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| Student Food app  **PROJECT 3: T1 Group Submission** | Abstract  The Student Food App is a mobile application designed to make it easy and convenient for students to find and order food from nearby vendors/Cafes. The app will allow users to browse menus and place orders. Additionally, the app will offer a rewards program to incentivize users to make repeat purchases.  Group Members  Group Leader: Joshua Jacobs - 221144862  Secretary: Ferdouz Allie - 214038033  Designer: Jameelah Gallo - 221110933  Designer: Carlo Joseph - 220621071  Developer: Mohammed Gamildien - 221020209  Developer: Lyle Esau - 221431942 |

Table of Contents

**Introduction1**

Communication Methods2

Task Allocation3

**Group Organization4**

Problem Definition5

Scope of Project6

Business Requirements7

Data Requirements8

Entity Relationship Diagram (ERD)9

Use Case Diagram10

Unified Model Language (UML)11

Conclusion12

Bibliography13

**Introduction:**

The Student Food App is to be a mobile application designed to help students discover and order food from local vendors on campus grounds. The app is developed to provide a seamless user experience with a variety of features including menu browsing, ordering, payment, and its own in app currency(Credits). The app also features a rewards system for both the users and the vendors to incentivize loyalty and frequent use.

The Student Food App was developed with the aim of helping students overcome the challenges of not having money for food.

The development of the Student Food App will be a collaborative effort involving various roles including project managers, developers, testers, designers, and marketers. Each role will play a critical part in ensuring that the app will meet the highest standards of quality and usability. Through this project, we hope to provide a valuable solution for students, while also showcasing the power of teamwork in delivering a successful product.

**Communication methods:**

Our group will be utilizing three main platforms for communication. The first platform of communication will be through the use of a group chat via WhatsApp. The purpose of the group chat will be for scheduling team meetings and ensuring that each member remains on schedule regarding the completion of their respective tasks.

The second platform will be Blackboard collaborate. This platform contains a file exchange system that allows team members to easily access relevant documents and files for our project and enables the use of virtual meetings throughout the course of this project.

The final communication method we will make use of is face-to-face communication. This will allow the team to discuss challenges that they have encountered and seek advice from other members of the team. Furthermore, this will enable us to schedule any meetings we may need at a sooner point in time or opt for additional face-to-face communication.

**Task Allocation:**

1. User Interface Design (Ferdouz Allie)

* Designing and developing the user interface for the mobile application
* Allocating UI components such as buttons, menus, and text fields
* Finalizing the layout of the application

1. User Registration and Authentication (Lyle Esau)

* Implementing the user registration and authentication system
* Validating user input for registration
* Ensuring security and data privacy for user information

1. Vendor Registration and Management(Carlo Joseph)

* Developing the vendor registration system
* Allowing vendors to manage their menus and promotions
* Creating a search system for users to find nearby vendors

1. Order Placement and Payment(Jameelah Gallo)

* Developing the order placement system
* Integrating payment methods such as credit card or mobile payment
* Generating receipts for orders and sending them via email

1. Rewards and Loyalty Program (Joshua Jacobs)

* Developing a rewards and loyalty program for both users and restaurants
* Allowing users to redeem rewards points for discounts or free meals
* Allowing restaurants to offer promotions and discounts to loyal customers

1. Testing and Quality Assurance (Mogammad Gamildien)

* Conducting thorough testing and quality assurance to ensure the application runs smoothly
* Debugging and fixing errors or issues found during testing
* Ensuring the application meets all necessary requirements and regulations.

While this is only the standard 6 main components of the system , our team aims to take a more collaborative approach. This will allow all members of the team to have a working understanding of all the sub-systems.

**Group Organisation:**

Our team will consist of several roles such as:

* **Group Leader:** responsible for managing and coordinating the development team, assigning tasks, and ensuring that the project is completed on time and within budget. The Group Leader role could be similar to the Project Manager role I mentioned earlier, but with a focus on managing the day-to-day tasks of the development team rather than the overall project management.
* **Secretary:** responsible for managing administrative tasks such as scheduling meetings, taking meeting minutes, and communicating with stakeholders.
* **Project Manager:** responsible for coordinating the development team, setting project timelines and milestones, and ensuring that the project is completed on time and within budget.
* **Developer:** responsible for designing and implementing the software code for the application.
* **Designer:** responsible for designing the user interface and overall look and feel of the application.
* **Tester:** responsible for testing the application and ensuring that it meets quality standards and functional requirements.
* **Technical Writer:** responsible for creating technical documentation such as user manuals, technical specifications, and help files.
* **Database Administrator:** responsible for designing and maintaining the database system used by the application.

We have decided to allocate two people to each role for a select amount of time, allowing for a more diverse approach to each problem we encounter. Additionally, we have decided to allow these roles to rotate between members of the team, when necessary.

This will give each member a chance to contribute to each aspect of the project, allowing us to find which role suits each member best.

**Problem Definition:**

Customers on university grounds are often in a position where they are hungry or thirsty and do not have money with them in order to purchase food. Reasons for this can be student funding money that hasn’t arrived yet, perhaps they have left their wallet at home or maybe they simply don’t have enough money to purchase what they want.

With all the problems comes a very unique solution that will allow us to develop an application that suits both vendors and customers making use of the app.

We will allow customers to preload credit onto their ‘food app’ account in the form of points; these points are directly equivalent to the relative currency of the university’s country.

While the credit to cash ratios are not yet worked out we plan to charge a small fee for exchanging cash for credit and vice versa. At the same time vendors can load their stores on the app for a small fee, load credits on their shop account as a form of virtual currency in order to give customers change, they can load deals/specials on the app for customers to see and purchase. This will also cost a small fee to register the deal. The vendor will have free reign over how long these deals last(time) and how many deals they wish to run at a time and whether it is limited stock or a permanent deal.

Customers can also send funds to friends if they do not have enough to purchase something from a vendor.

Next we planned to incorporate a rewards system built into our app for vendors and customers for every deal redeemed by a customer the vendor will be rewarded with either a monetary or discount reward. For students they will be rewarded with either monetary or discount codes as a reward.

The vendor that creates the deal chooses which reward he would like and the other reward will be given to the customers. For example, if a vendor chooses to take a monetary reward he will receive 5% extra from a deal and in turn a customer will receive a 5% discount code. While this all seems to be counter productive, what we are actually doing is using a small portion of the fees used to create the deal, some of the money we usually get from customers and vendors loading credit onto their account. All of these added up allow us to create an environment where all parties can utilise the app to further benefit themselves.

**Scope of Project:**

The project aims to develop a Java-based mobile application for students' food ordering and delivery system. The primary objective of the project is to provide a convenient and user-friendly platform for students to order food from nearby vendors/cafes using their mobile phones.

The project's scope is divided into four phases, and each phase is expected to take approximately two months to complete:

Phase 1: Requirements gathering and analysis (Month 1-2)

* Gather requirements from stakeholders and document them
* Analyse the requirements and define the project scope
* Develop a project plan and timeline

Phase 2: Application design and development (Month 3-4)

* Design the application architecture and user interface
* Develop the application using Java programming language
* Implement necessary features such as food ordering, payment gateway integration, and location-based search

Phase 3: Testing and quality assurance (Month 5-6)

* Conduct unit testing, integration testing, and system testing
* Identify and fix defects, bugs, and errors
* Ensure the application meets the desired quality standards

Phase 4: Deployment and maintenance (Month 7)

* Deploy the application on the Google Play Store or Apple App Store
* Provide maintenance and support services to users
* Monitor application usage and gather feedback for future improvements

The scope of the project includes the development of a mobile application for Android and iOS platforms that provides food ordering and delivery services to students. The application should have a user-friendly interface, allow users to search for nearby vendors, view their menu, place orders, and make payments securely. The application should also provide vendors with the ability to manage their menus and process orders efficiently.

Overall, the project's goal is to develop a high-quality, user-friendly mobile application that meets the requirements of students and vendors, ultimately making food ordering and payments more convenient and efficient for all parties involved.

**Business Requirements:**

The Student Food App must:

1. allow students to browse and order food from nearby vendors/cafes using their mobile devices.
2. allow vendors/cafes to manage their menus and receive orders through the app.
3. support secure payment methods for online orders.
4. provide a rewards program to incentivize users to continue using the app.
5. provide accurate and up-to-date information on vendor hours, locations, and menus.
6. allow users to leave reviews and ratings for vendors/cafes and food items.
7. provide customer support services, including the ability to contact support staff and report issues with orders or the app.
8. provide a user-friendly interface that is accessible to users of all ages and skill levels.
9. provide detailed information about food allergens and dietary restrictions for each menu item.

**Out-of-Scope Business Requirements:**

The Student Food App must:

1. allow users to customize their orders with specific instructions or requests.
2. allow users to cancel orders and receive refunds or credits if applicable.
3. support multiple languages and currencies to accommodate users from different countries and regions.
4. provide data analytics and reporting tools to help vendors/cafes track sales and identify trends in customer behaviour.
5. allow vendors/cafes to create and manage promotions and discounts for their menu items.

**Data Requirements:**

User data:

* User account information, including name, email address, phone number, and password
* Payment information, including credit card number and billing address
* Reward points earned by users

Vendor data:

* Vendor account information, including name, email address, phone number, and password
* Vendor location data, image
* Vendor menu information, including menu items, descriptions, prices, and images
* Vendor rating and review information, submitted by users.

**ERD(Entity Relationship Diagram)**

[insert ERD here]

**Use Case Diagram**

[insert ERD here]

**UML Model**

[insert ERD here]

**Conclusion:**

We have successfully completed the initial planning and development of the Student Food App. We have identified the main requirements and objectives of the project, and have established a solid foundation for the application.

During this phase, we have also defined the roles and responsibilities of each team member, as well as established a clear project timeline and task allocation. We have designed and developed the necessary classes and features required for the application, including user and vendor management, menu creation and management, payment processing, and location-based searching.

Moving forward, we will be entering phase 2 of the project where we will focus on implementing the remaining features, performing testing and bug fixing, and improving the overall functionality and user experience of the application. We are excited to continue working together as a team and delivering a high-quality product that meets the needs and expectations of our users.

**Bibliography**