University of Vavuniya, Sri Lanka

Spices and Rice Delivery DataBaseManagement System

Project Proposal
Software Engineering – TICT3153
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Submitted to:

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1. Introduction

<u>1.1 Company / Client Background</u>

Welcome to Gamage Mills Heaven, where we're not just about delivering spice and rice, we're about delivering an experience that tantalizes your taste buds and warms your soul.

Founded in the vibrant town of Horana in Kalutara District, Gamage Mills Heaven has been a staple in the community for years. What started as a humble endeavor by our visionary founder, Mr. L.L Gamage, has blossomed into a culinary haven, beloved by food enthusiasts far and wide.

Our journey began with a simple mission: to bring the finest spices and rice to your doorstep, ensuring that every meal you create is a masterpiece. But as our passion for flavor grew, so did our offerings. Today, we're proud to not only provide top-quality ingredients but also to share our expertise through cooking classes, recipe inspiration, and a treasure trove of culinary resources.

At Gamage Mills Heaven, we believe in the power of food to bring people together, to spark joy, and to create unforgettable memories. That's why we're dedicated to sourcing the freshest ingredients, supporting local farmers, and upholding the highest standards of quality in everything we do.

So, If you're a seasoned chef or a culinary novice and good housewife we invite you to embark on a flavor-filled journey with us. From our family to yours, welcome to Gamage Mills Heaven, where every meal is a celebration of taste, tradition, and togetherness.

1.2 Problem Statements And Difficulties

At Gamage Mills Heaven, we've been delivering delicious spices and rice to our customers with love and care. However, our manual system is starting to show its flaws, causing some spicy challenges along the way.

Much like the handwritten woes of old, all our customer details, orders, and feedback are stored manually. This leads to a spicy mix-up when trying to track down a specific order or address a customer concern promptly.

Handwritten delivery schedules and routes may have worked in the past, but as our customer base grows, so do the challenges. Coordinating multiple deliveries across different locations becomes a spicy puzzle, especially when last-minute changes or additions pop up, collecting and processing this valuable information manually can be a cumbersome task. From deciphering handwritten comments to organizing them for actionable insights, we're faced with a spicy challenge that hinders our ability to continuously improve and delight our customers.

With each handwritten note and order form, the risk of misplaced or duplicated data grows. This can lead to confusion when trying to generate reports or analyze trends, leaving us feeling like we're lost in a sea of spice jars with no recipe to follow.

In the kitchen of Gamage Mills Heaven, these spicy challenges simmer in the background, urging us to embrace innovation and elevate our delivery experience to new heights

1.3 Solutions

Gamage Mills Heaven can transition to a digital platform for streamlined operations. Implementing a user-friendly website with an integrated customer database and order management system will enhance efficiency. Utilizing inventory management software ensures accurate stock tracking and timely replenishment. Automated delivery scheduling and route optimization tools improve logistics. Incorporating a feedback mechanism on the website enables prompt response to customer queries and suggestions. Migrating to a digital platform reduces the risk of data loss and enables efficient report generation. Embracing technology fosters scalability and supports future growth, ensuring Gamage Mills Heaven continues to deliver its spices and rice with precision and excellence.

2. Benefits Of The System

<u>2.1</u> <u>Benefits For Administrators</u>
Administrators at Gamage Mills Heaven benefit from streamlined operations and improved insights thanks to our automated system. Manage delivery schedules, inventory levels and customer feedback in real-time, increasing efficiency and customer satisfaction. With accurate data on orders, inventory and customer preferences, administrators can make informed decisions to optimize resources and increase growth. And, with automated reporting and communication tools, staying connected with customers and staff is a strength, ensuring smooth operations and timely responses to any challenges that arise. Welcome to a new era of spice efficiency at Village Mills Heaven!

<u>2.2</u> <u>Benefits For Owner</u>
For the owner of Gamage Mills Heaven, our automated system brings many benefits. By providing real-time insight into inventory levels, sales trends and customer preferences, it enables strategic decision-making to optimize operations and increase profitability. With streamlined order processing and delivery management, the owner can ensure prompt and efficient service, improving customer satisfaction and loyalty. Furthermore, the system simplifies administrative tasks such as inventory tracking and financial management, saving time and reducing errors. Overall, the owner enjoys greater efficiency, improved decision-making and increased profitability, positioning Village Mills Haven for long-term success in the competitive food delivery market.
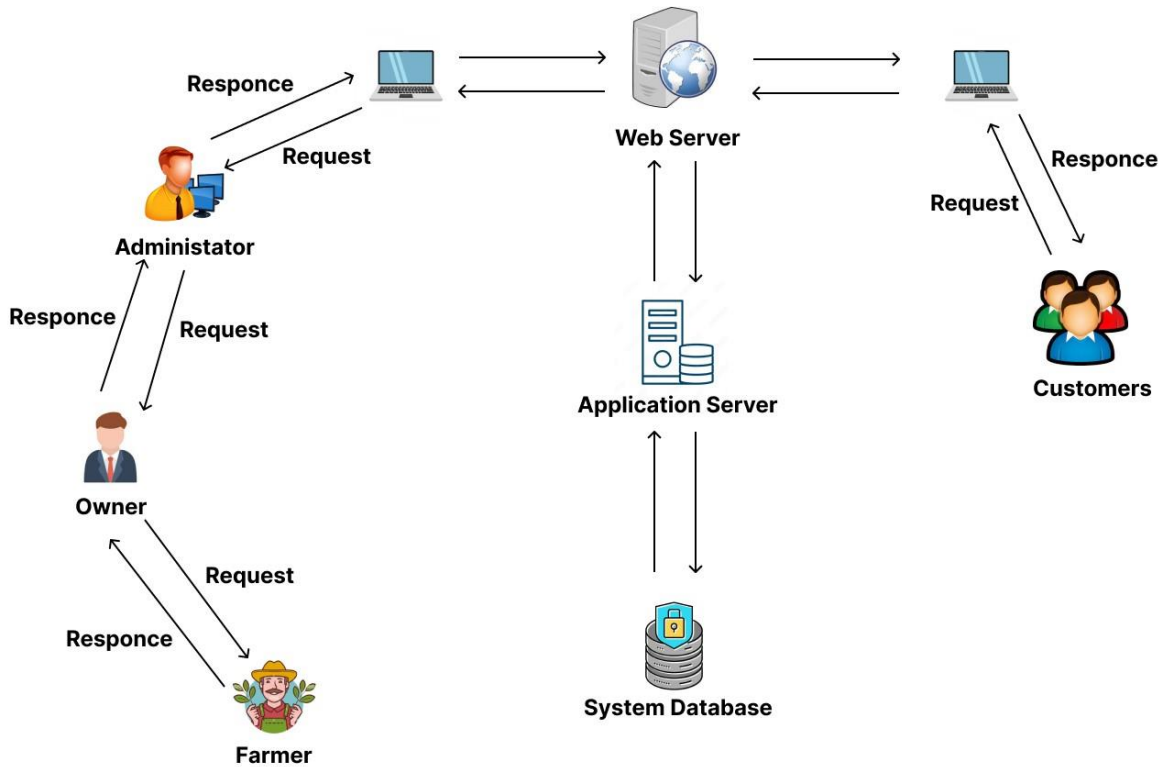
<u>2.3</u> <u>Benefits For Farmer</u>
Farmers who partner with Gamage Mills Haven enjoy many benefits. First of all, by providing a reliable market for their products, we ensure stable sources of income, providing financial stability and security. Additionally, our fair pricing policies and transparent transactions promote farmer empowerment, sustainable agricultural practices and community development. Furthermore, through our support and guidance, farmers gain access to resources, training and technology, increasing their productivity and profitability. Prioritizing farmer welfare and sustainability, Gamage Mills Haven not only delivers quality products, but also cultivates thriving partnerships that benefit farmers and consumers alike.

<u>2.4 Benefits For Customer</u>
At Gamage Mills Heaven, our customers enjoy a host of benefits from our online delivery platform. With just a few clicks, they can explore our wide range of spices and rice varieties, placing orders conveniently from the comfort of their homes. Our user-friendly interface ensures a seamless shopping experience, while real-time order tracking keeps them informed every step of the way. Plus, our automated system ensures accurate inventory management, guaranteeing fresh and high-quality products with every delivery. With Gamage Mills Heaven, customers can spice up their meals effortlessly, saving time and effort without compromising on taste or quality.

3.System Overview

This system is designed for a web application. All users like admin, owner, farmers and use this web application. This web application supports all devices like laptops, tabs, smart phones. All data is stored in the database. For example, if the customer wants to query the price of spices and rice, the data stored in the database is retrieved from the database and displayed on the user interface of the customer's mobile phone. If an administrator or user wants to enter new data, all the newly added data is stored in the database and if an administrator or user wants to delete the previous data, then all that data is deleted from the database.

4.System Function

4.1 Functional Requirements

4.1.1 Customer Management Function

The customer, first fills the relevant form and enters the system, then he/she has the ability to check the required information, click on the relevant items, and thereby order the goods.

Ability to view discounts and offers specified by the owner and administrator. Ability to know details of farmers

4.1.2 Administrator Management Function

The administrator can view everything that the customer views. All the materials selected by the customer will be collected by him and the relevant information will be informed to the owner.

Deliverable with Owner.

4.1.3 Owner Management Function

The customer has the ability to see the availability of the required raw materials in the store and the ability to see the information of the farmers and the available quantities and details of the raw materials they have.

Deliverable with Administrator.

4.1.4 Farmer Management Function

Information of farmers and details of own warehouses are presented. There is a possibility of dealing with the owner.

4.1.5 Delivery Management Function

This is completely managed by the owner and administrator. The relevant fares are specified according to the distance.
Finally every week or every month or every year, notification details report are generated by the administrator.

4.2 Non-Functional Requirements

- Accuracy

- Privacy

- Backup

- Capacity

- Data integrity

- Development environment

5 Technologies

To revolutionize Gamage Mills Heaven's operations, we're harnessing cutting-edge technologies across the board. For the frontend, we're opting for HTML, CSS, and JavaScript, the trifecta of web development. These languages provide the foundation for crafting an immersive and visually stunning user interface that captivates our customers.

For seamless interactivity and dynamic content, we're leveraging the power of JavaScript, with a focus on modern frameworks like Vue.js. Vue.js offers unparalleled flexibility and integration capabilities, allowing us to create a responsive and engaging user experience. Its lightweight nature and two-way data binding ensure optimal performance without compromising on speed or efficiency.
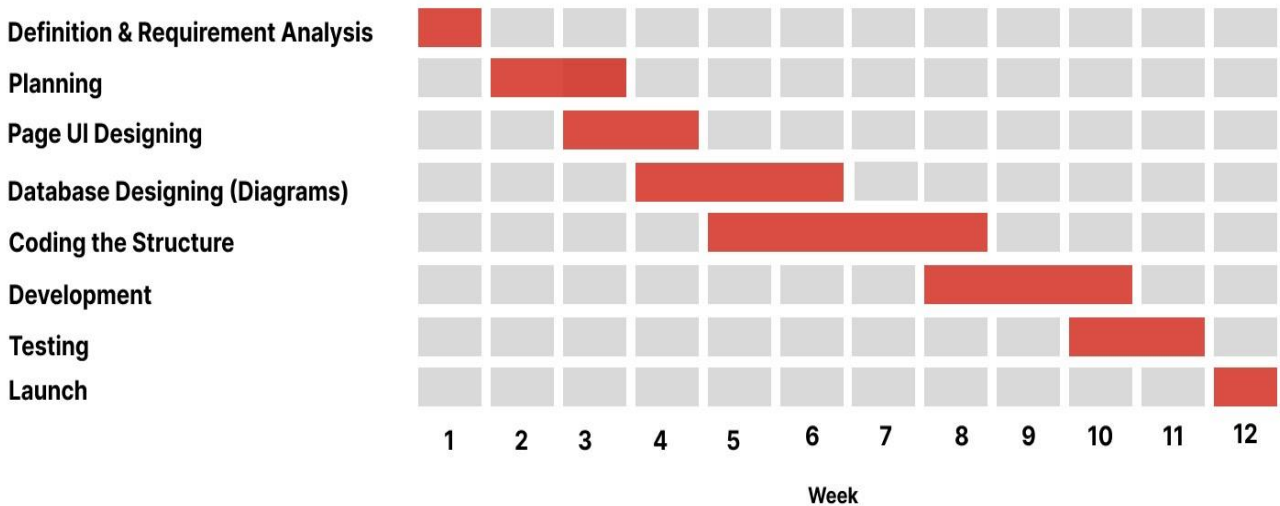
On the backend, we're turning to Node.js and MongoDB to handle server-side logic and database management, respectively. Node.js provides a scalable and event-driven architecture, perfect for handling concurrent requests and real-time updates. Meanwhile, MongoDB offers a flexible and scalable NoSQL database solution, ideal for storing and managing our diverse range of product data.

To tie it all together, we're relying on Visual Studio Code as our integrated development environment (IDE). With its robust features and extensive plugin ecosystem, Visual Studio Code streamlines our development workflow, enabling rapid iteration and collaboration among team members.

Additionally, we're embracing Git as our version control system, ensuring seamless collaboration and code management across our team of developers. Git empowers us to track changes, resolve conflicts, and maintain a cohesive codebase throughout the development lifecycle.

With this arsenal of technologies at our disposal, Gamage Mills Heaven is poised to deliver a seamless and delightful online shopping experience for our customers. From frontend elegance to backend efficiency, we're committed to leveraging the latest innovations to elevate our spice and rice delivery service to new heights of excellence.

6 Gantt Chart

	1	2	3	4	5	6	7	8	9	10	11	12
Definition & Requirement Analysis	■											
Planning		■	■									
Page UI Designing			■	■								
Database Designing (Diagrams)				■	■	■						
Coding the Structure					■	■	■	■				
Development								■	■	■		
Testing										■	■	
Launch												■

Week

In the first week we are planning to arrange a meeting with the client and clarify the definition of our system and gather all the requirements. From second week onward we are planning our system by finding the main functions of the system and get to know clear idea about the scope of the each function. It is going to done up to third week and simultaneously we are going to start page user interface (UI) design in third week. These wireframes are designed by a software and time to time these diagrams can be changed. Therefore it will plan for two weeks approximately. From fourth to sixth week we are planning to All Diagrams and try to do schema refinement.

Coding is going to start in fifth week onwards. After starting the coding first four weeks are going to structure the coding and simultaneously from eighth week we are deciding to develop the system. The development will be plan to finish from eight to ten week. After finishing the implementation, we are planning to test the whole system with the client. Before the whole system testing, we are planning to unit testing with the client by showing the prototype of the system. In the twelfth week we are going to launch our system to the client.

6. References

1.Database Systems: The Complete Book Hector Garcia-Molina, Jeffrey D.Ullman, Jennifer D. Widom

2. HTML, CSS, and JavaScript All in One: Julie C. Meloni, Jennifer Kyrnin

3. "Fundamentals of Database Systems" by Ramez Elmasri and Shamkant B. Navathe

4. "Database System Concepts" by Abraham Silberschatz, Henry F. Korth, and S. Sudarshan

5. "The Spice Companion" by Jill Norman