[CS304] Requirement Analysis Report

> Project Name: Canteen system
>
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1. Overview

Motivation or purpose

Food is the priority of the people. The canteen is the main place for students to eat in our university. However, for a long time, the taste and even safety of the food in our canteen have been criticized, which we believe is related to the lack of a good, open and transparent supervision mechanism and evaluation system. Based on this, our team considered: Should we design a web evaluation application for the canteen? Based on the theme of school canteen, we discussed a number of functions we could achieve when taking school canteen as the theme, so as to expand the whole project to achieve a relatively large, integrated multi-functional web application for the canteen of South University of Science and Technology.

Target users or clients

All sustechers

Scope of system

User interface: Users can log in, register accounts, browse menus, place orders and other functions through the website.

Background management interface: Administrators can manage information such as menus, orders, and users on the background management interface.

Database: The website needs to connect to a database to store and retrieve information such as users and orders.

Overall Goal

To implement a web application for the school canteen, sustechers can access the

application as a user to query canteen dishes, search dishes and even place orders in advance. Canteen staff can access the application as a user to put and remove dishes and change dish information.

2. Development Process

Process Models

We will use the process model of **agile development** . Here's the flow we developed:

Planning Phase: Our development team works with stakeholders (mainly USC students) to define the vision and goals of the website and build a to-do list. Such as food search, food display, food evaluation and so on.

Request phase: We create user stories to discover requests based on the to-do list, such as "I have my 3rd or 4th class and it doesn't finish until 12pm. To avoid queuing, I want to be able to quickly find what I want online and order it using the search function in advance".

Design phase: Based on the user story and requirements, the team designs the interface design, database design, technical architecture design, etc. Such as what frameworks are needed for the frontend and backend.

Development phase: The team starts writing the code and ensures quality through automated testing, code reviews, and api documentation.

Testing phase: After a certain iteration of development, tests are performed to ensure that the product meets the requirements and quality standards. If there is a problem, create a bug in the todo list and fix it.

Integration phase: After all the iterations are complete, integration tests are done and all the features work together. If a problem is found, it is fixed and tested again.

Iterative Phase: We iterate on our development and constantly adjust our to-do list and priorities based on feedback from our students to ensure that the team always delivers value.

Project Schedule

The whole project can be divided into two parts: **front end** and **back end**:

Front-end development promotion plan:

By Week 7: Determine requirements and user interface design, and start writing HTML/CSS page structure and styles.

Before Week 9: Start using JavaScript for user interaction.

Before Week 11: All front-end pages have been developed and tested to ensure page responsiveness and compatibility.

Before Week 14: Integrate all front-end pages to ensure normal interaction between front end and back end, and conduct system integration test.

Before Week 15: Perform system performance test and user experience test, and fix and optimize the discovered problems.

Back-end development advance plan:

Before Week 7: Confirm the system architecture and database design, and start to write the basic framework of back-end program and database table structure.

Before Week 9: User authentication and rights management functions, such as login, registration, and password reset, are complete.

Before Week 11: Started to write the functions of order management and dish management, such as dish ordering, order inquiry, dish management, etc.

Week 14 before: Complete the development and testing of all back-end programs, and ensure the stability and reliability of back-end programs.

Before Week 15: Perform system performance test and security test, and fix and optimize the discovered problems.

At the same time, group discussions are held regularly every week to exchange the progress of the project development.

3. Suggested Deliverables

Suggested deliverables for milestone 2

Build the basic framework of the web application project, and can display a simple front-end interface, at least realize the registration and login of users with different identities.

Suggested deliverables for final delivery

Deliver a complete web application, complete with all requirements.

4. Requirements

Functional Requirements

1. Implement basic registration and login functions
2. Multiple roles, including users and administrators, provide different functions for different roles.
3. Provide administrators with functions such as putting on and taking off dishes, changing the price of dishes and inquiring the turnover statistics of a certain dish.
4. Provide users with the function of evaluation. Users can evaluate dishes.
5. Provide menu introduction function for users, which can provide menu ingredients, pictures, prices and other information.
6. Provide users with dishes search function, which can search dishes according to dishes style (such as: noodles).
7. Provide menu recommendation function for users.
8. Provide users with the ability to order food.

Non-functional Requirements

1. The website needs to be able to cope with high frequency visits during some peak hours.
2. The site needs some security.
3. The site needs to have a clean and even beautiful UI.