Project for CSE471

Title: Life Insurance Management System

Group Number: 2

Group Members:

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1. Introduction

Bangladesh is a developing country and the people here are getting aware day by day. People here have started to think about their future and take actions on the basis of that. As a result people have started to think about their death which is an eternal truth in our life. No one can avoid that. On the basis of that people have started taking life insurance and many companies have grown and they are offering varieties of insurance policies. Companies are trying their best to make people interested in their policies and getting more people to buy their insurance. But most of the people in the country are confused about which policy would fit for them or which policy they should take. Sometimes they don't find the policies they want for themselves. Our objective of this system is to give people the chance to find what policy they want or suggest what policy they should take on the basis of their income, position, age and family members. Also, provide the facility to customize their own policy on the basis of duration and amount they want. The policies will be verified and finalized by an agent after the submission. Users can do their payment online using bkash, nagad or any mobile banking they want. Also, they will have an option for credit or debit card. Users can keep track of their payment history from time to time. On the other hand, agents will have the access to keep track of the clients who have been added by them. Finally, the admin will have the highest authority to keep track of everything including agents and all clients that have been added by all the agents. So, the system will be well designed for users, agents and for admin and maintain the highest security for all types of users.

2. Motivation

Only 4% of people in Bangladesh are insurance covered. The rest of the people are not interested in any types of insurance or do not find proper insurance for them or find it is hard to maintain and take any type of insurance. They wouldn't have to worry about finding the proper insurance for them as the system will suggest policies according to their need. Also, the system will give them the flexibility to customize their own policy according to what they want for themselves.

3. System Request

System Request for Life Insurance Management System	
Project Sponsors	Mohammad Iqbal, Vice President, Finance Department
Business Need	• Ease of access to the insurance system via mobile phone, computer, etc. • Reaching more potential customers • Making possible to do payment using mobile banking and credit or debit cards • Have the ability to calculate what policy the client need • Have the ability to customize policies by the clients however they wants • Verified by agents or admin
Business Requirements	• Admin dashboard for accessing agent/client/policy to add/remove/edit. • Agent dashboard for accessing clients to add/remove/edit. • Client dashboard to keep track of their account. • Clients will have multiple payment options such as mobile banking/credit cards. • Clients can see their payment history. • Clients can request for a claim of their insurance. • Clients will have an option to get suggestions for policy. • Clients will have a calculator option to customize policy by what they want.
Business Values	☐ **Tangible** 20% more potential customers will be generated. 5% reduction in operational costs like database management and field agent members. ☐ **In-tangible** Clients will be motivated to take policies because of their easy to customize on their own and getting

	suggested by the software.
Special Constraints	• Clients must have a nominee to get insurance. • Clients won't be verified by agents if they do not have valid documents.

4. Requirement Analysis

4.1 Admin, Agent, Client Requirements

Functional Requirement

FR 4.1.1: Admin

- Admin dashboard for accessing agent/client/policy to add/remove/edit.

FR 4.1.2: Agent

- Agents must have access to clients' profiles so that they can add/remove/edit.

FR4.1.3: Client

- Clients will be able to choose policies
- They will be able to customize their policies as per their choice
- Clients will be able to see the available policies
- Clients will have an option to get suggestions for policy.
- Clients can request for a claim of their insurance.

Non Functional Requirement

NFR 4.1.1: Clients must have a nominee to get insurance.

NFR 4.1.2: Clients won't be verified by agents if they do not have valid documents.

4.2 Payment Gateway Integration

Functional Requirement

FR 4.2.1:Clients can see their payment history.

FR 4.2.2:Clients will have multiple payment options such as mobile banking/credit cards.

Non Functional Requirement

NFR 4.2.1: Client will get a notification for payment due.

NFR 4.2.2: Client will get a confirmation after completing their payment.

4.3 Operational

- The system should be able to run on PCs, Tablets, Smartphones, Ipads etc.
- The system should be able to work on any web browser.
- For the invoice printing, the system can be connected with printers.
- MySQL will be used for the database.
- The system will be designed using Front-End: CSS/HTML and Back-End: Django/ Wordpress/ Wix/ Javascript

4.4 Performance

- The system should load within 2 milliseconds.
- The system should be able to handle 1000 registrations and users at the same time.
- The receipt should not exceed 2MB.

4.5 Security

- All the user's personal information should be protected by the system.
- The users will be required to have a good password containing mixed characters, special characters and numbers.

4.6 Cultural and Political

- The system will abide by the Digital Security Act (DSA) of Bangladesh.
- The system should be in English.

5. Usage (Project) Scenario

A person wants to buy an insurance policy. He/she enters the system and can search for the policy that he/she can take. There will also be an option to get suggestions about policy if the user wants. Also, there will be another option for the users to customize their policy as they want. After that their policies will be verified by the admin and then they can proceed for payment. They select any of the payment options and if their payment is valid then they will get confirmation in their phone message. Lastly, users also can apply to claim their policies, which will be verified by the admin.

6. Design Diagrams

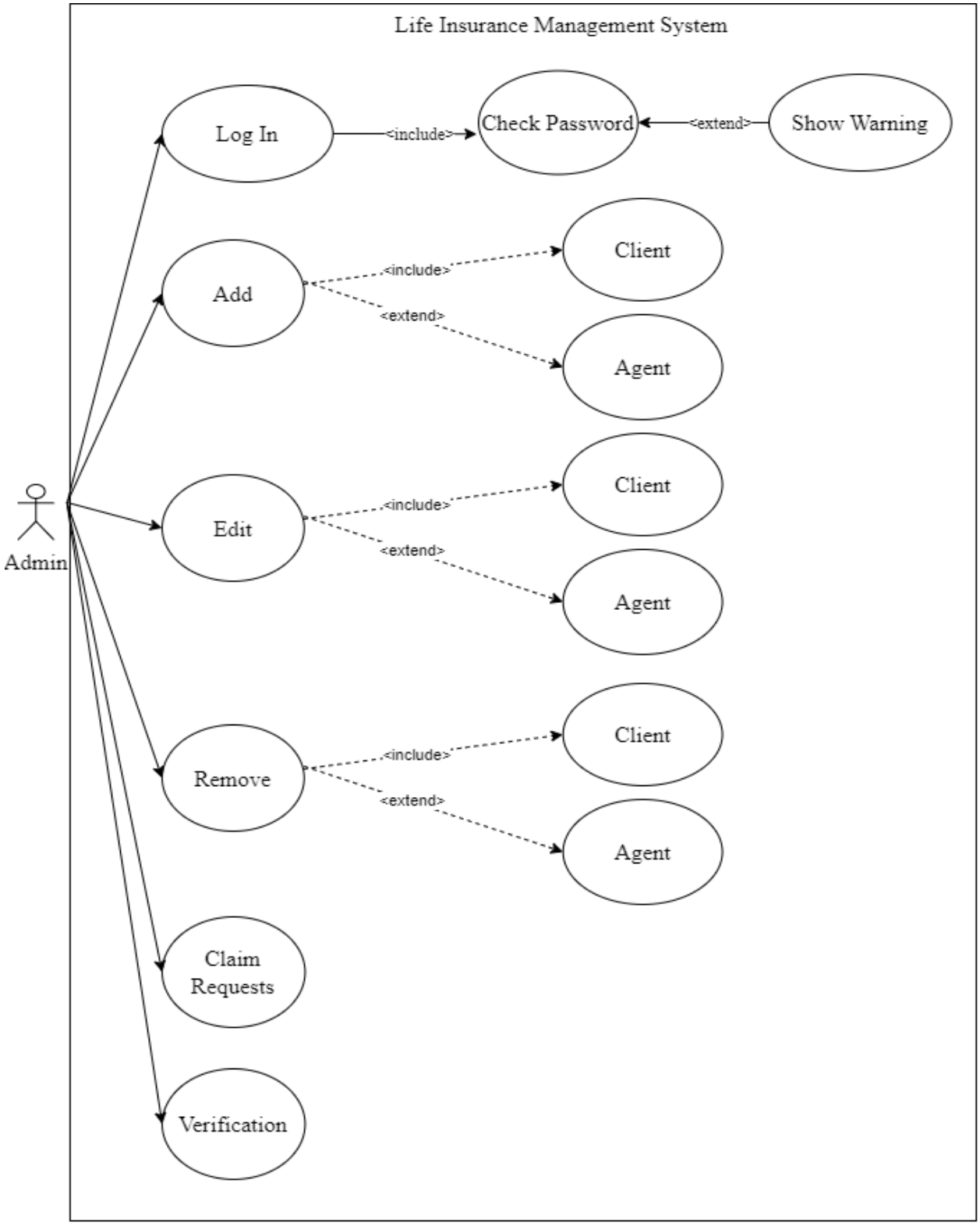
Six design diagrams have been included in this report to describe the system. These will give us a visual model of the system, its components, and their interactions. With supporting documentation, these diagrams can capture all the essential information of a system's design. The diagrams that are provided in this report are the Use Case Diagram, Activity Diagram, Sequence Diagram, State Machine Diagram, Data Flow Diagram and Windows Navigation Diagram.

6.1 Use Case Diagram

Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors.

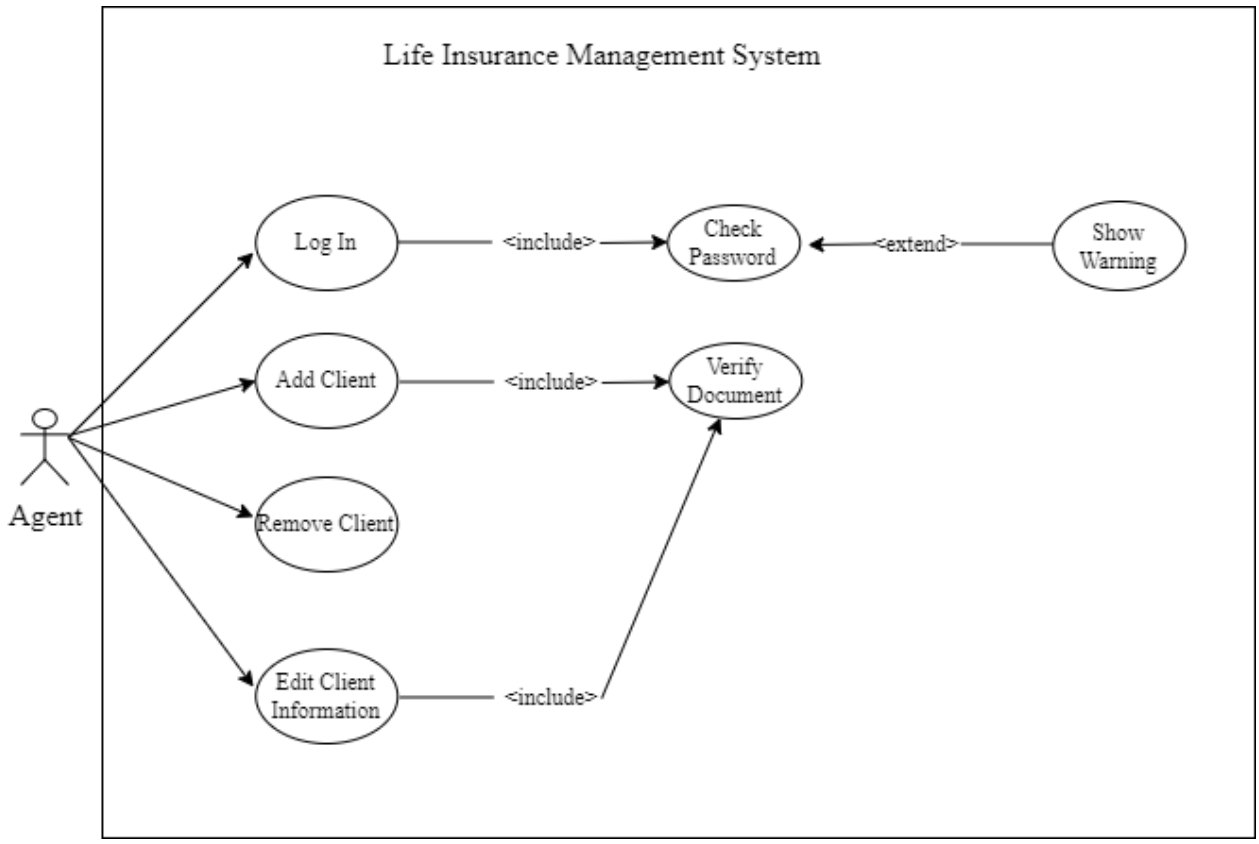
6.1.1 Admin Use Case Diagram

Admin has the highest priority in this Life insurance management system. Admin can add/remove/edit both client and agent. Admin will also have a ‘claim request’ where he/she can find the requests from clients. Finally, the admin will have an verification option where he/she will verify the documents have been submitted to him for approval.


Life Insurance Management System
Log In
<include>
Check Password
<extend>
Show Warning
Add
<include>
Client
<extend>
Agent
Edit
<include>
Client
<extend>
Agent
Admin
Remove
<include>
Client
<extend>
Agent
Claim Requests
Verification

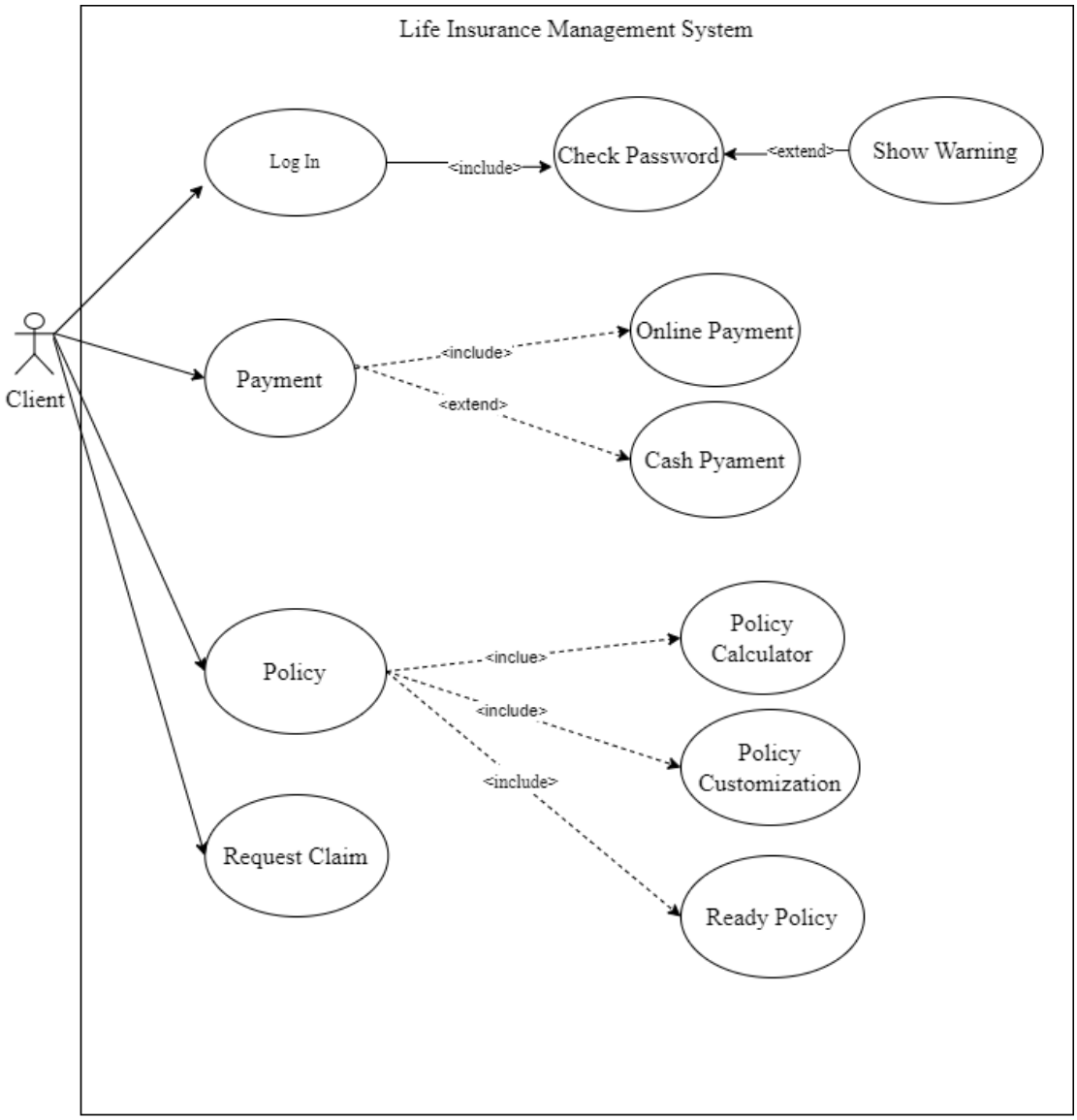
6.1.2 Agent Use Case Diagram

Agents have the access for clients only. An agent can add/remove clients as they need. Agents will also be able to edit clients information.



6.1.3 Client Use Case Diagram

Clients are the most important and the final user of this system. Clients can choose policy how they want. They will have three options to choose policy. Then they can make their payment via online payment or cash payment. Finally, they can request a claim for their policy.

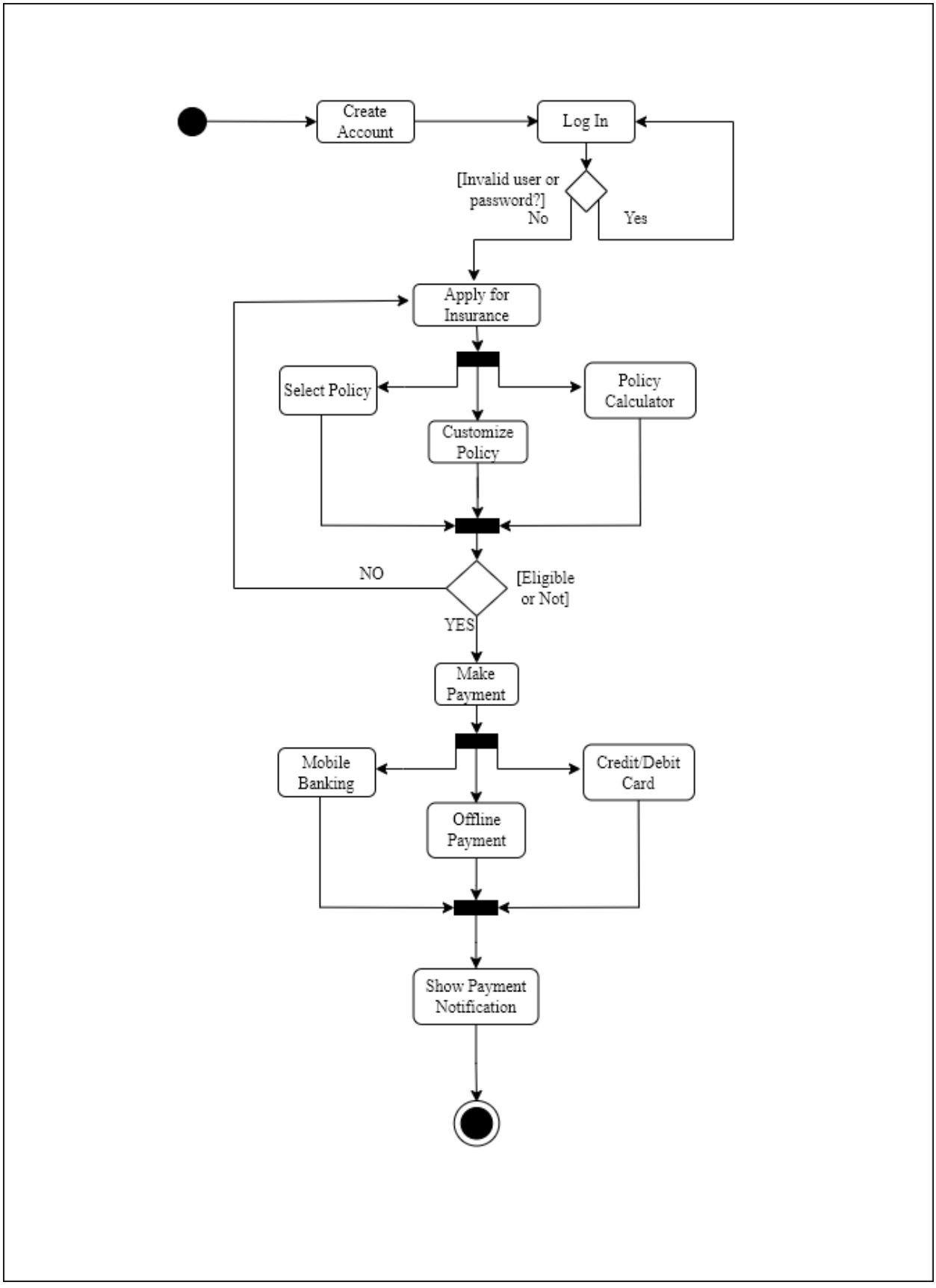


6.2 Activity Diagram

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency.

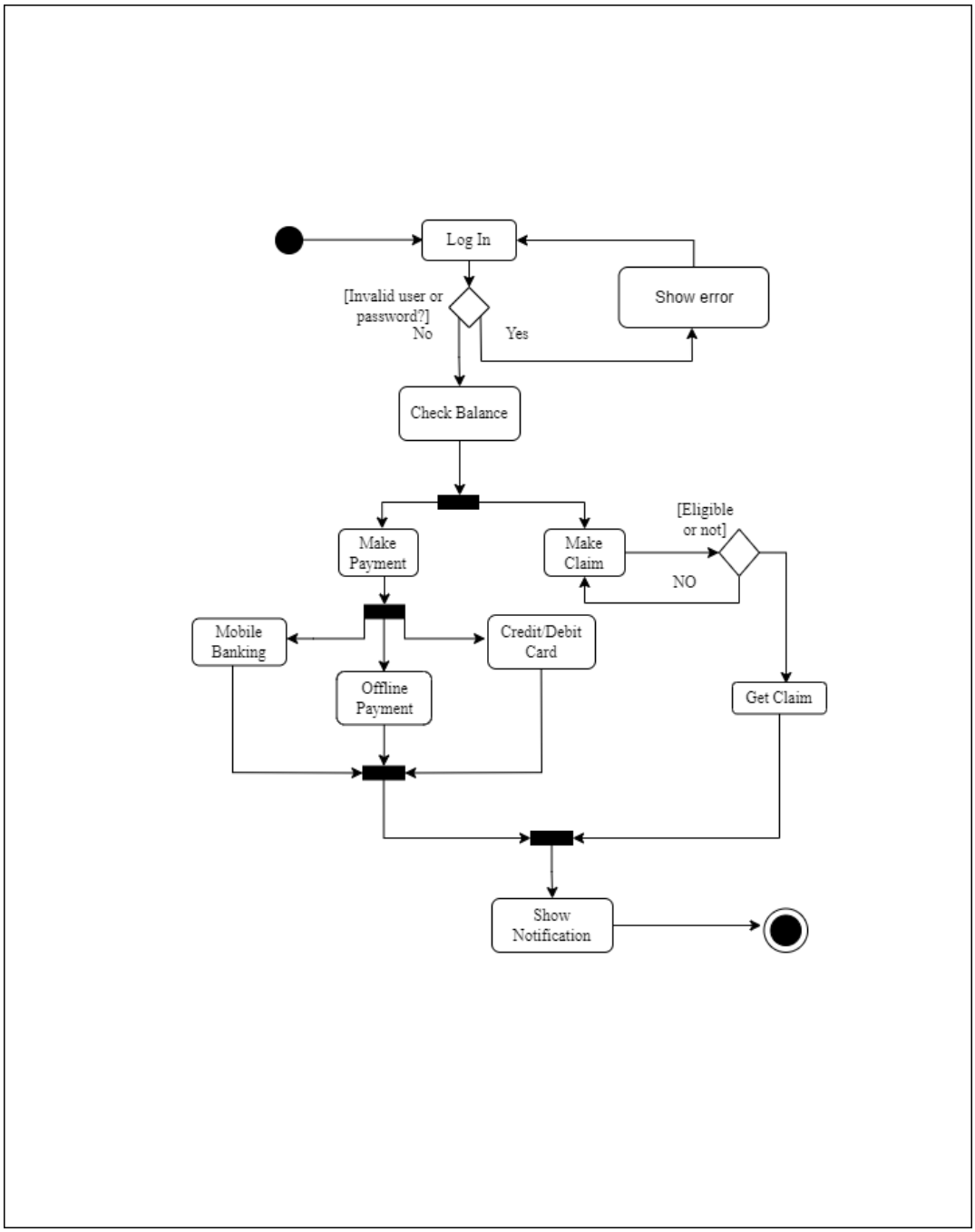
6.2.1 New User Activity Diagram

A new user has to create an account for them and then login to the system. While logging in, if the username or password is invalid then the system will show an error message. Otherwise it will take the user to the insurance page where the user can apply for insurance. While applying for insurance, the user will have three options which are select policy, customize policy, policy calculator. After choosing a policy, it will be verified by that if the policy is valid or not. If not, then it will take the user to choose the policy again. Otherwise, the system will take the user to the payment section. In the payment section, users will find three options: mobile banking, offline payment,card payment. After completing the payment, the user will get a notification and the system will end here.


Create Account
Log In
[Invalid user or password?]
No
Yes
Apply for Insurance
Select Policy
Policy Calculator
Customize Policy
NO
[Eligible or Not]
YES
Make Payment
Mobile Banking
Credit/Debit Card
Offline Payment
Show Payment Notification

6.2.2 Old User Activity Diagram

After logging in the user can see their balance on the first page. Then they can choose to make payment or request a claim. On the payment page, they can go for mobile banking, offline payment, card payment and after completing the payment they will get notification of that. On the claim section, the user can request for a claim and if the claim is valid then they will get their claim and the session will end there.

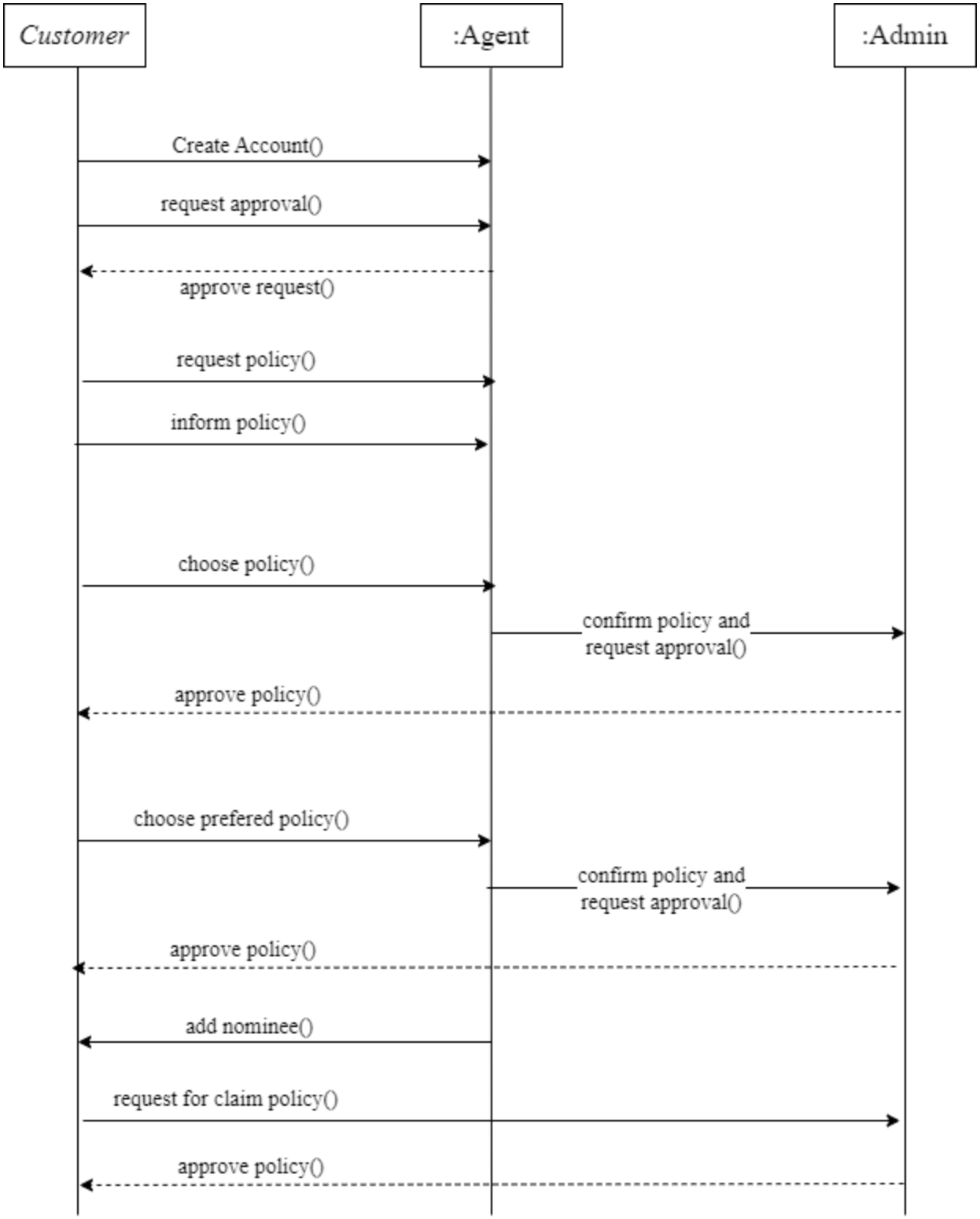


6.3 Sequence Diagram

A sequence diagram is a type of interaction diagram because it describes how and in what order a group of objects works together.

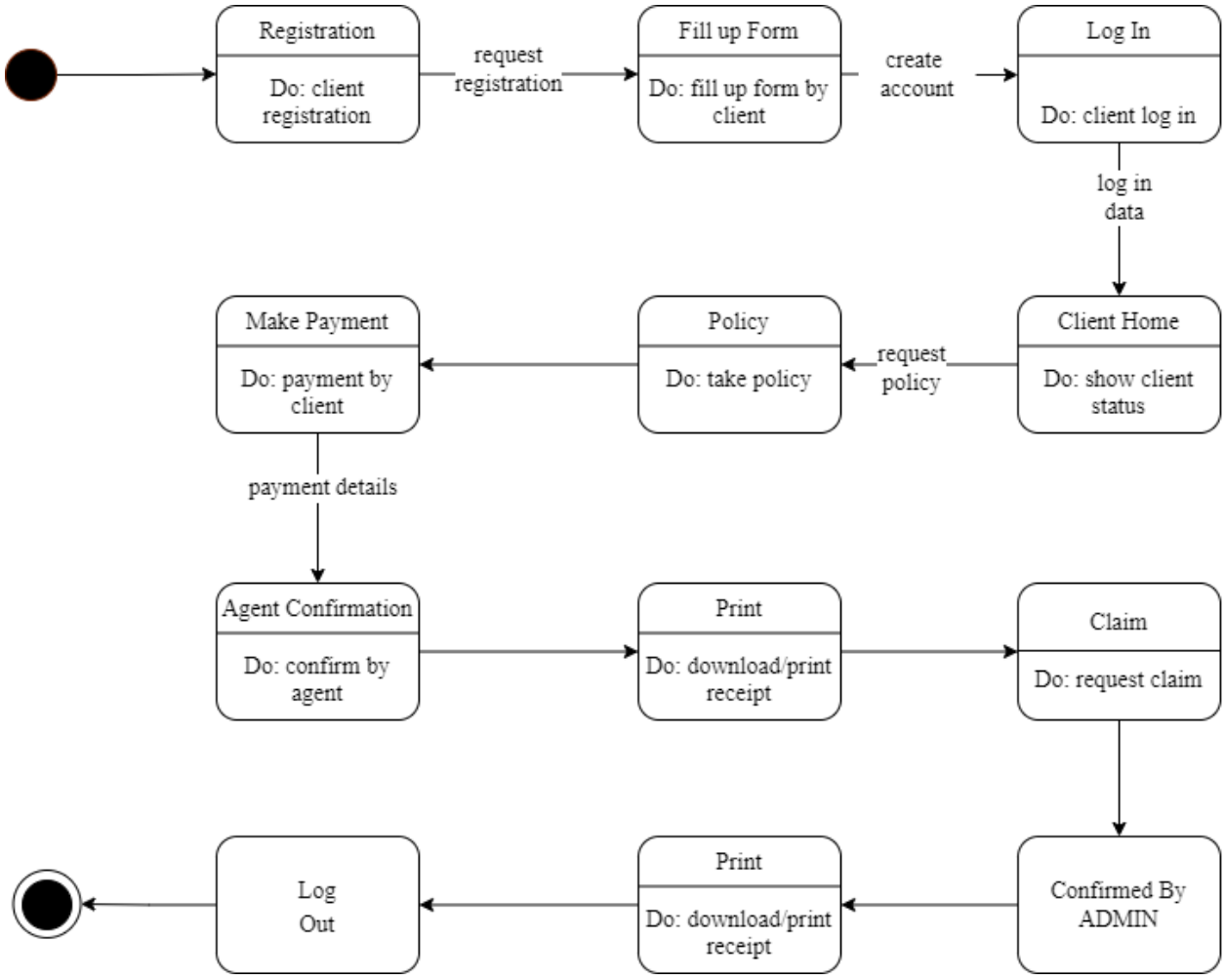
6.3.1 Sequence Diagram Description

Here, first the customer will want to create an account. Then the agent will make a profile and request approval from the admin. The admin will approve the request. Customers can also ask for the policy and the agent will inform the policy. Now, the customer can add the policy manually by knowing the policy from the agent or they can choose the customize option. If the customer chooses the manual option then they will choose a policy and the agent will confirm the policy and request the admin to approve it. The admin will approve the policy. Then if the customer chooses the customize option then they will choose their option and the agent will confirm the policy and request approval. The admin will approve the request. The customer can also claim the policy. In that case, the agent will approve the claim and request the admin for approval and the admin will approve the request.


Customer
:Agent
:Admin
Create Account()
request approval()
approve request()
request policy()
inform policy()
choose policy()
confirm policy and request approval()
approve policy()
choose prefered policy()
confirm policy and request approval()
approve policy()
add nominee()
request for claim policy()
approve policy()

6.4 State Machine Diagram

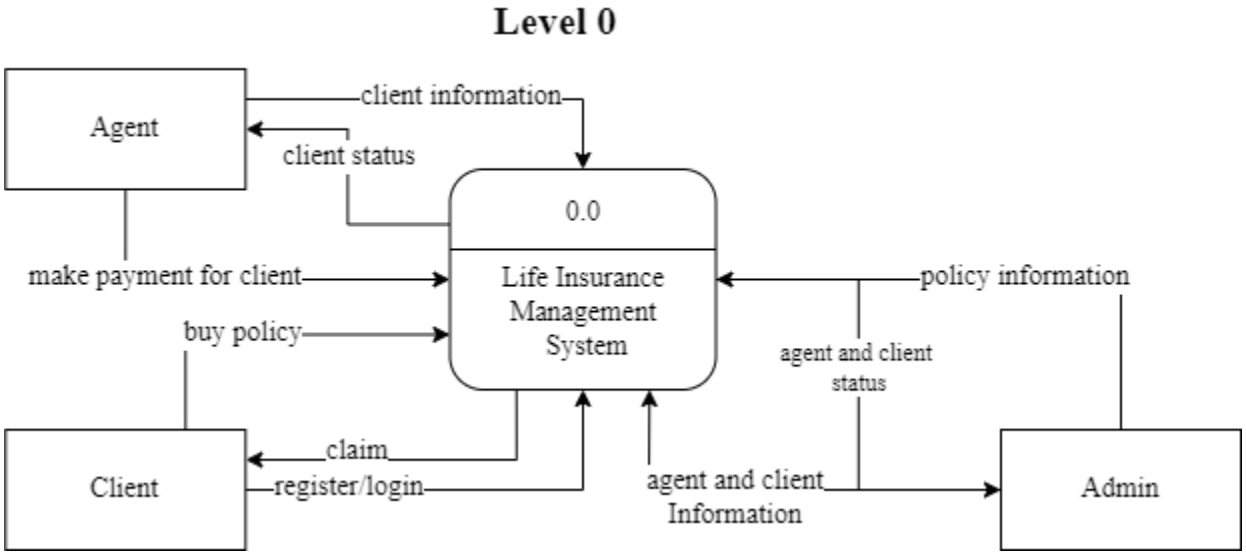
A state diagram is a type of diagram that shows the behavior of the systems. State diagrams require that the system described is composed of a finite number of states.



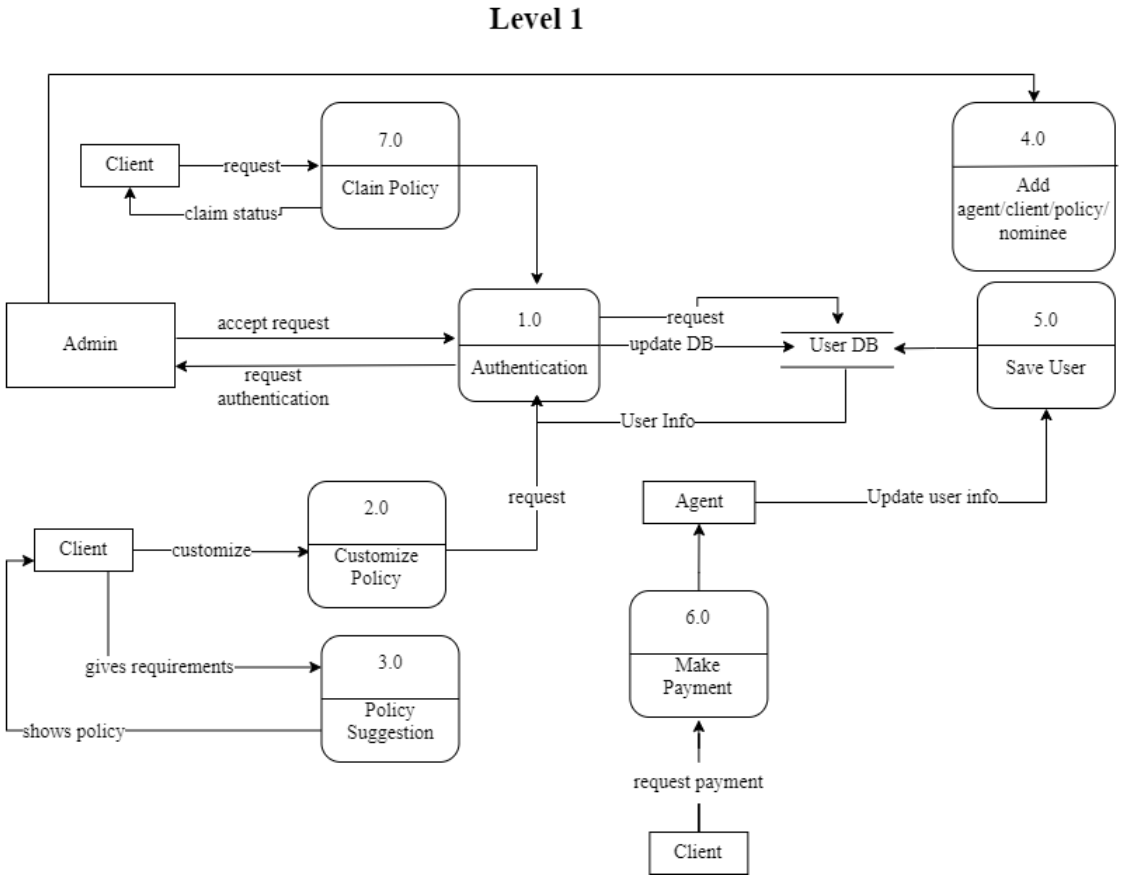
6.5 Data Flow Diagram

Data flow diagram (DFD) is a diagram that will represent the data flow in our system and the processes that take place in the system to transfer data.

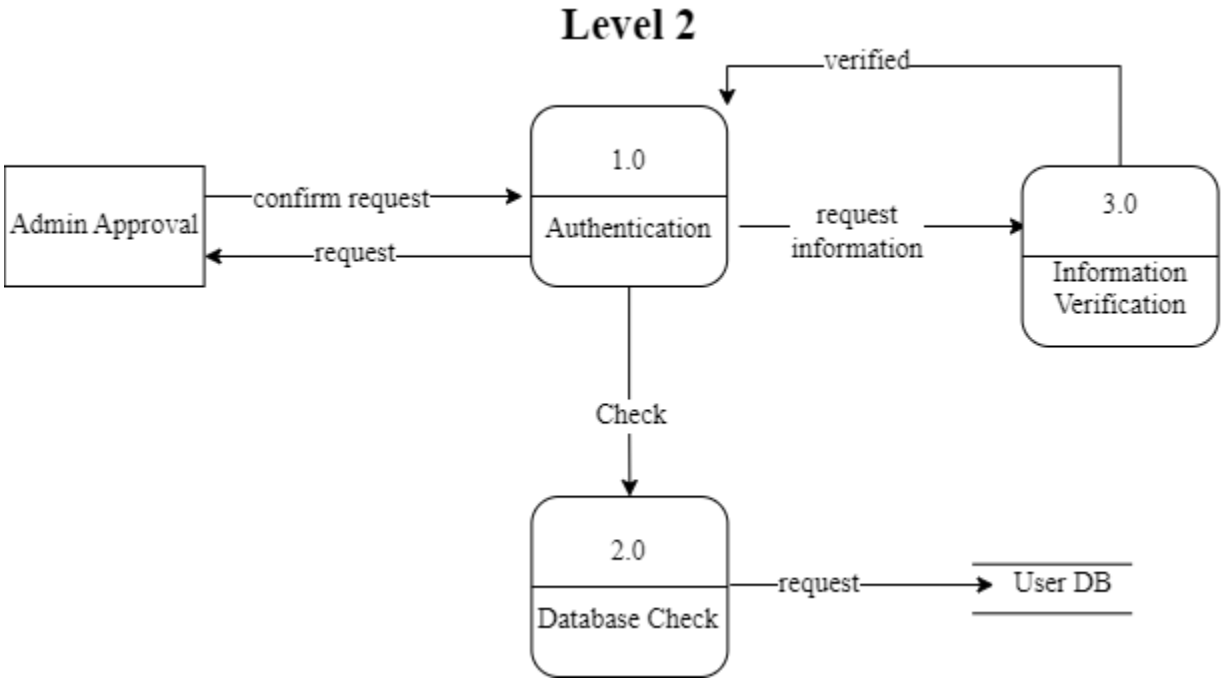
6.5.0 Data Flow Diagram Level - 0:



6.5.1 Data Flow Diagram Level - 1:

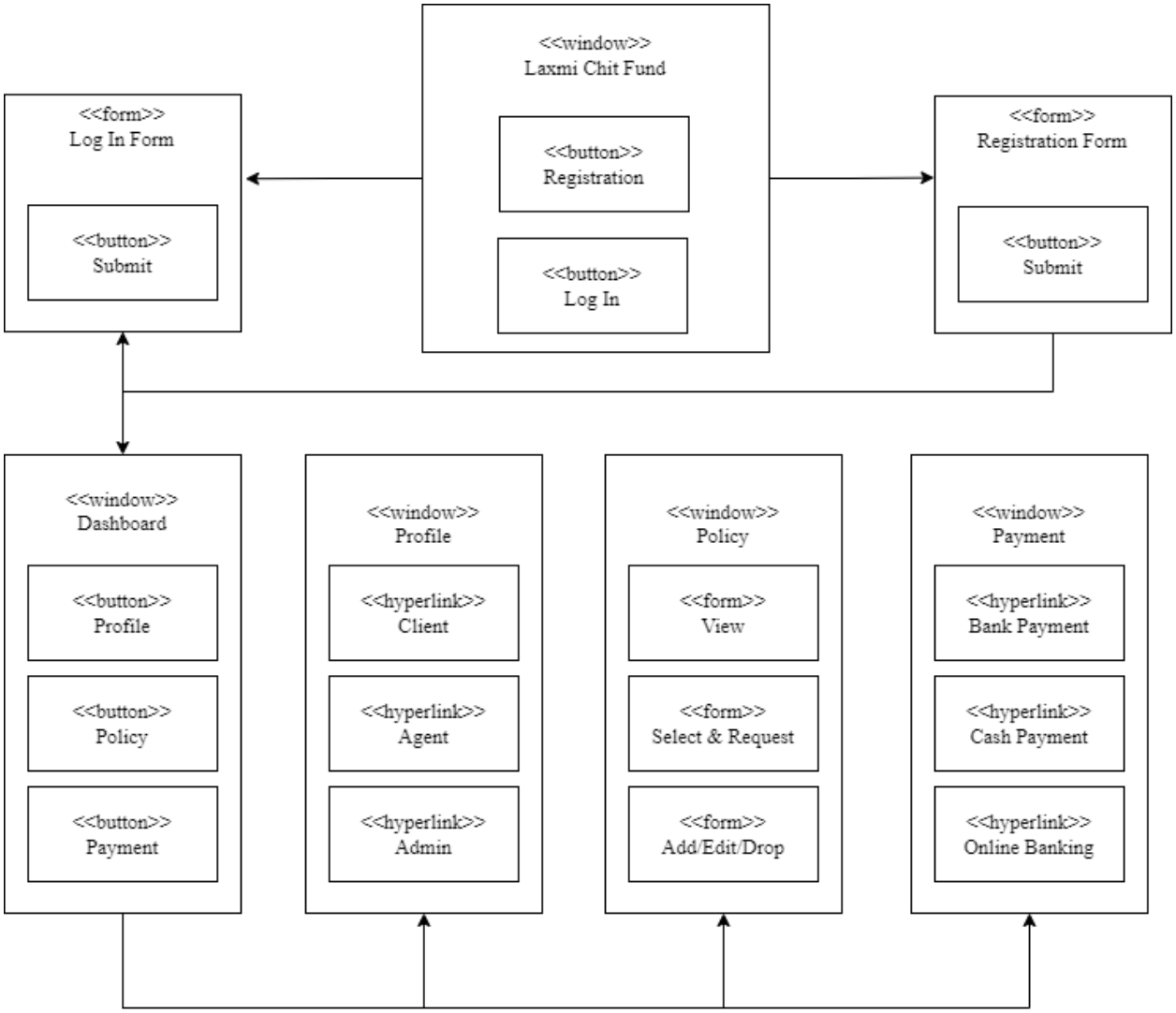


6.5.2 Data Flow Diagram Level - 2:



6.6 Windows Navigation Diagram

The Window Navigation Diagrams of this system display the basic structure of the interface which is presented down below.



7. Conclusion

As people's lives are getting more and more dependent on technology and easily accessible systems, the Life Insurance Management System takes a step towards creating a technology-based platform in the technology-sector of Bangladesh. This kind of system will enable the users to have an easier navigation for what they are looking for and can make overseas transactions with their local transactions.