PROJECT DOCUMENTATION

AIR-FONE TELECOM

TEAM - 4

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INTRODUCTION:

Air-Fone is a Mobile Network Operator and telephone company. Air-Fone provides network access and telecommunication services that help people and companies communicate in an easy, efficient and environmentally friendly way.

Air-Fone business is very technology dependent as company acts as a network service provider (NSP) in mobile.

Air-Fone deals 3 product categories:

- PREPAID
- POSTPAID
- BROADBAND

AirFone is a company that is aware of the new challenges posed by today's society. This is why the company offer the means to facilitate communication between people, providing them with the most secure and state of the art technology in order for them to live better, and for them to achieve whatever they resolve.

AirFone, established in the year 2010, has recorded substantial growth in terms of profit and market share (current market share in India is 8.9%, where in 2017 was 5.6% and in 2016 was 3.9%). But the market share of the company is not matching the overall Tele-density growth ratio in India, due to the limitations in the legacy system of the company.

PROBLEM DEFINITION:

- Air-Fone has legacy system, and much of the IT systems are old.
- Market share of the company is not matching the overall Tele-density growth ratio in India, due to the limitations in the legacy system of the company.
- Marketing activities, where most of them are manual in nature.
- Retaining the loyal customers with the company is a big challenge.

EXISTING SYSTEM:

The existing system has has various disadvantages such as,

- It currently runs over the legacy system.
- There is a number of mobile portability issues going on with the customer, due to lack of satisfaction and marketing strategies.
- Extensive human interventions in handling and clearing the for fixing the customer issues.
- Limited number of plans for customer under each category.
- Limited number of offers and discounts under each plan.
- Customer feedback inadequacy.

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PROPOSED SYSTEM:

The existing system has several drawbacks, to overcome those drawbacks, certain functional and non-functional requirements has been specified.

Functional Enhancements:

- Conclusive Bill Invoice management
- Responsive customer problem handling
- Increasing marketing and fulfillment response

Non-Functional Enhancements:

- Quick generation of bills
- Send SMS and e-mail to customer in less than 5 seconds
- Generate daily sales report
- Notify the customer nearing expiry of validity

The entire system has been divided to several modules, Which include

- Log-in
- Registration
- Plans (prepaid,postpaid,broadband)
- Billing
- Payment gateway
- Customer Feedback
- Customer Support
- Administrator

  View customer details and profile

  Complaints raised

  Bill generation

  Ticket ID generation and tracking

Log-in Module:

This is the entry point module into the system. This module authenticates the registered user and allows into the system. The mail id and password are the fields that are got as input form the user. The fields are checked with master database and once the details matches, the user is allowed into the system.

In case the user forgets the password, password recovery mail is sent to his personal mail. And from there the user can update his password and try logging in again.

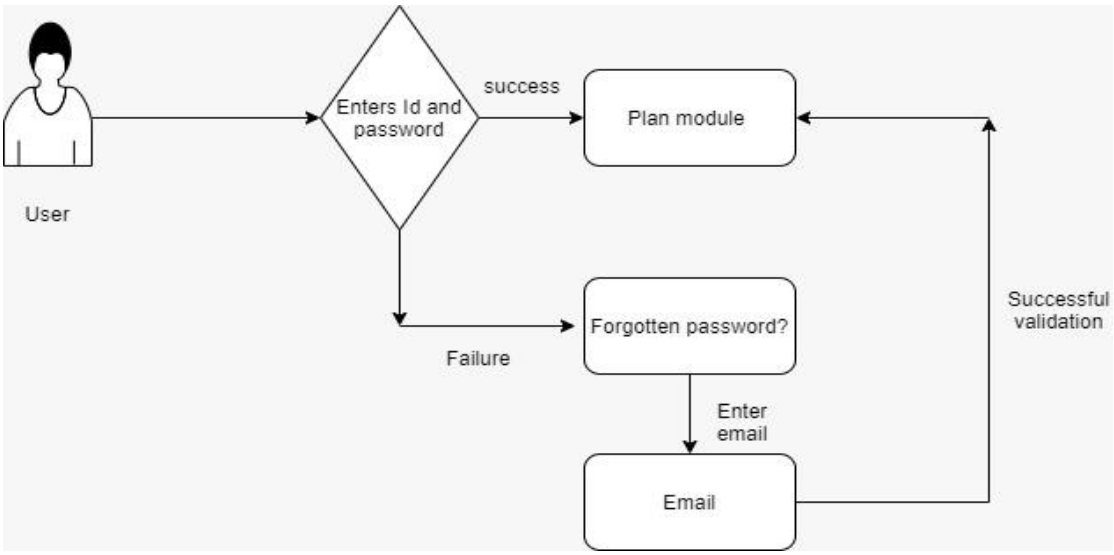

Fig.1 Login module

Registration Module:

When a new user registers into the system, the user are details are collected using reactive form with necessary validation of the input fields. After the successful registration of new user, phone number is generated using random generator. The subscriber type is also got based on the user request.

For customer ID proof, aadhar details of the user is also got and validated. Password should satisfy the minimum requirements such as minimum length, at least one numeric character,one special character, at least one uppercase letter.

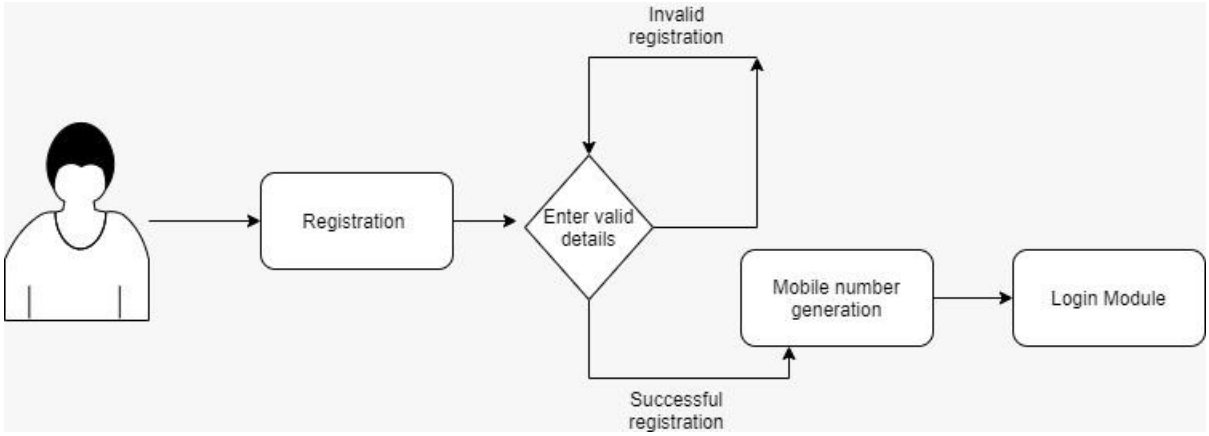

Fig.2 Registration Module

Plans Module:

Once the user is successfully authenticated, they are redirected to the dashboard, where the plans under each category are displayed. A variety of plans with wide range of discounts and plans are displayed to the user. The plans module is subdivided into 3 modules such as, prepaid,postpaid and broadband.

Based on the user's interest, they can choose the plan that is suitable for them. Various attractive offers are also displayed to the user and this is used as marketing strategy to attract the customers.

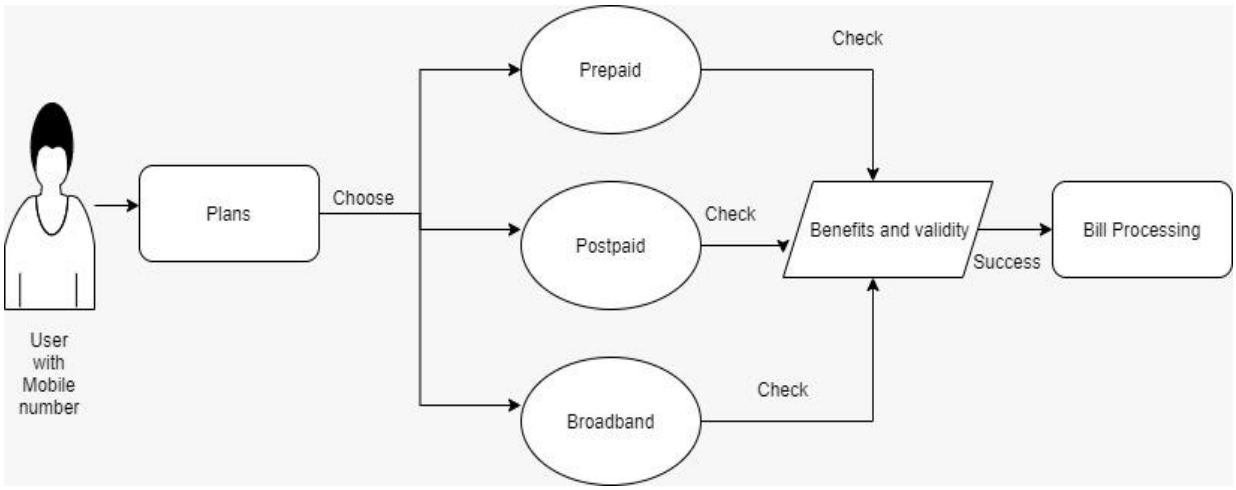

Fig.3 Plans module

Billing Module:

Once the customer chooses to activate a plan, and clicks the buy plan button, he/she is redirected to the billing page where the, customer phone number, the price of the plan and the subscriber type are got as the input values. The plan is activated on successful payment of the user. The current date and time are displayed to the user, and the start date and end date of the plans are also displayed to the user.

SMS is sent to the user, during the activation and expiry of the plan as remainder to the user prior to the expiry date using API.

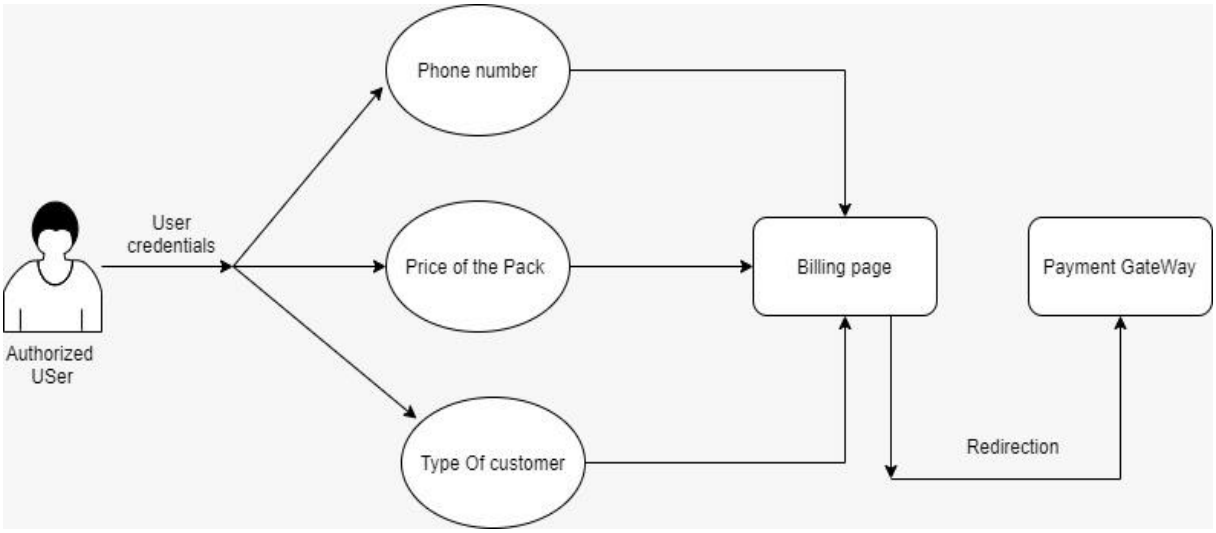

Fig.4 Billing module

Payment Gateway:

When the user gets the plan details, and the validity date the user is routed to payment gateway, where the user has to proceed with his payment. The user details are collected and the card details are collected and validated based on the constraints. The transaction details are stored in database for administrative purpose.

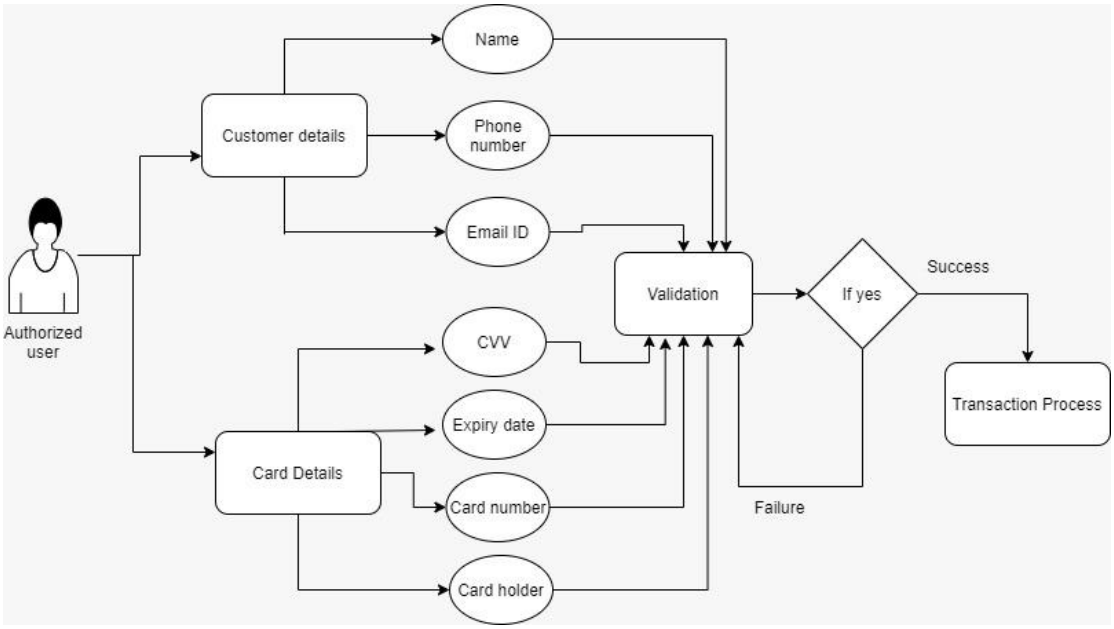

Fig.5 Payment module

Customer Feedback Module:

On successful completion of the payment, the user is directed to the customer feedback, where the satisfaction level of the customer is got, and suggestion for improving our service is received. All the customer feedback are stored in database and used for further improvement of the service.

Analysis of the feedback is done, the features are improved based on the comments given by the users.

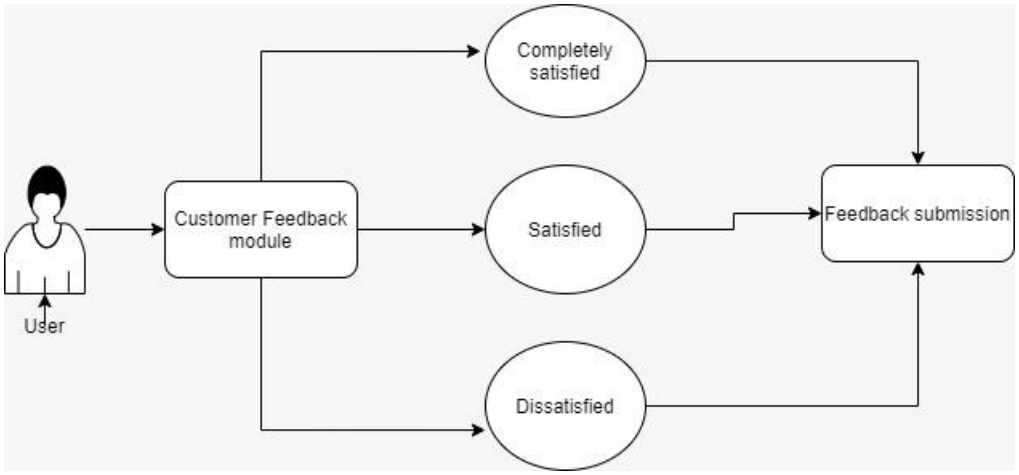

Fig.6 Customer feedback module

Customer Support Module:

In this module, the customer can register any complaints regarding the issue. Once he/she registers the complaint, a complaint ticket is generated. The ticket ID is given to the user. The administrator can track and give appropriate solutions to the user based on the request.

A fixed number of days is to track and rectify a particular problem. FAQ's are also displayed to the user to easier access and quick way of resolving the customer queries.

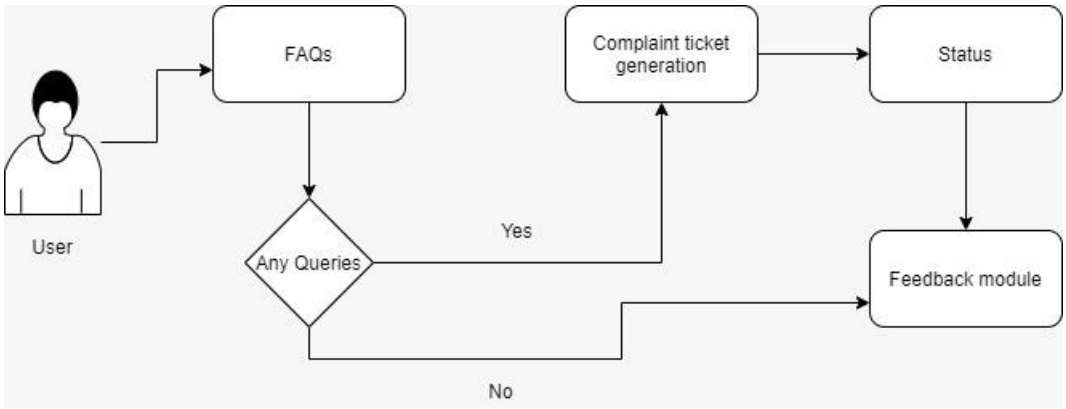

Fig.7 Customer Support module

Administrator module:

The administrator module is one of the major part of the Air-fone telecom systems. This module has higher privileges of accessing the customer database, insert and update any new plans, tracking of the customer complaint ticket and giving solutions and responding to the queries. The ticket ID is given to the customer and his/her needs are satisfied. He can also view the billing and the transaction history of the user. Admin is responsible for generating the daily, monthly, quarterly and yearly reports on the transaction that has taken place.

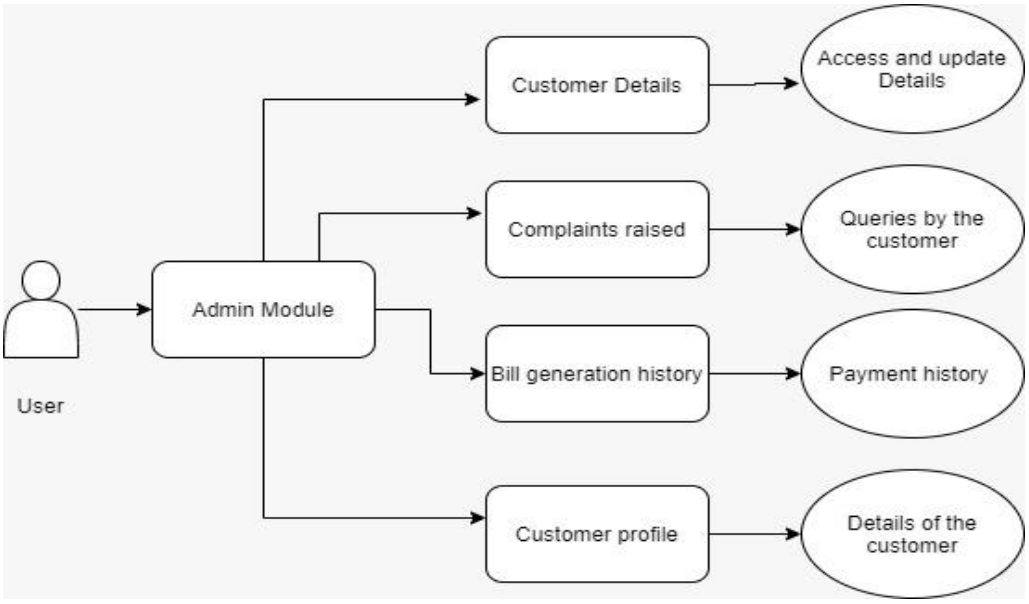

Fig.8 Administrator module

ARCHITECTURE DIAGRAM

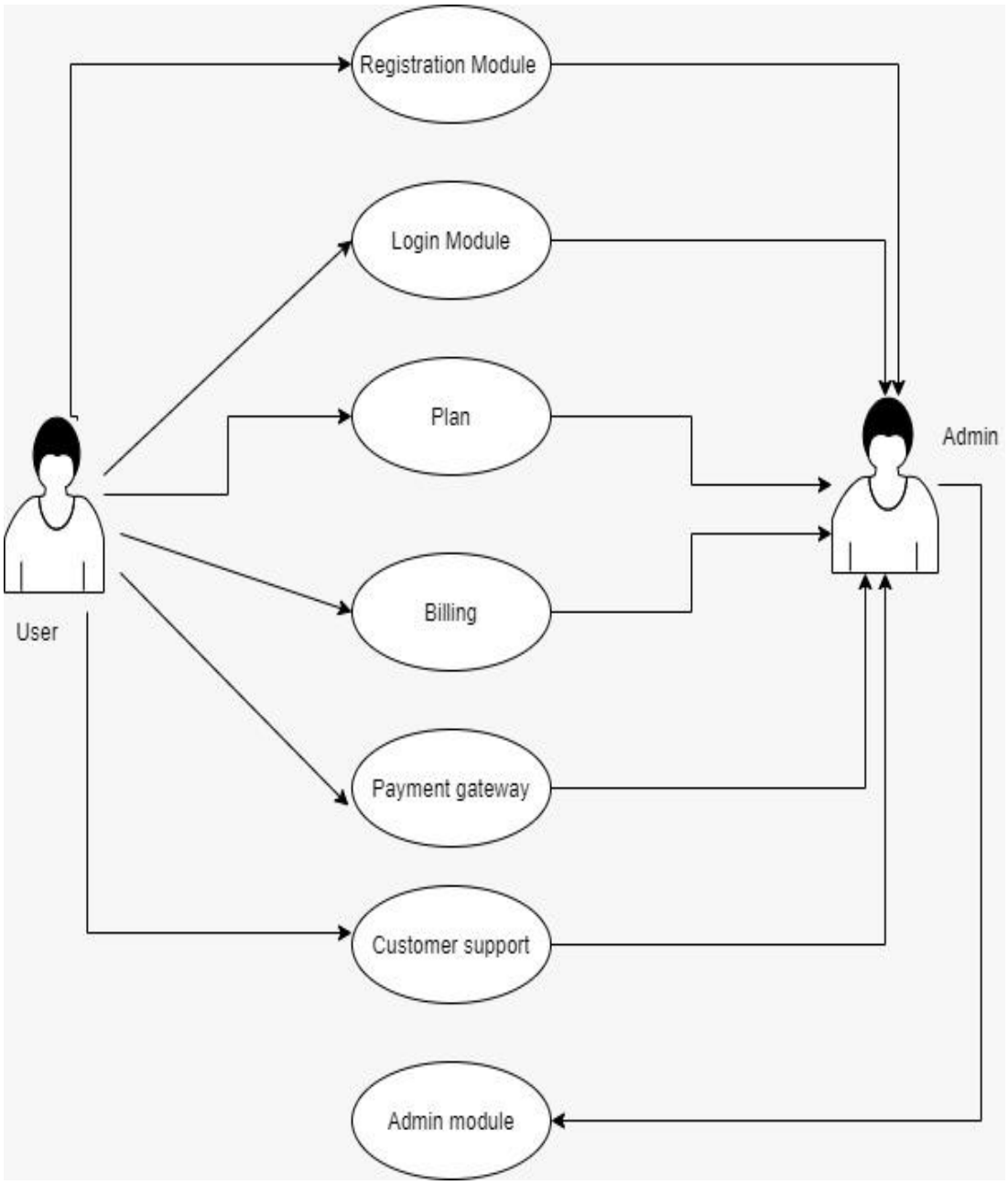

Fig.9 Architecture Diagram

SOFTWARE REQUIREMENTS:

For the development of this project, we have used several software to implement the 3-tier architecture of the project.The software requirements are the specification of the system. It should include both a definition and a specification of requirements. It is a set of what the system should do rather than how it should do it. The software requirements provide a basis for creating the software requirements specification

- Python Compiler(Pycharm,Sublime)
- Angular 7 (VsCode)
- HTML, Bootstrap 4 (VsCode)
- MySql workbench (Database)
- Flask API
- GitHub (Integration and Storing in Repository)

HARDWARE REQUIREMENTS:

The hardware requirements may serve as the basis for a contract for the implementation of the system and should therefore be a complete and consistent specification of the whole system. They are used by software engineers as the starting point for the system design. It shows what the systems do and not how it should be implemented.

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Color.
- Ram : 512 MB.

CONCLUSION

The project was successfully developed with the all the functional and non-functional requirements. It was tested against a wide range of test cases and modules were integrated. The final project was pushed into the git repository and executed and completed successfully.