

**D.K.T.E. Society's Textile and Engineering Institute,  
Ichalkaranji.**

**(An Autonomous Institute, Affiliated to Shivaji University, Kolhapur)**

**Accredited with 'A+' Grade by NAAC**

**Department of Computer Science & Engineering**

**2020-2021**



**THE SRS AND DESIGN DOCUMENT ON**

**Car Parking Management System**

**Under The Guidance Of  
Mrs.S.S.Darbastwar**

**DEVELOPED BY:**

- |                               |          |
|-------------------------------|----------|
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| 2. Kandane Riteshkumar Sharad | 19UCS056 |
| 3. Koli Ritesh Subodh         | 18UCS048 |

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Department of Computer Science & Engineering

**CERTIFICATE**

This is to certify that,

- |                               |          |
|-------------------------------|----------|
| 1. Kulkarni Pranav Prasad     | 19UCS068 |
| 2. Kandane Riteshkumar Sharad | 19UCS056 |
| 3. Koli Ritesh Subodh         | 18UCS048 |

Have successfully completed the SRS and Design work, of the mini project part-II  
entitled,

**Car Parking Management System**

In partial fulfillment for S.Y.B.Tech. CSE academics. This is the record of their work carried  
out during academic year 2020-2021.

Date:

Place: Ichalkaranji

Mrs.S.S.Darbastwar

**[PROJECT GUIDE]**

**[EXTERNAL EXAMINER]**

Prof.Dr.D.V.Kodavade

**[HOD]**

Prof.Dr.P.V.Kadole

**[DIRECTOR]**

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## **INTRODUCTION**

Car Parking management system will allowing maintaining the activities related to the car parking management to function in organized manner. It will help the people who wants to park their vehicle at hotels, offices or malls. It also helps those peoples who will wants the security of their vehicles during their worktime. At that time car parking management system will help in taking care of your vehicles. This system helps to keep eye on the vehicles and securing your time.

Car parking management system keeps record of arriving of different vehicles especially cars and departures record also. User can get information and know the status of their vehicle parking. If user has any problem regarding to their vehicles he is free to ask the manager about the issue.

The car parking management system helps in the need of people in their working period. Thus it is useful for their proper maintenance of car or vehicle.

## **PROBLEM STATEMENT**

To develop the car parking management system for Offices, hotels or malls. It provides facility for parking the car for particular time slot.

## **PROBLEM DESCRIPTION**

The Car Parking management system is very useful system for official persons, visitors and persons who wants to park their vehicles for particular period of time.

The system would be having a login 1.admin 2.customer login. In which admin can view customer account details and can even add or update things in their accounts. The system then calculates the bill for every time the user uses the system. If customer unable to pay the bill the bill on time then system calculate the fine and add into the bill. Customer can view their bill and then make payment.

The customers can have a payment alternative through credit card. The customer registers itself in the Car parking management system and receives a login.

## **REQUIREMENT SPECIFICATION**

### **1. Functional Requirements**

NO.	Requirement	Essential/Desirable	Description of the Requirement	Remarks
RS1	The system should have login	Essential	A login box should appear when system is invoked.	Login are assigned by the admin.
RS2	The system should have help screens	Essential	Help about the various features of the system should be provided in sufficient detail in a Q and A format.	In addition to the features of the system what are supported facilities.
RS3	The system should give the warning or message it wrong password or ids entered.	Desirable	This feature will improve the robustness of application .	Since the application is going to be used only the people inside the firm this feature is not essential even if time there this will implement.
RS4	The customer should able to		The customer should be able	This is basic requirement

	view calculating bill.	Essential	to view calculated bill at every end of month.	which has some additional requirements like if user is unable to pay bill then fine is added into bill.
RS5	Admin should be able to add new customer	Essential	This feature will be easy to handle to add new customer.	New customer is added only by the admin.
RS6	Admin should be able to search customer	Essential	This feature will help admin to add or update customer details.	One customer cannot be able to search another customer.
RS7	Admin or customer should be able to change password.	Essential	This feature increases robustness of system.	If customer or admin want to secure their account then they can change password.
RS8	Customer should be able to make payment.	Essential	This feature will help customer to pay bill easily.	This is a basic requirement of this system.

## **2. Non Functional Requirements**

1. Client can pay through any mod of payment.
2. Feedback to system by user.
3. Take the report of total hours of parking.

## **3. Hardware Requirements**

Description	Alternatives(If available)
PC with 5GB hard-disk and 512 MB RAM	Not-Applicable

## **4. Software Requirements**

Number	Description	Alternatives(If available)
1	Windows 7/8/10 with MS-office/MS-Excel	Not Applicable
2	MS-SQL server/Oracle	MS-Access
3	Linux	Not Applicable



## **REQUIREMENT ANALYSIS**

RA1. User has to choose login options there are two options are available

1. Create new account.
2. Sign in to existing account.

If user choose create new account, system will provide form following details user have to fill

1. User name
2. User email id
3. User phone number
4. User aadhar number
5. User address
6. User bank detail
7. User car details

RA2. Login to system.

1. For Login into the system user must provide his/her password and id correctly.
2. The username password is checked with credentials present in the database.
3. If entered id password matches with the store password and ID then login access is granted.
4. If user enters ID and password doesn't match then display message as user ID or password do not match.
5. If the field for user ID and password is empty and user click on login then display messages as "please enter username and password".

RA3. Lock user.

If user enters wrong ID or password three times then user will lock.

RA4. Unlock user and reset password.

1. When user entering id or password then user will lock and for unlocking user request to admin to unlock the account.
2. After getting request from user admin will ask for security question.
3. If user answers correctly then reset id and password option will be given there.
4. To reset id password user should enter new id and password. Password should be of minimum 8 characters.
5. Entered id password is check with existing id and password and it founds different than confirm ID and password.
6. Id and password found to be same with existing one then display message as “please enter unique password”.
7. For confirmation user should enter id and password again.
8. User should be unlocked.

RA5. If user chooses the help option after choosing it console display the description of each facility.

RA6. If administrators want to add information about the person then system should accept it.

RA7. After adding or updating the new services, system strength should not be break.

RA8. Administer has to provide each and every information about billing, about the fine and all other things.

Customer should receive information by following

1. User email id
2. User text message

RA9. Client can have options for payment

Following are payment mode:

1. Credit card
2. Cash
3. Debit card
4. Money transfer
5. Check
6. Online payment

RA10. To generate bill.

To generate bill the following details need to be considered for calculation

1. Total hours of Parking.
2. Per hour rate

of parking.

RA11. Take payment.

Payment should be received successfully.

RA12. Take feedback

Feedback should be received successfully.

## **Stakeholders**

### **Customer:**

- I should be able to login to the system
- I should be able to set password and be able to change password later
- I should be able to check status of my account
- I should be able to search particular rules and regulations.
- I should be able to search the slot for parking my vehicle.
- I should be able to pay the bill for my total time of parking.
- I should be able to give feedback to the system
- I should be able to give handwritten message to system.
- I should be able to know the status of my car or vehicle.
- I should be able to check how many time I used the system.

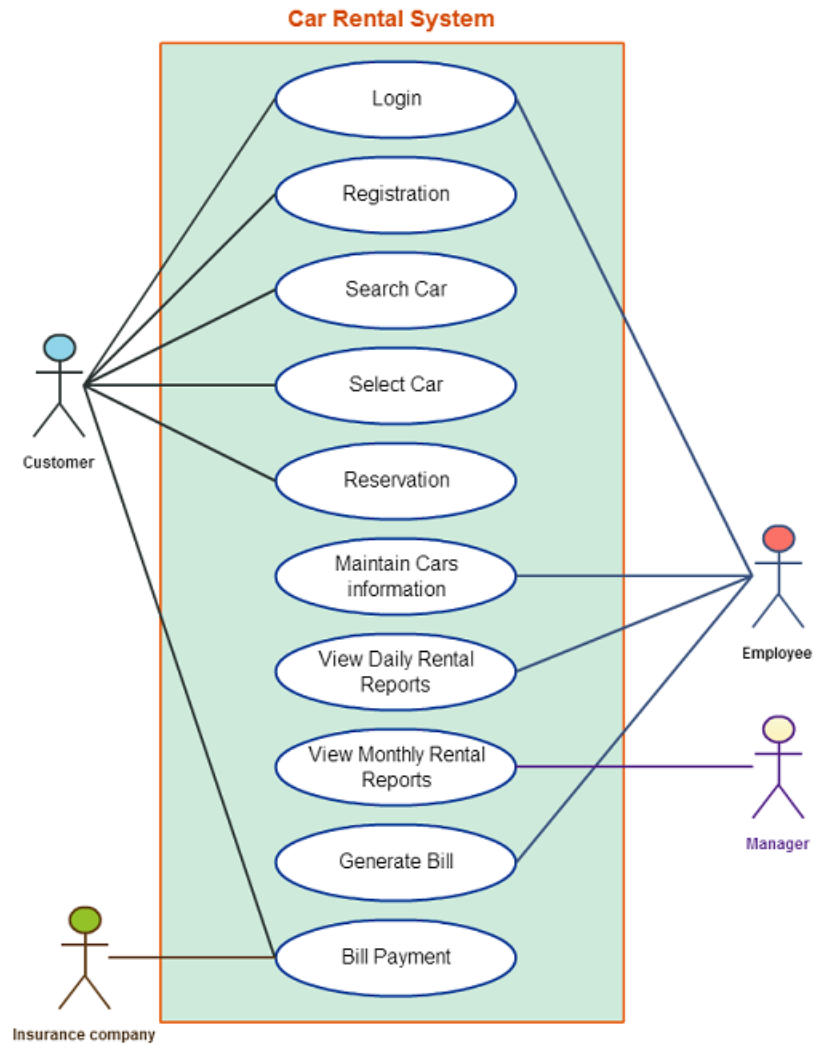
### **Admin:**

- I should be able to add new person and remove old person from system.
- I should be able to update and manage the parking database.
- I should be able to take decision to approve or reject the request for the user of system.
- I should be able to give total charge of parking to customer.
- I should also be able to add the fine on charge in case of late parking issues.
- I should be able to take suggestion from users of system.

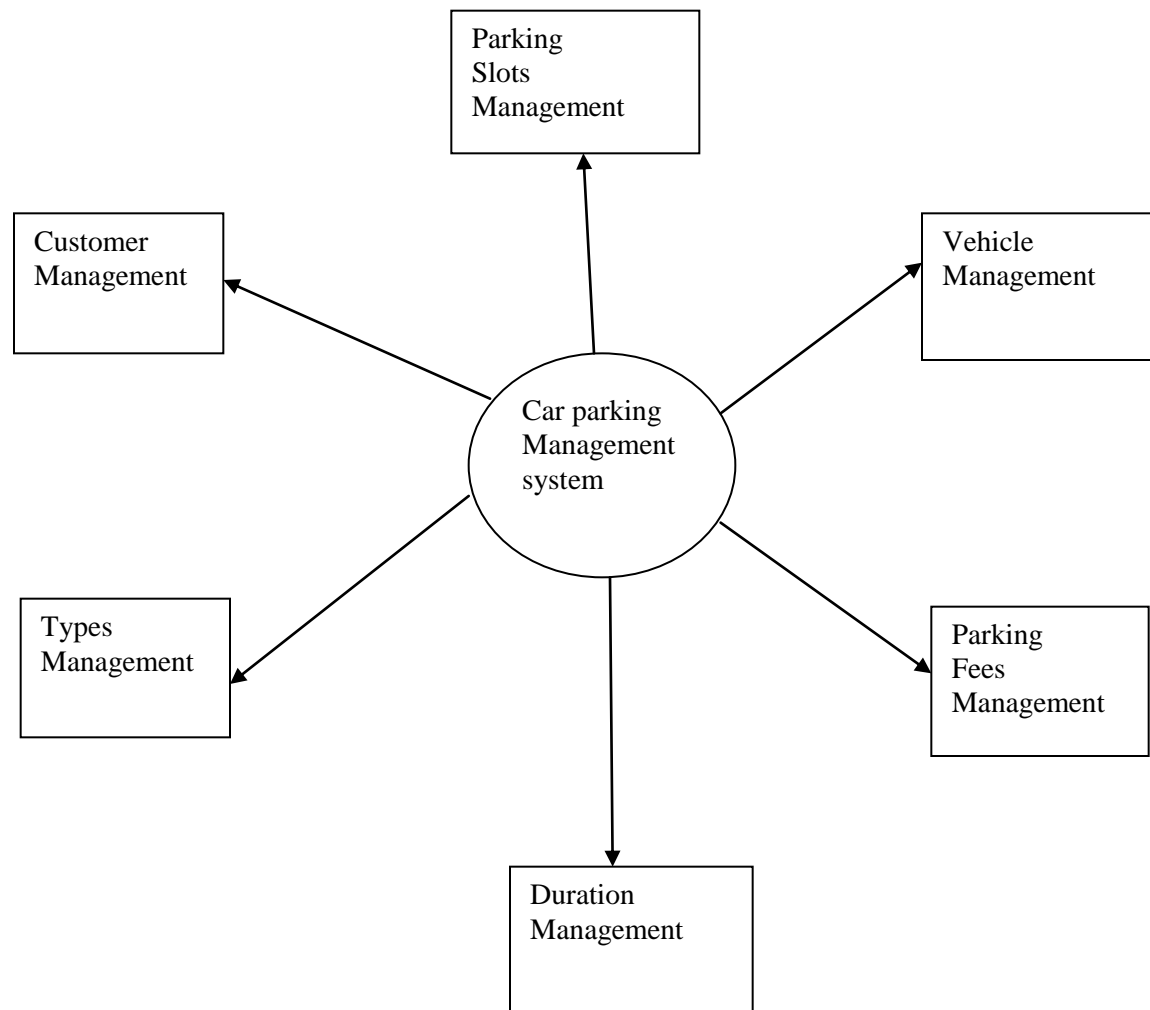
## SYSTEM DESIGN

Diagrams:

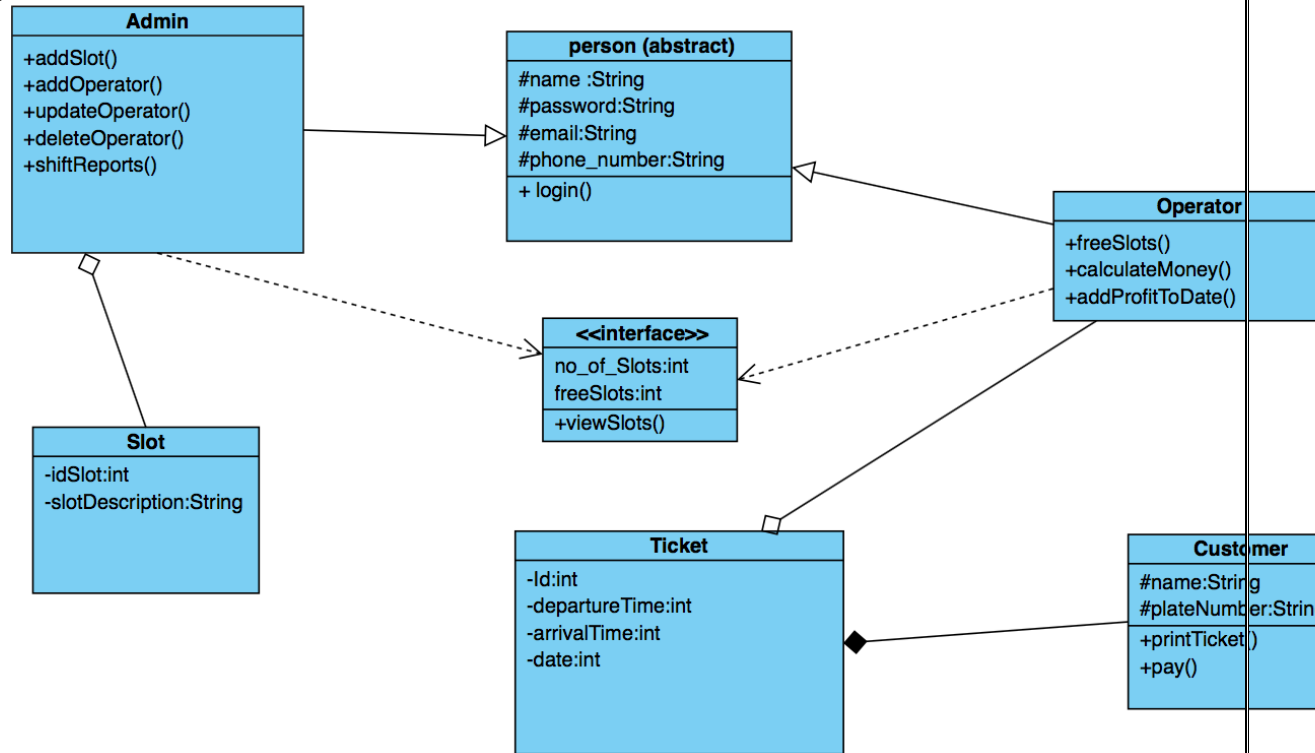
### 1. Use case Diagram



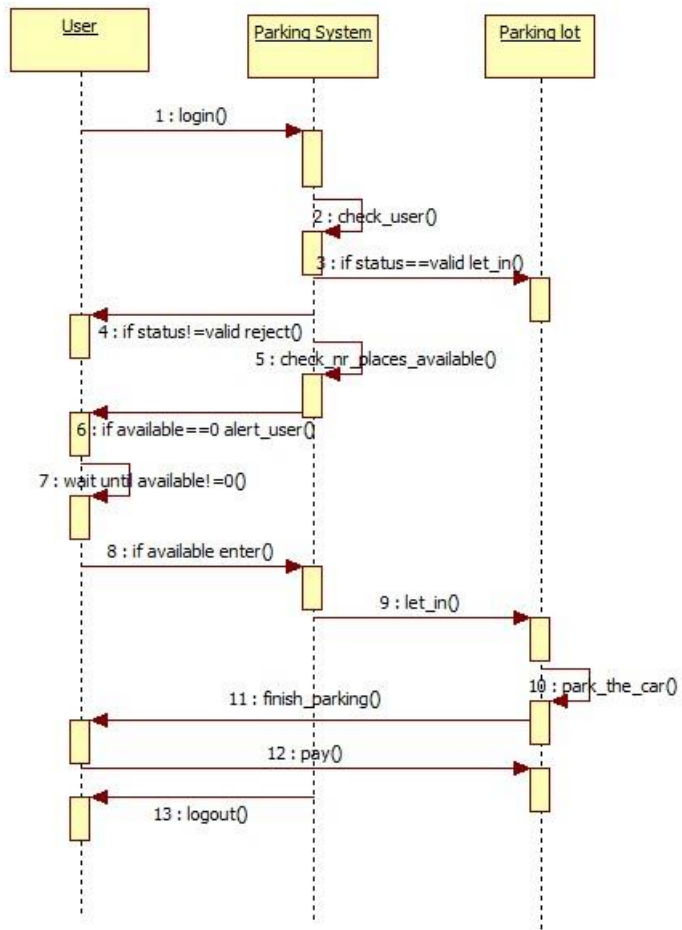
## 2. Data Flow Diagram



### 3. Class Diagram

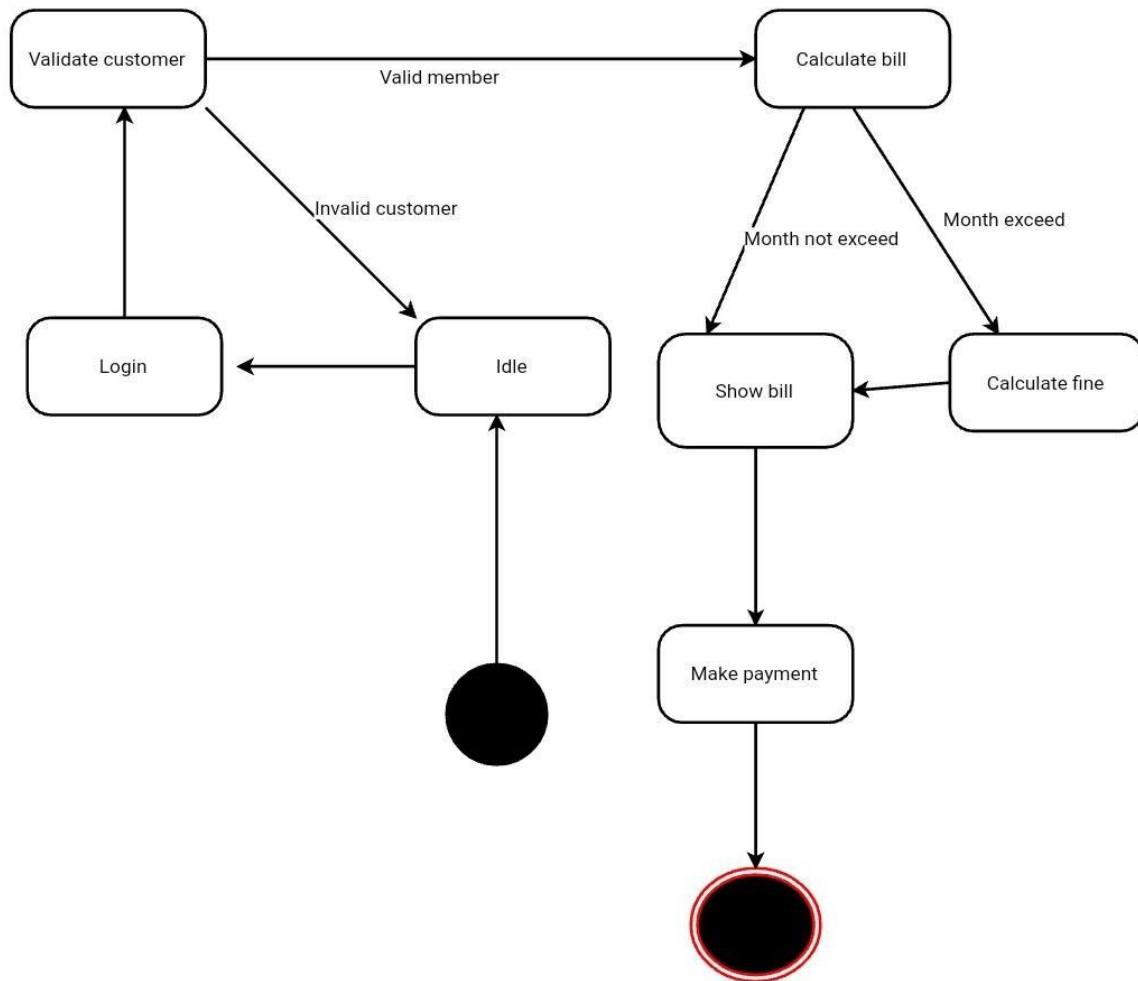


#### 4. Sequence Diagram

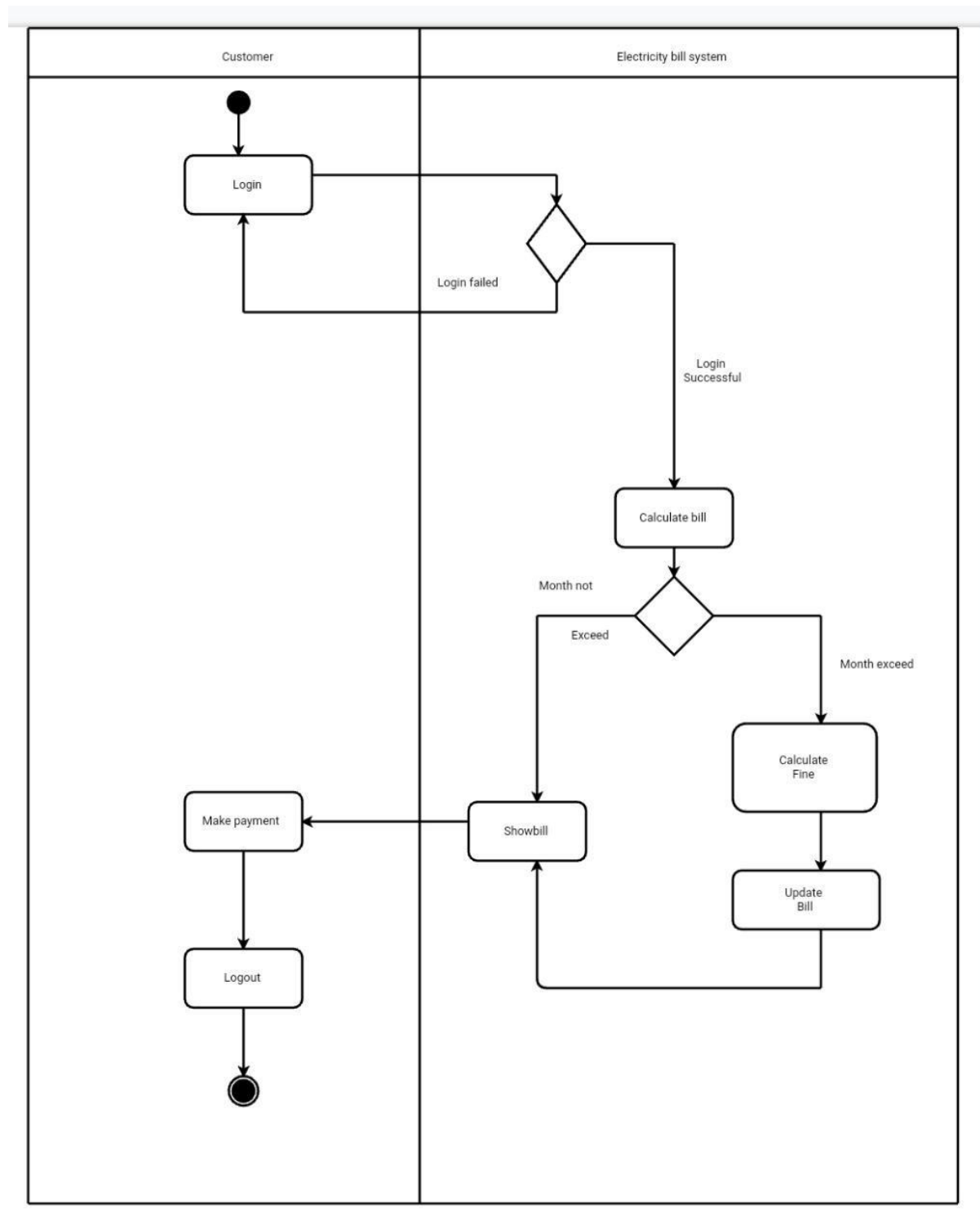




## 5. State chart Diagram



## 6. Software Architecture Diagram



## **TEST PLAN**

The test plan is basically a list of test-cases that need to be run on the system.

Test No.	Requirement No.	Requirement	Description	Expected Output
1	R1	New user creation	Enter all the details of user and check for duplicate entry	User registered
2	R2	System login	Enter user name and password	Successful login
3	R3	Unsuccessful user verification due to wrong password	Login to the system with a wrong password	Unsuccessful login
4	R4	Unsuccessful user verification due to invalid login id	Login to the system with a invalid login id	Invalid user id
5	R5	Generate charge of parking	Enter the total hours of parking of vehicle and per unit rate and take the total charge	Bill generated
6	R6	Take payment	Enter bill amount	Payment received
7	R7	Feedback	User can add feedback after successful delivery	Feedback received

## **REFERENCES**

- [1] An Integrated Approach to Software Engineering by Pankaj Jalote, Narosa Publication, 3<sup>rd</sup> edition.
- [2] The Unified Modeling Language User Guide by Grady Booch James Rumbaugh, Ivar Jacobson.
- [3] Website – <https://www.tutorialspoint.com>