SCS 3214 / IS 3113: Group Project II - 2021

Project Proposal

Proposed Project Title: GreenNest

Project Group Details

1. Group number: 46
2. Group members: 05

Name	*Reg. Number*	*Index Number*	*Email address*	*Mobile Phone*
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Details of Project Supervisor, Co-supervisor, Advisors and Clients

Proposed Project Supervisor (Academic Staff of UCSC):

Name of the supervisor: Mrs. Sanduni Thrimahavithana

Signature of the supervisor: 

Date:

Proposed Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co-supervisor: Miss. Yashodha Vimukthi

Signature of the co-supervisor: 

Date:

The client of the Project

Name of the client :	Mr. I.M.Jayasiri
Address of the client :	Sewwandi Plant Nursery, Koongahagedara, Kuliyapitiya.

Contact person at client:	Mr. I.M.Jayasiri
Contact number of the contact person:	0767340845

Project Details:

1. Project Title: GreenNest

GreenNest is a plant nursery management system with a web application and a mobile app. This system is designed according to the client requirements.

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2. The Goal and Objectives:

The main goal of this project is to provide a hassle free service for the customers by giving a platform to place their order and get them to their doorstep and manage both the store and the customers.

GOALS:

- Reduce the time consuming procedures in traditional shopping, customer relationship management, finance management, inventory and invoicing.
- Enhance the efficient delivery of service on time.
- Giving a user friendly service and maintaining proper customer history, service history.

OBJECTIVES:

- To automate the current working flow of the plant nursery.
- To enhance customer reliability towards the company by providing better service on time.

3. Tentative Problem Definition

After the discussion with the client, he said that he has to face lots of problems in this pandemic situation with regards to the processes at the plant nursery.

- During the COVID 19 period, the company could not sell their products like other days and their sales went down.
- By today people used to do online shopping instead of traditional shopping as it saves their time.

  .

In addition to that, the client asked for a system to manage the company details like stock, suppliers, customer history. Because he does these things manually. He mentioned the following problems that he faced in the day to day process.

- Sometimes he has to reorder some products from different suppliers. Before reorder these things, he has to check each and every stock to get an idea about the reorder level and sometimes he does not know until the products run out.
- The owner handles bulk orders also. At the end of the month, when he wants to get a summary about the sales he has to check all the reports.

So the prevailing document- based process persists many inefficiencies in maintenance and also management.

4. A brief introduction to the project

To overcome above mentioned problems we proposed a web-based system and a mobile app for users. Then the customers can select the product through the system, they can place their orders, and the company delivers that order to their doorstep. And the customer receives an SMS about order details. When the stock reaches the reorder level, the admin receives a notification. So we add the following features to our system.

- Stock management module.
  Inventory system to maintain information regarding stock.

- Payment module
  Here we provide both cash on delivery and online payment methods.

- Sales module
  Report generation regarding sales.

- Finance and Invoicing module
  Billing and invoice

This proposed system is designed according to the customer requirements.

5. The scope of the project

IN-SCOPE:

Users (actors) of the system

- Admin
- Moderator
- Customer
- Accountant

Main functionalities of the system:

1. Users
    - Login/Logout
    - Sign up
    - Reset password
    - Update profile

1.1 Admin (Manager)

- Add/Remove moderators, customers
- Manage Stock (Add/remove)
- Receive notification when good categories reach their reorder level.
- Admin dashboard (View sales reports, view order history, view customer history)
- View sales reports
- Supplier handling

1.2 Moderator

- Receive order notification (when customer places an order)
- View Orders
- Order confirmation
- Contact the customer (using the chat)

1.3 Customer

- View, Select product categories
- Add to cart
- Place an order
- Make a complaint
- Give feedback
- Contact Moderator (using the chat)
- Receive SMSs about order details

1.4 Accountant

- View sales reports
- Send invoice to the customer (only for bulk orders)
- Update invoice history

OUT-SCOPE:

Employee handling will not be done through the system.

6. Tentative Technologies

Technologies used:

1. Framework
   - ReactJs
     It is a modern UI library that can be used for fast development
     It is more modern, lightweight and flexible compared to angular.

   - Spring Boot
     Spring is a JVM-based open-source web framework that is battle proved and industry-used. It offers tools to produce thrust-worthy applications without sacrificing speed, simplicity, and productivity. Other considerable server-side technologies are Node.js or a python web framework such as Django, but we chose the Spring framework because of the perks it offers to write more structured and maintainable code.

   - Flutter
     We can build a cross-platform mobile application with a single codebase using flutter. also flutter provide modern material design UI components

2. Database
   - MongoDB
     after the feasibility study, we figured that it's better to use a NoSQL DB because we have to process collections that are less structured, less modified. Since NoSQL supports rapid development, it'll be more helpful in our limited time frame.

3. Contribution platforms
   - Github
   - Google Drive

4. Project Management
    - Trello

7. Feasibility Study

Social feasibility

The main requirements of the system were obtained from the discussion with the client and also through the business proposal produced by the client. And he mentioned that he got lots of requests from his clients to develop an online method to buy products.

Technical Feasibility

- The system mainly consists of a web application for both customers and managers, a mobile app for the customers and the database system.
- We hope to use modern technology to develop the product. So the end-users can easily use our system and get a real experience.
- Technologies that we are going to use are freely available.
- Technological aspects are discussed under the ‘tentative technologies section’.

Operational feasibility

The system has 4 main user types who are admin, moderator, customer and accountant. This feasibility study puts focus on how the proposed system is able to fulfill the system requirements and user needs.

- Any user who has a basic IT knowledge can access the system as the system provides simple and user-friendly UIs..
- Customers can put up an order online and do not need to waste their time from using traditional shopping.
- For a general user, the system does not require any other hardware components other than an electronic device with an internet connection.
- Existing knowledge of the users will be sufficient to work with the system. There will be no need to put an extra effort into training the users for the system.
- Sri Lankans are familiar with the use of online platforms for ordering like “www.daraz.lk”, so this system will not be a completely new experience and will likely be used.

Economic Feasibility

- For our project we are going to use open source software and freely available tools. Therefore development cost will be zero.
- The cost for the domain name and hosting is approximately Rs. 5000.
- According to these, our proposed system is economically feasible.

Scheduled Feasibility

Estimated man-hours for project completion will be as follows. The project is expected to be completed in 15 weeks. We use agile methodology to develop the system.

Number of members	=	5
Man-hours per week	=	6
Estimated number of weeks	=	15
Estimated total of man-hours	=	(6*15) * 5 = 450

Project will consume approximately 450man hours to complete.

Legal and Ethical Feasibility

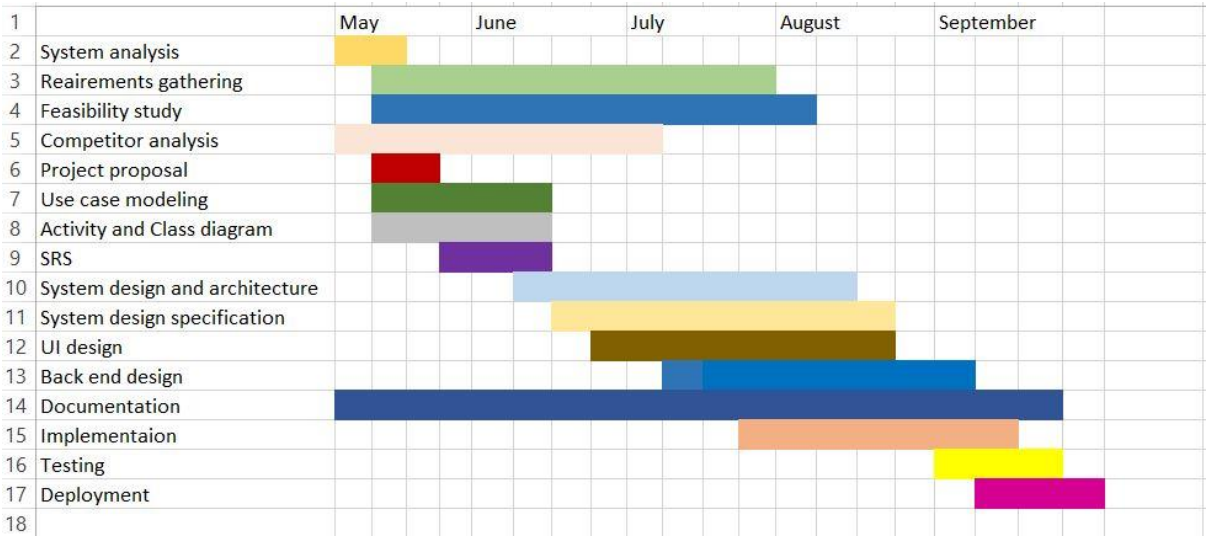
In legal terms, the data processing system is made to agree with the local data protection regulations and whether the proposed venture is acceptable according to the laws of the country. The system asks its users to agree to the terms and conditions when registering to ensure data protection.
The system is overseen by the admin of the plant nursery. Therefore, any action can be taken against a user who violates the rules and regulations in the system. In the system, there are roles for users, and the system contains different permissions for users accordingly. Therefore, only authorized parties can alter the data in the system. All of the sensitive user data (card details) will be encrypted using MD5 hashing before storing it in the database to prevent the data from being exposed to a cyber-attack.

8. Main deliverables of the system

1. Complete working software and source code
2. Complete Software Requirement Specification
3. User manual
4. Administrators manual together with deployment instructions

9. The Project Plan

The project is expected to be completed in 15 weeks. But the system will be deployed within 12 or 13 weeks solving the functional requirement. If any cases come, the development team has the time to resolve the problem.



10. References

Technology References

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"MongoDB vs. MySQL - DZone Database." 30 Nov. 2017, https://dzone.com/articles/comparing-mongodb-amp-mysql

"Why Spring Boot?." 16 May. 2020 https://dzone.com/articles/why-springboot

"GoogleIO 2019 - Android", May 2019"
https://www.androidpolice.com/2019/05/07/there-are-now-more-than-2-5-billion-active-android-devices/

11. Declaration

We as members of the project titled GreenNest, 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) L.L.C.L.Perera	
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