Date 10-feb-2022	
5.Author:Pradyumansinh Jadeja Project ID SDS	

Table 5.2.4 Loan/Investment Test Case Analysis

e. Manage Password Details

1.Abbreviated Title	Manage Password Details
2.Actors	User
3. Description: This use case is used to save a password for some websites or application	
3.1.Pre Conditions: The user must be logged in	
3.2. Task Sequence 1. System show all saved passwords for websites or application	
4.Modification history: Date 22-feb-2022	
5.Author:Pradyumansinh Jadeja Project ID SDS	

Table 5.2.5 Manage Password Test Case Analysis

6. Conclusion and Discussion

6.1 Overall Analysis of Project

i. Project Requirements

- Safety requirements
  - The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup
- Security requirements
  - We are going to develop a secured database for this System.
- Software quality attributes
  - The quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database
- Hardware constraints
  - The system requires a database in order to store persistent data. The database should have backup capabilities.
- Software constraints
  - The development of the system will be constrained by the availability of required software such as database and development tools.

ii. Time : It took almost 4 months to complete the whole project

6.2 Dates of Continuous Evaluation

Date: 19/03/2022

Faculty: Umesh Thoriya

Description: Evaluation of the project gone very well. There were minor changes sir told me to work on that. Insist me to focus on the optimization. Screens not take more time to load for better user experience.

6.3 Problem Encountered and Possible Solution

- In the dashboard page there is a count of all the documents which are added in the database.
- To make web development easier I used the bootstrap component for designing.
- User password should be stored in encrypted form in the database for that I used hashing.
- Without authentication, user can’t book services, he can check whether the

service is available or not but when he go for book he/she must logged to the system.

6.4 Summary of Project Work

Overview:

The Project seems somewhat difficult in initial part because I have to make the dynamic project in asp.net webforms, in which project must send mails to the user if they request for signup. Learn so many things like how we can store password in encrypted form.

6.5 Limitation and Future Enhancement

Limitation:

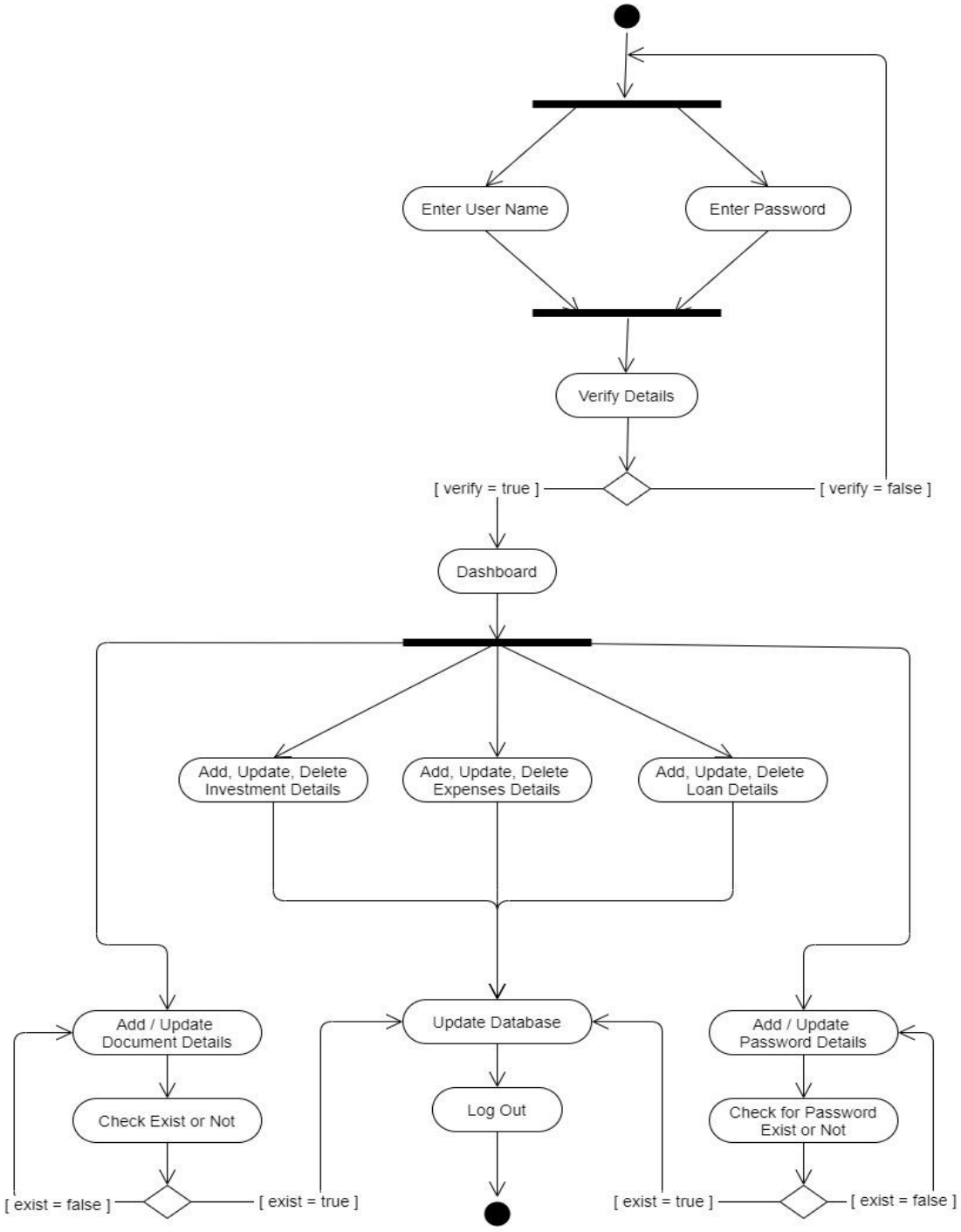
i. It can’t handle the large traffic
ii. More banking options are not there
iii. It is not taking database backup automatically
iv. Password is not stored in secured way

Future Enhancement

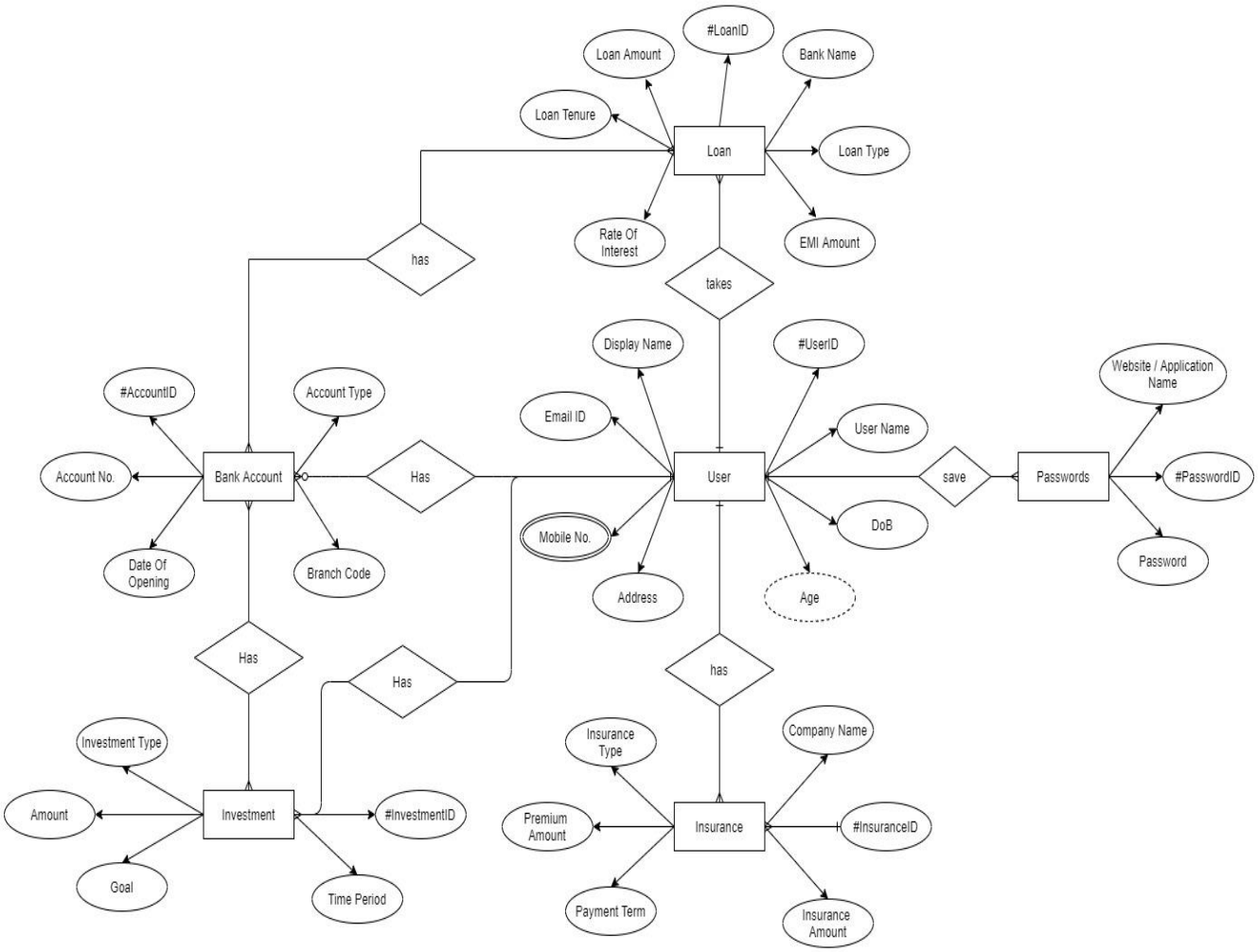
i. Easy implementation environment
ii. We can use API to handle traffic
iii. Load Balance using DNS Round Robin which run single website on many servers
iv. We can add google, GitHub, Facebook logins for secure login.

Appendix

A) Activity Diagram



B) E-R Diagram


#LoanID
Loan Amount
Bank Name
Loan Tenure
Loan
Loan Type
Rate Of Interest
EMI Amount
has
takes
Display Name
#UserID
Website / Application Name
#AccountID
Account Type
Email ID
User Name
Account No.
Bank Account
Has
User
save
Passwords
#PasswordID
DoB
Mobile No.
Date Of Opening
Branch Code
Password
Address
Age
Has
Has
has
Investment Type
Insurance Type
Company Name
Amount
Investment
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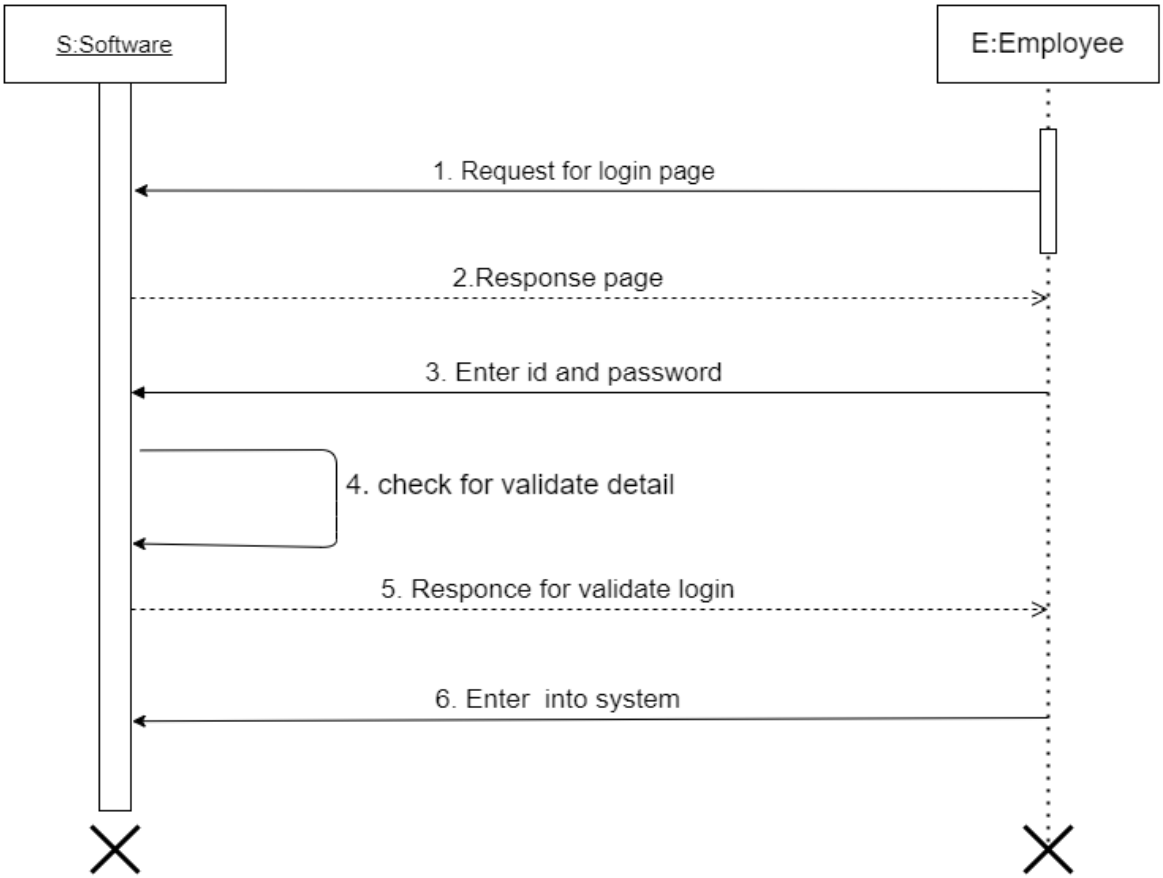
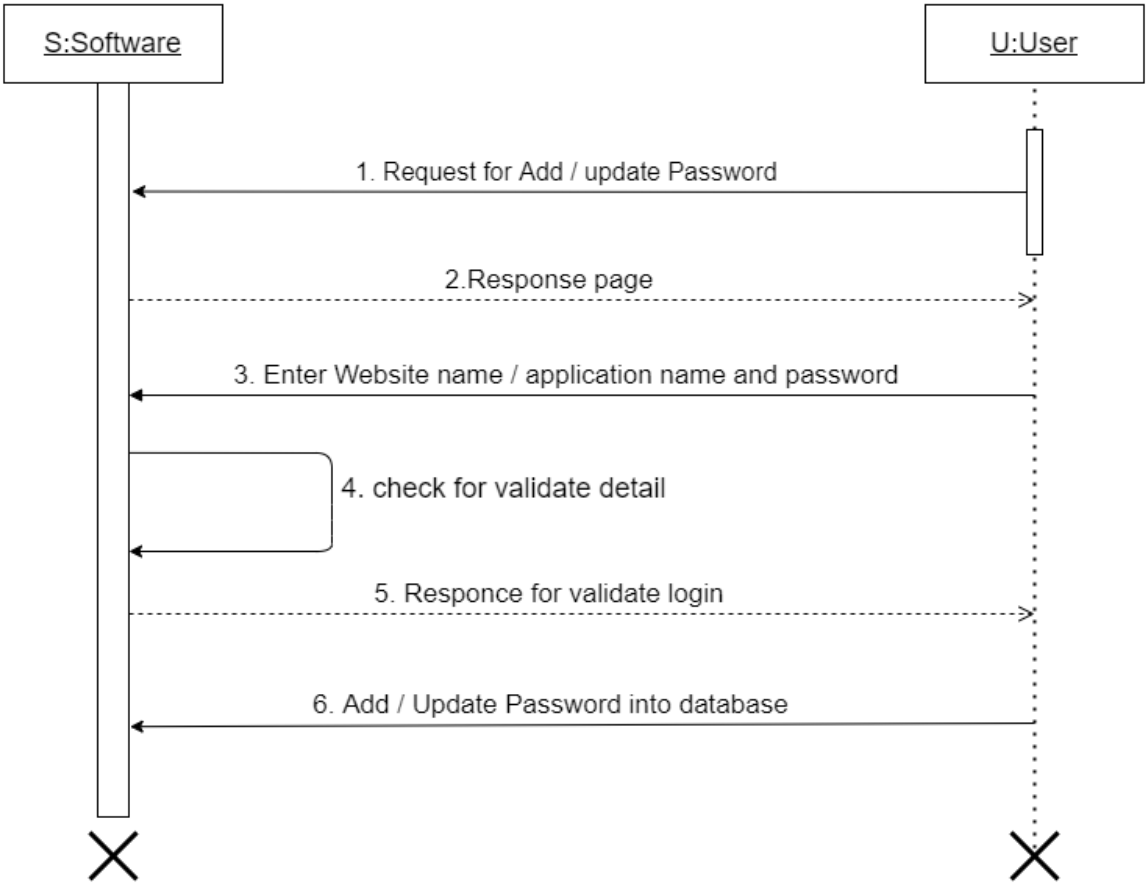
Premium Amount
Insurance
#InsuranceID
Goal
Time Period
Payment Term
Insurance Amount

C) Sequence Diagram

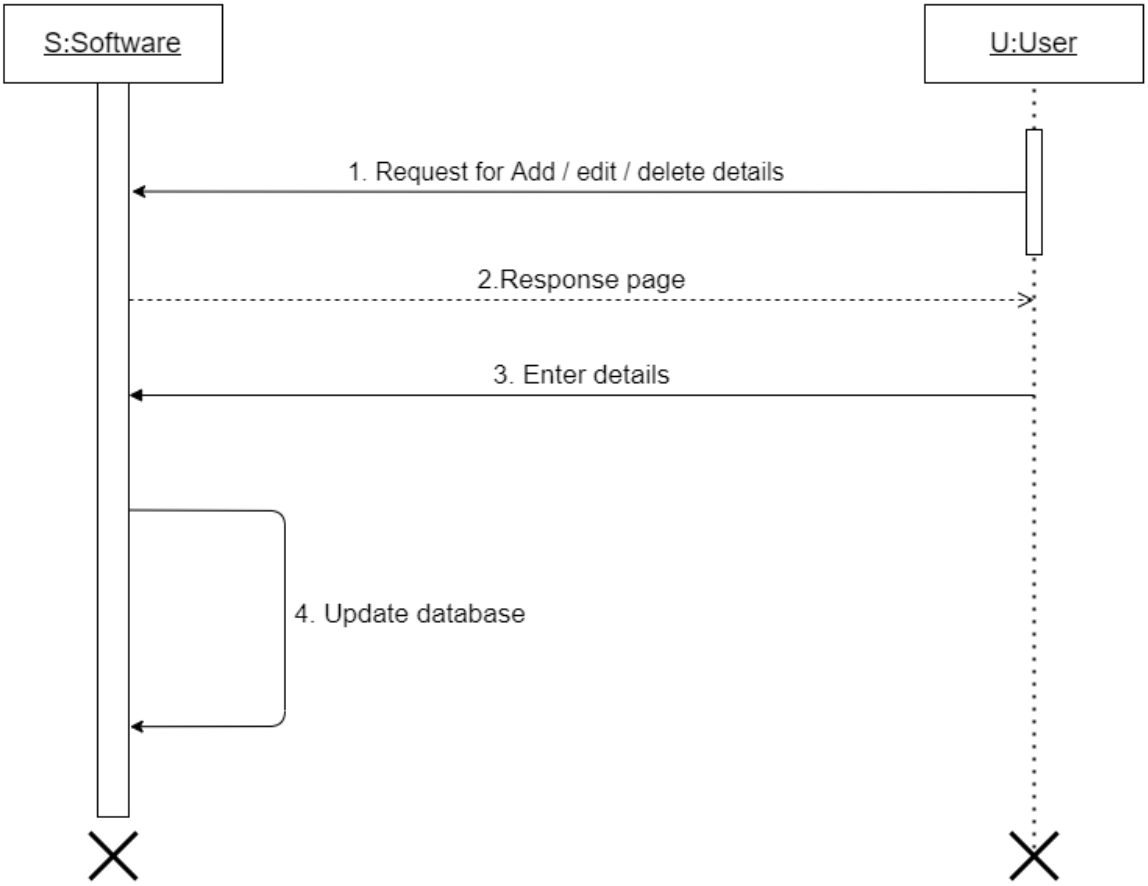
- Sequence Diagram of login



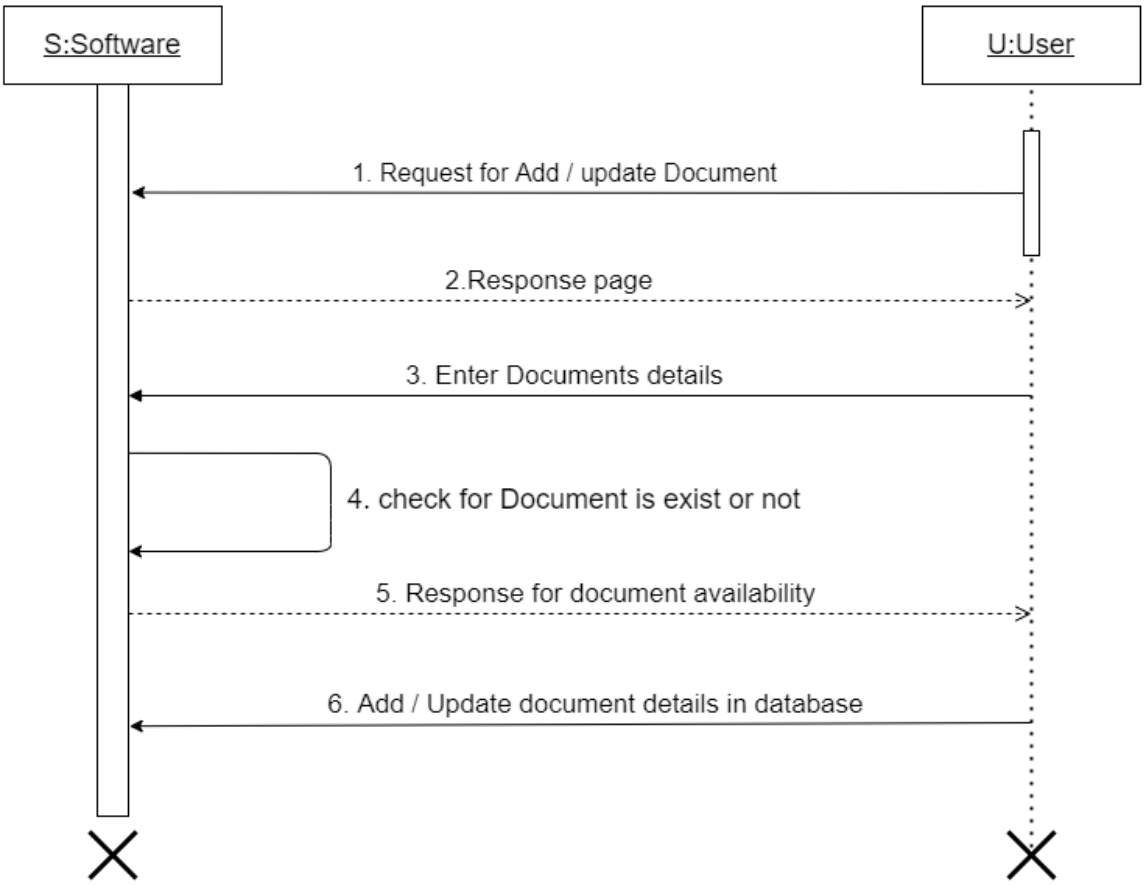
- Sequence Diagram of Password Manager



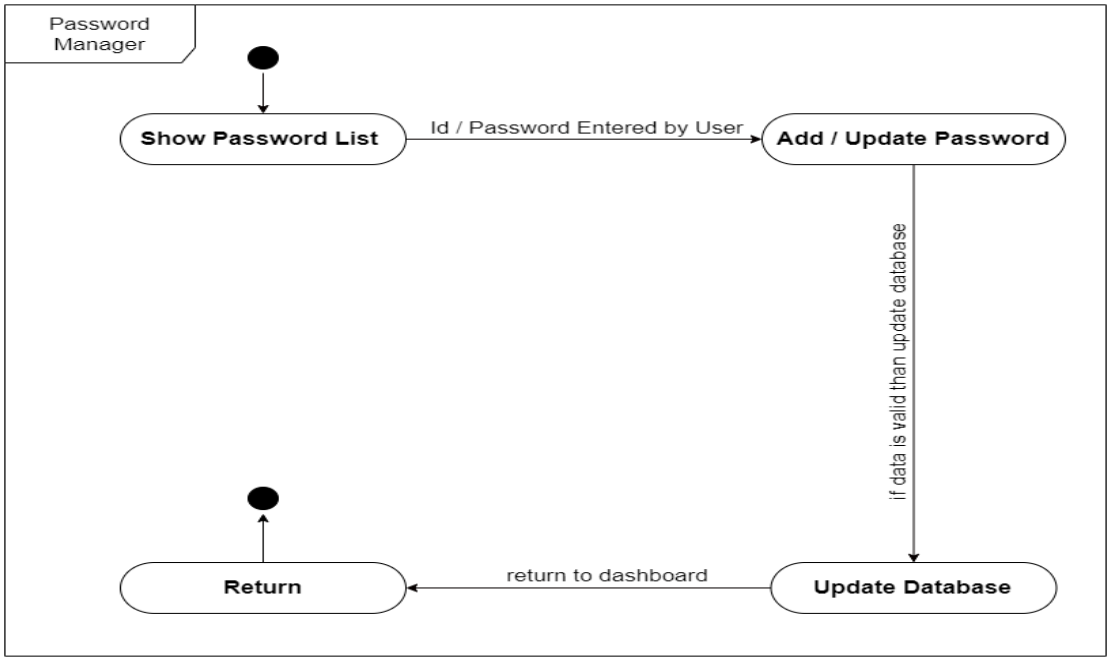
- Sequence Diagram of Loan/investment details



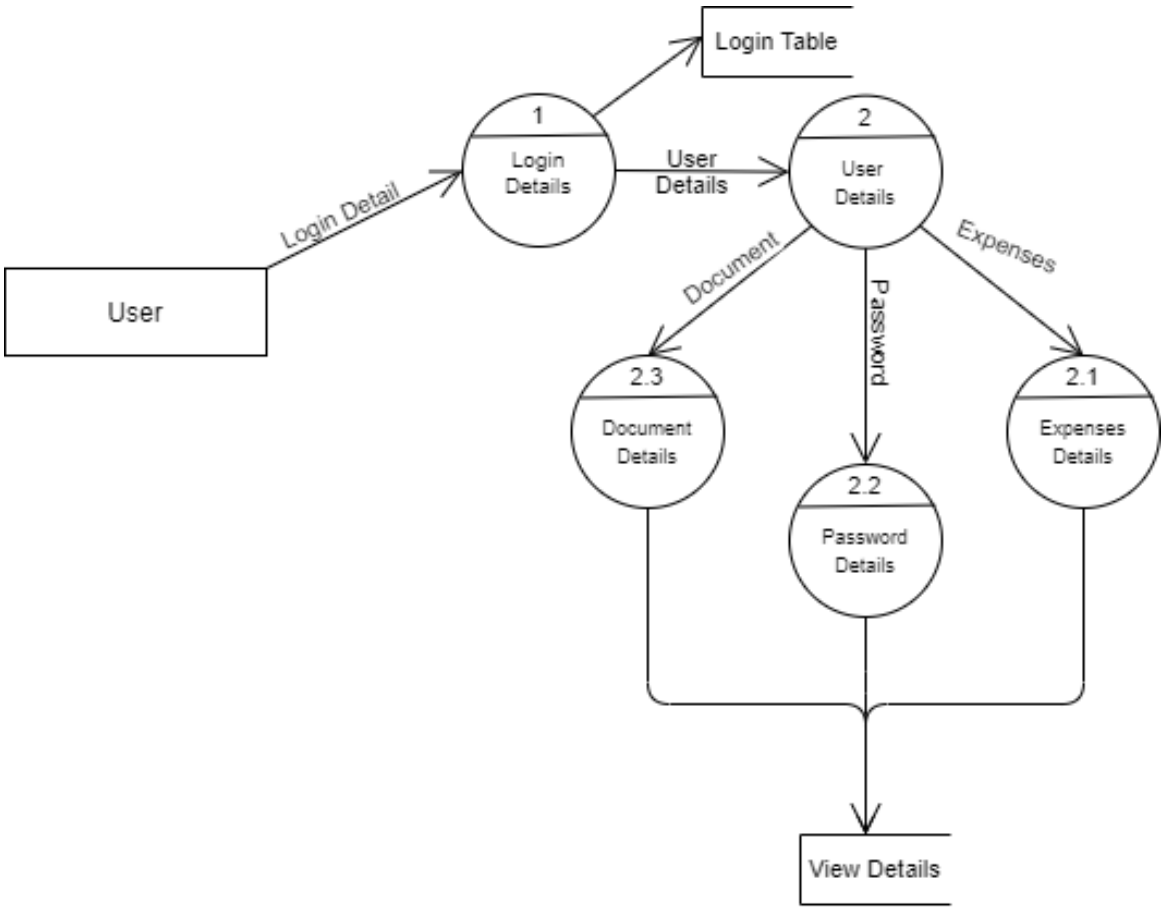
- Sequence Diagram of Documents Details



D) State Diagram



E) Dataflow Diagram



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