



**SCS 3214 / IS 3113:**  
**Group Project II – 2021**  
**Project Proposal**

**Group Number: G22**

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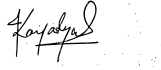
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## **Details of Project Supervisor, Co-supervisor, Advisors and Clients**

### **Proposed Project Supervisor:**

Name of the supervisor: Ms. Kulani Sumanasekara

Signature of the supervisor:



Date: 2021.05.20

### **Proposed Project Co-Supervisor:**

Name of the co-supervisor: Ms. Gayani Rupasinghe

Signature of the co-supervisor:



Date: 2021.05.24

### **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: Not applicable

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. Tentative 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.

### **4. A brief introduction to the project**

- 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.

## **5. The scope of the project**

### **5.1. Users (possible actors) of the system**

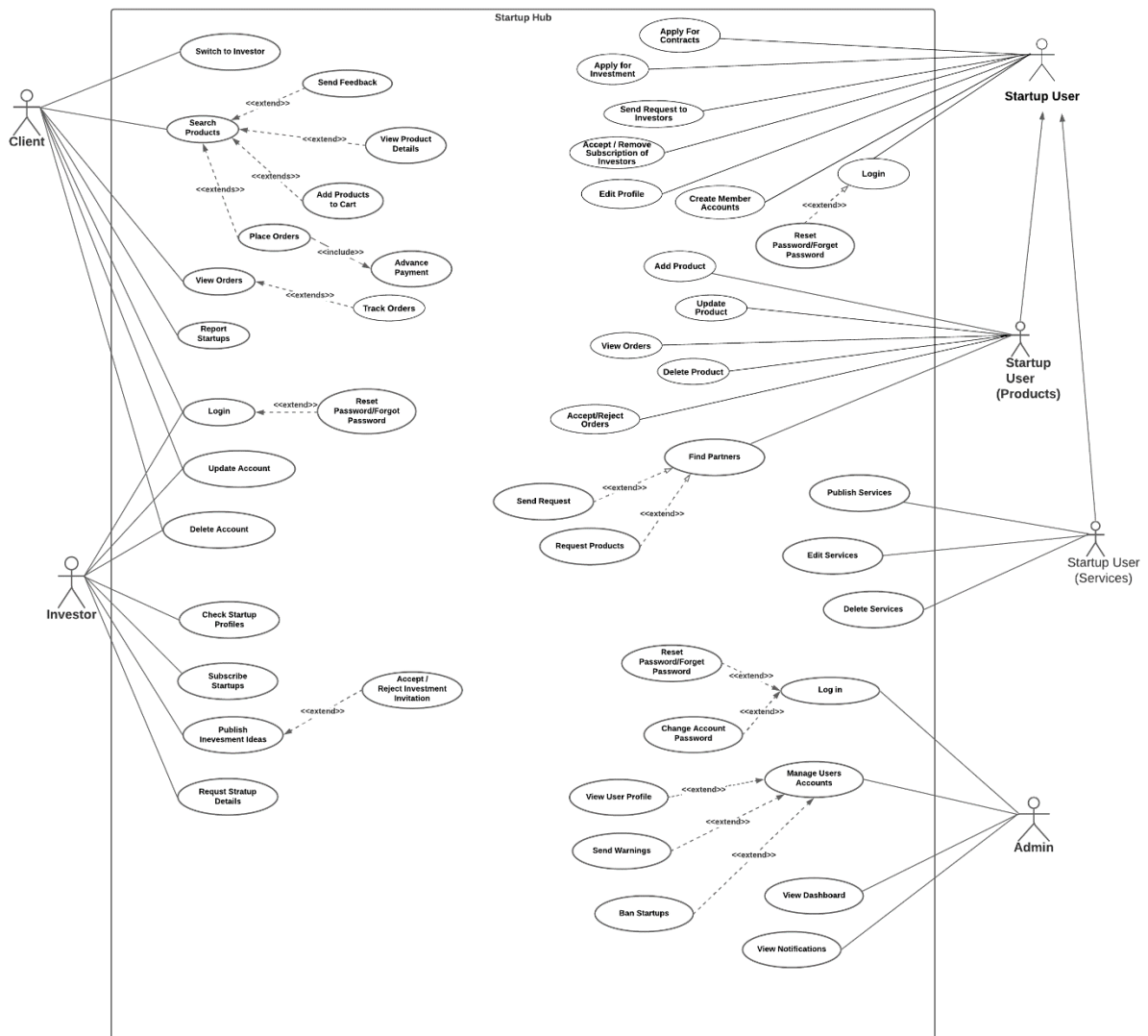
- Admin
- Clients
- Investors
- Entrepreneur (Product based / Service based)

### **5.2. 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 a 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)

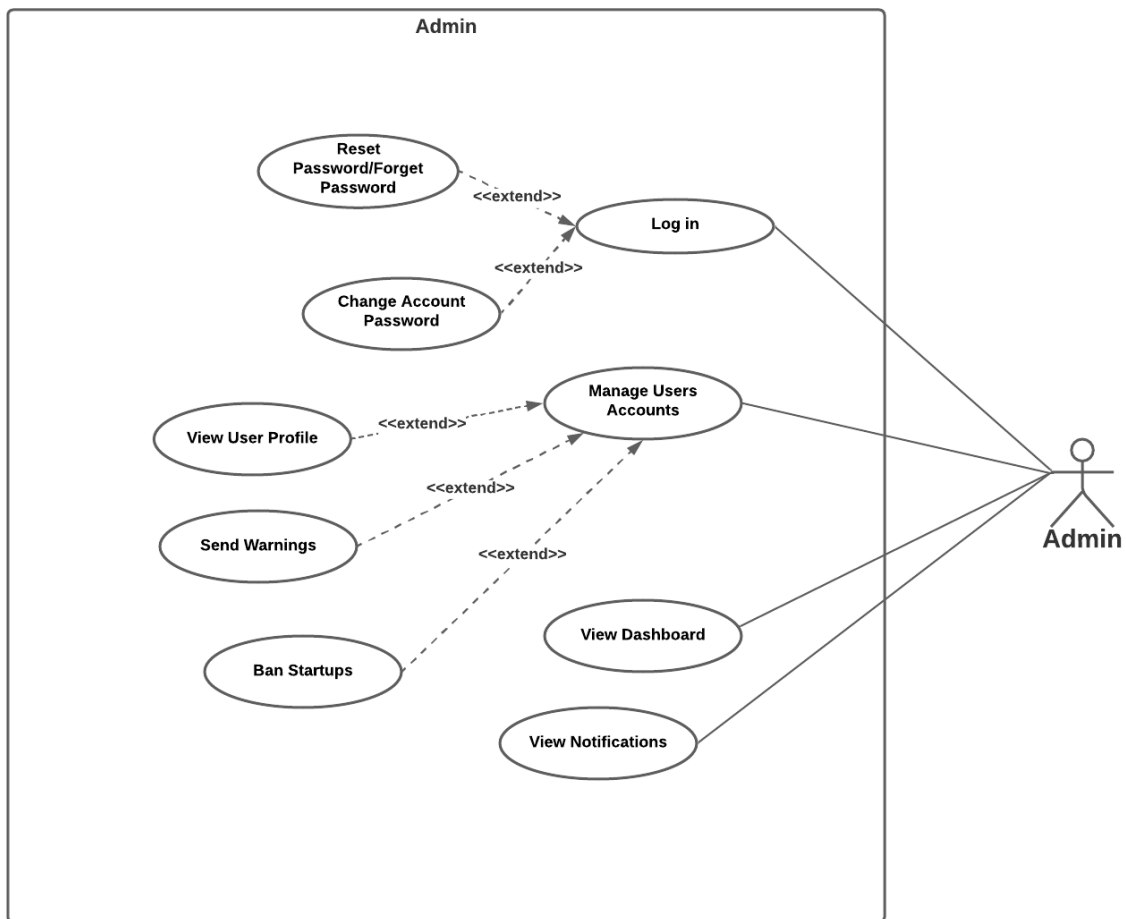
- Find business partners
- Apply for contracts / jobs
- Apply for investments
- Accept/ Reject subscription of investors

### 5.3. User Case Diagram



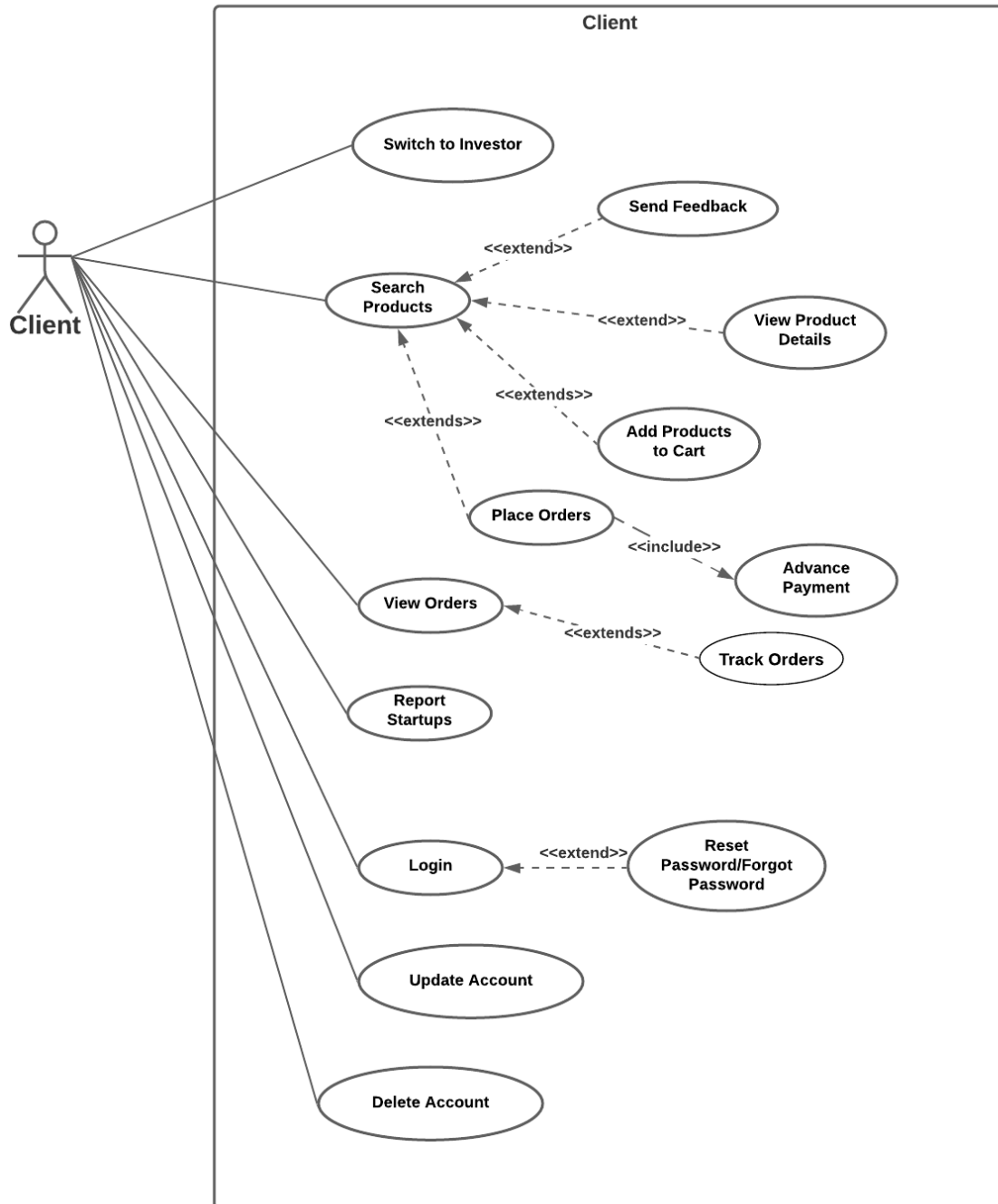
### 5.3.1. Actor wise Use Cases

#### 1. Admin

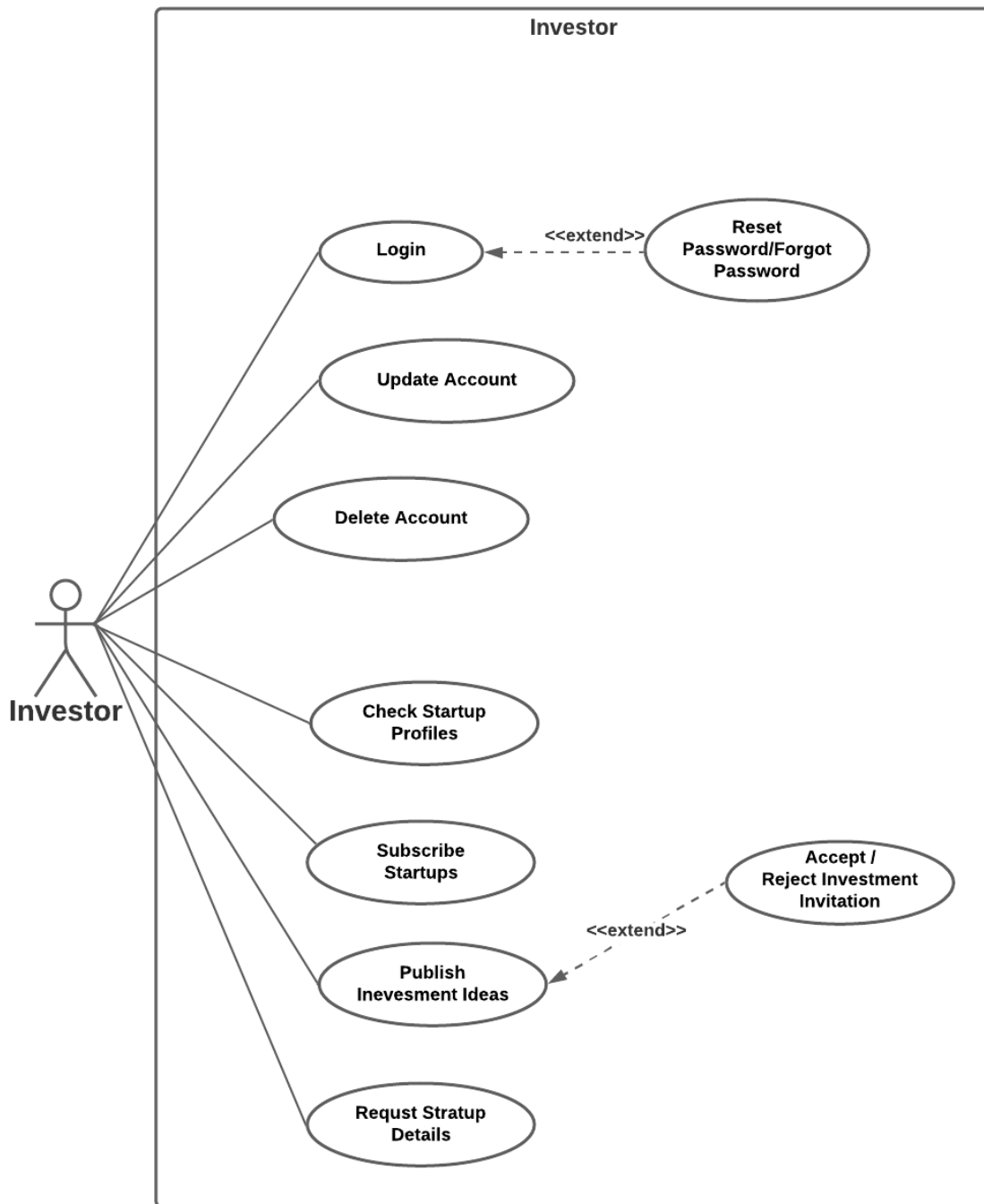




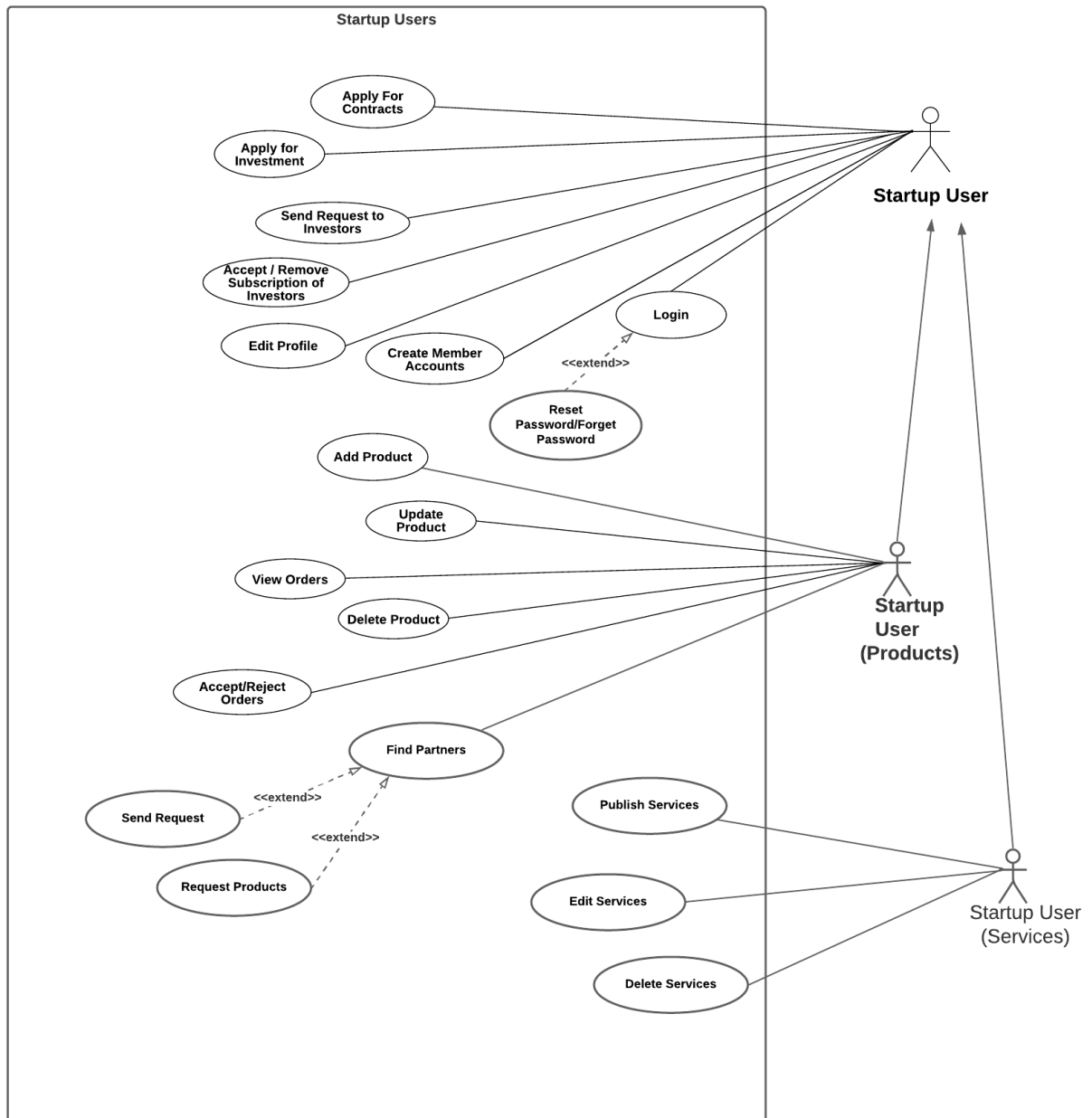
## 2. Client



### 3. Investor



#### 4. Entrepreneur



### 5.3.2. 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 a overall dashboard
Primary Actor	System Admin
Precondition	-
Description	Admin can view a 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 placed 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"> <li>Required details are not completed</li> </ul>

	<ul style="list-style-type: none"> <li>Product is already added</li> </ul>
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 accept 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"> <li>• Required details are not completed</li> <li>• Service is already added</li> </ul>
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 does 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"> <li>If the subscription is accepted the investor can see more information about the particular startup.</li> </ul>

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.

#### 5.4. 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.

#### 6. Tentative Technologies

Technologies and frameworks expected to use for developing the projects as follows.

- React Native
  - React Native is cross-platform and it is compatible with both Android and iOS therefore we do not need to develop two different apps.
  - React components are reusable therefore once a component is created we can use it any time anywhere. This will be really helpful for future maintenance.
  - Hot reload facility gives immediate feedback of the changes made to the code. This gives a great advantage to increase productivity.
- Nodejs
  - Nodejs offers easy scalability therefore it will be an advantage in future maintenance as well as in the development process.
  - Since this is a mobile app the performance and the response time is a critical issue. Nodejs offers high performance and low response time.
- Mongo DB
  - Highly scalable and flexible.
  - Performance and speed is higher than RDBMS



## 7. 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.

7.1. Technical Feasibility

7.2. Economic Feasibility

7.3. Legal and Ethical Feasibility

7.4. Operational Feasibility

7.5. Schedule Feasibility

### 7.1. 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

### 7.2. 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.

### 7.3. 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 is 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.

#### 7.4. 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 Start up.
- 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.

#### 7.5. 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 =  $15*30 = 450$ .

#### 8. Main deliverables of the system

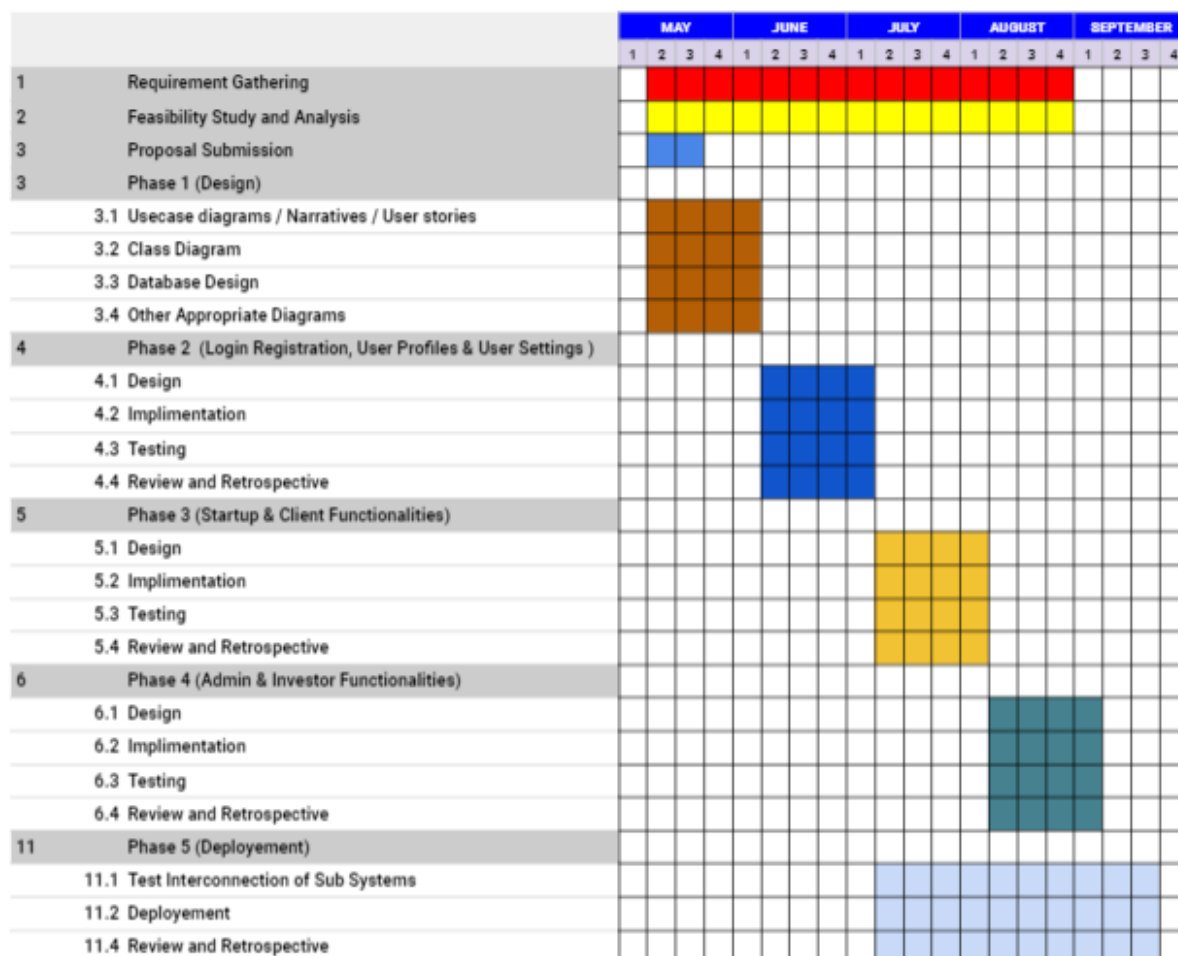
1. Complete working software and source code
2. Complete Software Requirement Specification
3. User manual

## 9. 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.

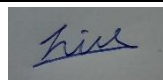
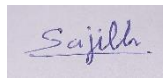
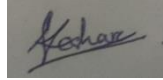
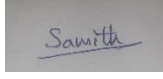


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## 11. Declaration

*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	