Chapter 1
INTRODUCTION TO PROJECT

We are now in a digital age, and a lot of innovative technologies are now invented that enable people to work more efficiently and conveniently. One of the great technologies that were invented and are widely used today is the QR (quick response) technology. Quick response code or QR code was created back in 1994 by Masahiro Hara, an employee from the Japanese company Denso Wave.

Now a days QR-CODE quick response code has many uses in handling information. So we can use this for passing information to a receiver in QR-CODE form so the receiver can scan and read the information.

We can pass a limited and useful information using QR-CODE in a secure way. By using security pins same as Ex: UPI transactions in google pay phone pe we can give a secure pin for our information which we want to share Only the person who knows the pin can read information which is shared by sender In this project QR-code generation is done using program with a security pin known only by receiver. Password-protected QR code allows you to display a QR code in a public area while being able to regulate and restrict other scanners except for the authorized ones. You can share your QR code password with those people whom you want to share the content with, making them the only ones who can access and view the content of your QR code. This QR code is great for sharing confidential documents or exclusive content.

1.1 PURPOSE OF THE PROJECT

The QR technology offers a convenient way to share content, we can change information in to QR code and we can scan and retrieve the information by scanner. In UPI transactions money can be transferred from bank to bank with a secured pin but now we are proposing a new system to transfer information.

1.2 SCOPE OF THE PROJECT

QR Code can hold any information within the square code. It can be used to link to a text, business card, multimedia, social media channels, and marketing campaigns.QR Code can hold up to 7,089 characters allowing it to be more versatile than a barcode.QR Codes resist damage. QR Codes can go through wear-and-tear and the agenda of the QR Code can be changed if dynamic QR Codes are used.QR Codes can support multimedia content – video, audio, and even AR and VR.

1.3 FEATURES OF THE PROJECT

QR Technology offers a lot of innovative ways to conveniently share information. QR codes nowadays are used in a much larger context. They are used in tracking commercial products, marketing campaigns, and other convenience-oriented processes that target smartphone users. QR codes are two-dimensional barcodes that store complex data. Unlike the traditional barcodes that can only store and display alphanumeric data, QR codes can display a website, file, or social media accounts. These QR codes are now used in cashless payments, easy access menus, for a more engaging marketing campaign, and many more. With these QR code features, we can truly say that QR codes have limitless potential. The content that is stored in the QR code can be accessed by just scanning these QR codes using smartphones. Making the QR code content and the information easily accessible by all. But how about the content and information that you only want to share with specific people? How can you limit the accessibility of the QR code and allow specific people to access the QR code content? You can regulate your QR code viewers and allow only your target viewers to access your QR code by integrating a password on your QR code.

- Share confidential documents.
- Paid and exclusive access to contents.
- Pre-release of marketing materials.
- Beta access to mobile games.
- Any organization can use QR codes for specifc data transfer.
- To protect data on inventory tags
- Any marketing product can be monitored using QR.

1.4 PROBLEM DEFINITION

These QR codes were initially used to replace the traditional barcodes in tracking manufactured car parts with a fast-reading code. QR codes nowadays are used in a much larger context. They are used in tracking commercial products, marketing campaigns, and other convenience-oriented processes that target smartphone users. QR codes are two-dimensional barcodes that store complex data. Unlike the traditional barcodes that can only store and display alphanumeric data, QR codes can display a website, file, or social media accounts. These QR codes are now used in cashless payments, easy access menus, for a more engaging marketing campaign, and many more. With these QR code features, we can truly say that QR codes have limitless potential. The content that is stored in the QR code can be accessed by just scanning these QR codes using smartphones. Making the QR code content and the information easily accessible by all.

Problems arising In the existing system:

1. But how about the content and information that you only want to share with specific people?

2. How can you limit the accessibility of the QR code and allow specific people to access the QR code content?

SOLUTION: We can regulate your QR code viewers and allow only your target viewers to access your QR code by integrating a password on your QR code.

1.5 ORGANIZATION OF DOCUMENT

In this project documentation we have initially put the definition and objective of the project as well as the design of the project which is followed by the implementation and testing phases. The project has been concluded successfully and the future enhancements of the project also given in this documentation.

Chapter 2
SYSTEM ANALYSIS

2.1 EXISTING SYSTEM:

. The QR technology offers a convenient way to share content, we can change information in to QR code and we can scan and retrieve the information by scanner. In upi transactions money can be transferred from bank to bank with a secured pin but now we are proposing a new system to transfer information.

2.2 PROPOSED SYSTEM:

In this proposed system, when people scan a password-protected QR code, they will be redirected first to a webpage where they have to enter the password of the QR code. After submitting the password, the scanners will be able to access and view the content stored on the QR code.

2.3 ADVANTAGES

This proposed system has following advantages:

- Handing a physical report personally or sending those reports through email may not be safe enough. Share these reports and other important documents using a password-protected QR code.
- With a password-protected QR code, even if other people may have scanned the QR code they will not be able to see the information that is embedded in the QR code

2.4 MODULES AND FUNCTIONALITIES

Modules are:

1) Py QR module

2) URL in code

3) Generating QR

4) Validation

5) Information

2.4.1 Py QR module in python

The pyqrcode module is a QR code generator that is simple to use and written in pure python. The module can automates most of the building process for creating QR codes.

2.4.2 URL in code (Adding Url in code)

Uniformed resource locater link is added in the program and converted in to QR code where information meant to be retrieved after scanning will be in form of URL is added to program. Example: https://www.computerhope.com

2.4.3 Generating QR code (from Url added to code)

Our program generates the QR code by taking URL as input and gives QR code as output you want to use a QR Code but restrict access to it at the same time.

2.4.4 Validation (our system will verify credentials)

Receiver need to enter the correct pin provided by sender to retrieve the information if receiver enters wrong pin our validation software will block the receiver. Once your password protected QR Code has been created, you can share the password with the authorized personnel. And ask them to use it to access the encoded data.

2.4.5 Information (our valuable information will be retrieved here)

After entering the pin provided by sender the receiver can retrieve the information.

Password protected QR Codes allow you to share your private data with only authorized people. When end-users scan it, they are prompted to enter the required password to be able to access the data. That simple!

2.5 FEASIBILITY STUDY:

The next step in analysis is to verify the feasibility of the proposed system. “All projects are feasible given unlimited resources and infinite time“. But in reality both resources and time are scarce. Project should confirm to time bounce and should be optimal in their consumption of resources. This place a constant is approval of any project.

2.5.1 Technical feasibility

2.5.2 Operational feasibility

2.5.3 Economic feasibility

2.5.1 TECHNICAL FEASIBILITY

To determine whether the proposed system is technically feasible, we should take into consideration the technical issues involved behind the system. This Application uses the web technologies, which is rampantly employed these days worldwide. The world without the web is incomprehensible today. That goes to proposed system is technically feasible.

2.5.2 OPERATIONAL FEASIBILITY:

To determine the operational feasibility of the system we should take into consideration the awareness level of the users. This system is operational feasible since the users are familiar with the technologies and hence there is no need to gear up the personnel to use system. Also the system is very friendly and to use.

2.5.3 ECONOMIC FEASIBILITY:

To decide whether a project is economically feasible, we have to consider various Factors as:

- Cost benefit analysis
- Long-term returns
- Maintenance costs

It requires average computing capabilities and access to internet, which are very basic requirements and can be afforded by any organization hence it doesn’t incur additional economic overheads, which renders the system economically feasible.

2.6 CONCLUSION

In this phase, we understand the modules and functionalities of the system. We arrange all the required components to develop the project in this phase itself so that we will have a clear idea regarding the requirements before designing the project. Thus, we will proceed to the design phase followed by the implementation phase of the project.

Chapter 3

SYSTEM DESIGN

3.1 SYSTEM DESIGN:

System design is transition from a user oriented document to programmers or data base personnel. The design is a solution, how to approach to the creation of a new system. This is composed of several steps. It provides the understanding and procedural details necessary for implementing the system recommended in the feasibility study. Designing goes through logical and physical stages of development, logical design reviews the present physical system, prepare input and output specification, details of implementation plan and prepare a logical design walkthrough.

The database tables are designed by analyzing functions involved in the system and format of the fields is also designed. The fields in the database tables should define their role in the system. The unnecessary fields should be avoided because it affects the storage areas of the system. Then in the input and output screen design, the design should be made user friendly. The menu should be precise and compact.

3.2 SOFTWARE DESIGN

In designing the software following principles are followed:

- **Modularity and partitioning**: software is designed such that, each system should consists of hierarchy of modules and serve to partition into separate function.
- **Coupling:** modules should have little dependence on other modules of a system.
- **Cohesion:** modules should carry out in a single processing function.
- **Shared use:** avoid duplication by allowing a single module be called byother that need the function it provides

3.2.1 SYSTEM ARCHITECTURE DESIGN

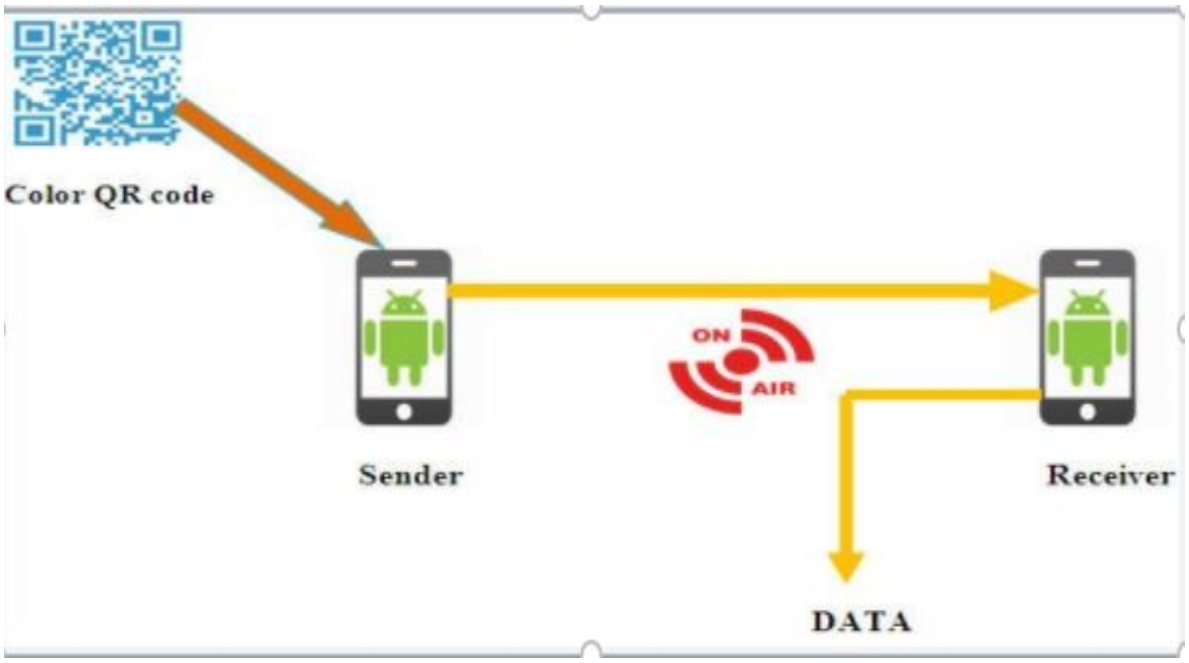


Fig:3.a System Architecture Design

APPLICATION ARCHITECTURE DESIGN

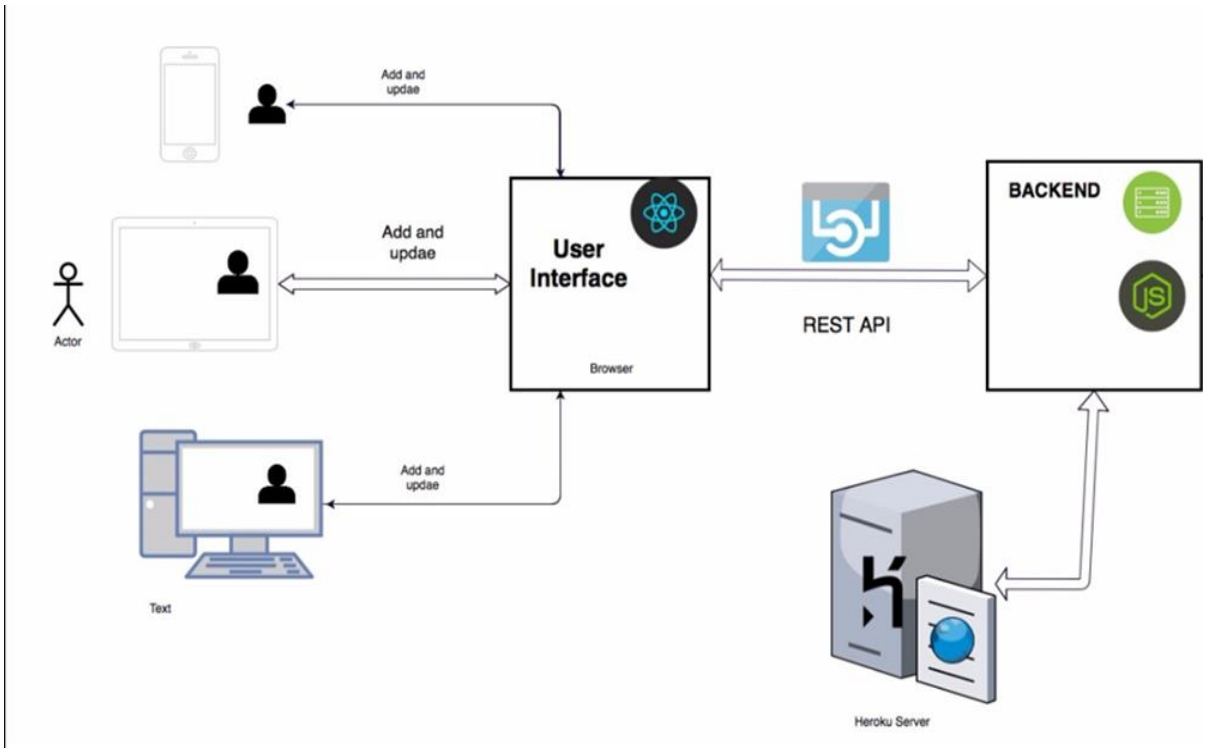


Fig:3.b Application Architecture Design

3.3 INPUT/OUTPUT DESIGN

3.3.1 Input design:

Considering the requirements, procedures to collect the necessary input data in most efficiently designed. The input design has been done keeping in view that, the interaction of the user with the system being the most effective and simplified way.

Also the measures are taken for the following

- Avoid unauthorized access
- Eliminating extra steps
- Keeping the process simple
- At this stage the sender and receiver action is designed

3.3.2 Output design:

All the screens of the system are designed with a view to provide the user with easy operations in simpler and efficient way, minimum key strokes possible. Instructions and important information is emphasized on the screen. Almost every screen is provided with no error and important messages and option selection facilitates. Emphasis is given for speedy processing and speedy transaction between the screens. Each screen assigned to make it as much user friendly as possible by using interactive procedures. So to say user can operate the system without much help from the operating manual.

3.4 SOFTWARE REQUIREMENT SPECIFICATIONS

3.4.1 What is SRS?

Software Requirement Specification (SRS) is the starting point of the software developing activity. As system grew more complex it became evident that the goal of the entire system cannot be easily comprehended. Hence the need for the requirement phase arose. The software project is initiated by the client needs. The SRS is the means of translating the ideas of the minds of clients (the input) into a formal document (the output of the requirement phase.) The SRS phase consists of two basic activities:

3.4.2 Problem/Requirement Analysis:

The process is order and more nebulous of the two, deals with understand the problem, the goal and constraints.

3.4.3 Requirement Specification:

Here, the focus is on specifying what has been found giving analysis such as representation, specification languages and tools, and checking the specifications are addressed during this activity.

The Requirement phase terminates with the production of the validate SRS document. Producing the SRS document is the basic goal of this phase.

3.4.4 Document Conventions:

We have used Times New Roman (text size 12).Bold Font is used for Main Headings (text size of 16). Normal font is used for sub headings (text size of 14).

Font: Times New Roman
Main Heading: Bold Font

3.5 UML Concepts:

The Unified Modeling Language (UML) is a standard language for writing software blue prints. The UML is a language for

- Visualizing
- Specifying
- Constructing
- Documenting the artifacts of a software intensive system.

The UML is a language which provides vocabulary and the rules for combining words in that vocabulary for the purpose of communication. A modeling language is a language whose vocabulary and the rules focus on the conceptual and physical representation of a system. Modeling yields an understanding of a system.

3.5.1 Building Blocks of the UML:

The vocabulary of the UML encompasses three kinds of building blocks:

- Things
- Relationships
- Diagrams

Things are the abstractions that are first-class citizens in a model; relationships tie these things together; diagrams group interesting collections of things.

3.5.2 Things in the UML:

There are four kinds of things in the UML:

- Structural things
- Behavioral things
- Grouping things
- Annotational things

❖ **Structural things** are the nouns of UML models. The structural things usedin the project design are first, a **class** is a description of a set of objects thatshare the same attributes, operations, relationships and semantics.

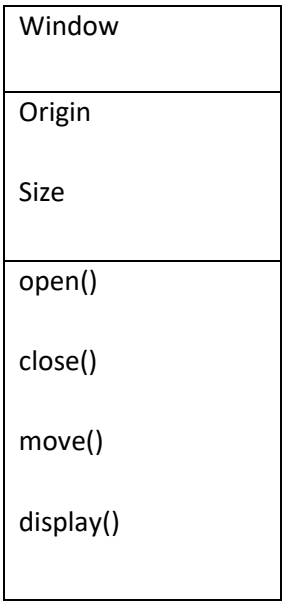
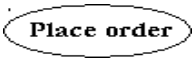


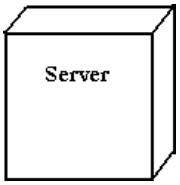
Fig 3.c: Classes

Second, a use case is a description of set of sequence of actions that a system performs that yields an observable result of value to particular actor



Use Cases

Third, a node is a physical element that exists at runtime and represents a computational resource, generally having at least some memory and often processing capability

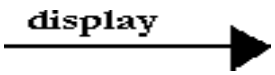


Nodes

Behavioral things are the dynamic parts of UML models. The behavioral thing used is:

Interaction:

An interaction is a behavior that comprises a set of messages exchanged among a set of objects within a particular context to accomplish a specific purpose. An interaction involves a number of other elements, including messages, action sequences (the behavior invoked by a message, and links (the connection between objects).



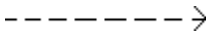
Messages:

3.5.2 Relationships in the UML:

There are four kinds of relationships in the UML:

- Dependency
- Association
- Generalization
- Realization

A **dependency** is a semantic relationship between two things in which a change toone thing may affect the semantics of the other thing (the dependent thing).

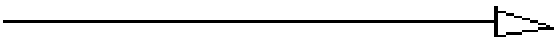


Dependencies

An association is a structural relationship that describes a set links, a link being a connection among objects. Aggregation is a special kind of association, representing a structural relationship between a whole and its parts.

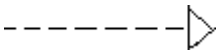
Association

A generalization is a specialization/ generalization relationship in which objects of the specialized element (the child) are substitutable for objects of the generalized element (the parent).



Generalization

A realization is a semantic relationship between classifiers, where in one classifier specifies a contract that another classifier guarantees to carry out.



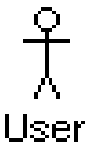
Realization

3.5.3 Sequence Diagrams:

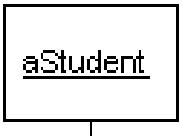
UML sequence diagrams are used to represent the flow of messages, events and actions between the objects or components of a system. Time is represented in the vertical direction showing the sequence of interactions of the header elements, which are displayed horizontally at the top of the diagram.

Sequence Diagrams are used primarily to design, document and validate the architecture, interfaces and logic of the system by describing the sequence of actions that need to be performed to complete a task or scenario. UML sequence diagrams areuseful design tools because they provide a dynamic view of the system behaviorwhich can be difficult to extract from static diagrams or specifications.

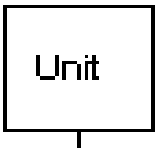
Actor
Represents an external person or entity that interacts with the system



Object
Represents an object in the system or one of its components



Unit
Represents a subsystem, component, unit, or other logical entity in the system (may ormay not be implemented by objects)

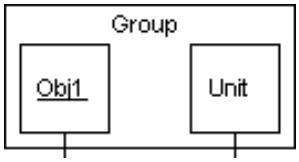


- **Separator**

Represents an interface or boundary between subsystems, components or units (e.g.,air interface, Internet, network)

- **Group**

Groups related header elements into subsystems or components



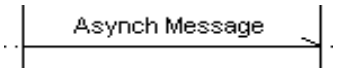
Sequence Diagram Body Elements

- **Action**

Represents an action taken by an actor, object or unit

- **Asynchronous Message**

An asynchronous message between header elements

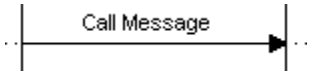


- **Block**

A block representing a loop or conditional for a particular header element

- **Call Message**

A call (procedure) message between header elements

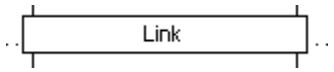


- **Create Message**

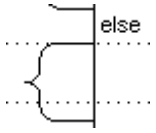
A "create" message that creates a header element (represented by lifeline going from dashed to solid pattern)

- **Diagram Link**

Represents a portion of a diagram being treated as a functional block. Similar to a procedure or function call that abstracts functionality or details not shown at this level. Can optionally be linked to another diagram for elaboration.



Else Block Represents an "else" block portion of a diagram block

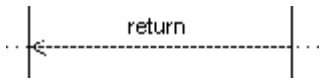


- **Message**

A simple message between header elements

- **Return Message**

A return message between header elements



Class Diagram:

A class diagram in the Unified Modelling Language is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects. Class diagram is a static diagram. It represents the static view of an application. Class diagram describes the attributes and operations of a class and the constraints imposed on the system.

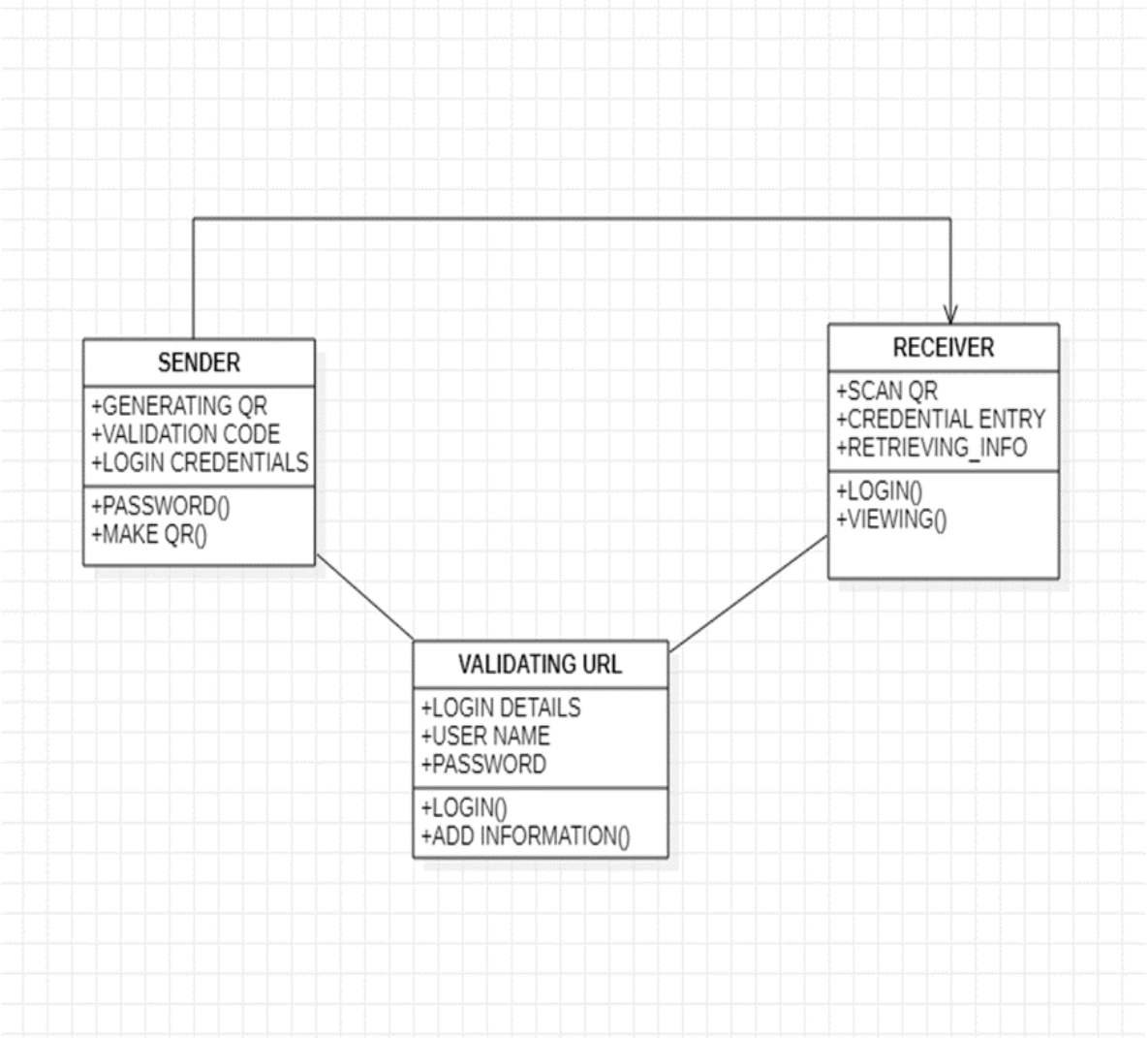


Fig 3.c: Class Diagram

Use Case Diagram:

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses.

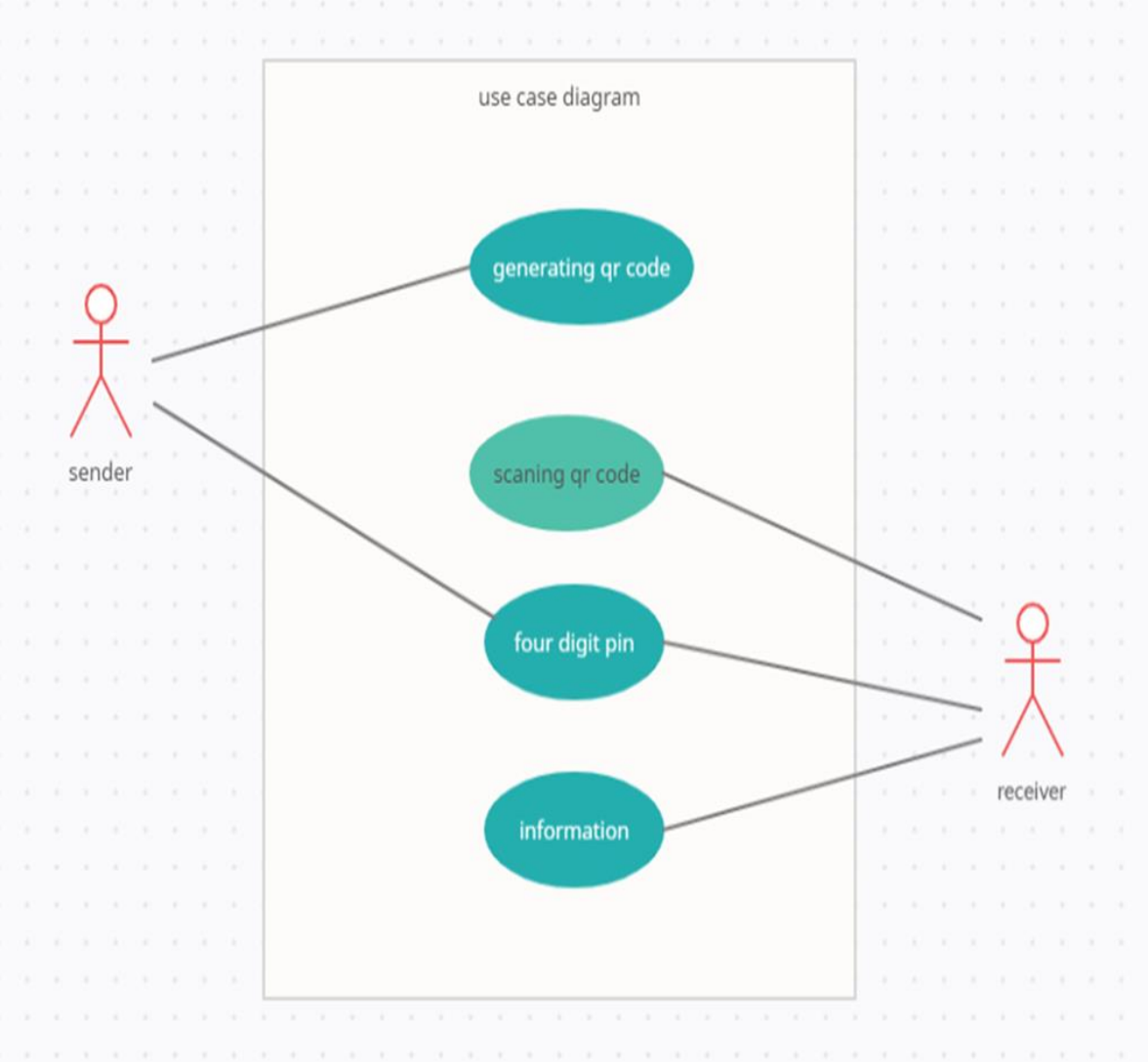


Fig 3.d: Use Case Diagram

Activity diagram:

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams are intended to model both computational and organizational processes (i.e., workflows) as well as the data flows intersecting with the related activities.

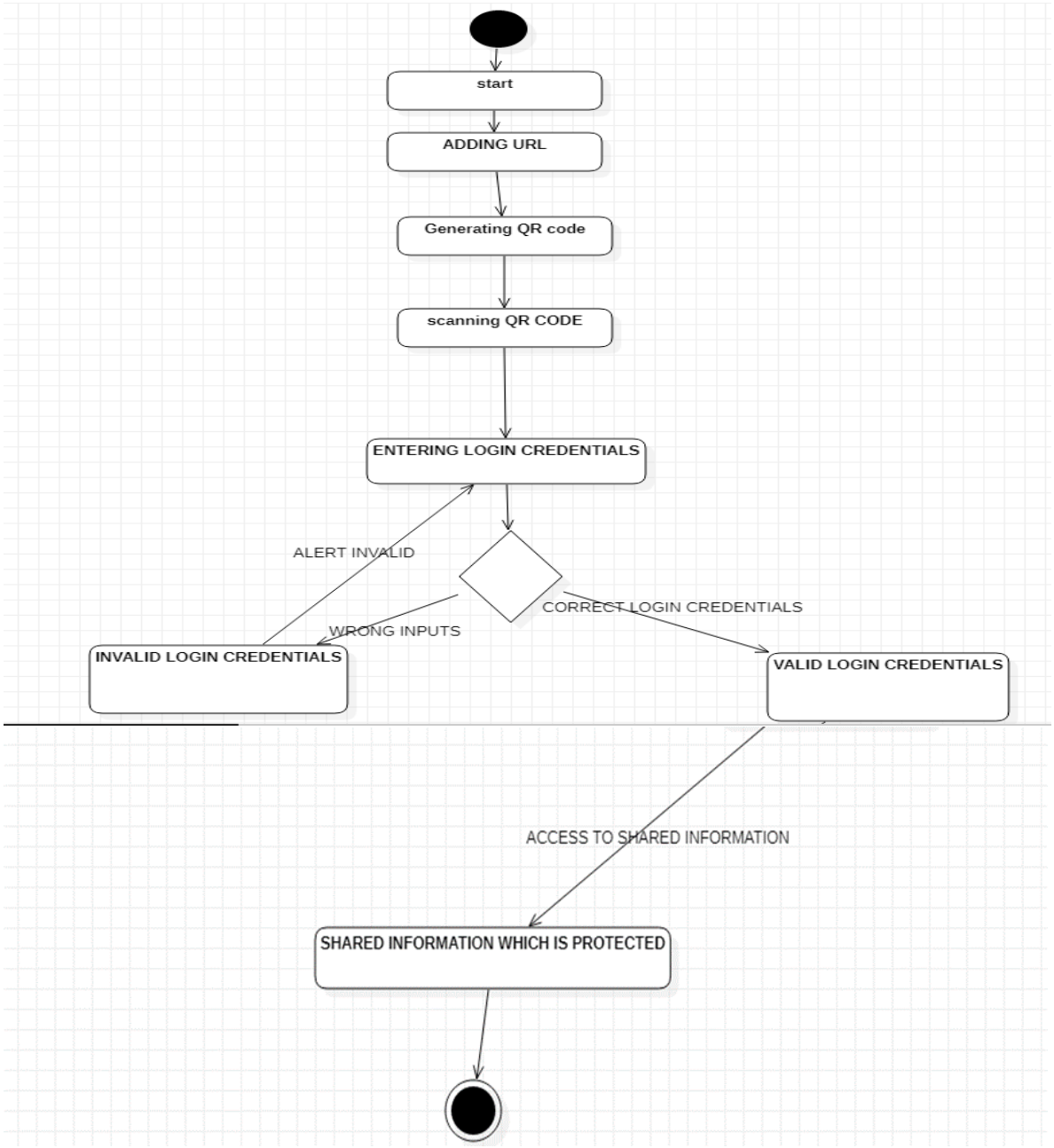


Fig 3.e : Activity Diagram

Deployment diagram:

A UML deployment diagram is a diagram that shows the configuration of run time processing nodes and the components that live on them. Deployment diagrams is a kind of structure diagram used in modeling the physical aspects of an object-oriented system.

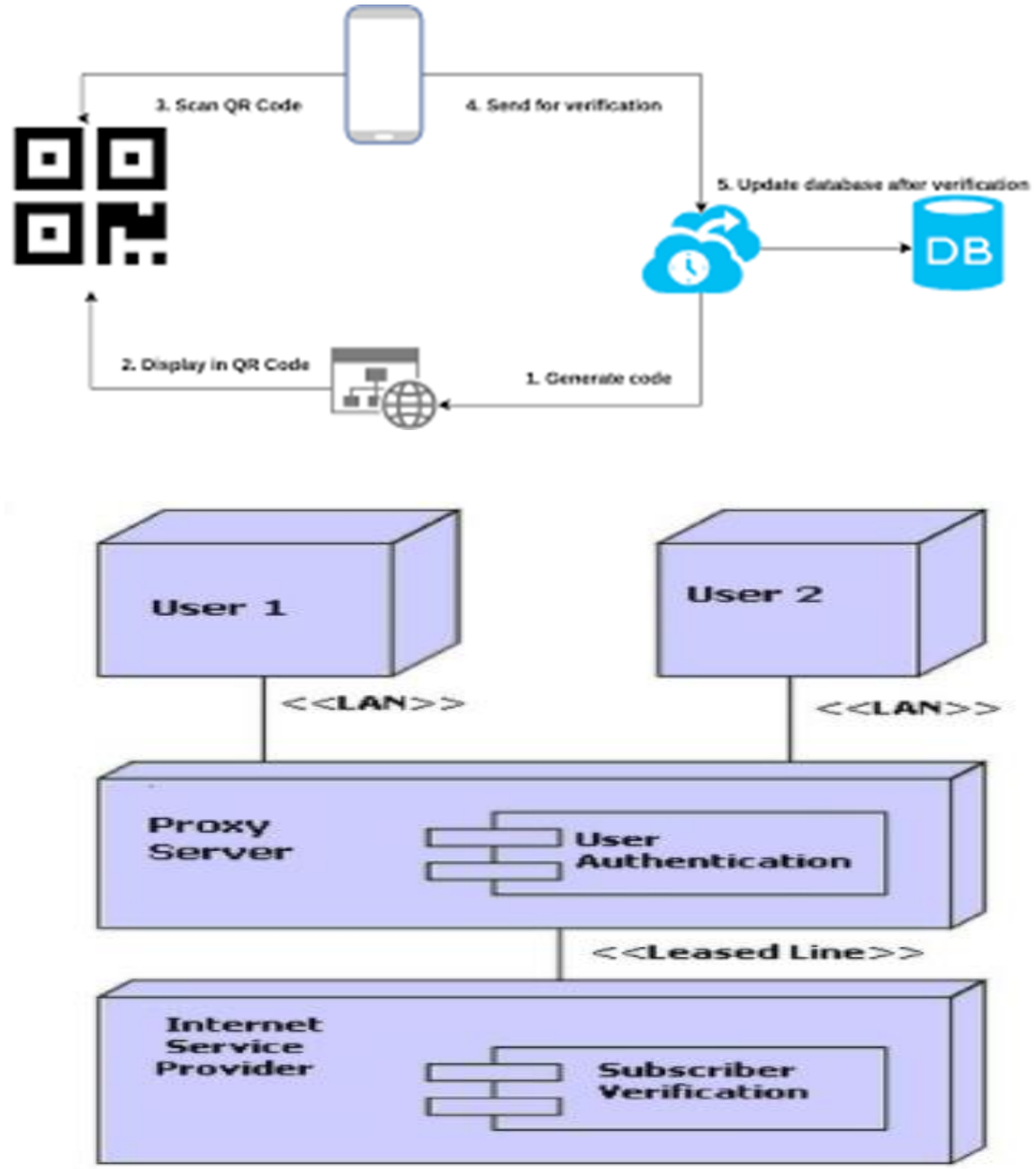


Fig 3.f : Deployment Diagram

3.6 HARDWARE AND SOFTWARE REQUIREMENTS:

3.6.1 Software Interfaces:

We use JavaScript for validating the login by user and unwanted users forthe project. Python programming is used for generating QR code. PYCHARM for writing the program.
Used sublime text editor to write HTML, CSS and java script for validation form.

3.6.2 Software Requirements

- Python pycharm developer edition.
- Pyqr module.
- Python IDE.
- Operating System - Windows XP/7/8/10.
- Google QR services.
- Sublime text editor.

3.6.3 Hardware Requirements

- Ram: : 1GB Ram and above
- Hard Disk : 50GB and above
- Processor : Dual core and above

Chapter 4
IMPLEMENTATION AND CODING

4.1 IMPLEMENTATION

4.2 QR services

4.2.1 Protected QR:

QRservices has been chosen as one of the best and most complete QR code generator online to track data and more in today's market. Its dynamic QR code offers can help you easily track and edit any URL behind your QR codes. ... QR codes now have become an important marketing tool for any business type as they are easy to use.

4.1.1.1 URL

A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the Internet. It is also referred to as a web address. URLs consist of multiple parts -- including a protocol and domain name. You would want convert a URL to QR code for a lot of reasons. Instead of having your audience type out a full URL in their mobile phones, converting the URL to QR code is one of the easiest solutions.Now that most smartphones have the built-in capability to scan a URL converted to QR Code, your users or customers won't have a hard time adopting. Our URL : https://swaroop7777-version.github.io/QRgenerator/'

4.2.1.2 Methods

the post method, after the submission of the form, the form values will not be visible in the address bar of the new browser tab as it was visible in the GET method.

4.2.1.3 Authorization

Passwords are used commonly to gain entry to networks and into various Internet accounts in order to authenticate the user accessing the website Password protection is a security process that protects information accessible via computers that needs to be protected from certain users. Password protection allows only those with an authorized password to gain access to certain information.

4.2.1.4 Response

Response can be in different file formats as like jpg, png, pdf, doc etc. The QR code provides the file in any format that will be secure to transfer files from sender to receiver. The file can be viewed if the receiver knows the username and password. If receiver tries to open without knowing the username and password it shows alert and warns about the wrong information provided.

4.2.1.5 Result

If the receiver provide correct information then the receiver can access the files present in it and use them as the receiver needs.

4.3 HTML, CSS, JS:

4.3.1 HTML

HTML is the language for describing the structure of Web pages. HTML gives authors the means to:

- Publish online documents with headings, text, tables, lists, photos, etc.
- Retrieve online information via hypertext links, at the click of a button.
- Design forms for conducting transactions with remote services, for use in searching for information, making reservations, ordering products, etc.
- Include spread-sheets, video clips, sound clips, and other applications directly in their documents.

With HTML, authors describe the structure of pages using markup. The elements ofthe language label pieces of content such as “paragraph,” “list,” “table,” and so on.

4.3.2 CSS

CSS is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens, small screens, or printers. CSS is independent of HTML andcan be used with any XML-based markup language. The separation of HTML from CSS makes it easier to maintain sites, share style sheets across pages, and tailor pages to different environments.

4.3.3 JAVA SCRIPT

Java script originally supported by Netscape navigator is the most popular web scripting language today. Java script lets you embedded programs right in your web pages and run these programs using the web browser. You place these programs in a
<SCRIPT> element, usually with in the <HEAD> element. If you want the script to write directly to the web page, place it in the <BODY> element.

4.3.3.1 JAVASCRIPT METHODS:

Writeln:

Document.writeln() is a method, which is used to write some text to the current webpage.

onClick:

Occurs when an element is clicked.

onLoad:

Occurs when the page loads.

onMouseDown:

Occurs when a mouse button goes down.

onMouseMove:

Occurs when the mouse moves.

onUnload:

Occurs when a page is unloaded.

4.4 Python programming:

Python is an interpreted high-level general-purpose programming language. Its design philosophy emphasizes code readability with its use of significant indentation. Its language constructs as well as its object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly, procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library.Guido van Rossum began working on Python in the late 1980s, as a successor to the ABC programming language, and first released it in 1991 as Python 0.9.0.[33] Python 2.0 was released in 2000 and introduced new features, such as list comprehensions and a garbage collection system using reference counting. Python 3.0 was released in 2008 and was a major revision of the language that is not completely backward-compatible. Python 2 was discontinued with version 2.7.18 in 2020.
Python consistently ranks as one of the most popular programming languages.

4.4.1 Pyqr module:

The pyqrcode module is a QR code generator that is simple to use and written in pure python. The module can automates most of the building process for creating QR codes. Most codes can be created using only two lines of code! Unlike other generators, all of the helpers can be controlled manually. You are free to set any or all of the properties of your QR code.QR codes can be saved as SVG, PNG (by using the pypng module), and plain text. They can also be displayed directly in most Linux terminal emulators. PIL is not used to render the image files. The pyqrcode module attempts to follow the QR code standard as closely as possible. The terminology and the encodings used in pyqrcode come directly from the standard. This module also follows the algorithm laid out in the standard.

4.6 CODING:

4.6.1 MAIN.PY: CODE FOR QR GENERATION

```
import qrcode
qr=qrcode.make('https://swaroop7777-version.github.io/QRgenerator/')
qr.save('qr.png')            # Where our generated QR code is saved as png.
print ('QR code is generated')
```

4.6.2 index.html

"Validation code for login credentials"

```
<!DOCTYPE HTML>
<html>
<head>
<title>verification</title>
<script>
function myfuntion()
{
var un = document.forms["myform"]["uname"].value;
var pw = document.forms["myform"]["pass"].value;
if(un=="student" && pw=="1234")
{
window.location.href="security.html";
}
else{
alert("Invalid username password");
}
}
</script>
<style>
body{
background:#ffcc00;
}
.div1
{
width:350px;
margin: auto;
margin: 10 0 0 450px;
overflow: hidden;
padding: 75px;
background:#003300;
}
```

```
h2
{
text-align: center;
padding: 10px;
color:#003300;
}

label
{
color: white;
padding-left:10px;
}
.inputText
{
width: 300px;
height: 30px;
border: none;
border-radius: 2px;
padding-left: 8px;
}
#logButton{
width: 300px;
height: 30px;
border: none;
border-radius:10px;
padding-left: 7px;
color: black;
font-size: 16px;
}
</style>
<head>
<body>
<h2> Enter details</h2>
<div class="div1">
<form name="myform" method="post">
<label>Username</label>
<input type="text" name="uname" class="inputText" placeholder="name">
<br><br>
<label>Password</label>
<input type="password" name="pass" class="inputText" placeholder="password">
<br><br>
<input type="button" name="log" id="logButton" value="login" onclick="myfunction()">
<br><br>
</form>
</div>
</body>
</head>
```

CHAPTER 5

TESTING

5.1 SOFTWARE TESTING

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design, and code generation**.**

5.1.1 TESTING OBJECTIVES

- To ensure that during operation the system will perform as per specification.
- TO make sure that system meets the user requirements during operation
- To make sure that during the operation, incorrect input, processing andoutput will be detected
- To see that when correct inputs are fed to the system the outputs are correct
- To verify that the controls incorporated in the same system as intended
- Testing is a process of executing a program with the intent of finding anerror
- A good test case is one that has a high probability of finding an as yet undiscovered error.

The software developed has been tested successfully using the following testing strategies and any errors that are encountered are corrected and again the part of the program or the procedure or function is put to testing until all the errors are removed. A successful test is one that uncovers an as yet undiscovered error.

Note that the result of the system testing will prove that the system is working correctly. It will give confidence to system designer, users of the system, prevent frustration during implementation process etc.

5.2 TESTING DESIGN:

5.2.1 White box testing

White box testing is a testing case design method that uses the control structure of the procedure design to derive test cases. All independents path in a module are exercised at least once, all logical decisions are exercised at once, execute all loops at boundaries and within their operational bounds exercise internal data structure to ensure their validity. Here the customer is given three chances to enter a valid choice out of the given menu. After which the control exits the current menu.

5.2.2 Black Box Testing

Black Box Testing attempts to find errors in following areas or categories, incorrect or missing functions, interface error, errors in data structures, performance error and initialization and termination error. Here all the input data must match the data type to become a valid entry.

The following are the different tests at various levels:

5.2.3 Unit Testing:

Unit testing is essentially for the verification of the code produced duringthe coding phase and the goal is test the internal logic of the module/program. Inthe Generic code project, the unit testing is done during coding phase of data entry forms whether the functions are working properly or not. In this phase all the drivers are tested they are rightly connected or not.

5.2.4 Integration Testing:

All the tested modules are combined into sub systems, which are then tested. The goal is to see if the modules are properly integrated, and the emphasis being on the testing interfaces between the modules. In the generic code integration testing is done mainly on table creation module and insertion module.

5.2.5 Validation Testing

This testing concentrates on confirming that the software is error-free in all respects. All the specified validations are verified and the software is subjected to

hard-core testing. It also aims at determining the degree of deviation that exists in the software designed from the specification; they are listed out and are corrected.

5.2.6 System Testing

This testing is a series of different tests whose primary is to fully exercise thecomputer-based system. This involves:

- Implementing the system in a simulated production environment and testing it.
- Introducing errors and testing for error handling.
-

5.3 TESTCASES

5.3.1 TEST CASE:

Test case for Login form:

When a user tries to login by submitting an incorrect ID or an incorrect Passwordthen it displays an error message “USERNAME OR PASSWORD IS INCORRECT”.

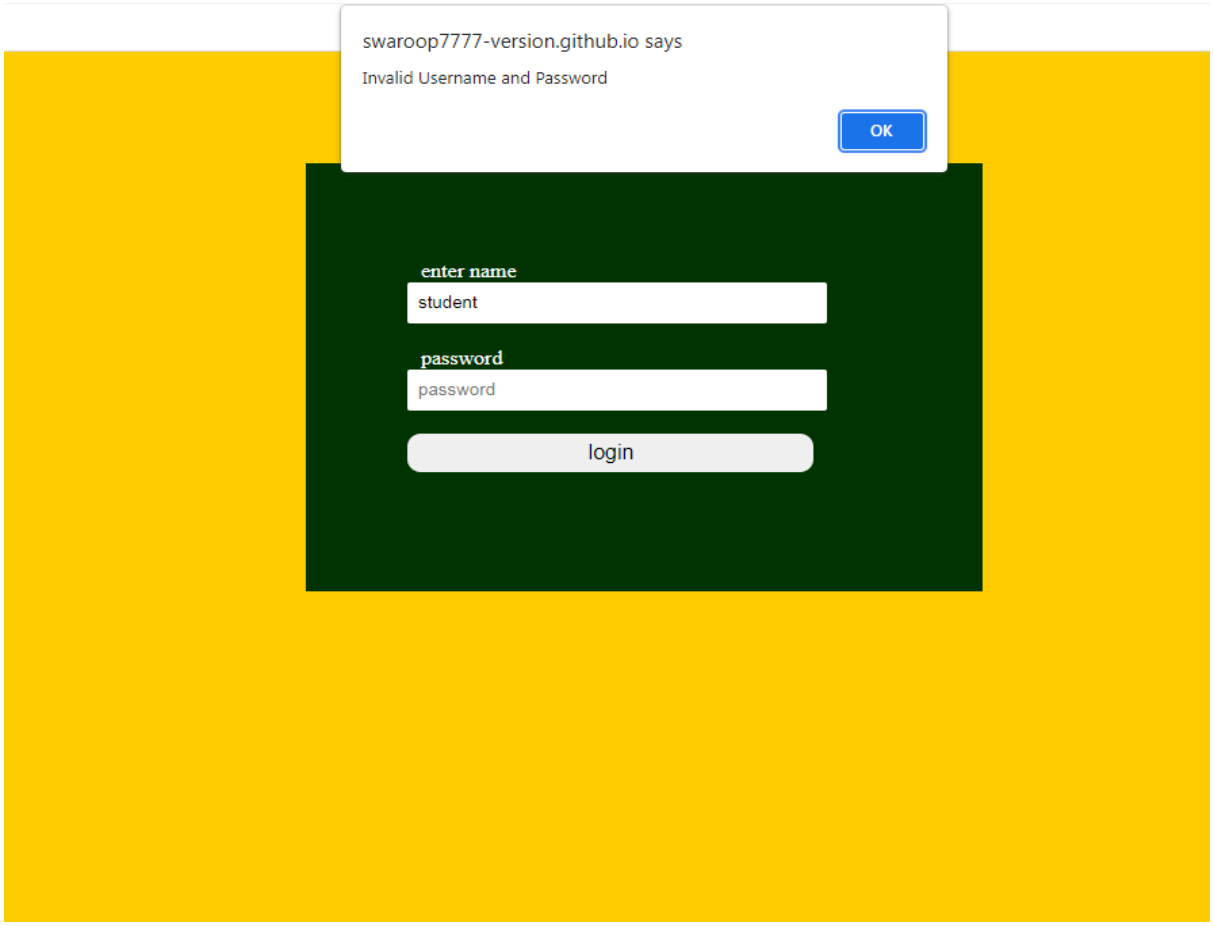


Fig 5 Test case: verification

JavaScript Security Best Practices

- Don't trust user inputs blindly.
- Use proper methodologies for encoding/escaping.
- Sanitize and cleanse your user inputs.
- Set secure cookies.
- Establish a secure content security policy.
- Encrypt data transmissions between client-side and server-side.
- Use updated libraries and frameworks.

CHAPTER 6
LIST OF IMAGES

Fig 6.a: QR.png

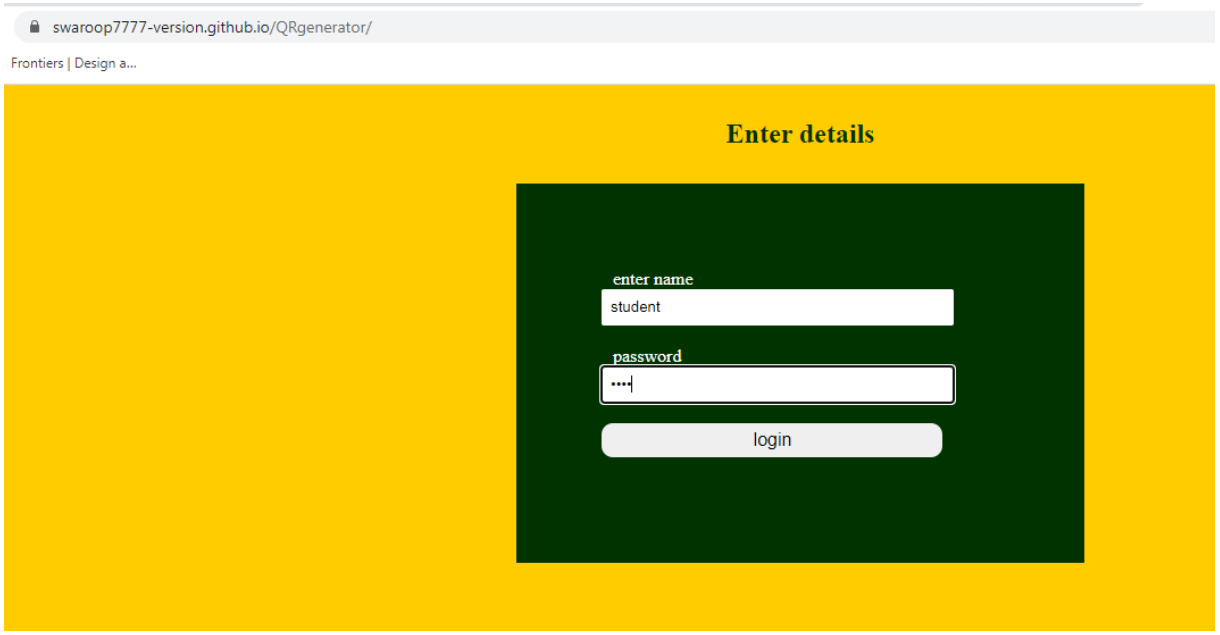


Fig 6.b: URL

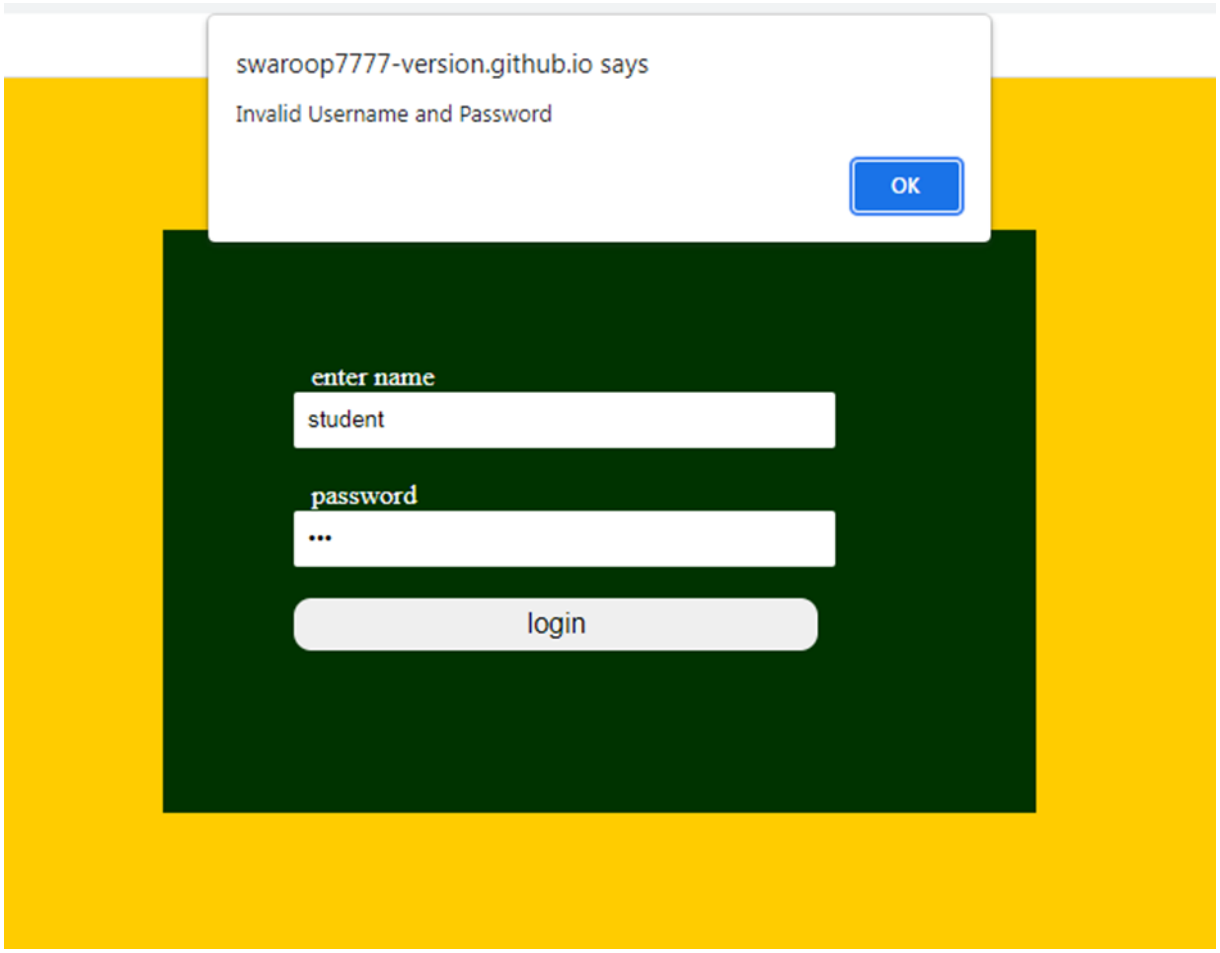


Fig 6.c: Validation Failed

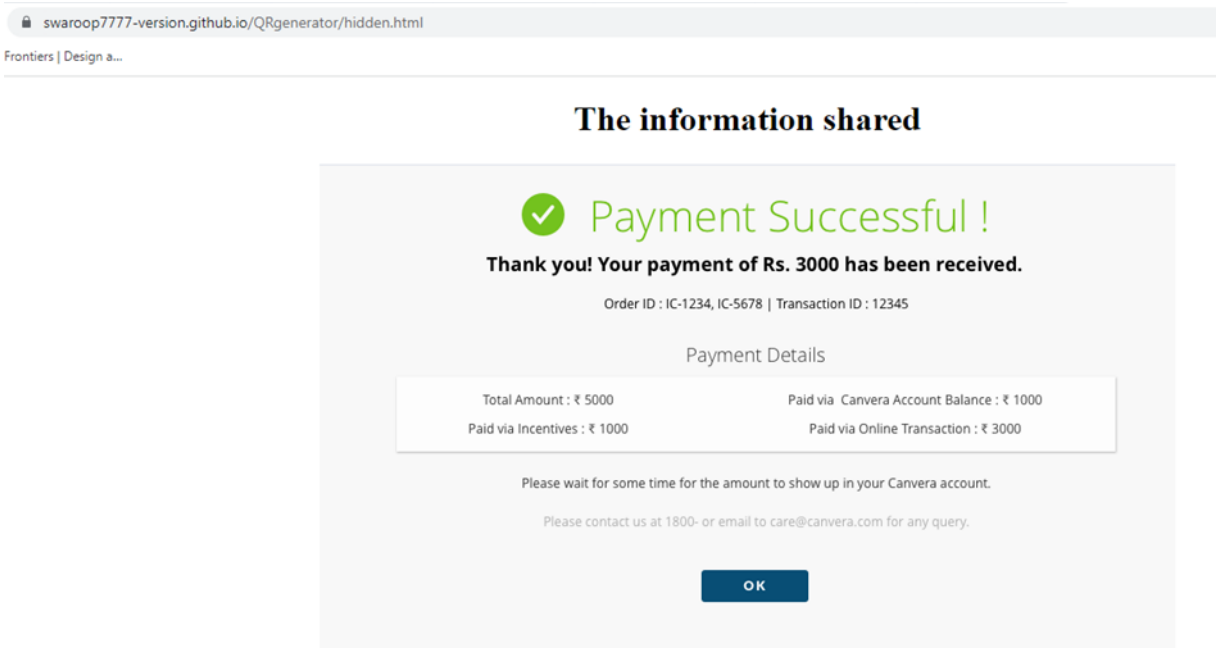


Fig 6.d: Shared Information

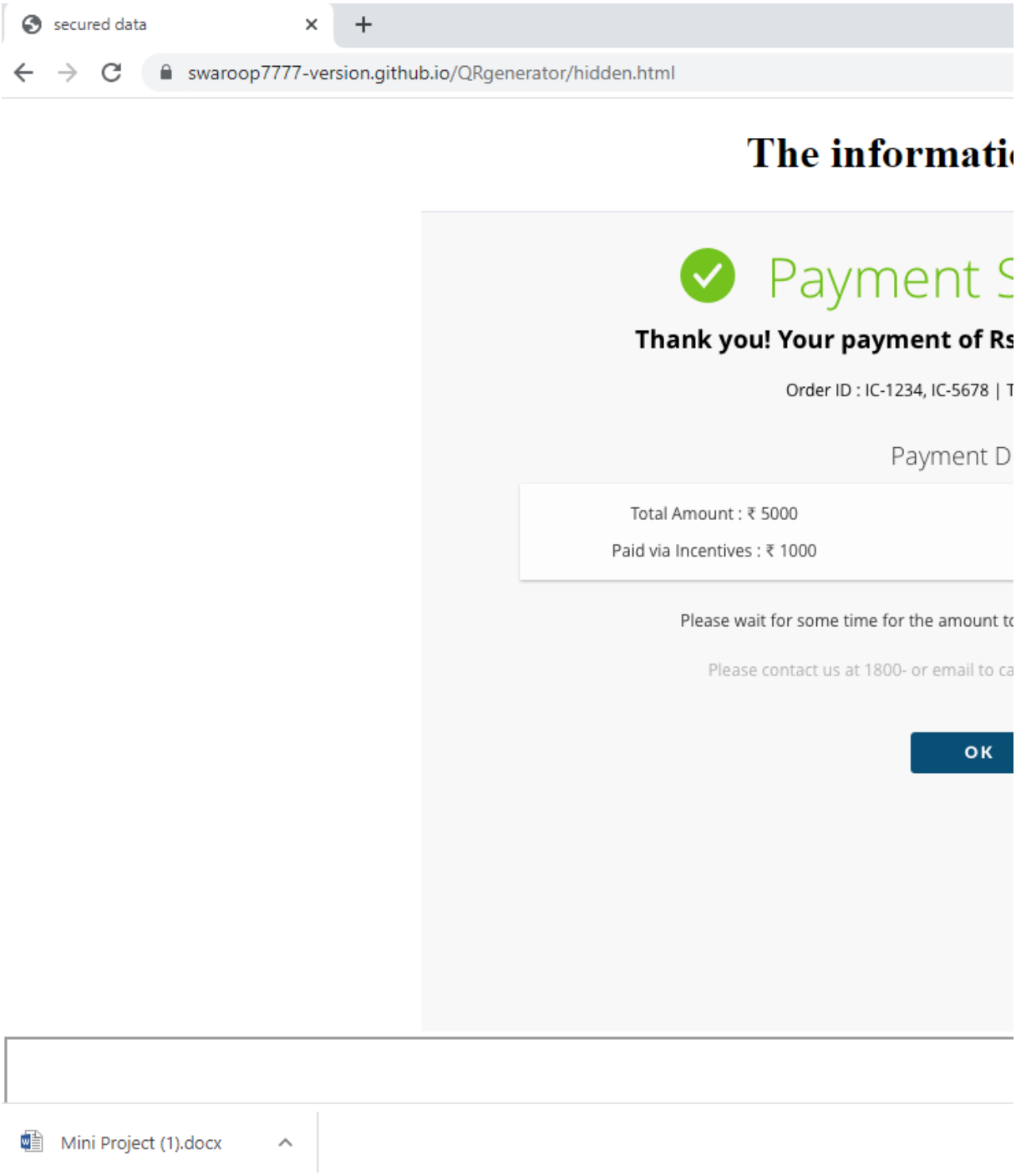


Fig 6.e: A word document downloaded after successful login

Chapter 7

CONCLUSION AND FUTURE ENHANCEMENTS

These QR codes were initially used to replace the traditional barcodes in tracking manufactured car parts with a fast-reading code. QR codes nowadays are used in a much larger context. They are used in tracking commercial products, marketing campaigns, and other convenience-oriented processes that target smartphone users. QR codes are two-dimensional barcodes that store complex data. Unlike the traditional barcodes that can only store and display alphanumeric data, QR codes can display a website, file, or social media accounts. These QR codes are now used in cashless payments, easy access menus, for a more engaging marketing campaign, and many more. With these QR code features, we can truly say that QR codes have limitless potential. The content that is stored in the QR code can be accessed by just scanning these QR codes using smartphones. Making the QR code content and the information easily accessible by all.

Problems arising in the existing system:

1. but how about the content and information that you only want to share with specific people?
2. How can you limit the accessibility of the QR code and allow specific people to access the QR code content?

SOLUTION: We can regulate your QR code viewers and allow only your target viewers to access your QR code by integrating a password on your QR code.

FUTURE ENHANCEMENTS:

Password-protected QR codes are QR codes in which the content or information stored in the QR code can only be accessed and viewed after the scanners entered the right password. When people scan a password-protected QR code, they will be redirected first to a webpage where they have to enter the password of the QR code. After submitting the password, the scanners will be able to access and view the content stored on the QR code. The password feature can also be disabled allowing a larger audience to access the QR code content whenever you want.

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8. REFERENCES

General

Online Tutorials and Resources

1. Mozilla's (MDN) "JavaScript Guide" @ https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide.
2. W3School JavaScript Tutorials, References and Examples @ http://www.w3schools.com.

WEB SITE:

1. Google developer API, "Computing with QR CODE: Build smart applications using artificial intelligence as a service".