



SCS 3214 / IS 3113:
Group Project II – 2021
Interim Report

Group Number: G22

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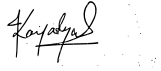
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Details of Project Supervisor, Co-supervisor, Advisors and Clients

Proposed Project Supervisor:

Name of the supervisor: Ms. Kulani Sumanasekara

Signature of the supervisor:



Date: 2021.07.12

Proposed Project Co-Supervisor:

Name of the co-supervisor: Ms. Gayani Rupasinghe

Signature of the co-supervisor:



Date: 2021.07.12

The client of the Project (If applicable, otherwise supervisor will be considered as the client)

Name of the client: Not applicable

Address of the client:

Contact person at client:

Contact number of the contact person:

e-mail address of the contact person:

Project Details

1. Project Title: Startup Hub



2. The Goal and Objectives

2.1. Goals

Our goal is to establish a well- recognized platform for Startups all around Sri Lanka, to come together to build up a strong community by selling their products in one platform and connecting with numerous other entrepreneurs to grow their businesses. The platform is also designed with the purpose of connecting investors with entrepreneurs to enhance the opportunities provided for both the parties to develop and sustain this community.

2.2. Objectives

- Provide quality service like maintain their own company profile and upload the products and services for the purpose of selling and showcasing their products and services to the Startups who wants find Partners, Investors and Customers.
- Implement the comprehensive platform for startups within the required time.
- Establish short-term and long-term profitability by increasing Startups and other accounts with the users' friendly platform, best performance and security.
- Provide facilities to Investors to follow up their interesting startups if the owner of the startup would like to share their progress.
- Provides some features to clients, like they will have the opportunity to buy products through the system and search products and services.
- Supports the startup with the Client base attracted by their own success.

3. Problem Definition and Introduction

3.1. Problem Definition

It is not easy to start a new business with a group of regular customers in this competitive world. And also, there are difficulties in fulfilling the capital requirements. It is not easy to find the quality materials and regular suppliers when the business is in the startup stage. Most startups and small and medium enterprises do their marketing with the help of social media. But in Sri Lanka there does not exist a platform which provides all facilities like marketing, finding partners, finding investors etc.

As a solution for these problems, we are planning to develop an overall system that can connect the parties, involved in the startup environment. Entrepreneurs can publish their business, can make interactions between business firms and startups to the investing process, provide facilities for joining with business firms in a contract-based manner and businessmen can identify their competitors by using this system.

3.2. Introduction

- This is Mobile and Web based development that we are going to build with the purpose of helping Startup companies to find Partners, Investors and clients.
- Through this mobile application, Startup Companies can expand their business with the help of Investors and can find Customers to sell their Products and Services.
- Startup Companies can register through the mobile application and update details about Products and Services through their profile and also, they can apply for partnership from other companies.
- Startup companies can send requests to investors and also, they can remove or accept investors' subscriptions.
- If an Investor is interested in an area of business that he is willing to invest in, he can publish his idea so the startups can apply for those opportunities.
- Investors can subscribe startup companies which allows them to view more details about the company if the company owners accept the request.
- When a client is registering for the app, they have to select whether they are individual or from an organization which gives them the investor privileges. Clients later can upgrade their profile to get the investor privileges if they like for an investment.
- Admin will have a web application which contains a dashboard and user management system and a notification system.

4. The scope of the project

4.1. Users (possible actors) of the system

- Admin
- Clients
- Investors
- Entrepreneur (Product based / Service based)

4.2. Main functionalities of the system

- **Admin**
 - Can view users
 - Send warning to the users and ban accounts
 - Notifications and Dashboard
- **Client**
 - Maintain a profile
 - Can view the detailed information on products and services available
 - Can place orders (online shopping)
 - Can create contracts / jobs
 - Can view the applied entrepreneurs for a contract and accept/ reject them
- **Investor**
 - Maintain a profile
 - Can publish investment plans
 - Can see requested entrepreneurs for an investment plan
 - Subscribe a startup to see the overall summary of the business
- **Entrepreneur (Product based)**
 - Maintain a profile
 - Create member accounts (Startup Admin only)
 - Add / Update / Delete products
 - Can view / accept / reject orders
 - Find business partners
 - Apply for contracts / jobs

- Apply for investments
- Accept/ Reject subscription of investors
- **Entrepreneur (Service based)**
 - Maintain a profile
 - Create member accounts (Startup Admin only)
 - Find business partners
 - Apply for contracts / jobs
 - Apply for investments
 - Accept/ Reject subscription of investors

4.3. Out of Scope

- Investors and startups can join through the platform but the system won't handle the legal aspect of their contract.
 - In the process of investing, the company and the Investor legally sign a contract including their terms and conditions. In our system, we just fulfil the requirement of connecting them through a one platform
- The system won't manage the contract partnership
 - After getting a contracted system won't manage the contract partnership and its terms and conditions.
- The system won't handle the Inventory of the startups.
 - In the case of a product near to its expiry date, the system won't manage the situation by suggesting those items first for the clients to sell.
 - We only focus about preorders, so we can skip the inventory management.

5. Feasibility Study

From doing feasibility studies we are analyzing whether our software meets the requirements. And we used this feasibility study to determine whether our planned software can be implemented using current technologies and within a specified budget and schedule and also, whether our software can be integrated with other existing software.

We make this feasibility study covering five areas.

5.1. Technical Feasibility

5.2. Economic Feasibility

5.3. Legal and Ethical Feasibility

5.4. Operational Feasibility

5.5. Schedule Feasibility

5.1. Technical Feasibility

When considering the technical feasibility that we are planning to use current possible technologies that we are familiar with. We are using technologies and tools like,

I. Programming Languages

- React native
- React.js
- Node JS

II. Database administration Tools

- Mongo DB

III. Diagram drawing Tools

- drow.io
- Lucidchart

IV. Documentations Tools

- Microsoft Word
- Google Docs

V. Editing Tools

- Visual Studio Code

VI. Contribution Platforms

- GitHub
- Google Drive

5.2. Economic Feasibility

- According to our project our development cost will be zero because we use Open-source software and freely available tools.
- But currently we are not expecting to publish the app in the Play Store. But when we publish the app, additional cost will be added.
- As well as the administrator should have knowledge to maintain the system. If it is not, the training cost will be added.
- But considering the cost of the project will be less than the benefits from the App. Because when we publish the app, then administration will be paid based on apps profits and download numbers.
- And also, we are expecting to include an annual membership fee for every user. This will provide economic benefits for the Administrator.
- When comparing the existing apps, there are less of apps to help startup companies to find the Partners in Sri Lanka. Because of that many customers will engage with our App. From that the administrator will get economic benefits.

5.3. Legal and Ethical Feasibility

- When we consider a project like ours, legal aspects have a minor effect on the feasibility study. Because those legal aspects include software licenses.
- When consider our project we are using freely available tools and Open-source software so there are no any issues with licenses.
- Our system will not save the customers' sensitive data like credit card information.
- Ethically we have to consider the behavior of the Users. When, other users recommend or inform a complaint about false data and inappropriate data then we have to take action, and have to ban accounts.
- And also, we are not responsible for the legal activities between investors and the Startup companies because we are only helping to find the partners.
- If Startup companies have registration numbers, then have to register in our app with their business registration Number. So, using that can figure out false accuracy accounts.
- And also, those ethical points should include how we work together and how we interact with other members of the group.

5.4. Operational Feasibility

- When we consider our proposed App, it is a really good solution for the identified problem domain.
- Users have to register for the app by providing required data. And after log in to the app they are directed to the home page that contains user's details. Here they can enter their current product and also members that he is working with.
- The proposed system connects all major stakeholders of the Startup.
- App provides a newsfeed to search necessary product and services companies according to user's requirements. And there is a partnership tab after creating a partnership with another company to communicate but legal data.
- When comparing our proposed solution with other current existing solutions, there is no other solution like this in Sri Lanka to help find business partners and investors for Startup business.
- Not only the startup companies, the all user will also get benefits.

5.5. Schedule Feasibility

- The Project should be completed in 15 Weeks. Therefore, estimated man-hours for the project will be as follows.
 - Weekdays working hours in the schedule = 4
 - Weekends working hours = 2
 - Number of members = 5
 - Man-hours per week = $(4+2)*5 = 30$
 - Estimated number of weeks = 15
 - Estimate Total of Man-hours = $15*30 = 450$.

6. System Architecture

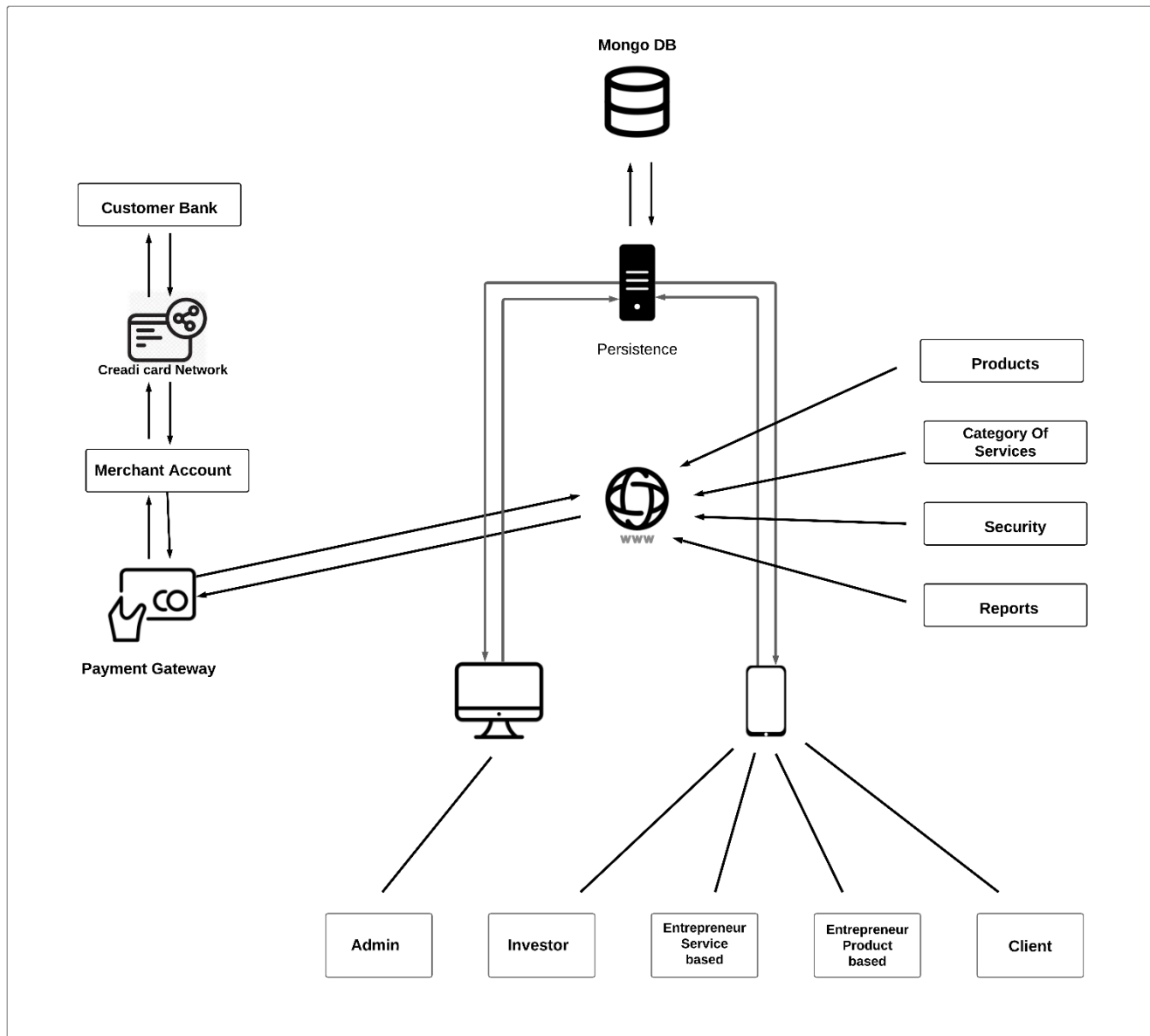


Figure 1: System Architecture

7. Requirement Specification

7.1. Functional Requirements

7.1.1. User Requirement

Considering the system users, Startup Users, Investors and Clients have to sign up for the system to get access for the system features. Startup users have to enter the email and password to login to the system as well. And both of users can add partners, can generate reports and also can update their profiles details.

Considering Startup Users, Startup user – product can add, their products with an image and details and also, they have features to update, view, delete and rate the products.

Startup user - service can also have features to update and delete services. When client request a job, then user (startup service) can accept the request and have to add task that he is planning to follow and he also can remove entered task.

Considering the Investor, he also has to log into system using email and password after signup. He can publish the investment details that he is planning to do and he can subscribe the Startup user's accounts and give investment plans. He can update and remove his investment details also. After creating a partnership with the startup users, he can view the startup user's reports.

Considering Client, he also has to log into system using email and password after signup. Client can request services and buy products using this account. If they want buy a product, he can choose products, collect them to cart, set order and placed the rollback payment. If they want a service, then he can request service from relevant Startup user (service). When requires get accept then client receive the tasks that startup service user is following and task completion.

7.1.2. System Requirement

The system can be able to store the details of product and service buying details and payments. And also, the system should have different interfaces for different user account types. The system admin should be able to check and remove the user accounts and functionalities if there are issues with those accounts. The system should be able to manage the rollback payment with clients. And also, system admin can view all accounts and its functionalities.

7.2. User Case Diagram

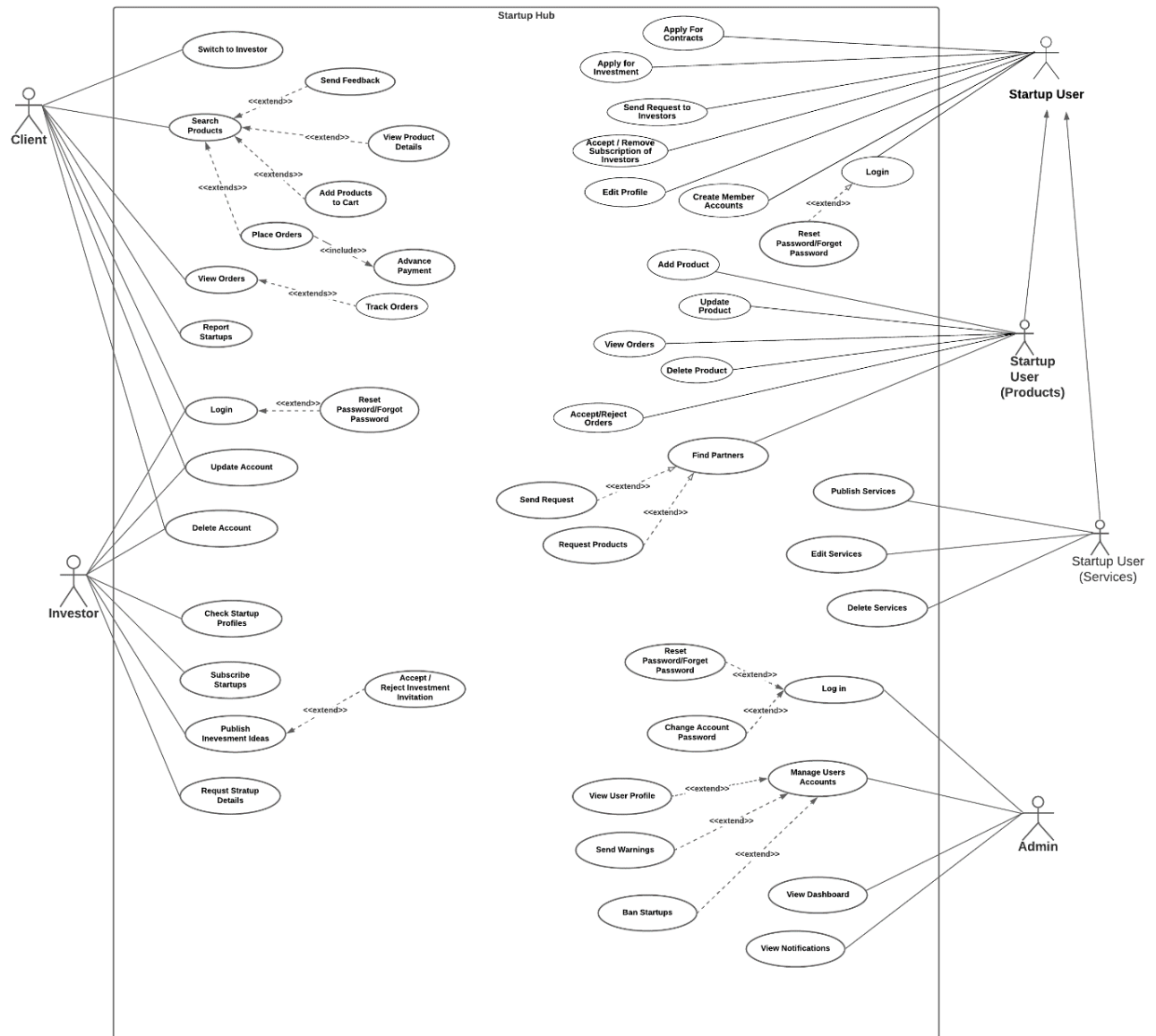


Figure 2: Startup System Use Case Diagram

7.2.1. Actor wise Use Cases

1. Admin

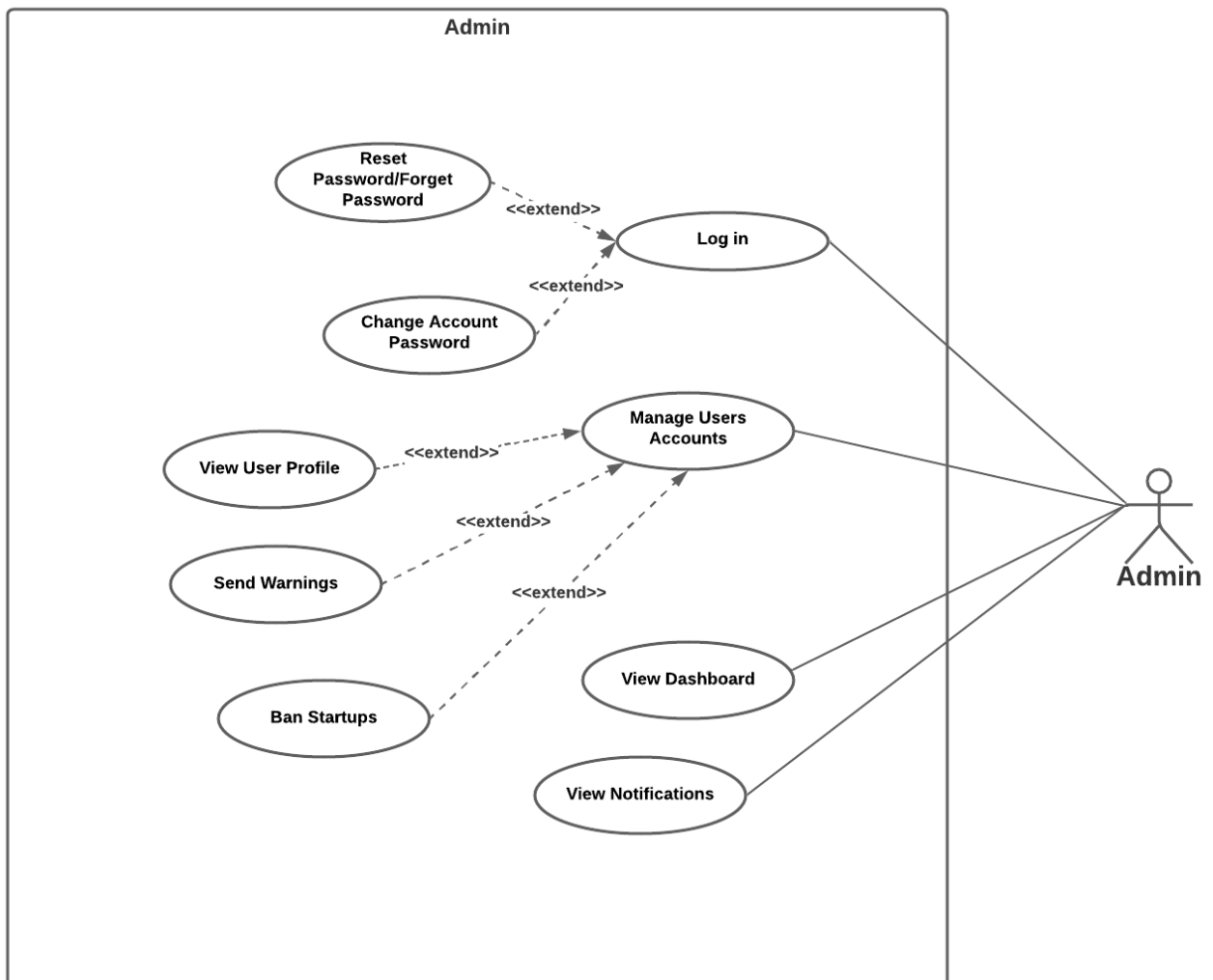


Figure 3: Admin Use Case Diagram

2. Client

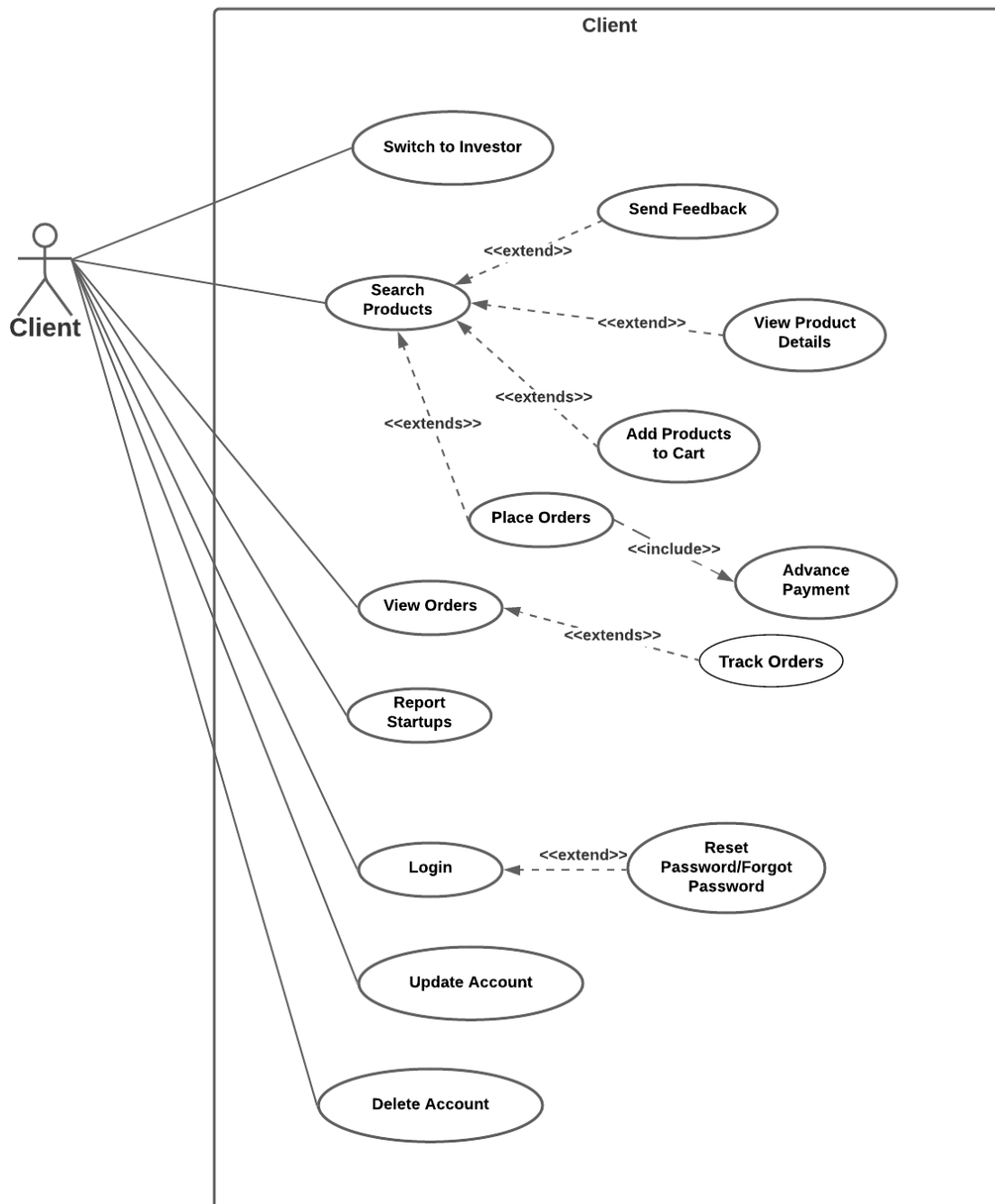


Figure 4: Client Use Case Diagram

3. Investor

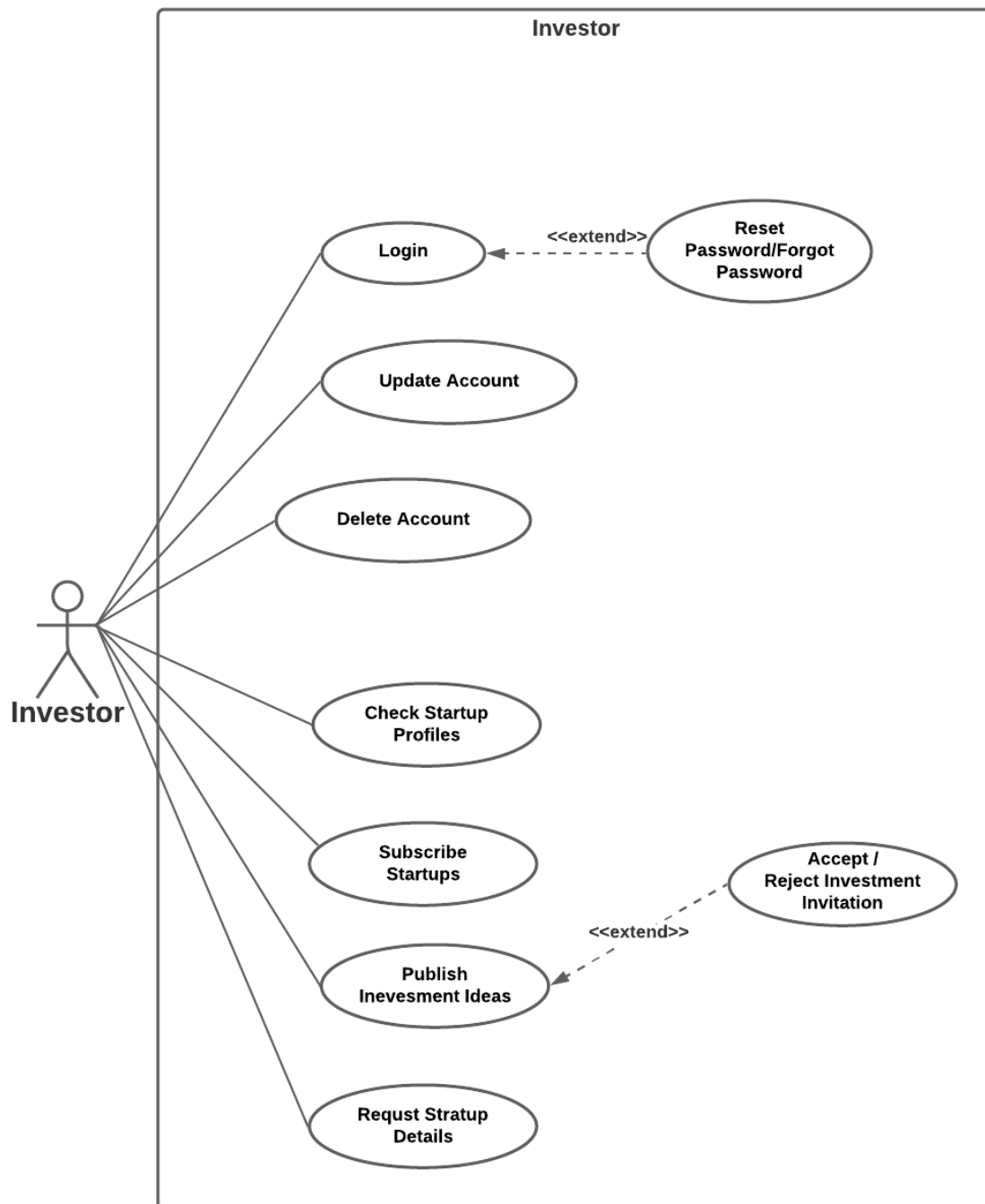


Figure 5: Investor Use Case Diagram

4. Entrepreneur

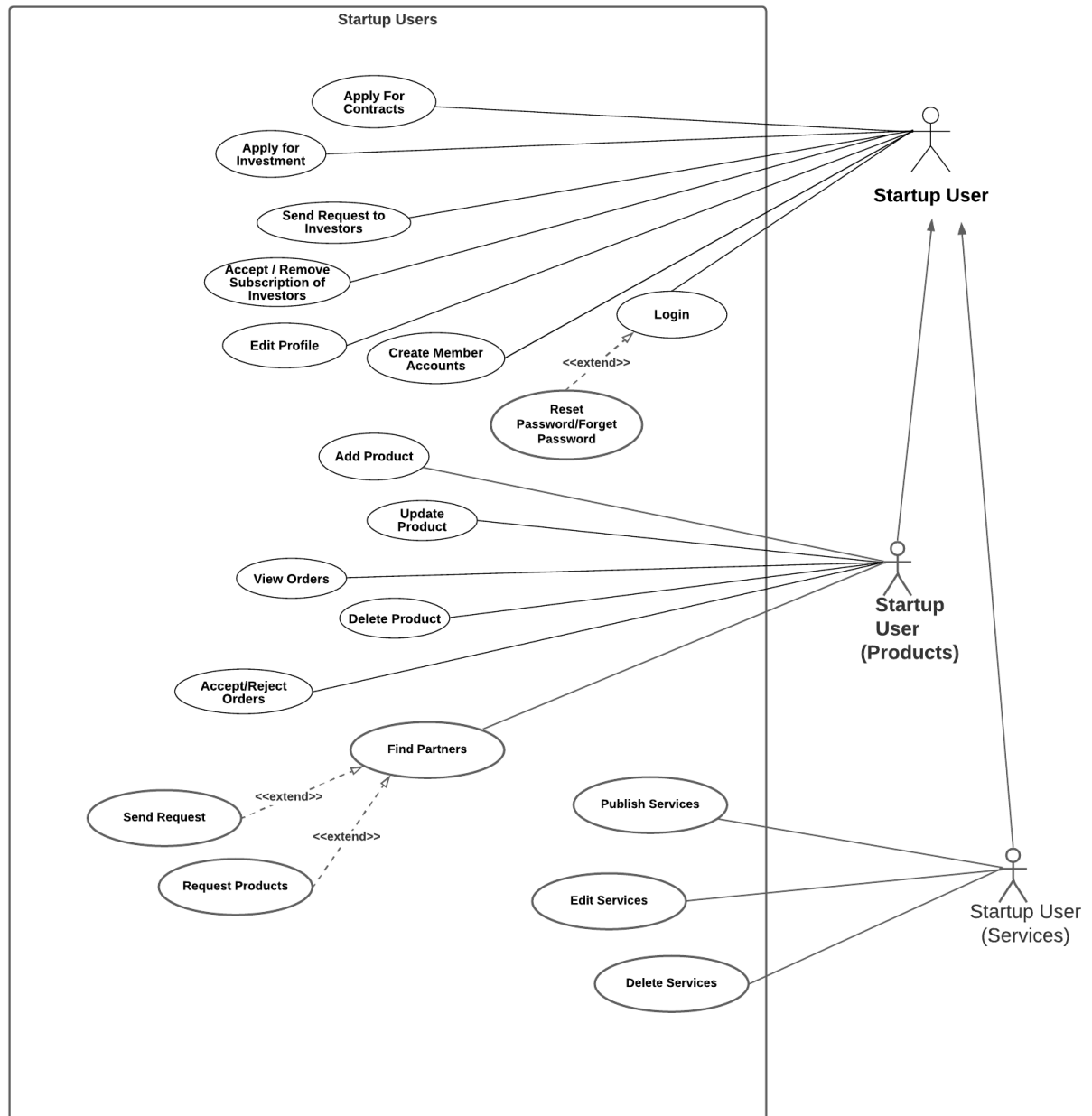


Figure 6: Startup User Use case Diagram

7.2.2. Use Case Narratives

1. Admin

| | |
|----------------|--|
| Use Case Name | View User Profiles |
| Summary | Administration can view all account details |
| Primary Actor | System Admin |
| Precondition | Corresponding account should exist in the system |
| Description | Administration can view any account to inspect unethical activities. |
| Exceptions | Corresponding account does not exist in the system |
| Post Condition | Corresponding account details will be displayed |

| | |
|----------------|---|
| Use Case Name | Send Warnings |
| Summary | If any user attempts to do an unethical activity administration can send a warning. |
| Primary Actor | System Admin |
| Precondition | Unethical / unauthorized action occurs and it has been reported. |
| Description | If any user attempts to do an unethical activity others can report activities, then administration can send a warning to the particular person. |
| Exceptions | - |
| Post Condition | Warning message will be displayed to the corresponding user |

| | |
|----------------|---|
| Use Case Name | Ban Accounts |
| Summary | If an account is being reported continuously admin can ban that account |
| Primary Actor | System Admin |
| Precondition | Corresponding accounts should be reported by others continuously. |
| Description | If any user does unethical activities continuously and is reported continuously, the administration has the authority to ban the account. |
| Exceptions | - |
| Post Condition | The account will be banned. |

| | |
|----------------|--|
| Use Case Name | View Dashboard |
| Summary | Admin can view an overall dashboard |
| Primary Actor | System Admin |
| Precondition | - |
| Description | Admin can view an overall dashboard including charts |
| Exceptions | - |
| Post Condition | Dashboard will be displayed |

| | |
|----------------|---|
| Use Case Name | View Notifications |
| Summary | Admin can view notifications |
| Primary Actor | System Admin |
| Precondition | - |
| Description | admin can view any notifications and get relevant action. |
| Exceptions | - |
| Post Condition | - |

2. Client

| | |
|----------------|--|
| Use Case Name | Search Products |
| Summary | Client can search products |
| Primary Actor | Client |
| Precondition | Can't buy products without sign up |
| Description | Client can search any product and each product details |
| Exceptions | Doesn't have a search product. Display alert |
| Post Condition | - |

| | |
|----------------|--|
| Use Case Name | View Orders |
| Summary | Client can view order list |
| Primary Actor | Client |
| Precondition | Client must place order previously |
| Description | Client can view orders and view each order details |
| Exceptions | - |
| Post Condition | Order can view relevant seller (Startup user) |

| | |
|----------------|---|
| Use Case Name | Report Startup |
| Summary | Client can report startup |
| Primary Actor | Client |
| Precondition | - |
| Description | Client can report startup on any cheated or doing some unethical things |
| Exceptions | - |
| Post Condition | That report must be true and accurate. Decisions are made by the admin after a thorough inquire |

| | |
|----------------|--|
| Use Case Name | Switch to Investor |
| Summary | Client can use investor part |
| Primary Actor | Client |
| Precondition | Client delivery to additional information |
| Description | Client want to get investor facility can switch to use this path |
| Exceptions | - |
| Post Condition | - |

| | |
|----------------|---|
| Use Case Name | Send Feedback |
| Summary | Client can add feedback any products |
| Primary Actor | Client |
| Precondition | First the client must have bought that product |
| Description | Client can add feedback about his experience of the product Client can give to rate. |
| Exceptions | - |
| Post Condition | It can see to the startup user |

| | |
|----------------|--|
| Use Case Name | View product details |
| Summary | Client can see each product details deeply |
| Primary Actor | Client |
| Precondition | - |
| Description | Client can see product details deeply and buy it. Some same products are having different sellers so client can get better one |
| Exceptions | - |
| Post Condition | - |

| | |
|----------------|--|
| Use Case Name | Add product to cart |
| Summary | Client can create shopping cart |
| Primary Actor | Client |
| Precondition | - |
| Description | Client want to buy more products in an order the client can use this cart. Add, delete and change quantity are features in the cart |
| Exceptions | - |
| Post Condition | Client can delete the cart |

| | |
|----------------|---|
| Use Case Name | Placed orders |
| Summary | Client can place orders |
| Primary Actor | Client |
| Precondition | - |
| Description | Select one or more products and then the client can place the order. Payments are given by online method |
| Exceptions | - |
| Post Condition | Client can't delete order after placing |

| | |
|----------------|--|
| Use Case Name | Advance Payment |
| Summary | Pay advance to finish the Place the order |
| Primary Actor | Client |
| Precondition | - |
| Description | Client placed the order and pay advance some percentage of fully total |
| Exceptions | - |
| Post Condition | - |

| | |
|----------------|--|
| Use Case Name | Track Order |
| Summary | Track the placed orders |
| Primary Actor | Client |
| Precondition | Client paid for advance |
| Description | Client can track several orders And each orders important information |
| Exceptions | - |
| Post Condition | - |

3. Investor

| | |
|----------------|---|
| Use Case Name | Subscribe startups |
| Summary | Investors can subscribe to startups to see more details of the startup. |
| Primary Actor | Investor |
| Precondition | - |
| Description | Investors can subscribe to startups to see more details of the startup before investing. |
| Exceptions | - |
| Post Condition | If the startup accepts the subscription the investor can see a detailed summary of the startup. |

| | |
|----------------|--|
| Use Case Name | Publish Investment Ideas |
| Summary | Investors can publish their investment plans |
| Primary Actor | Investor |
| Precondition | - |
| Description | Investors can publish their investment plans on the system by giving relevant details |
| Exceptions | Required details are incomplete |
| Post Condition | Published investment plans will be available and interested startups will be notified. |

| | |
|----------------|--|
| Use Case Name | Check Startup Profile |
| Summary | Investors can view startup profiles. |
| Primary Actor | Investor |
| Precondition | - |
| Description | Investors can view business profiles of startups which are requests for investments. |
| Exceptions | - |
| Post Condition | Basic details of the startup will display |

| | |
|----------------|--|
| Use Case Name | Request Startup Details |
| Summary | Investors can request more details from startup |
| Primary Actor | Investor |
| Precondition | - |
| Description | If investors need more details even after subscribing to the startup, investors can request those details. |
| Exceptions | - |
| Post Condition | Requests will be notified to the particular startup. |

| | |
|----------------|---|
| Use Case Name | Update Account |
| Summary | Investors can update their profile. |
| Primary Actor | Investor |
| Precondition | Investor should be registered |
| Description | Investors can update their profiles by giving the latest details of their business. |
| Exceptions | The particular investor is not registered. |
| Post Condition | Updated details will be available in the system. |

4. Entrepreneur

| | |
|---------------|--|
| Use Case Name | Add Product |
| Summary | Startup members can publish their products on their mini shop. |
| Primary Actor | Startup Member (Products) |
| Precondition | Particular startup must be registered and the startup member must be logged in to the system. |
| Description | Any member of a particular startup can publish their products by giving details of the product on their mini shop. Then customers are able to see those products and order them. |
| Exceptions | <ul style="list-style-type: none"> Required details are not completed |

| | |
|----------------|--|
| | <ul style="list-style-type: none"> Product is already added |
| Post Condition | New product will be available in their mini shop. |

| | |
|----------------|---|
| Use Case Name | Update Product |
| Summary | Startup members can update their products that were previously added to their mini shop. |
| Primary Actor | Startup Member (Products) |
| Precondition | Products should exist in their mini shop given by the system. |
| Description | Any member of a particular startup can view and update their products on their mini shop by giving updated details. |
| Exceptions | The product does not exist in their mini shop. |
| Post Condition | Updated details will be available in their mini shop. |

| | |
|----------------|---|
| Use Case Name | Delete Product |
| Summary | Startup members can delete their products that were previously added to their mini shop. |
| Primary Actor | Startup Member (Products) |
| Precondition | Products should exist in their mini shop given by the system. |
| Description | Any member of a particular startup can delete their products on their mini shop which are no longer produced by them. |
| Exceptions | The product does not exist in their mini shop. |
| Post Condition | The product is no longer available in their mini shop. |

| | |
|---------------|---|
| Use Case Name | View Orders |
| Summary | Startup members can view the orders that they received. |
| Primary Actor | Startup Member (Products) |
| Precondition | The order should exist in the system. |

| | |
|----------------|--|
| Description | Startup members can view the orders that are placed by their customers by going to the orders tab. |
| Exceptions | The order does not exist in the system. |
| Post Condition | Order details will be displayed. |

| | |
|----------------|--|
| Use Case Name | Accept / Reject Order |
| Summary | Startup members can accept or reject the orders that they received. |
| Primary Actor | Startup Member (Products) |
| Precondition | The order should exist in the system. |
| Description | Startup members can accept or reject the orders that are placed by their customers by going to the orders tab. |
| Exceptions | The order does not exist in the system. |
| Post Condition | Order will be accepted / Rejected. |

| | |
|----------------|--|
| Use Case Name | Find Partners |
| Summary | A startup can make a partnership with another startup. |
| Primary Actor | Startup Member (Products) |
| Precondition | Both startups must be registered. |
| Description | A startup member can search another startup by name or by product. Then the member can send a request to the startup to become a partner. Once the other startup member accepts it both parties can communicate, request products directly |
| Exceptions | Either one of both startups are not registered. |
| Post Condition | The partnership will be established and allows direct communication between both startups. |

| | |
|---------------|---|
| Use Case Name | Publish Services |
| Summary | Startup members can publish their services on their business profile. |
| Primary Actor | Startup Member (Services) |

| | |
|----------------|---|
| Precondition | Particular startup must be registered and the startup member must be logged in to the system. |
| Description | Any member of a particular startup can publish their services by giving details of the service on their startup business profile. Then customers are able to see those services and request them. |
| Exceptions | <ul style="list-style-type: none"> • Required details are not completed • Service is already added |
| Post Condition | New service will be available in their business profile. |

| | |
|----------------|--|
| Use Case Name | Edit Services |
| Summary | Startup members can update their services that were previously added to their business profile. |
| Primary Actor | Startup Member (Services) |
| Precondition | Services should exist in their business profile given by the system. |
| Description | Any member of a particular startup can view and update their services on their business profile by giving updated details. |
| Exceptions | The service does not exist in their business profile. |
| Post Condition | Updated details will be available in their business profile. |

| | |
|----------------|--|
| Use Case Name | Delete Services |
| Summary | Startup members can delete their services that were previously added to their business profile. |
| Primary Actor | Startup Member (Services) |
| Precondition | Service should exist in their business profile given by the system. |
| Description | Any member of a particular startup can delete their services on their business profile which are no longer provided by them. |
| Exceptions | The service does not exist in their business profile. |
| Post Condition | The service is no longer available in their business profile. |

| | |
|----------------|--|
| Use Case Name | Apply for contracts |
| Summary | Startups can apply for contracts/jobs published by customers/clients. |
| Primary Actor | Startup Member (Any) |
| Precondition | The category of the startup and the contract should be the same. |
| Description | Startups can view contracts in the same category which they belong to. And they can apply for the contract by giving particular details. |
| Exceptions | Startup and the particular contract do not belong to the same category. |
| Post Condition | Clients will be able to see the requested startups and select one of them for the particular contract. |

| | |
|----------------|---|
| Use Case Name | Send request to the investors |
| Summary | Startups send request to the investors asking to invest on their business, |
| Primary Actor | Startup Member (Any) |
| Precondition | - |
| Description | Startups can request investments form investors by giving required details. |
| Exceptions | Required details are not completed |
| Post Condition | Investors can view the details of the startups that requested. |

| | |
|----------------|--|
| Use Case Name | Apply for Investments |
| Summary | Startups can apply for investments that published by investors |
| Primary Actor | Startup Member (Any) |
| Precondition | - |
| Description | Startups can apply for investments that are published by investors by giving required details. |
| Exceptions | Required details are not completed |
| Post Condition | Investors can view the details of the startups that requested. |

| | |
|----------------|--|
| Use Case Name | Accept / Remove Subscriptions |
| Summary | Startups can accept or remove subscriptions of investors. |
| Primary Actor | Startup Member (Any) |
| Precondition | - |
| Description | Investors who need more information about a startup can subscribe to it. If the startup agrees to share information, they can accept it or otherwise they can reject it. |
| Exceptions | - |
| Post Condition | <ul style="list-style-type: none"> If the subscription is accepted the investor can see more information about the particular startup. |

| | |
|----------------|--|
| Use Case Name | Edit Profile |
| Summary | Startup members can edit their business profile. |
| Primary Actor | Startup Member (Any) |
| Precondition | Startups should be registered in the system. |
| Description | Startup members can update their business profiles by giving the latest details of their business. |
| Exceptions | The particular startup is not registered. |
| Post Condition | Updated details will be available in the system. |

| | |
|----------------|---|
| Use Case Name | Create member accounts |
| Summary | Admin of a startup can add members to the system. |
| Primary Actor | Startup Admin (Any) |
| Precondition | Startup must be registered Allocated number of accounts for a startup should not exceed. |
| Description | Admin of a startup can create member accounts and add their members to the system. Then they are able to access the system. |
| Exceptions | Allocated number of accounts for a startup is exceeded. |
| Post Condition | A member account has been created. |

7.3. System's Design

7.3.1. Class Diagram

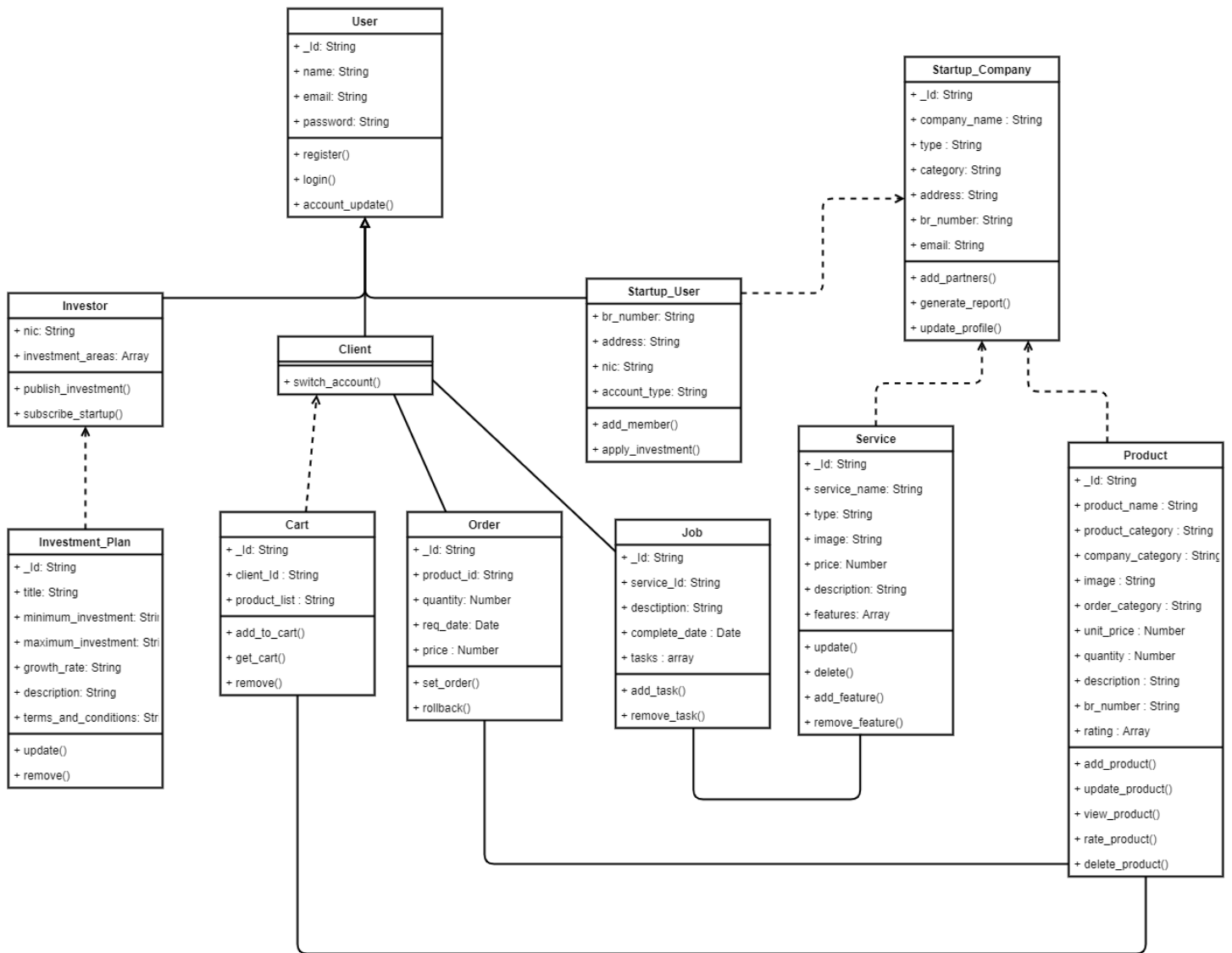


Figure 7: Class Diagram

7.3.2. Component Diagram

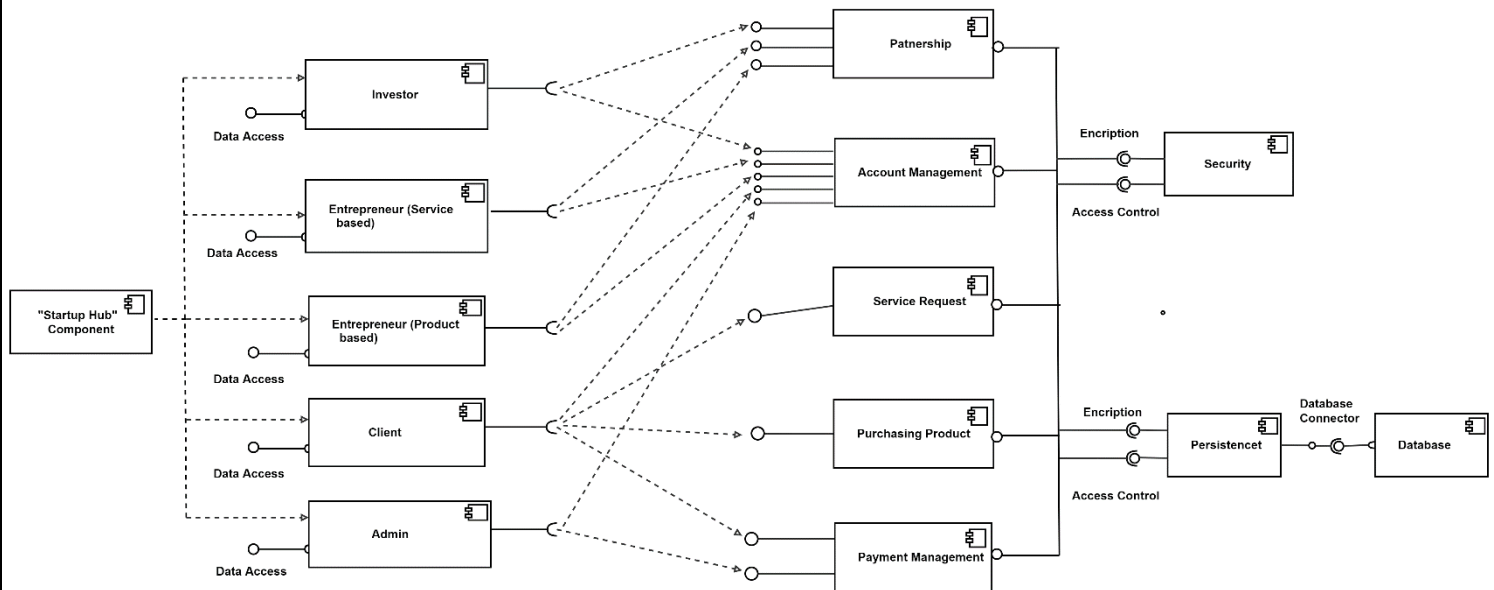


Figure 8: Component Diagram

7.4. Non-Functional Requirements

7.4.1. Identification of Quality Attribute

1. Security
2. Performance
3. Testability
4. Usability
5. Availability
6. Maintainability

7.4.2. Suggestion to achieve Quality Attributes

1. Security

We are planning to use the best encryption tools and techniques like using validated required fields and save password in an encrypted manner. We are planning to impose the access policies and all users have to agree the system policies when they register to the system. We are not exposing detail of the users to outsiders of the app and stored the data in secure way for secure the users personal data. We are planning to improve the proper session handling and try to use tokens to manage user sessions more productively. Trying to design our software that it only accepts strong alphanumeric passwords that can be renewed every six months for improve the

authentication of the system. While building the app, review the code regularly and check the validation part and test the codes. Since we are using NoSQL, direct injection is not possible, however there is a possibility to inject malicious input. To prevent that we will validate all user inputs.

2. Performance

To improve the device performance of the proposed system, we are using the react native mobile application framework because it supports with both android and iOS devices. Develop system to be immediately available once activated, so we are using the mongo DB because it can distribute across two or more data centers and lowers the amounts of bytes in an image so give validated image size to the user, when they are uploading the images to the system. Develop the system UI in user-friendly according to the UI/UX principles, and for the understanding and the use of the user we will give guideline for their help. We are keeping a native database will ensure, even when the server is down, that data can be safely stored. Since we are using MongoDB Atlas, it provides a Replica set with three nodes which will increase the performance.

3. Testability

We are planning to conduct the different testing methods for our system like user testing. And also, we are developing our system in module wise. Because of that it is easy to conduct the testing for the system

4. Usability

System is support for the both android and IOS because we are using react. And also, we designing our system in user friendly manner with different design with clean and clear and multiple users can easily identify the accounts, because we are creating account with different designs. And we are planning to have user testing to get users feedbacks.

5. Availability

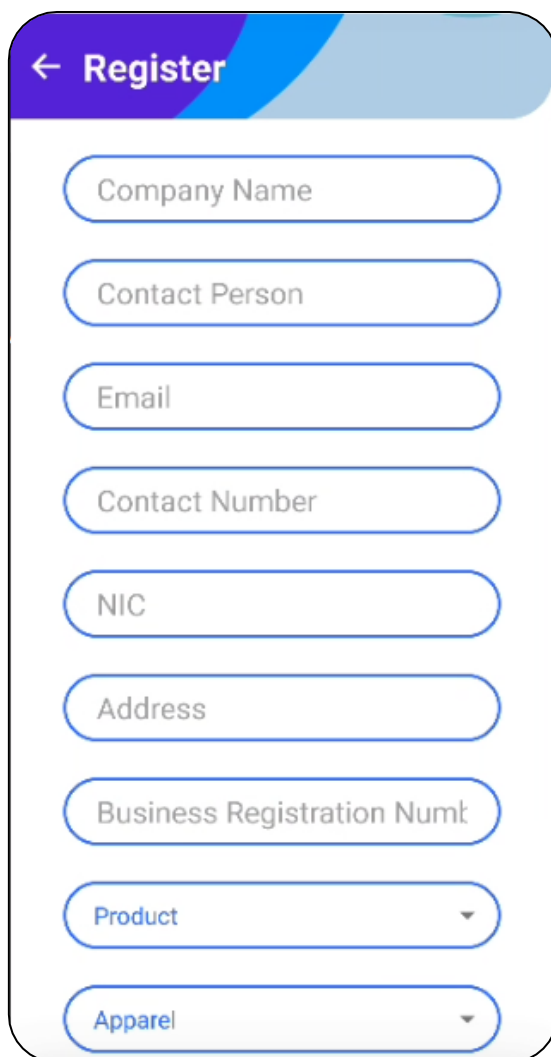
Our system available for both android and IOS users. And our system is available 24 hour. If there is any maintaining happen, we will inform it before for the users.

6. Maintainability

We are using clean, readable code which can easily understand and we will use comments to identify the source codes. So, code can easily change and readable. And we develop project in module wise that will also help to increase the maintainability of the system.

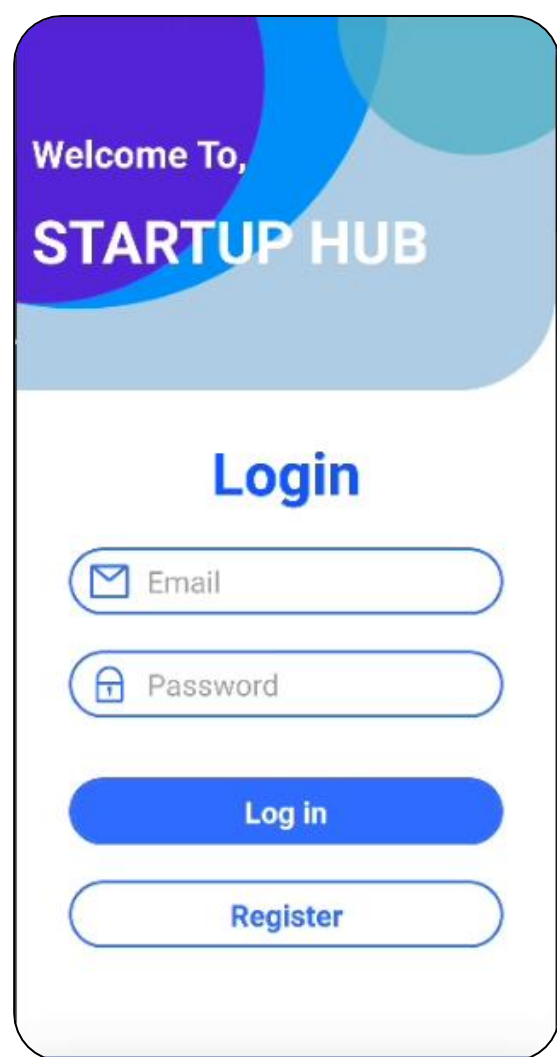
8. User Interfaces

- We designed Signup and Login with using same color as logo of our application. To show the direct interaction of application we are adding button and links. So here we added button with more spaces and colors to get more interactions.
- Startup user's (product and service) interfaces, we designed using unique color and it different from other user's interfaces. So, it can easily recognize. warning and confirmation button design with its' meaning colors like warning buttons designed with red. We used side swipe navigation that gives better accessible.
- When deleting important content, that will give warning message and ask confirmation also that we include to reduce the irreversible action of users.
- We designed Investors interfaces with more white spaces. And there we used understandable icons.



The image shows a mobile app interface for the 'Register' screen. At the top, there is a purple header with a white back arrow and the text 'Register'. Below the header, there are several rounded rectangular input fields with blue borders, each containing a label: 'Company Name', 'Contact Person', 'Email', 'Contact Number', 'NIC', 'Address', 'Business Registration Numt', 'Product' (with a dropdown arrow), and 'Apparel' (with a dropdown arrow). The background is white with a purple and blue curved design at the top.

Figure 10: Startup user - Signup



The image shows a mobile app interface for the 'Login' screen. At the top, there is a purple header with the text 'Welcome To, STARTUP HUB' in white. Below the header, there is a large blue 'Login' title. Underneath, there are two rounded rectangular input fields with blue borders: one with an envelope icon and the label 'Email', and another with a lock icon and the label 'Password'. Below these fields are two buttons: a solid blue 'Log in' button and a white 'Register' button with a blue border. The background is white with a purple and blue curved design at the top.

Figure 9: Startup user - Login

8.1. Startup User – Product

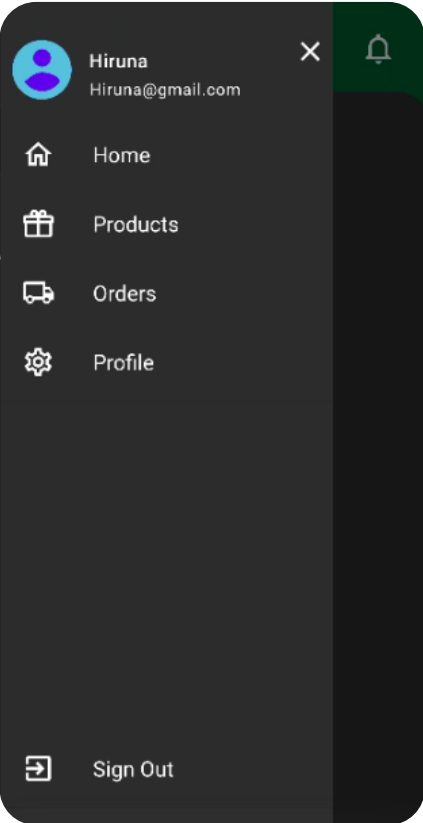


Figure 12: Startup user (product) - navigation panel

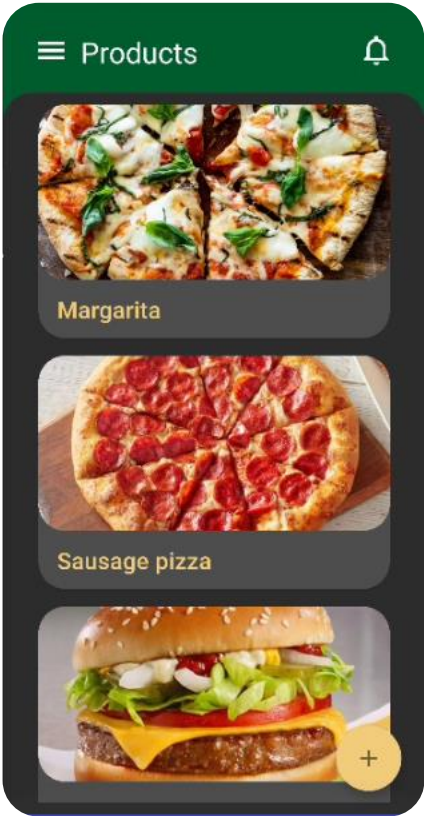


Figure 11: Startup user (product) - Products

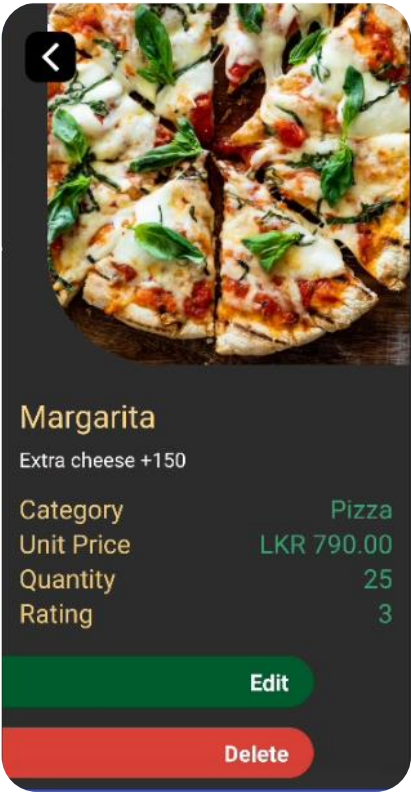


Figure 13: Startup user (product) - product details

8.2. Startup User – Service

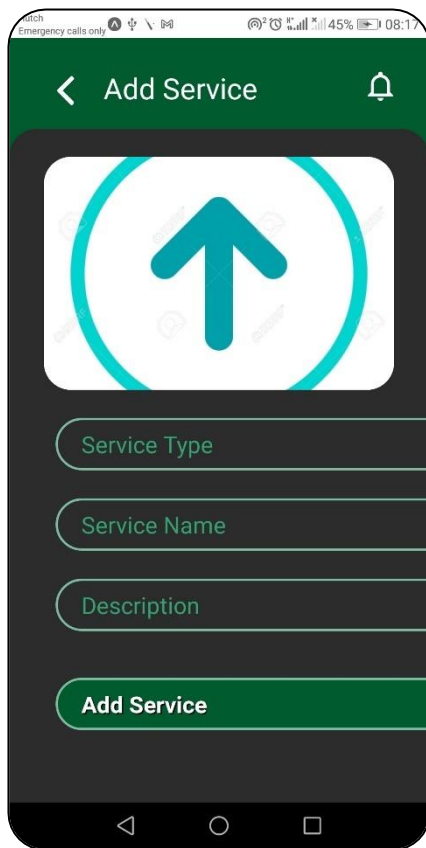


Figure 14: Startup service user – Interface of Service adding

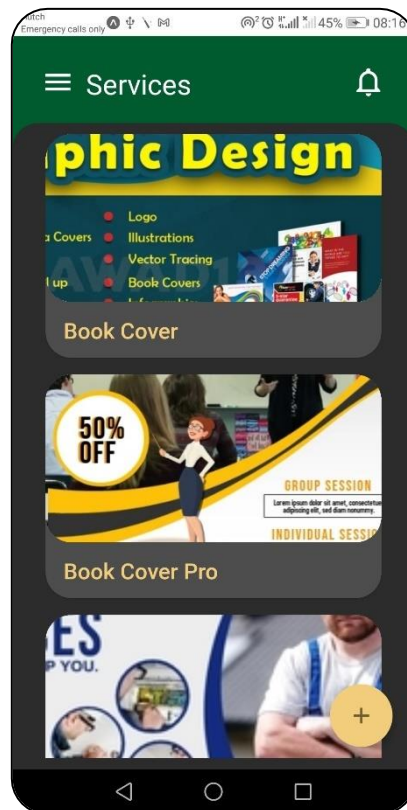


Figure 16: Startup service user - Interface of Services

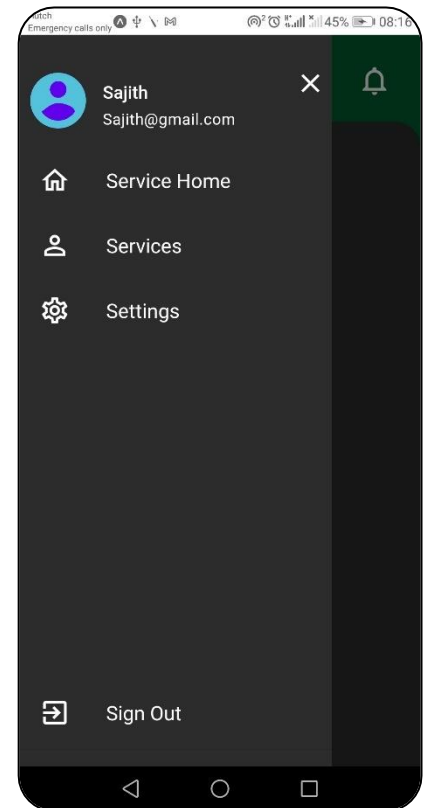


Figure 15: Startup service user - Interface of navigation

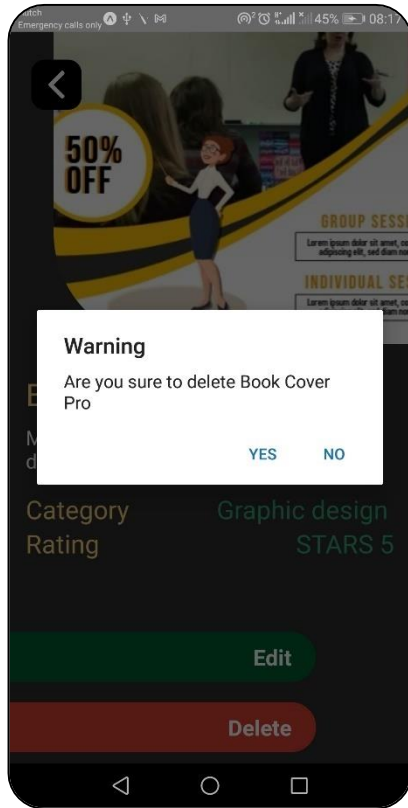


Figure 18: Startup service user – Interface of Service removing cover page of added service

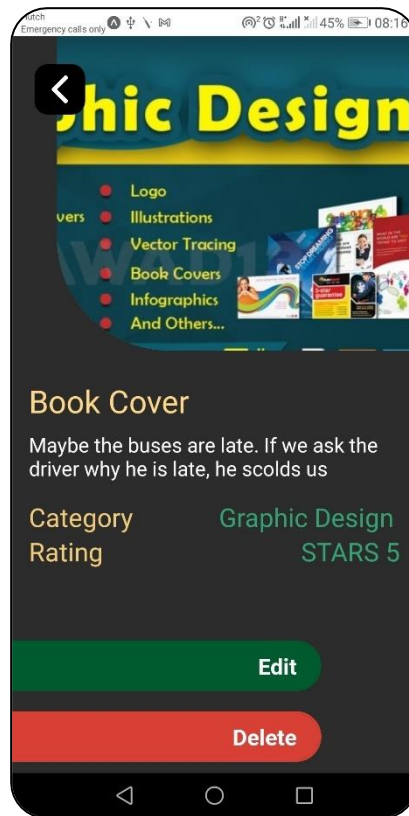


Figure 17: Startup service user – Interface of service details

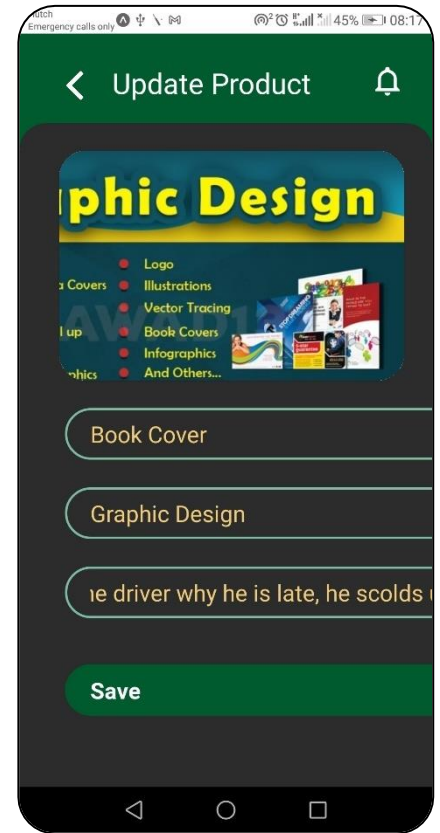


Figure 19: Startup service user - Interface of updating service details

8.3. Investor

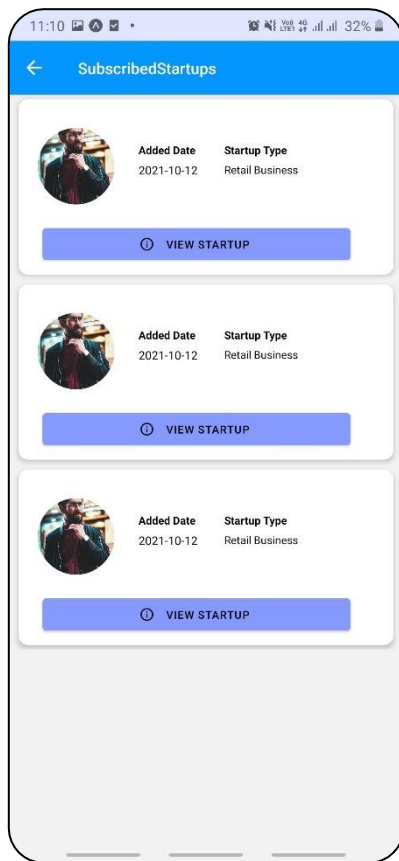


Figure 20: Investor – Interface of already subscribe Startups users

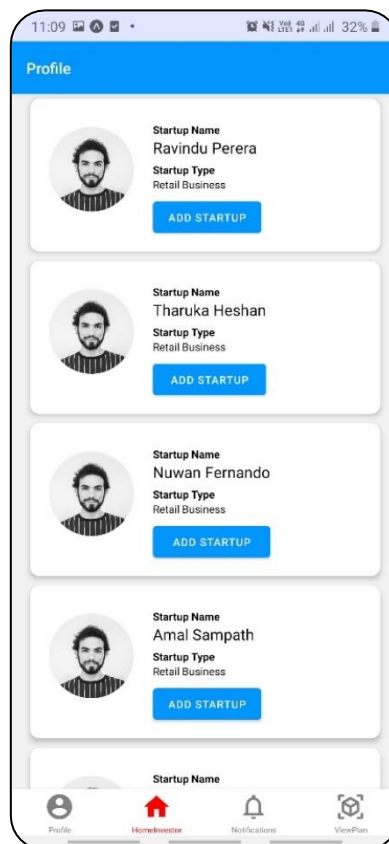


Figure 22: Investor – Interface of Startup requests

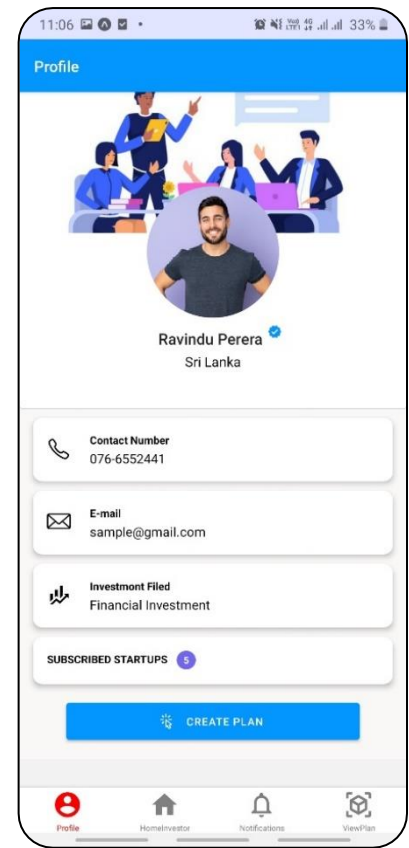


Figure 21: Investor – Interface of Profile view

Figure 23: Investor -- Interface of create Investment Plan

Figure 24: Investor -- Interface of view created investment plan

Figure 25: investor -- Interface of View accept Startup user accounts list

8.4. Client

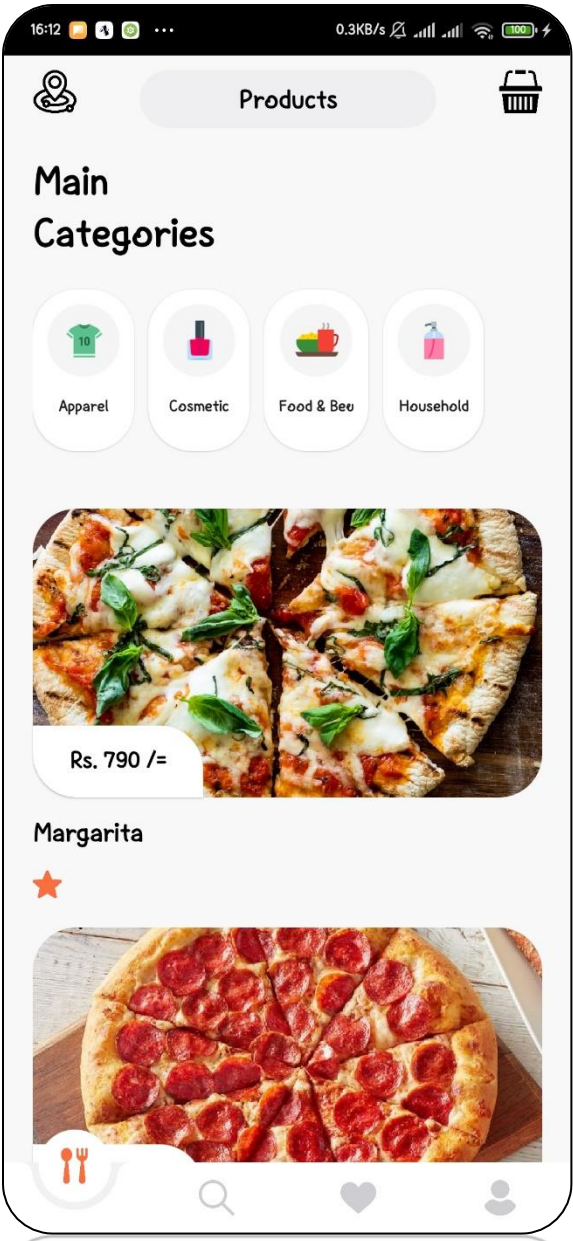


Figure 26: client – main categories

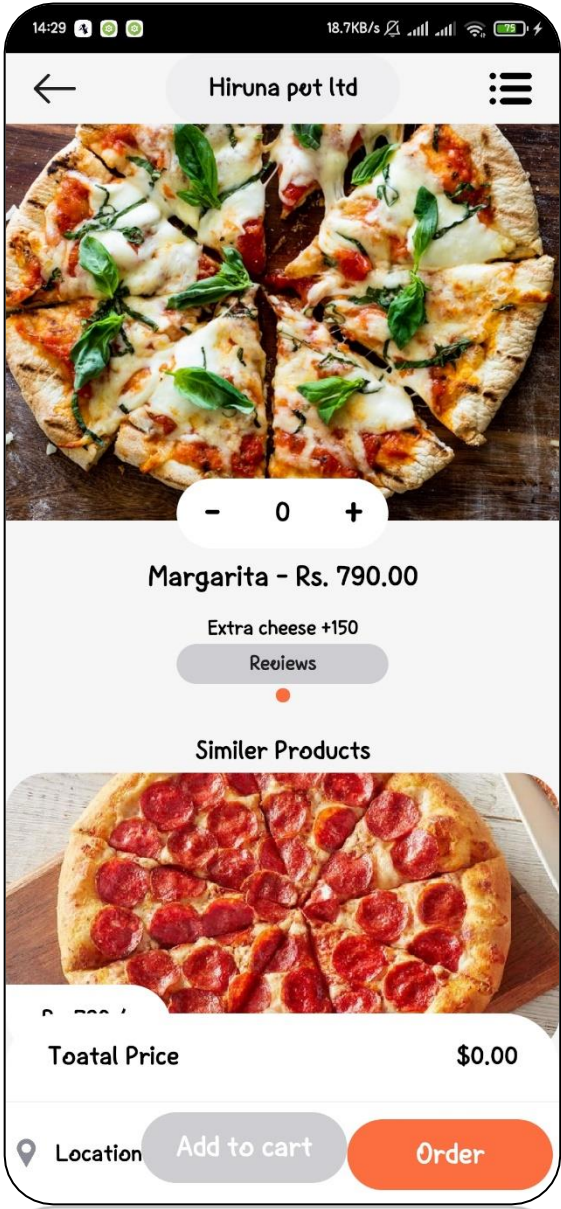


Figure 27: client – product review

9. Main deliverables of the system

1. Complete working software and source code (if the client doesn't want you to share the source code you have to produce clients consent and non-disclosure agreement signed with the client)
2. Complete Software Requirement Specification
3. User manual
4. Administrators manual together with deployment instructions
5. License of the software (GPL, LGPL, BSD, Proprietary, etc.)

10. The Project Plan

The proposed system is expected to take about 15 to 17 weeks from the project approval to the launch of a fully functioning system. We are planning to follow SCRUM methodology in this software development process. In this project we are planning to assign the main scrum roles as follows,

- Product Owner - Supervisor
- Scrum Master - Team Leader
- Development Team - Other team members

The development process is divided into 5 main phases and 4 sprints (phase 1 to 4) with sub phases which contain a set of tasks. The tasks of a component are similarly distributed within the team members and the tasks will be completed within the allocated time period for the particular phase. The following is a high-level schedule of some significant milestones for this initiative.

10.1. Work breakdown structure

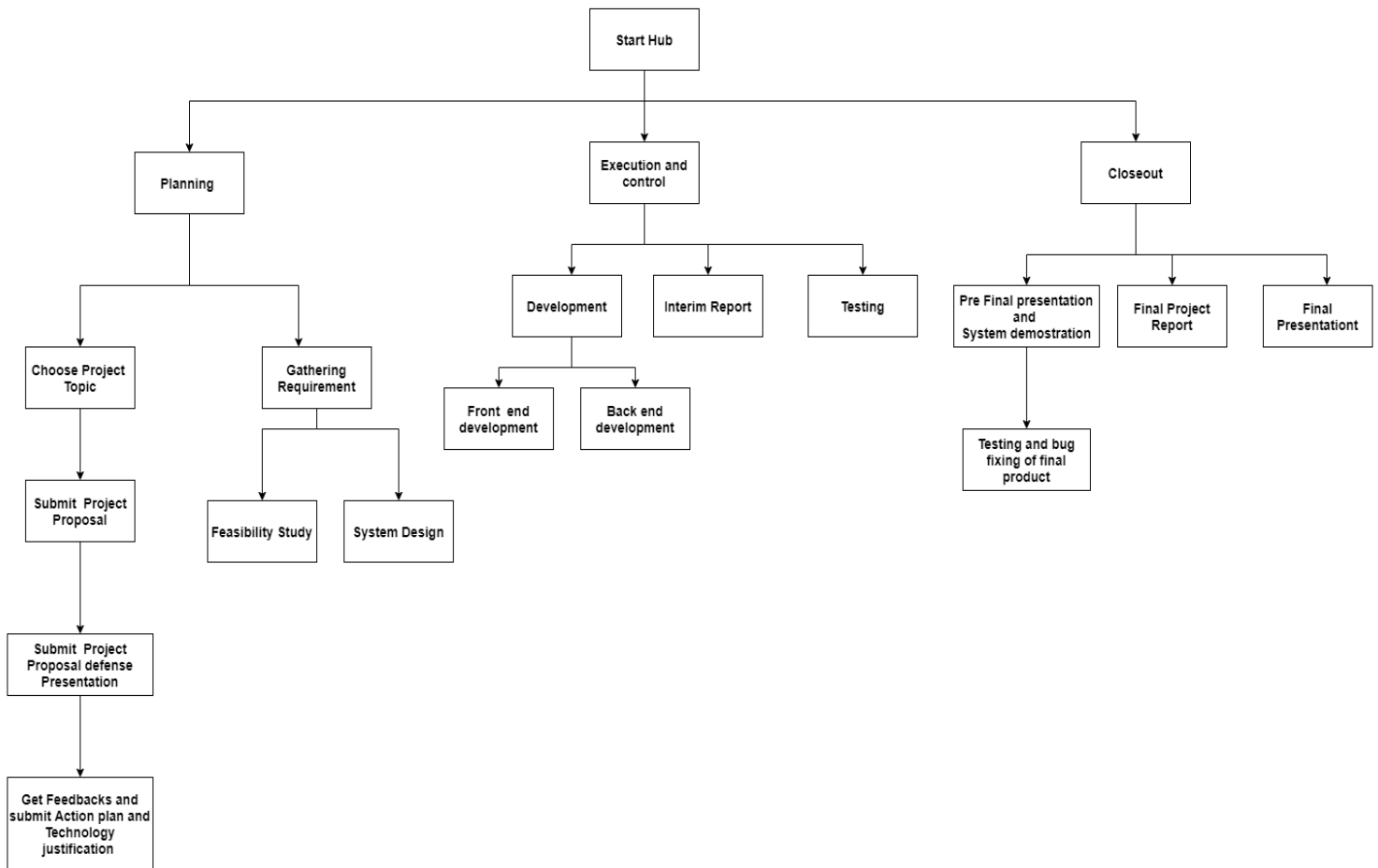


Figure 28: Work break down structure

10.2. Grant Chart

| Task Name | Start | Finish | Duration | Worker | May | | | | June | | | | July | | | | August | | | |
|---|-----------|-----------|----------|--------|-----|---|---|---|------|---|---|---|------|---|---|---|--------|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Choose Project Topic | 5/11/2021 | 5/18/2021 | 1 | 5 | | | | | | | | | | | | | | | | |
| Gathering Requirement | 5/11/2021 | 8/10/2021 | 13 | 5 | | | | | | | | | | | | | | | | |
| Feasibility Study | 5/18/2021 | 8/10/2021 | 12 | 5 | | | | | | | | | | | | | | | | |
| System Design (Usecase Diagram and driscription) | 5/18/2021 | 5/25/2021 | 1 | 5 | | | | | | | | | | | | | | | | |
| Create Project Proposal | 5/18/2021 | 5/25/2021 | 2 | 5 | | | | | | | | | | | | | | | | |
| Proposal | 5/18/2021 | 5/25/2021 | 1 | 5 | | | | | | | | | | | | | | | | |
| Learning Technologies | 5/25/2021 | 8/10/2021 | 11 | 5 | | | | | | | | | | | | | | | | |
| System Design (Component Diagram, Class Diagram and etc) | 6/5/2021 | 6/19/2021 | 1 | 3 | | | | | | | | | | | | | | | | |
| Requirement Analysis and UI design | 6/5/2021 | 6/24/2021 | 10 | 5 | | | | | | | | | | | | | | | | |
| Database Design | 6/5/2021 | 8/10/2021 | 10 | 2 | | | | | | | | | | | | | | | | |
| Implementation (Startup User, Investor Model,Client Model) | 6/12/2021 | 8/10/2021 | 9 | 5 | | | | | | | | | | | | | | | | |
| Interim | 7/4/2021 | 7/12/2021 | 2 | 5 | | | | | | | | | | | | | | | | |
| Testing (Startup User, Investor Model,Client Model) | 7/13/2021 | 8/10/2021 | 4 | 5 | | | | | | | | | | | | | | | | |
| Requirement Analysis and UI design for Admin Model | 7/13/2021 | 8/10/2021 | 4 | 2 | | | | | | | | | | | | | | | | |
| Implementation (Admin Model) | 7/13/2021 | 8/10/2021 | 4 | 3 | | | | | | | | | | | | | | | | |
| Testing (Admin Model) | 7/13/2021 | 8/10/2021 | 4 | 5 | | | | | | | | | | | | | | | | |
| System Testing and bug Fixing | 8/10/2021 | 8/17/2021 | 2 | 3 | | | | | | | | | | | | | | | | |
| User Manual and Administrator Manual | 8/10/2021 | 8/17/2021 | 2 | 2 | | | | | | | | | | | | | | | | |
| Deploymet and maintainance | 8/10/2021 | 8/17/2021 | 2 | 5 | | | | | | | | | | | | | | | | |
| Pre-Final Presentation and Product demonstration | 8/17/2021 | 8/30/2021 | 2 | 5 | | | | | | | | | | | | | | | | |
| Final Report | 8/17/2021 | 8/23/2021 | 2 | 5 | | | | | | | | | | | | | | | | |
| Final Presentation | 8/17/2021 | 8/30/2021 | 1 | 5 | | | | | | | | | | | | | | | | |

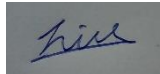
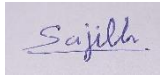
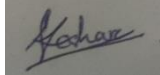
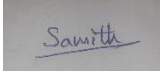
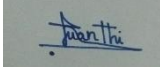
Figure 29: Grant chart

11. References

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- 5] Mar 18, 2021 ... This helpful guide lays out the prerequisites for learning React Native, using these docs, and setting up your environment. [online] <https://reactnative.dev/docs/getting-started>
- 6] Jun 15, 2010 ... Scrum.org provides comprehensive training, assessments and certifications to improve the profession of software delivery. [online] Available at: [Accessed 18 May 2021]. <https://www.scrum.org/about>

12. Declaration

We as members of the project titled Startup Hub, certify that we will carry out this project according to guidelines provided by the coordinators and supervisors of the course as well as we will not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university. To the best of our knowledge and belief, the project work will not contain any material previously published or written by another person or ourselves except where due reference is made in the text of appropriate places.

| Name | Signature |
|---------------------------|---|
| (i) D.M.H.U. Jayasuriya |  |
| (ii) H.L.S Prasanga |  |
| (iii) B.R.H.K. Balasuriya |  |
| (iv) W.S.S. Gunasekara |  |
| (v) A.W.R.S. Hemachandra |  |

