# ABSTRACT

There are the times when the citizens used to forget the driving license while driving and at the time of verification they end up paying fine. We are proposing an application that can help the traffic police officers to verify driving license online. In this system the user will be provided a QR code using the license details and the verifier can scan this QR and get the license details.

The license can be collected from the RTO database and then the QR can be generated. If the RTO doesn"t have the license the system will ask the user to contact RTO. Here, for implementation of this system we could not directly ask the database to the RTO therefore we are considering the dummy database from which the licenses can be collected. If the license is available in dummy database then the user can create his or her profile.

### Objectives:

1. To verify the license and other driving related documents by scanning user"s QR code.
2. To register the license number in the database by creating user account.
3. To verify the user license using user ID and password if QR is unavailable.
4. To search the users license number in the database using ID and password by verifier.

# 1. INTRODUCTION

## 1.1 Overview

The „Online License Verification System" is a web-based application for verifying the driving licenses online. This system is developed because many times the drivers have the authority to drive a vehicle but sometimes they used to forget the license at the time of verification. To overcome this difficulty we are developing a web based application that can provide the driving license which is verified by the Regional Transport Office (RTO) or Regional Transport Authority (RTA).

There are many reasons for developing this application as web-based application, they are as follows:

1. The user should have access to his document anytime, anywhere and on any device the standalone application leads to operating system compatibility.
2. This application can only be used at the time of verification therefore the usage frequency is very less therefore, rather than consuming device storage user can visit the website and verify the documents.
3. Many features can be added to the system therefore rather than updating the application only the design and implementation on the server side can be updated.

## 1.2 Purpose

The main purpose for preparing this document is to give a general insight into the analysis and requirements of the existing system or situation and for determining the operating characteristics of the system. The primary purpose for development of this website is the users can verify their document without actually keeping it with them.

The main objective of the system will be on Online License Verification. The main part is that the advisory is that the document is verified using QR code anytime and anywhere.

Following is the overview to the QR code technology:

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**What is QR code?**

QR code which is abbreviated from Quick Response code is the trademark for type of matrix barcode or two dimensional barcode. QR codes often contain data for locator, identifier, or tracker that points to a website or application.

A QR code consist of black squares arranged in a square grid on white background, which can be read by an imaging device such as a camera, and processed using the Reed-Solomon error correction algorithm until the image can be appropriately interpreted.

After Scanning the QR code it can only contain the plain text or the URL which points to the particular website. In this system we need to display an image of the license after scanning the QR code but it is directly not possible therefore we have stored the license image in the database and then the QR code is designed in a way that the URL"s domain remains constant but the resource path to the image will be changed according to the image.

The images and the QR code have the same name which is the license number of the specific user. When the QR code is scanned the link is displayed and it will redirect to the image path and the image will be displayed.

The main advantage of using a QR code is that once the users create their account they will have their separate QR code therefore, they can save the QR image and scan it whenever they want it can save the user"s time of logging in each time for verification. This reduces the use of login section in website but the user convenience is increased by this way. This leads to "Generate once and scan multiple times" feature.

The following figure shows the example of QR code image.



Figure 1. 1

### 1.3 Existing System

Verification is the mandatory process to authenticate a person. The Driving license verification is done to authenticate whether the driver is able to drive a vehicle or not and for that purpose the driving license is given to every valid vehicle driver. The Driving license verification is done through police officers and sometimes driver used to forget that license therefore there are the systems like "Check DL Status Website" that shows whether the Driving license is active or not.

Every system comes with a drawback therefore a new system is introduced. Similarly this system also has some drawbacks which become reason for development of the new system.

- **Drawbacks:**

    1. The driver must know the driving license number each time the license is to be verified.
    2. If the license number is known to another person they can get access to the driver"s document.
    3. There is less security.
    4. Can"t be accessed anytime and anywhere.

In this way, this system is not much used by the drivers therefore the following can be the reasons to use this application instead of existing system.

- **Need for New System:**

1. The driver should be able to retrieve document at any time and from anywhere.
2. The document should be safe and can be only accessed by the driver.
3. The driver should not have to remember the license number to access the document.
4. The actual document should be displayed and it must be verified by the RTO or RTA.

- **Features**

1. User friendly GUI.
2. The user will be provided the separate user id as email and password for logging in the user only have to remember the email and password rather than the license number.
3. The user should not have to upload the document; the document will be automatically added in database by getting license number.
4. Access the system anytime anywhere and on any device

## 1.4 Scope

The profile of the user can only be created if the user has the registered driving license in the RTO database. Here, we cannot directly access the RTO database; therefore we have created a dummy database for the registered driving licenses. If the user wants to create the profile the driving license must be in the dummy database. The dummy database can be replaced with the RTO database in future.

The prerequisite for creating the account is that the user must have the email account because the user is going to login using Email ID. If the user does not have the email ID then the user can be able to create the account using the fake email but he/she cannot be able to receive the messages from the system if in future this functionality is added. The user can create the account using fake email address because the database contains the unique key constraint for the email id column.

The user can access his/her profile using email and password but if the user forgets the password then the only way to recover is to answer the security question. The answer of the security question is asked while creating an account and then if the answer is forgotten then the answer is compared and the user will be able to recover the password.

The main thing in order to access any website is internet connection without internet the website will not process the user request. However if the user have saved the image of QR he/she will not need any internet connection to scan that code but after

scanning the QR code displays a link that redirects to the license image which is stored in the database and need internet connection to be accessed.

If these three requirements from the user are fulfilled properly then the user will not face any problem while logging in or creating an account.

## 1.5 Basic Structural Diagram

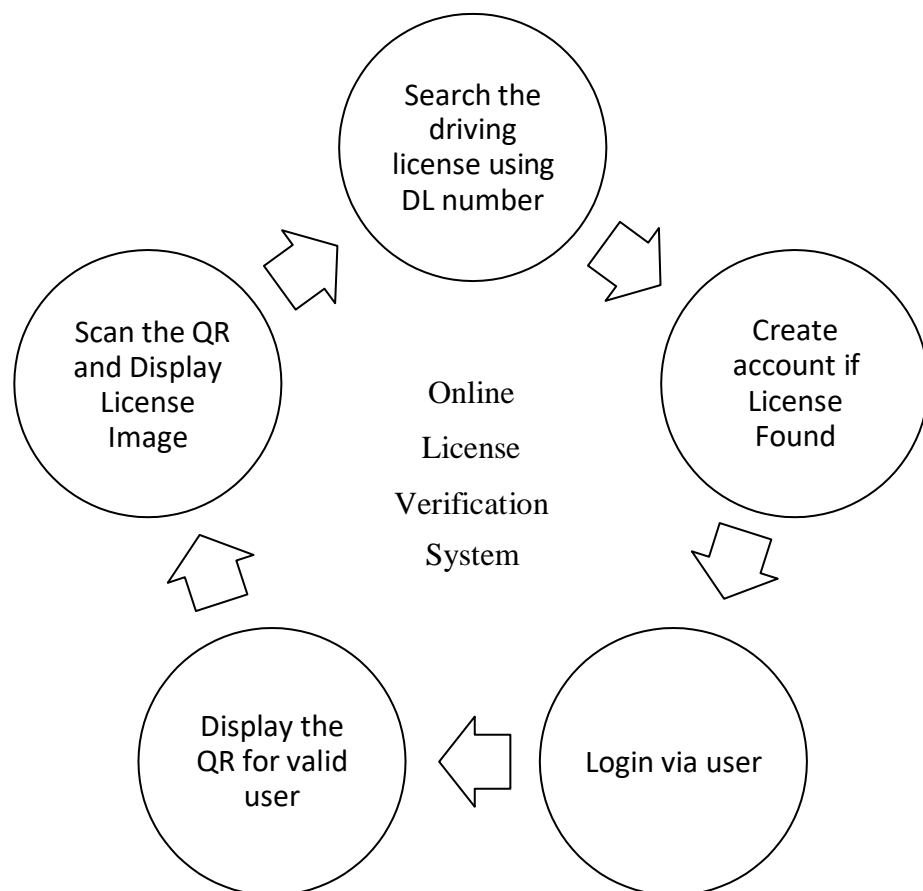The following diagram shows the basic structure of the system workflow.



**Figure 1.2**

# 2. PROJECT PLANS

## 2.1 Roles and Responsibilities:

The user is the system is most important role that should know how the system should be accessed. Following are the responsibilities that should be done by the user.

- User must have the registered license in RTO before creating an account.
- User must have the email account for registering.
- User has to provide the license number to the application
- User has to provide password and answer of the security question.
- User should have the scanner for scanning the QR code.

After user there are some responsibilities to every role in the system development life cycle. The following table shows what responsibilities are done by whom in the development of this system.

**2.2 Software Model:**

- For this project, we have used Iterative Model.
- Iterative process starts with a simple implementation of a subset of the software requirements and iteratively enhances the evolving versions until the full system is implemented.
- For every iteration, design modifications are made and new functional capabilities are added. The basic idea behind this method is to develop a system through repeated cycles and in smaller portions at a time.
- In our system first have gathered the requirements that are needed for development of project based on online license verification. Later, this project can be implemented for other license related documents or for any other verifiable documents such as the driving license just the change will be done in the verifying authority and the database.
- This implementation can either be extended or can be introduced in different forms. This shows the agility in the system development.
- After requirement gathering we started coding and designing. The coding and designing also done with the agile perspective for example, we are currently using the dummy database that stores the document of the user and act as the RTA‟s database. Later, if this system gets introduced to all the citizens the dummy database can be changed with original RTA database which does not affect overall implementation of the system.
- As in every model, the final step is the system testing which involves the test cases defect management and other software quality attributes. In this way, with the help of iterative modelling the software is developed.
- The advantages of using iterative model are Inherent Versioning which ensures that the newer iterations are incrementally improved versions of previous iterations. Rapid Turnaround which shows that each stage can effectively be slimmed down into smaller and smaller time frames. Another benefits are Easy Adaptability and this model is well suited for agile organizations.
- The following diagram shows the basic implementation of the Iterative software development model.
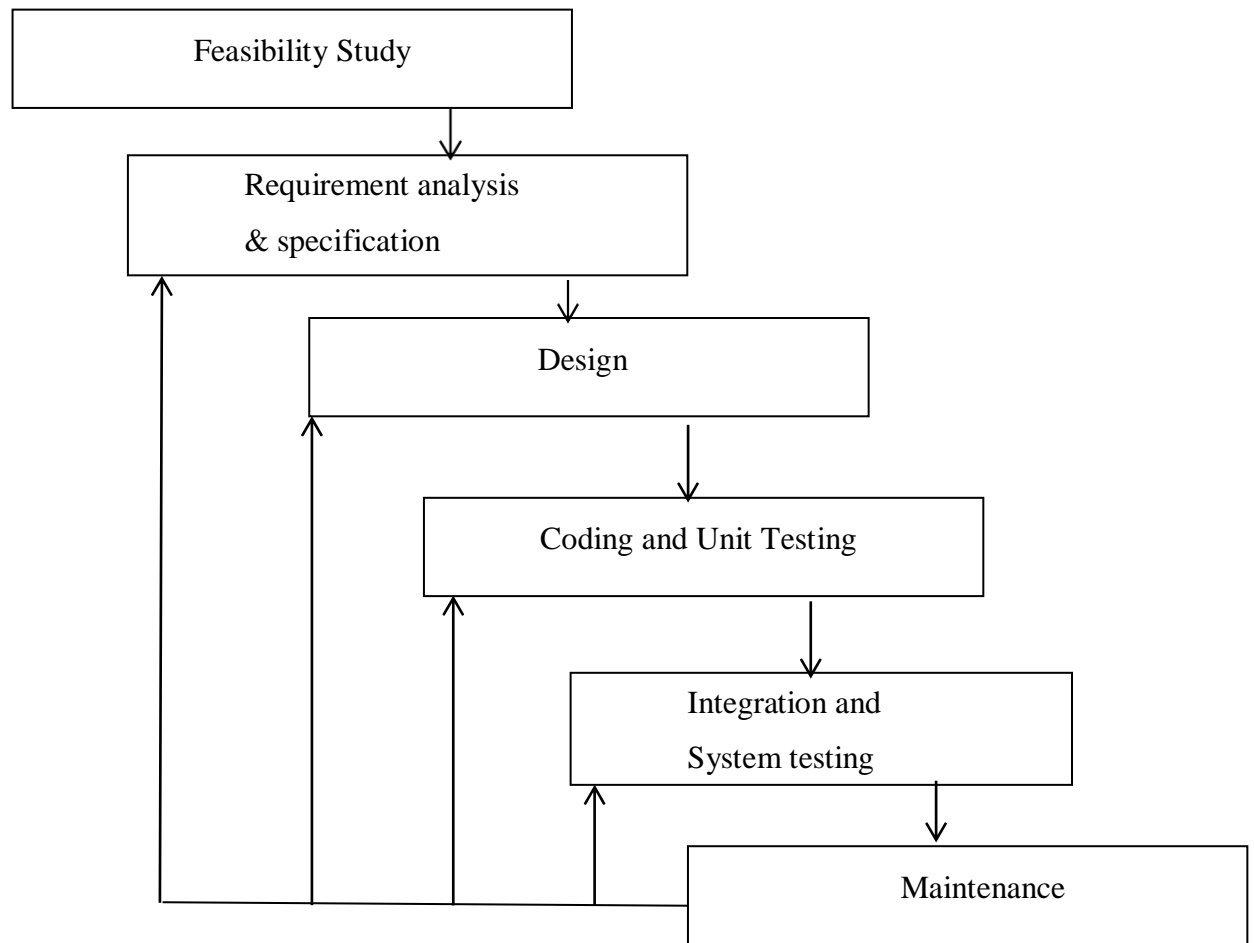
**Figure 2.1 Iterative Development Model**

### 2.3 Schedule of Project:

- Estimated start date: - 26 Jan 2019
- Actual start date: - 30 Jan 2019
- Estimated end date: - 10 April 2019
- Actual end date: - 20 April 2019

### 2.4 Tools and Technology:

- Programming Language: Java and JSP.
- Scripting language: JavaScript.
- Front end: HTML and CSS using Bootstrap.
- Tools: Apache Tomcat Server, MySQL Database. Notepad++ editor.

# 3. PROJECT REQUIREMENTS

**3.1 Software Requirements-**

- Software Requirement for Developers.

A set of programs associated with the operation of a computer is called software. Software is the part of the computer system which enables the user to interact with several physical hardware devices.

The minimum software requirement specifications for developing this project are as follows:

      a) Software: Tomcat Web Server, Xampp Server.

      b) Presentation layer: Java Server Pages, Java, HTML

      c) Documentation Tool: MS Office Word 2010

- Software Requirement for End Users.

As we are developing a web-based application there are no special software requirements for end users for running this application expect a web browser for running the Java Server Pages.

**3.2 Hardware Requirements-**

- Hardware Requirement for Developers.

The Collection of internal electronic circuits and external physical devices used in building a computer is called Hardware. The minimum hardware requirement specification for developing this project is as follows:

      a) Processor: Intel core i5 CPU 2.40 GHz

      b) RAM: 512MB RAM

      c) Hard Disk: 10GB

      d)   Monitor: Standard Colour Monitor

      e)   Keyboard: Standard Keyboard

      f)   Mouse: Standard Mouse

      g)   QR code Scanner for testing.

- Hardware Requirement for End Users.

      a)   A Device which can run a web browser such as Smart Phone or Computer.

      b)   A QR code scanner for scanning the QR code. This requirement is for verifier.

## 3.3 Network Requirements

a) Internet connection for accessing the Website.

## 3.4 Environmental Requirements

- Environmental Requirements for Developers

      a)   Windows 10 Operating System

      b)   Java Development Kit (JDK).

- Environmental Requirements for end users

a) Any Operating system that can run java server pages on a web browser.

## 3.5 Other Requirements

For enhancing the html forms and user interface we are using CSS with bootstrap because the website can be accessed on smartphones as well as desktops.

# 4. PROJECT DESIGN

## 4.1 Risk Projection:

Risk Projection means the likelihood or probability that the risk is real and consequences of the problems associated with that risk, should it occur.

### 4.1.1 Risk Identification and Analysis:

- **Technical Risk:**

1. The software failure problem, as exhaustive testing is not possible, therefore failure due to invalid operation may occur.

   Nature of Risk:
   It is the Unknown risk that can be occurred due to invalid operation.
   Scope of the Risk:
   The severity of the risk is low because it may not affect the whole system.

2. Unhandled exceptions may occur.

   Nature of Risk:
   The unhandled exceptions lead to abnormal termination of the system.
   Scope of the Risk:
   The severity of the risk is high because it may be occurred multiple times.

3. The Redirection to the link may be slow down.

   Nature of Risk:
   This is the normal risk that can be appeared in many websites.
   Scope of the Risk:
   The severity of the risk is very low as it just takes long time but gives the result to the user.

- **Non-technical Risk:**

The nature and scope of Non-technical risk are avoidable as they are generally occurred due to user‟s misconceptions with the use of the system.

1. Users may not be aware of how to use the software.
2. User may not understand the error messages.

## 4.2 Feasibility of the Project:

Feasibility study is an important phase of the Software Development Life Cycle where the proposed system is viewed to determine the suitability and feasibility of the system i.e.to determine whether or not the system is worth doing.

An important outcome of the preliminary investigation phase is that the package required is feasible and meets the efficiency criteria. The workability standard.

The various types of feasibility are as follows.

## 4.2.1 Technical Feasibility:

This evaluation determines

- Whether the technology needed for the proposed system is available?

In our system we are using QR code technology which is already available and we can use it for verification purpose.

Another technology is Java Server Pages to develop the dynamic webpages which is easily implemented now-a-days.

- How this technology integrated within the organization?

The QR code technology is integrated in the organization to verify the documents. The QR code can be generated with the help of the license number of the user and create the link that points to the document.

The JSP pages are used to Generate QR display User Profile and to connect with the Database.

- Technical evaluation must also access whether the existing system can be upgraded to use the new technology & whether the organization has expertise to use it.

- The proposed software requires following configurations:
    1. Processor: 1 GHz or above speed.
    2. RAM of 4 GB or above.
    3. System that can run JDK.
    4. System that can run a web server.

Since technical requirements are easy to fulfil, our software is technically feasible.

### 4.2.2 Operational Feasibility:

Operational feasibility determines how acceptable the application is with the organization.

One of the main objectives of developing a user friendly application is that the user does not face any problem while operating with the system.

There is sufficient support for management as well as end user. Manual work is reduced.

The most important part of operational feasibility study is input from everyone, especially when it affects how or what an organization does as far as processes.

In this system the user interface is user friendly and convenient to use therefore user may not lead to problems in operating the application.

The input from user is validated in strict manner because the main input from the user is the license number and the license number has the specific format in which they are stored in the database therefore the user have to input the right format. But the user does not know the exact format and it may irritate the user.

To prevent this problem, the system is developed in such a way that the user can enter the license number in any way and the system will convert it in the right format using validations.

Therefore, we can say that our system is Feasible for Operating.

### 4.2.3 Financial Feasibility:

This evaluation looks at the financial aspects of the project. To carry out an economical study it is necessary to place actual money values against any activities needed to implements the condition system.

- Cost of Hardware or Software Setup:

    The hardware or software set up required for development and efficient operation of the system is already available so cost is incurred is less.

- Cost of Training:

    The proposed system is developed as sequence of activities which provides more GUI. Each activity is self-explanatory hence no training cost is required for end user.

### 4.2.4 Resource Feasibility:

Resource feasibility includes questions regarding time required to complete the project, type and amount of resources required and dependent factors.

This project requires 60 day time to complete. Four people are required to complete this project. Special tools required for this project are:

1. A Web Server: We have used Apache Tomcat Server for running the JSP Pages the compiler version should be above 1.7.
2. An Editor: Notepad++ is used for writing the code.
3. Database: We have used MySQL database for storing the information.
4. A web browser to test the application.
5. A scanner to test the QR code.

**4.3 Behavioural and Functional Description**

The following UML diagrams show the functional and behavioural description of the system.

- The Use case diagram : Shows the user's role in the system
- Activity diagram: Shows the flow of the system
- Class Diagram: Shows all the classes
- Sequence Diagram shows the sequential flow of the system
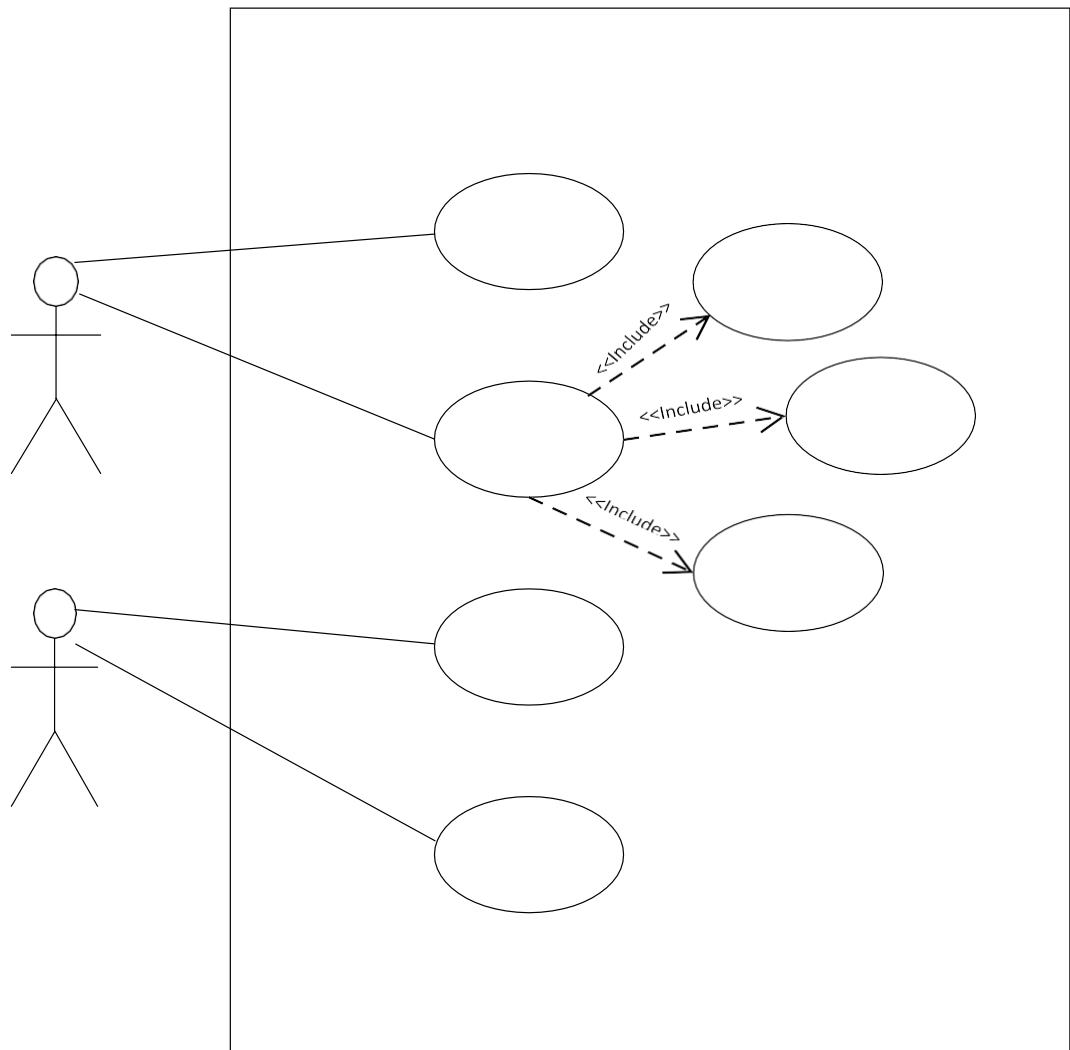
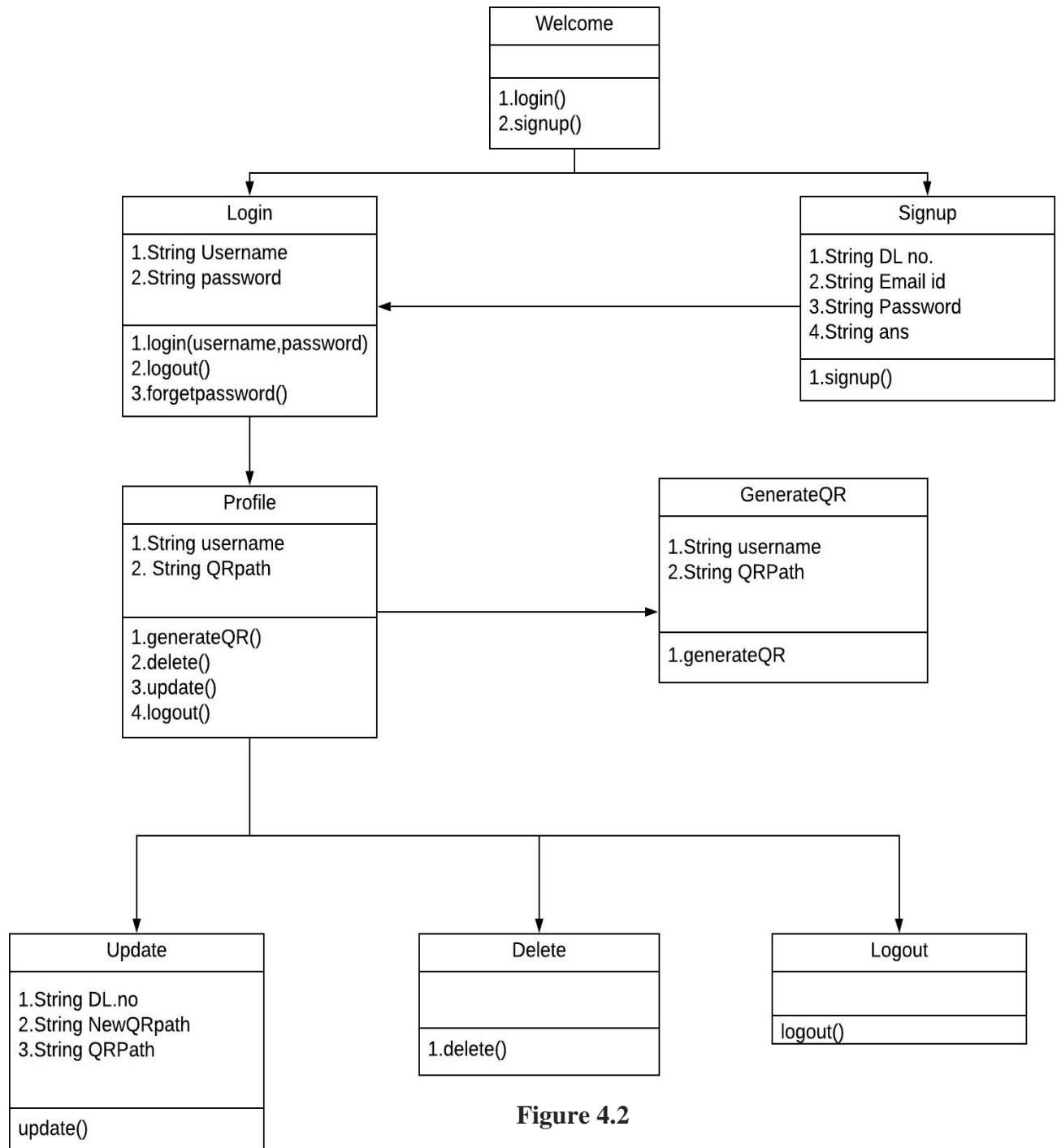- **Use Case Diagram**



**Figure 4.1**

- **UML Class Diagram**

```
                          ┌─────────────────────┐
                          │       Welcome       │
                          ├─────────────────────┤
                          │                     │
                          ├─────────────────────┤
                          │ 1.login()           │
                          │ 2.signup()          │
                          └─────────────────────┘
```

| Login |
|---|
| 1.String Username |
| 2.String password |
| 1.login(username,password) |
| 2.logout() |
| 3.forgetpassword() |

| Signup |
|---|
| 1.String DL no. |
| 2.String Email id |
| 3.String Password |
| 4.String ans |
| 1.signup() |

| Profile |
|---|
| 1.String username |
| 2. String QRpath |
| 1.generateQR() |
| 2.delete() |
| 3.update() |
| 4.logout() |

| GenerateQR |
|---|
| 1.String username |
| 2.String QRPath |
| 1.generateQR |

| Update |
|---|
| 1.String DL.no |
| 2.String NewQRpath |
| 3.String QRPath |
| update() |

| Delete |
|---|
| |
| 1.delete() |

| Logout |
|---|
| |
| logout() |

**Figure 4.2**

- **UML Sequence Diagram**
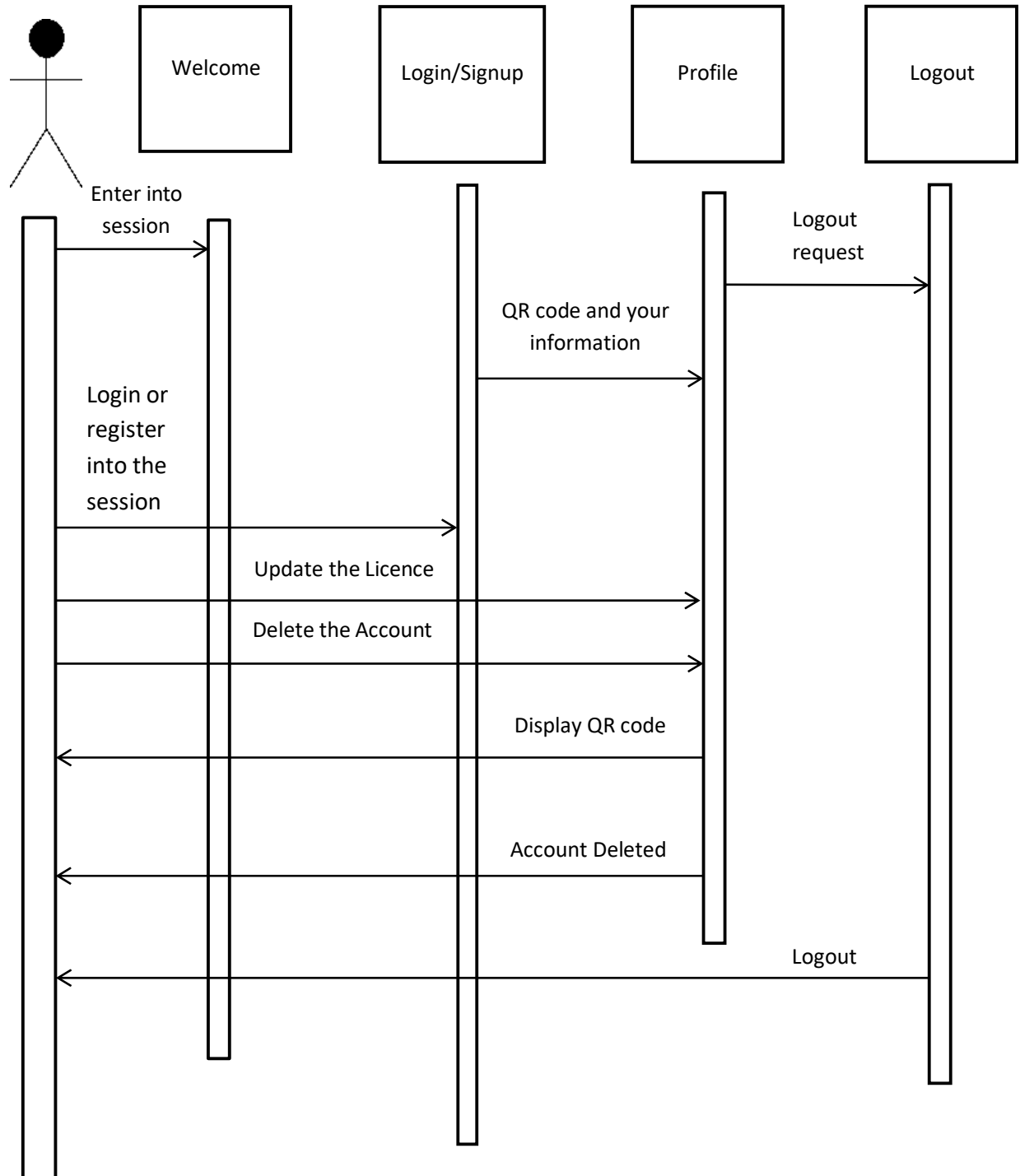


**Figure 4.3**

- **UML Activity Diagram**
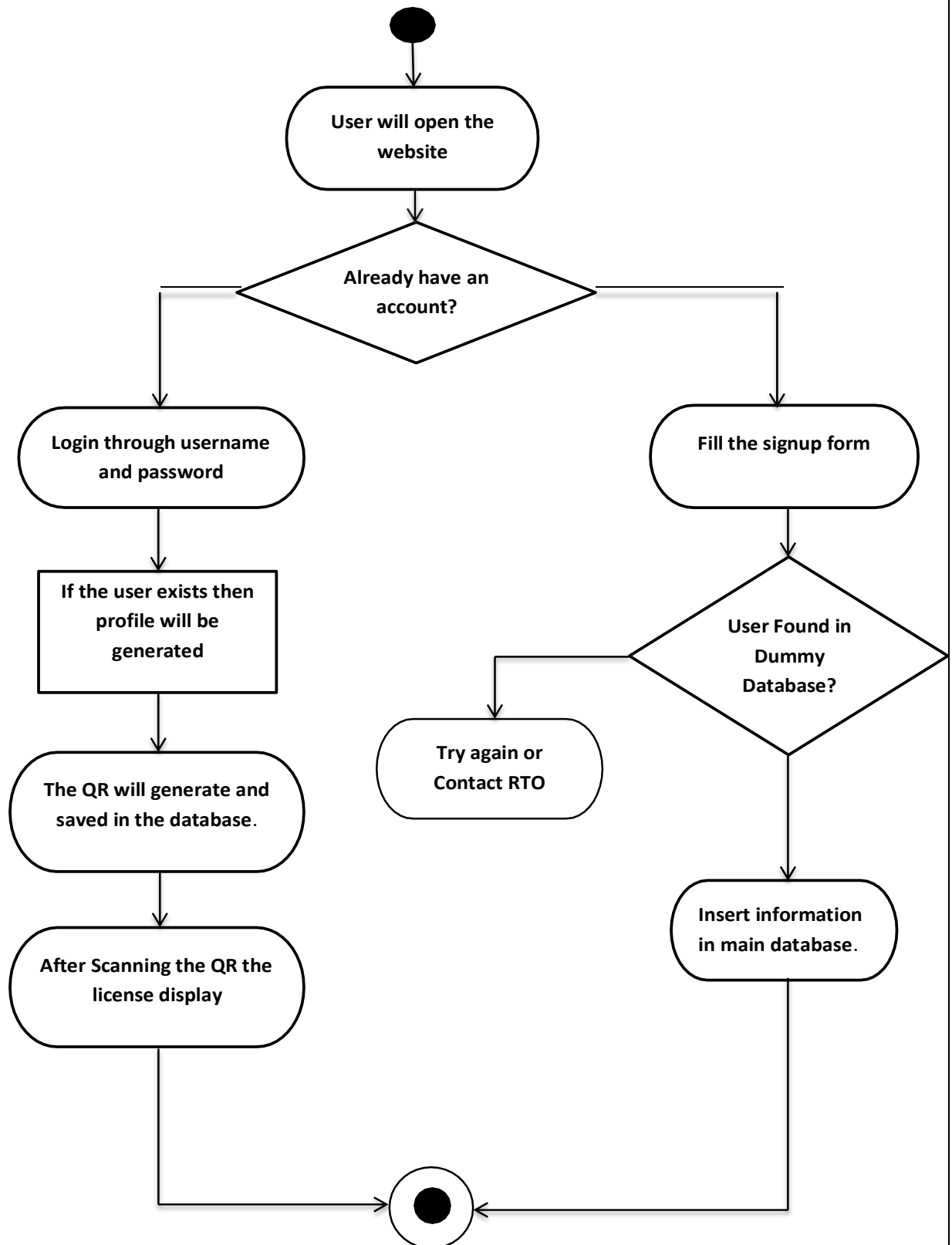


**Figure 4.4**

**4.4 Data Flow Diagrams:**

DFD Level 0:
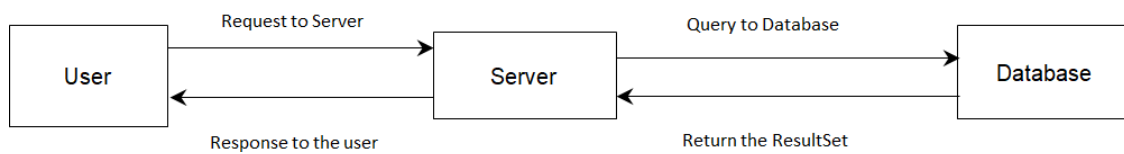


**Figure 4.5**

DFD Level 1:
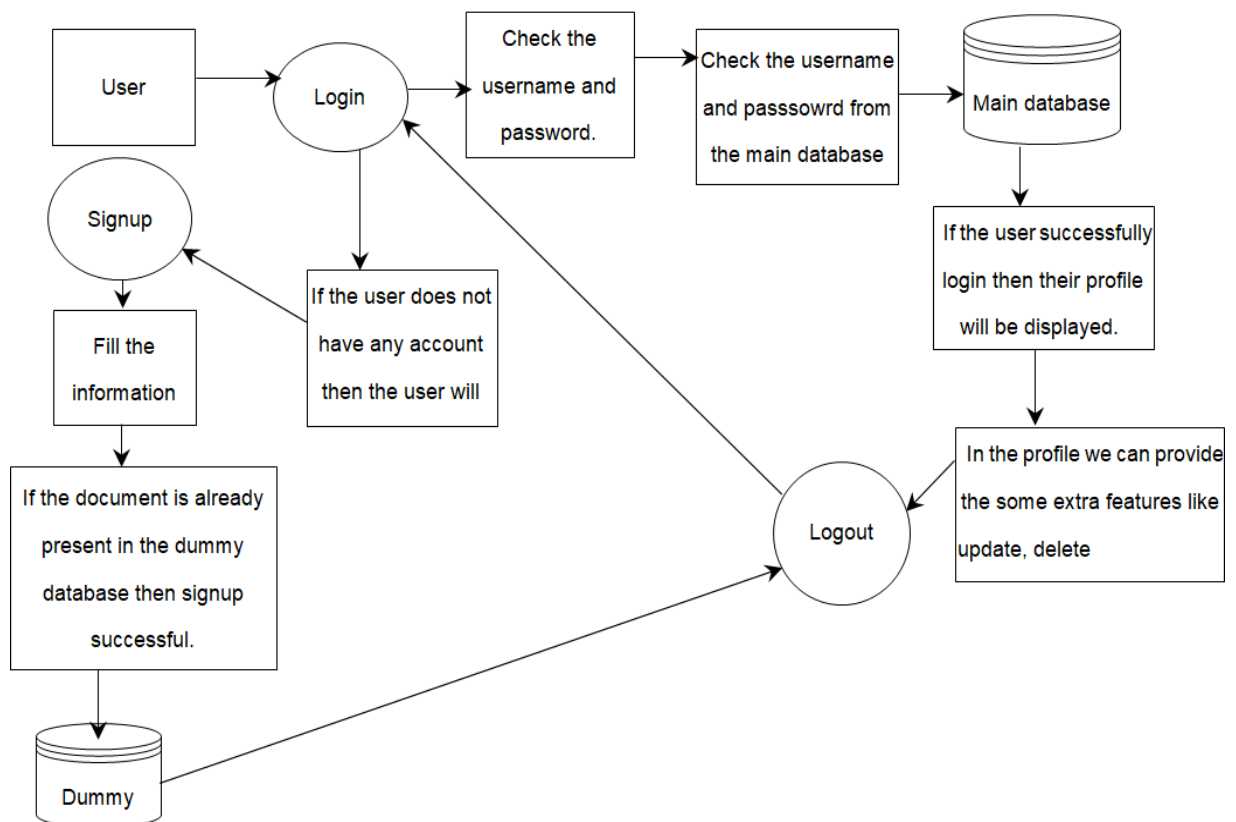


**Figure 4.6**

DFD Level 2:
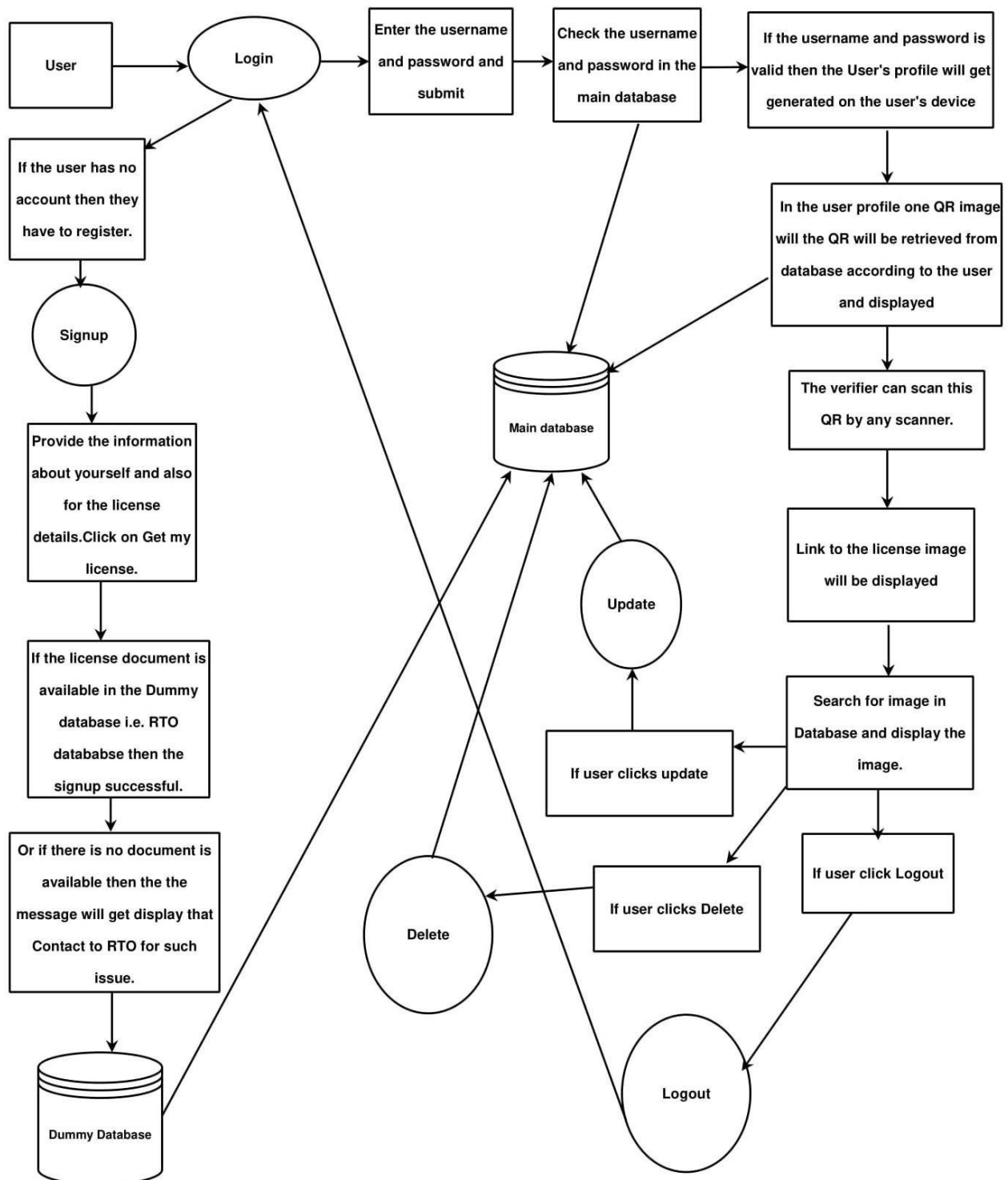


**Figure 4.7**

**4.5 Screenshots**

Signup page:

Lets user to create account.

# Sign Up

**Name:**

abc

**Email:**

example@email.com

**License Number:**

MH-XXXXXXXXXXXX

**Set Password**

********

**Retype password**

********

**What is Your Favorite Food Item(make sure it should be secret) :**

Your Answer Here

**Choose Gender**
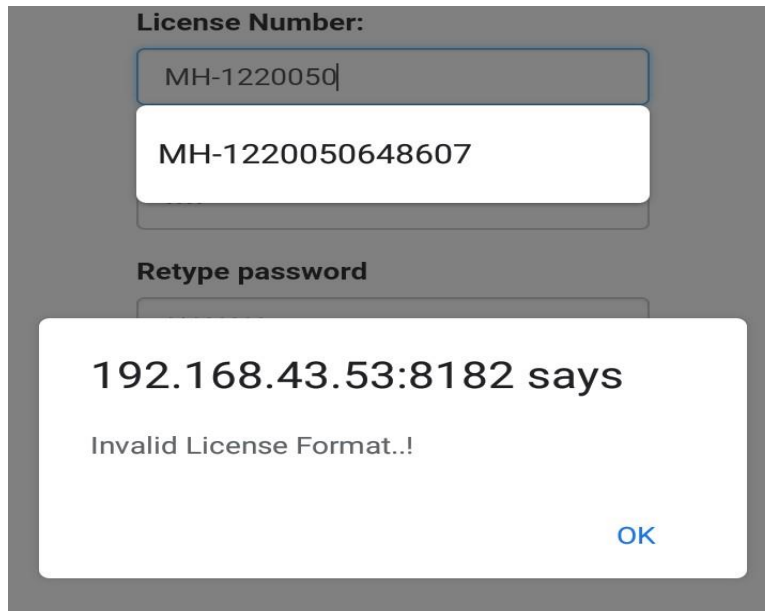
⚪ **Male**    ⚪ **Female**

Get My License

Already Have an account? **Login**
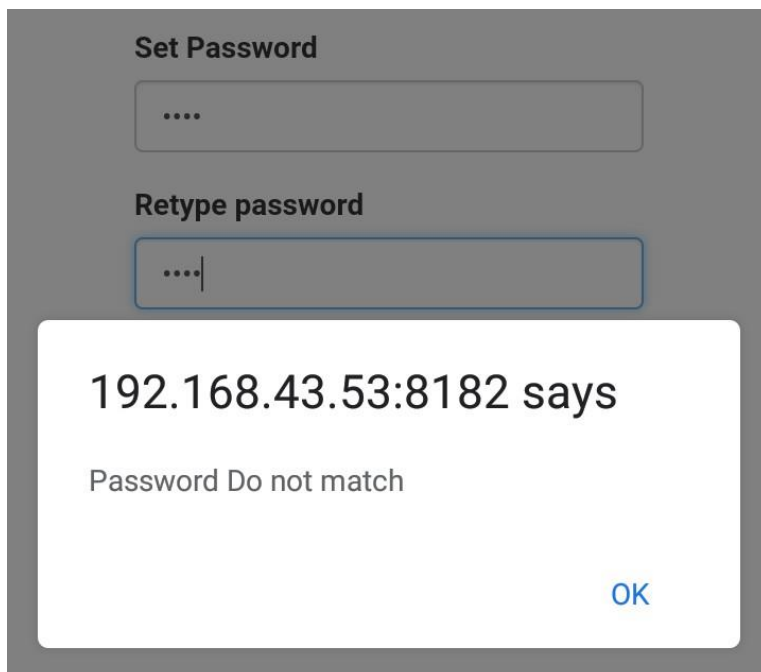
Signup validations:

If the license in is not in the proper format then the following alert box will be displayed.

License Number:

MH-1220050

MH-1220050648607

Retype password

192.168.43.53:8182 says

Invalid License Format..!

OK

If the user enters non-matching passwords then the following alert box will be displayed.
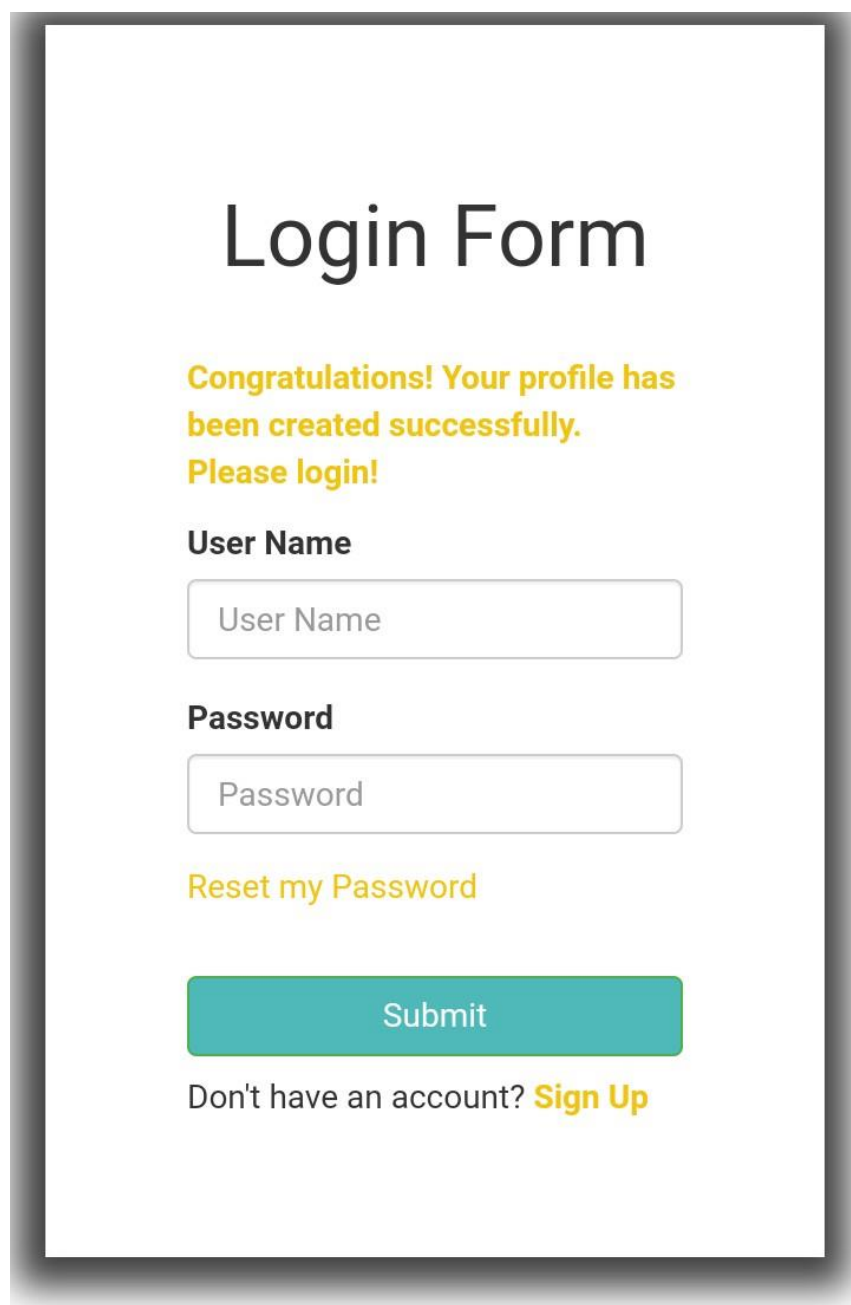
Set Password

....

Retype password

....

192.168.43.53:8182 says

Password Do not match

OK

If the matching DL number found in the dummy database then the following message will be displayed and user will be asked to log in

In login page the user have to enter the email and password.

The user information will be stored in the main database and then the QR code will be generated using user information and it is also stored in the database.

The image will be converted into password protected PDF and will be stored in the main database. The password of the PDF is the password which is set by the user while signing up

       If the profile with the given license number is already exists while signing up the following message is displayed and the user is asked to login.

       The message is displayed because the license number has Primary Key constraint and the username has the Unique Key constraint.

       If the username or license number is duplicated then an exception is caught where this message will be displayed.

# Login Form

**Profile with this License number already exists! Please Login**

**User Name**

User Name

**Password**

Password

Reset my Password

Submit

Don't have an account? **Sign Up**

If the license number is not registered in the dummy database then the user will be asked to contact RTO or fill the signup form appropriately.

If the user hasn''t registered their license in the dummy database then the user has to register it in dummy database first then he/she can log in.

# Sign Up

**Sorry! We could not find your record. Contact RTO or try again with appropriate information**

**Name:**

abc

**Email:**

example@email.com

**License Number:**

MH-XXXXXXXXXXXX

**Set Password**
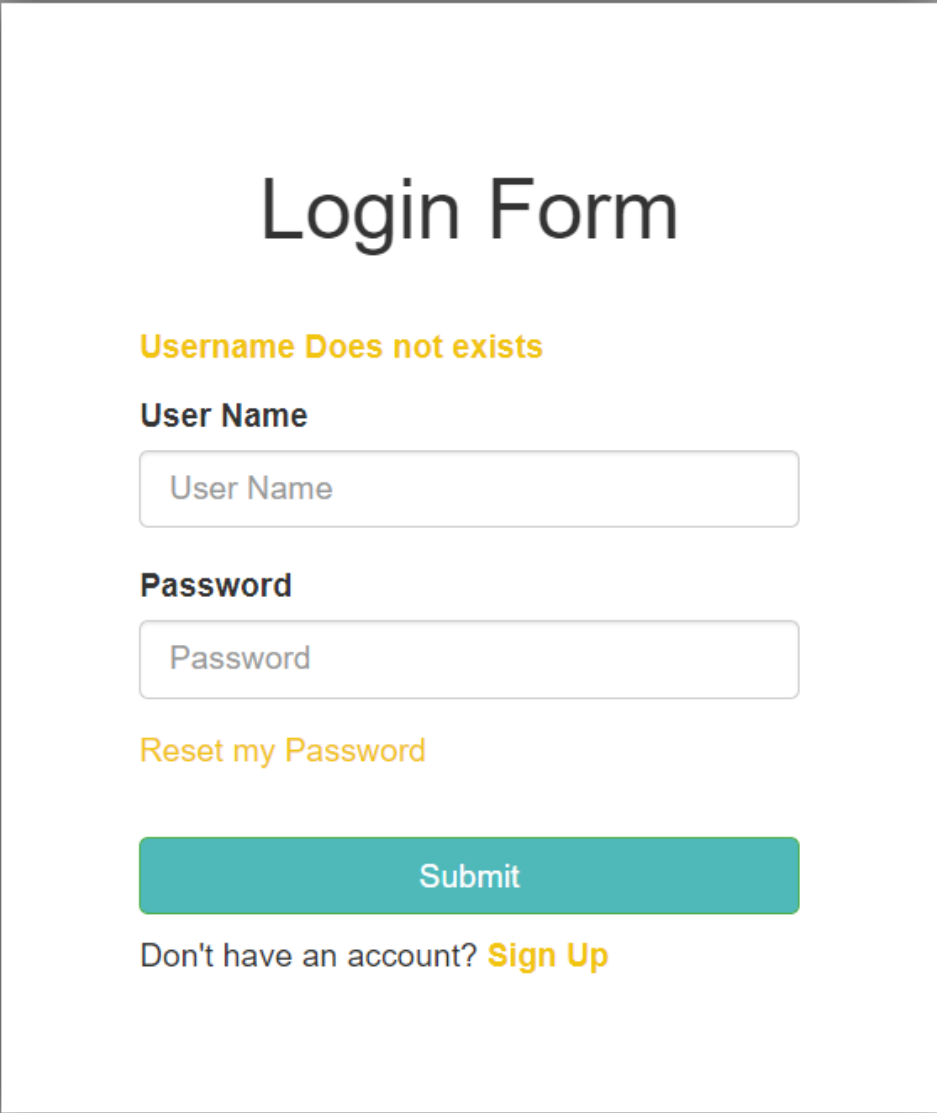
********

**Retype password**

********

Login Form:

If the user already has an account then he/she can log in with the following form.

Login form contains two fields username and password.

The username is the email of the user and the password is set at the time the user created account.

If the user does not exist in the database then the user is again asked to log in with the following message.

## Login Form

**Username Does not exists**

**User Name**
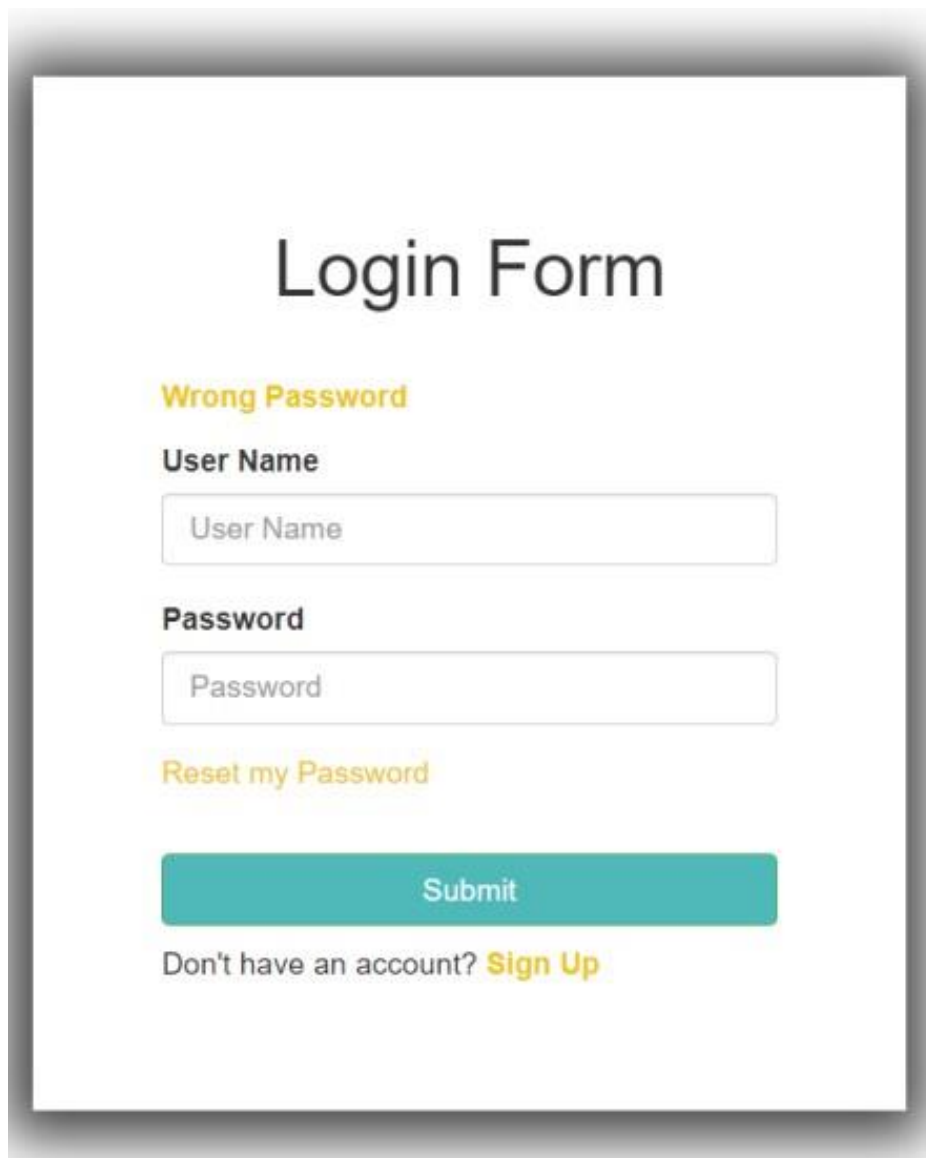
User Name

**Password**

Password

Reset my Password

Submit

Don't have an account? **Sign Up**

If the password does not matched with the password stored in the database with the given username then the following message will be displayed and user is asked to log in again.

If the username and password are filled correctly and matched with the database entries then the following user profile will be displayed.

In user profile, the verifier can scan the QR code and view the license document. The license document is the password protected PDF and the password is the user‟s profile password.

The following alert box will be displayed when the user tries to open the PDF file.
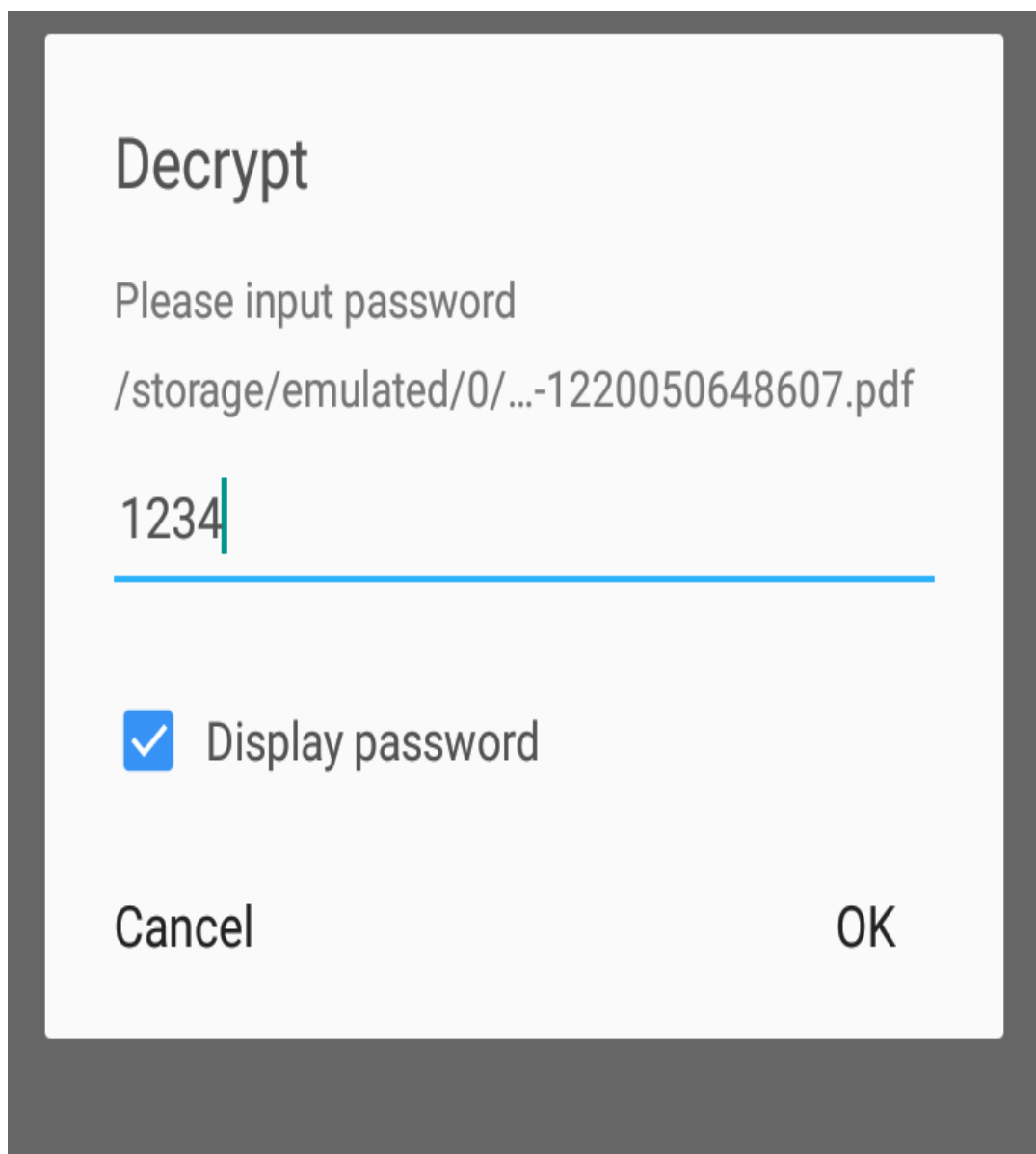
If the user provides the appropriate password then the license image will be displayed as follows.

The PDF also includes the user information and authorisation acknowledgment from RTO.

This is RTO Authorized License of Ms. Manavi Thorve. with DL number : MH-1220050648607
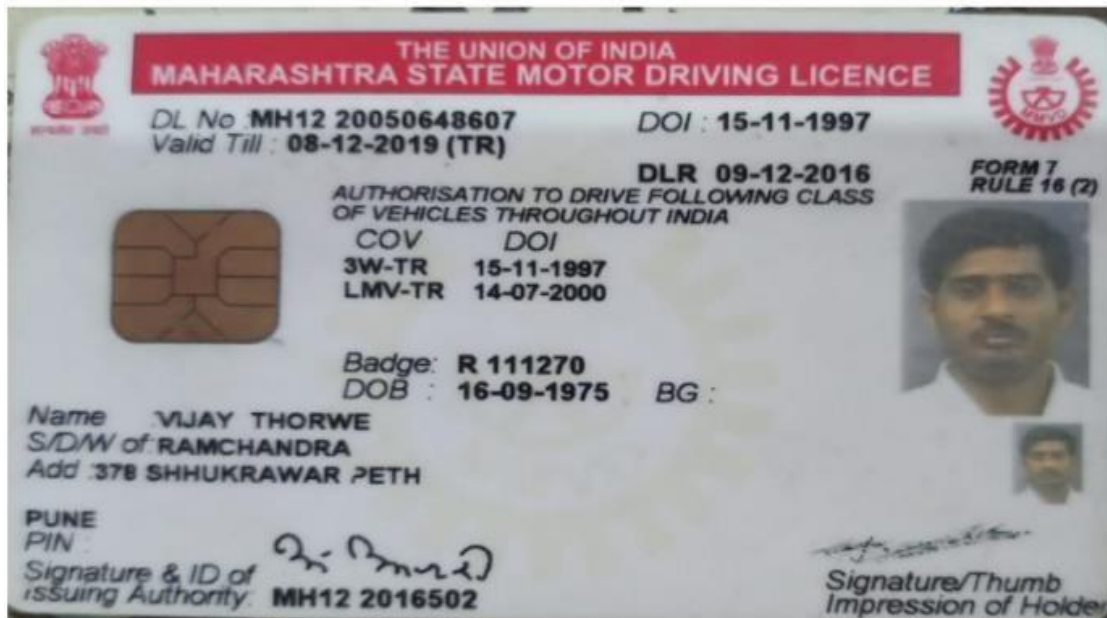
The user can also reset his profile if the license document is changed by clicking the „Update" button in the Profile page. When user clicks on this button the license image is again copied from dummy database to main database and again the PDF is created with the updated image and the following message is displayed.

If the user wants to delete his/her profile he/she can click on the „Delete"
button on the profile page. When user clicks this button the user"s record will be
deleted from the main database and all the images and PDF corresponding to that
user will be deleted.

## 192.168.43.53:8182 says

Do you really Want to Delete Profile?

Cancel          OK

## 192.168.43.53:8182 says

Your Profile has been Deleted Successfully!
Thank You for using our Services

OK

User can log out using the „Logout" button on profile page.

## 192.168.43.53:8182 says

Are you sure want to logout

Cancel          OK

## 192.168.43.53:8182 says

You have logged out successfully!

OK

User can also reset the password by filling the following form. The system checks the username current password and if the current password is correct then the user is asked to set the new password.

# Reset Password

**User Name**

manavithorve09@gmail.com

**Enter your current password**

....

I do not remember my Password

Login

Submit

# Reset Password

**Set Password**

*******

**Retype password**

*******

submit

      If the user has forgot the password then it can be reset by asking the user the answer of security question which is stored in the database if the answer is matched then the password can be reset.

# Reset Password

**User Name**

User Name

**What is Your Favorite Food Item(make sure it should be secret) :**

Enter Your Answer Here.

Reset my Password(I know my password)

Login

Submit

# 5. SYSTEM DEVELOPMENT

In development of the Online License Verification System we have developed many Web Pages and the description for each web page is as follows:

- **Web Pages**

### 1. Welcome Page

The Welcome Page is known as index.jsp. We create welcome page for user. What is the importance of the driving rules and what is the use of driving license. When user wants to create account or login on their profile, we link the signup and login pages using the hyperlink.

### 2. Sign Up page

We have created sign up page for user to create their account in this system. User have to enter some fields their username, email id, password, and most important their license number.

When license number matches with dummy database license numbers then user"s profile will be created otherwise "record not found" message will be displayed and error message "contact with RTO or enter correct license no" will be displayed.

If the record found then the QR code will be generated in the PNG format and will be stored in the main database.

### 3. Sign Up Validation page

We have created sign up validation page to validate all fields like validation for username when username is repeated then alert message is display.

Password length is compulsory greater than 4. Email is verified by @. License is verified by dummy database when license number is in the database then that is verify otherwise license number is invalid.

The input from user is validated in strict manner because the main input from the user is the license number and the license number has the specific format in which they are stored in the database therefore the user have to input the right format. But the user does not know the exact format and it may irritate the user.

To prevent this problem, the system is developed in such a way that the user can enter the license number in any way and the system will convert it in the right format using validations.

This page is all part of validations.

**4. GenerateQR page**

The GenerateQR is a JSP file which is invoked when the sign up process has successfully done. This includes various variables such as file type of the QR to be generated, what text to include after scanning the QR code. The java‟s AWT libraries as well as external JAR files are included to create the QR.

In our project we have used the Google‟s ZXING API to generate the QR code. This API provides the Classes to that are used to create the QR code using byte matrix, colours etc.

In our project the QR code is of type image with PNG file type and it displays the resource path of the image with the license number of the user i.e. when the user signups then the QR image with the given license number will get generated which retrieves the image path from the main database and then it will be added to the QR code text.

**5. Login page**

We have created login page for users who have already created account. Username and password are verified using main database. When user clicks on login button username and password field are searched in the main database. When username and password are valid then user can go to the profile page.

6. **Login Validation Page.**

We have created login validation page to validate username and password field. When user enter username and password fields and click on login button that time username and password field search in main database table and finds which row is matching with the username and password field. If fields are matched then the user is valid to go to the profile page.

7. **User Profile**

We have created profile page for specific user who logged in successfully. In this page, user will be shown their QR code. Verifier can easily scan this code using any scanning application.

In this page display the user information. The user can update his/her profile; delete his/her profile, and logout from page.

Update field is used when user has updated their license. For example, when user have license for two wheelers and then they can update their license for four wheelers then he/she can update the license.

Next is delete field, when user wants to delete their profile then they can use delete field to delete their record from the database.

Last is the logout field, this field is use d when user has done their work in their profile.

8. **Forgot or Reset Password**

The user may forget his/her password therefore; the „Forgot Password" field is added. The user can reset his/her password by answering the security question. The security question is the favourite food of the user which is stored in main database when user first created the account. If the answer is correct then the password will be reset.

The reset password field is added when the user want to change their passwords. The user has to enter the current password, new password and confirm the new password in order to change the password.

- **Databases**

1. **Dummy database**

Dummy database is used as a RTO database. In this database we are storing license numbers and license images.

Dummy database is used to help to user for creating account when user enter the license number then that license number will be searched in the dummy database, when both are matched then license image path will be copied to main database and then sent to the QR code generation to create QR and that QR code image is stored in QRPATH field in main database table.

Fields in Dummy Database table:
- o DLNO:- License Number
- o Image Path:- License Image Path

2. **Main database**

Main database is used to store all users" information in main table. There are some fields like name, email, license number, password etc.

When license number match with dummy database then sign up fields are store in the main database and license image path is passed to the main database from dummy database, then QR code is generated and stored in the main database.

When user login in their account then that username and password search in the main database and pass the QR code image to profile page to scan this code and display it.

Fields in Main Database table:
- o DLNO:- License Number
- o Image Path:- License Image Path
- o QrPath:- QR code image path
- o Name and email.
- o Password and Confirm Password.
- o Security Question"s Answer.
- o Gender.

- **Structural Diagram.**

The following diagram shows the structure of entire system.
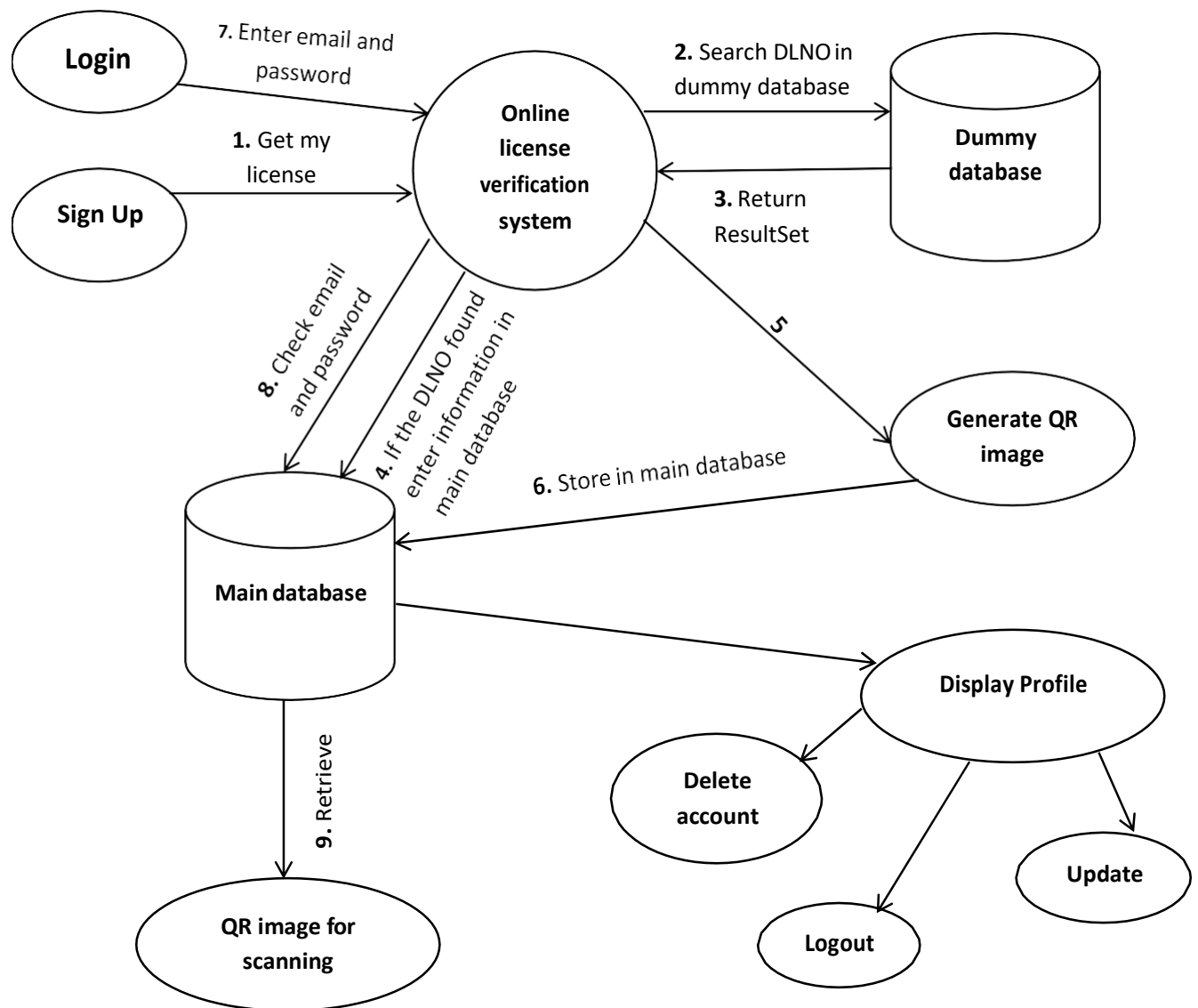


**Figure 5.1**

# 6. SYSTEM TESTING

- **System Startup Testing**

| Test case ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 1 | Open Xampp control panel | Check whether all ports are free | No errors due to free ports required for Apache, MySQL and tomcat | No errors due to free ports required for Apache, MySQL and tomcat | PASS |
| 2 | Apache | Open the Xampp and Start Apache | On port 80 the apache index window should be displayed | Apache Started Successfully | PASS |
| 3 | MySQL | Open the Xampp and Start MySQL | On port number 3306 MySQL should be started | MySQL started successfully | PASS |
| 4 | Web Server | Open the Xampp and Start tomcat | The Tomcat service should be started on port number 8182 | Tomcat web server started successfully | PASS |
| 5 | Index Page | Open the browser and enter the URL for index page of the Project | The index page successfully displayed | The index page successfully displayed | PASS |

**Table 6.1**

- **Test Cases Signup Page**

| ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 1 | Check Name Text Field | Enter the Name of the User | If the text field is null then the error textbox will be displayed | For null text field the error message is displayed | PASS |
| 2 | Check email Text Field | Enter the Email | If email is not entered with @ and domain name then the error will be displayed | For wrong email format the error message is displayed | PASS |
| 3 | Check License number Text Field | Enter the License number | If license number format is incorrect then error message will be displayed | For wrong license number format the error message is displayed | PASS |
| 4 | Password Text Field | Enter the password in two text fields | If both password are matched then password will be set | The error message will be displayed for non-matching passwords | PASS |
| 5 | Password Length | Enter the Password | If the Password Length is less than 4 then error message will be displayed | If the Password Length is less than 4 then error message will be displayed | PASS |

**Table 6.2**

| ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 6 | Gender Radio Button | Select Radio button | The radio button is selected | The radio button is selected | PASS |
| 7 | Favourite Food Text field | Enter the Favourite food | If this field is not filled error message will be displayed | If this field is not filled error message will be displayed | PASS |
| 8 | Get My License Button | Click the button | If the DL number found in dummy database then the image path will be copied to main database | If the DL number found in dummy database then the image path will be copied to main database | PASS |
| 9 | Login Page redirection link | Click the link | If the login page is present then the redirection successful | Redirection successful | PASS |
| 10 | Check Function call | Interaction with any field | Functions are called properly | Functions are called properly | PASS |

- **Test cases Login Page**

| ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 1 | Check Username Text Field | Enter the username of the user | If the text field is null then the error textbox will be displayed | For wrong username the message will be displayed that Username doesn"t exists. | PASS |
| 2 | Check the username with appropriate parameter | Enter the @ while filling the username field. | If the field with @ then go to the password field. If not then error will be displayed. | For wrong input i.e. without @ then error message displayed. | PASS |
| 3 | Check password Field | Enter the password | If the password is correct then login successful. | For wrong password the message will be displayed that wrong password. | PASS |
| 4 | Submit button | Click on submit button | If all fields are filled and login successful then submit all data into the dummy database | For clicking on submit button the fields are filled and login successful. | PASS |

**Table 6.3**

- **Test Cases for Profile Page**

| Test case ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 1 | Login successful | Check that login successful | If the login is successful then user profile is open | For login the user profile is open after successfully login | PASS |
| 2 | Display the QR Image | Check the QR according user | If the user is valid then the QR will be generated of that particular user | For valid user the QR image have to display | PASS |
| 3 | Scan the QR | Check that QR image will be scan | QR have to scan with appropriate scanner by the verifier | For scanning the QR it will scan by the verifier by the proper scanner | PASS |
| 4 | Display the document | Scan the QR | Scan the QR and then according to user display the license document | For user after scanning the QR display the license document | PASS |
| 5 | Update and delete the document | Click on update/delete | If the user want to update/delete the document then click on update/delete button and make changes | For updating/deleting document click on update/delete button and changes have to make | PASS |

**Table 6.4**

- **Test cases Forget Password**

| ID | Test case Name | Input Data | Expected Result | Actual Result | Status |
|---|---|---|---|---|---|
| 1 | Forget password | Click on Forget password | If the user forget the password then reset the password option will be open | For forgetting password the reset password option will be open | PASS |
| 2 | Reset password page | Resetting the password | If the Reset password page will be display then it will ask for user"s favourite food | For resetting password ask for the favourite food | PASS |
| 3 | Change the password | Changing the password after giving favourite food | If the user give the favourite food then change password page will be open | For changing the password it will ask for the current password i.e. in the reset password page | PASS |
| 4 | Current and reset the password | Give the current password and change the password | It will ask for the current password and then change it and confirm that password | Foe changing the password it will ask for current password and then change the password and then confirm that password | PASS |

**Table 6.5**

# 7. CONCLUSION

In this way, we conclude that this system is able to help the people who used to forget their license. The system is able to provide the QR code that can be generated once and scanned multiple times which lets the user to use the login actions less. And also provides the facility to automatically providing the license image to the database without asking user to upload the image and store it in the database which provides security to the user‟s information.

## 8. FUTURE SCOPE

Every system has more or less drawbacks to eliminate those drawbacks the new system is developed or the current system is updated. We are predicting the following possibilities of features that can be added in the system in future:

1. The scope of the system can be extended to the other documents rather than the licenses.
2. The validations can be improved such as the alert boxes can be removed and replaced with the custom messages.
3. The JSP pages can be reduced and the Servlets can be used to reduce the code redundancy
4. The facility of marking by whom the license was verified can be added.
5. More security can be provided by replacing the functionality of forgot password by sending the email to the user to reset the password.

# 9. REFERENCES

- [www.stackoverflow.com](http://www.stackoverflow.com)
- [www.youtube.com](http://www.youtube.com)
- [www.tutorialspoint.com](http://www.tutorialspoint.com)
- [www.javapoint.com](http://www.javapoint.com)
- [www.rtoonline.com](http://www.rtoonline.com)
- [www.checkrldlstatus.com](http://www.checkrldlstatus.com)