CST2550 - SOFTWARE ENGINEERING MANAGEMENT AND DEVELOPMENT

Coursework 2 – Take Away Restaurant System Project Management

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Project Description

The team was assigned a Take-Away Restaurant System for which a custom-implemented data structure had to be used. The restaurant systems allows a range of functionalities as follows:

1. Display menus
2. Search menus
3. Take orders
4. Add items to the menus
5. Remove items from the menus

In order to reach the final program, the entire team had to work harmoniously and cooperatively for a more efficient work.

Team Structure

The team is structured as such:

- Team Leader: Bhavna Chummun
- Secretary: Shreya Dosieah
- Developers:
    - Harshvardhan V Doyal
    - Sneha L Gunput
- Tester: Nathan A Kagoro

Workload Division

Project Planning

The team leader has been responsible for overall project coordination, task assignment, and meeting schedules. By setting short term deadlines for each team member to complete their assigned work, progress tracking was facilitated, and the objectives of the project were met step by step.

Project Design and Implementation

During the first few team meetings, the focal topic was the design of the program. The project requiring groupwork meant that it had to be equally divided between all members. To assist this process, the team leader drew up activity diagrams to not only differentiate between the different functionalities of the program, but also have a diagrammatical way to ease the task division.

Since the activity diagrams were made at the beginning of the project, the final code is quite different from them. This is due to the implementation process bringing up unpredictable issues that needed to be fixed by straying from the initial design as well as finding more efficient ways to build the system.

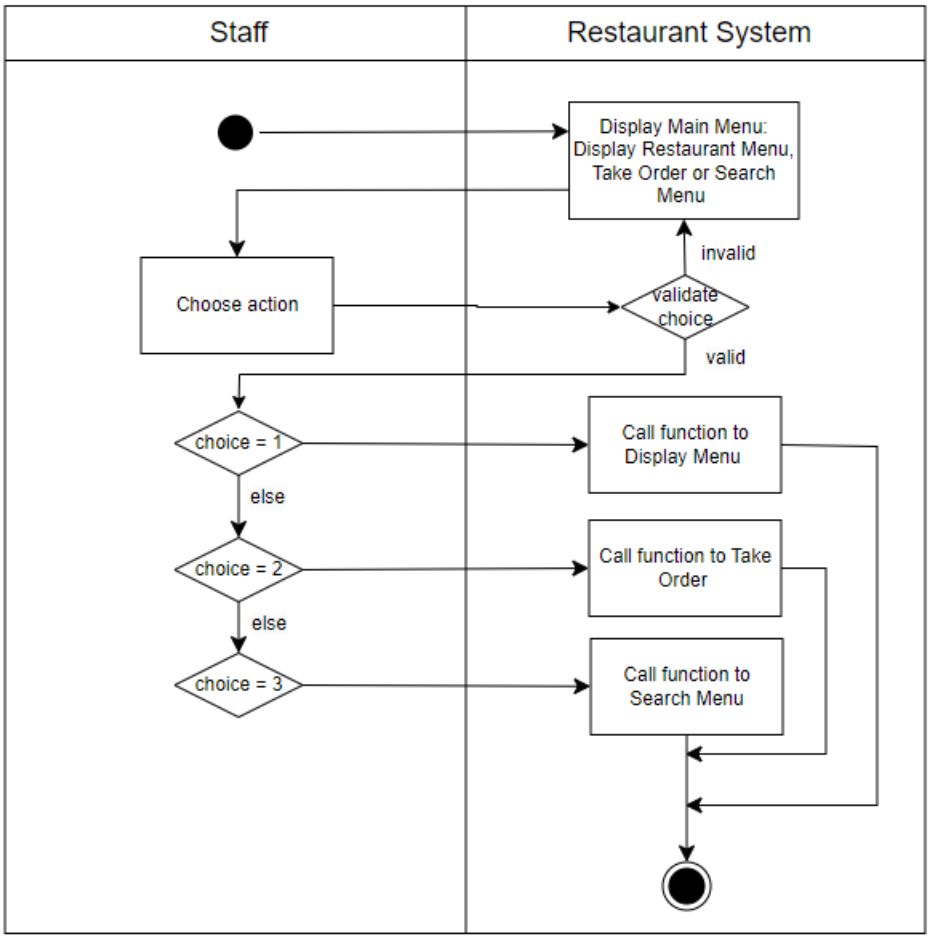

Figure 1: Activity Diagram 1

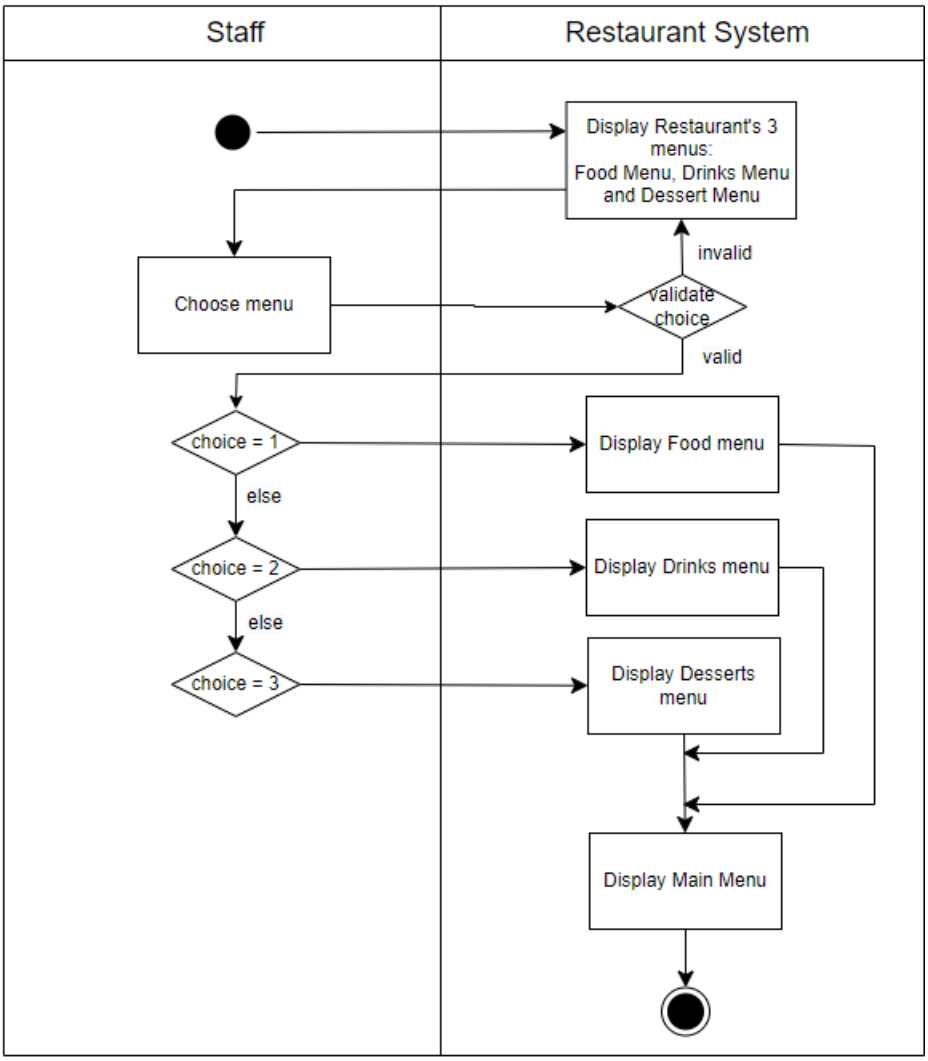

Figure 2: Activity Diagram 2

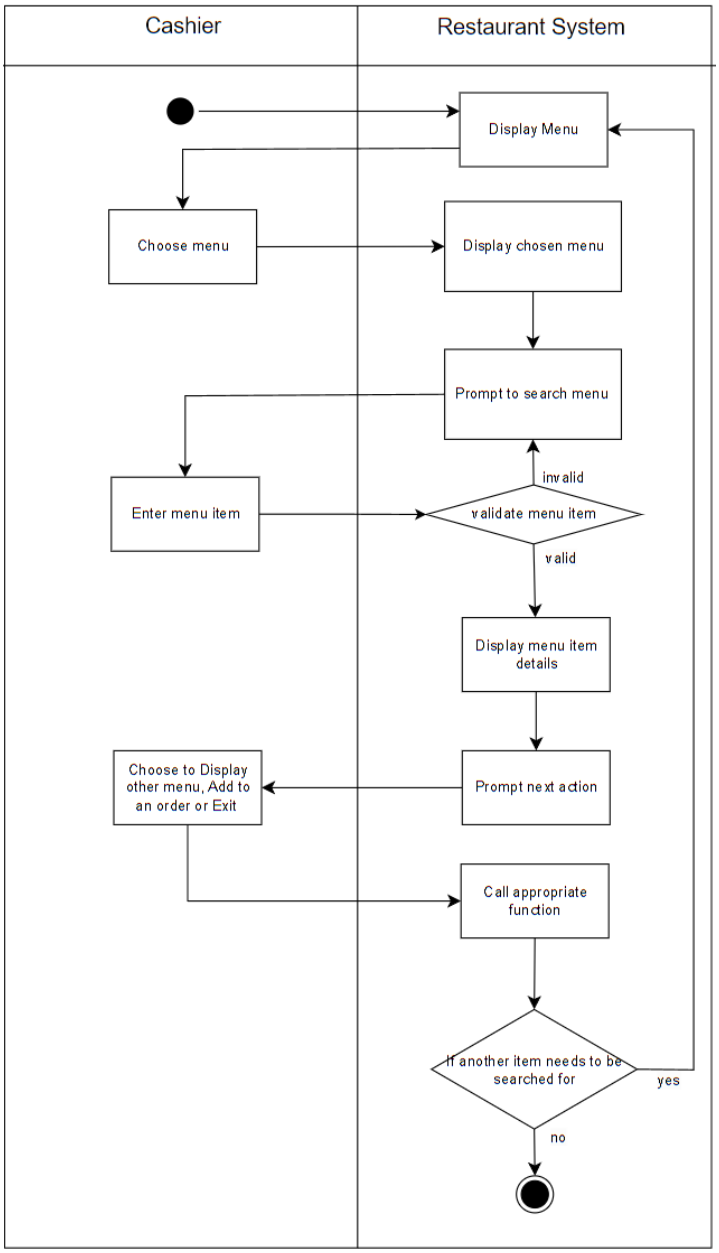

Figure 3: Activity Diagram 3

The following Use Case Diagram has made it easier to visualize and plan the flow of the restaurant system. It is a clear and easy to interpret diagram which shows all the functionalities that have been implemented.

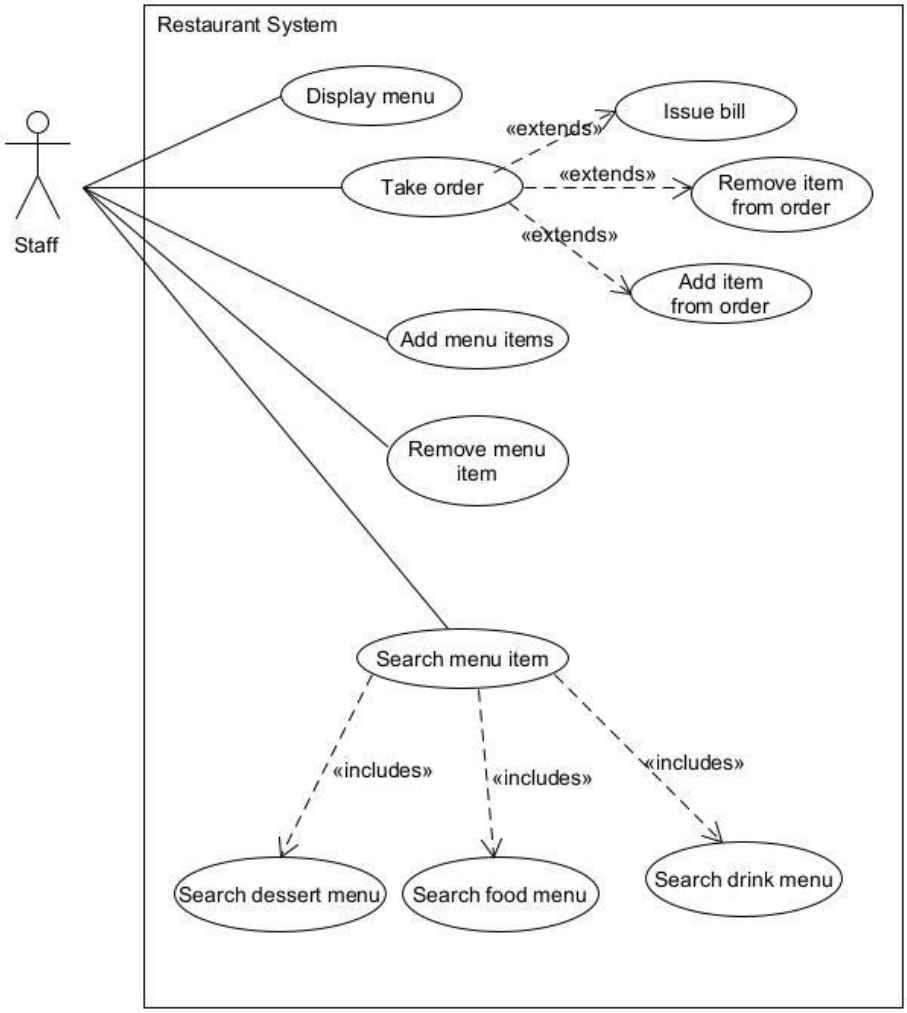

Figure 4: Use Case Diagram

Lastly, a class diagram was also made to obtain an overview of the Menu class along with its attributes and methods. Additionally, it also helped in maintaining consistency in the code as all members had a standard way of naming and using the methods shown below.

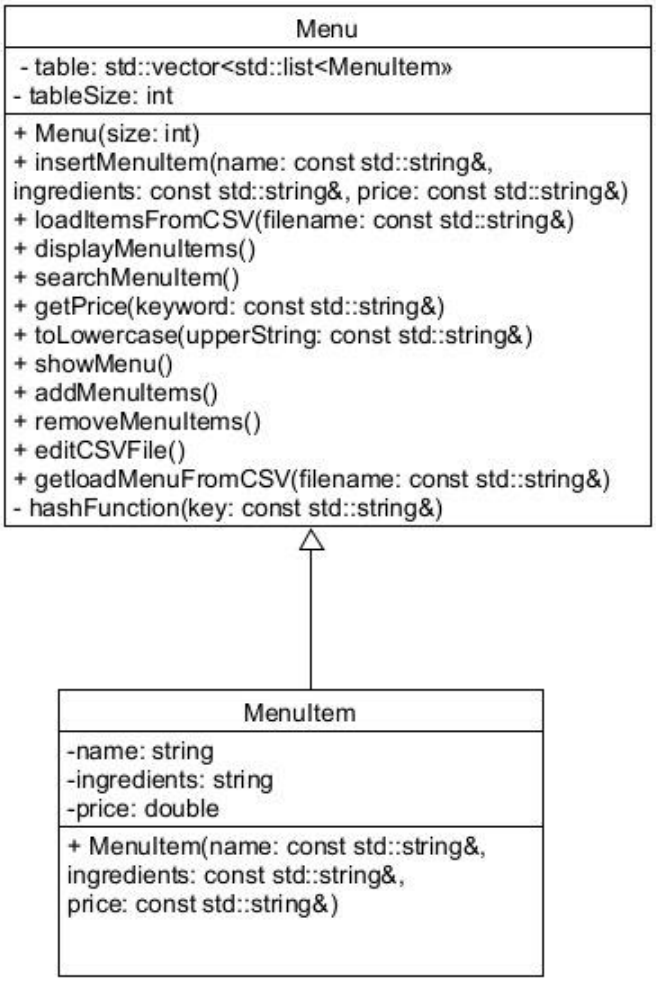

Figure 5: Class Diagram

Testing

The team tester carried out multiple tests using Catch2 and test cases for the entire program to identify and report any bugs encountered. Upon finding any errors, the tester made sure to inform the rest of the team to ensure that the issue is fixed, and any other defects are resolved promptly.

Work Timeline

Given the strict deadline for the project, it was important to carefully plan out each step of the work that needed to be completed and span them over a limited time period to maximize time efficiency and time and work management. To do so, a Work Breakdown Structure as well as a Gantt Chart were drawn up. These are as follows:

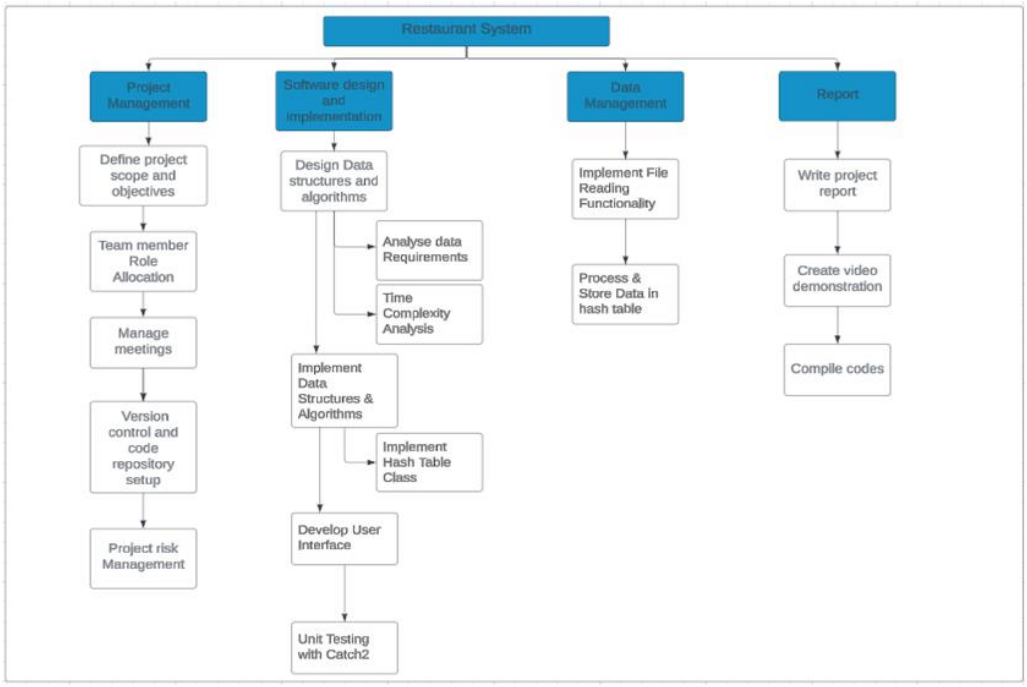

Figure 6: Work Breakdown Structure

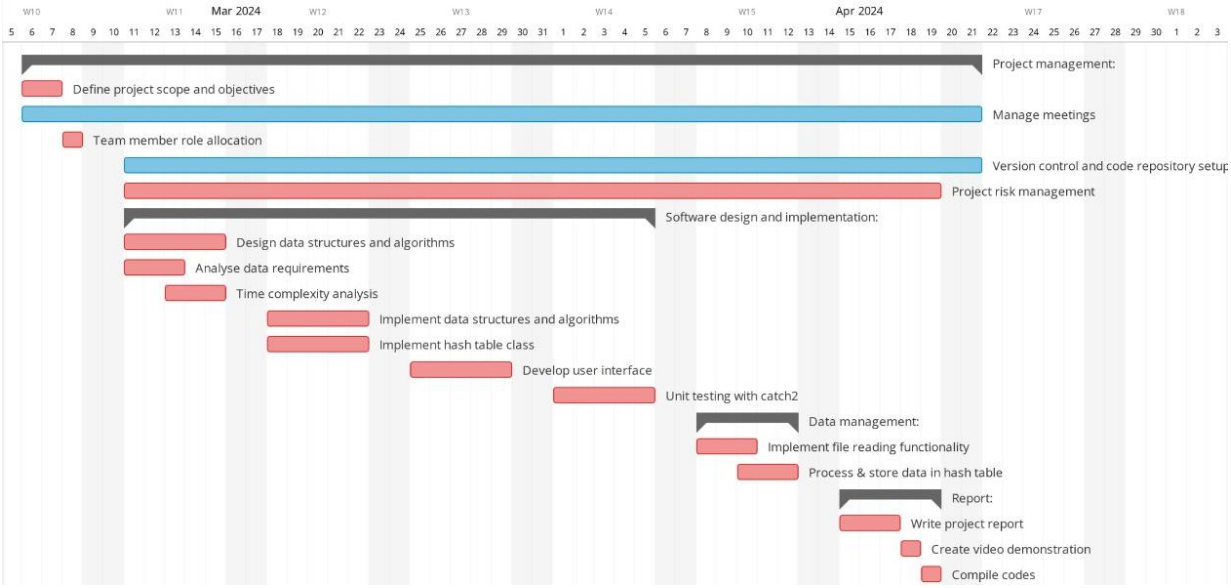

Figure 7: Gantt Chart

Communication

The team maintained constant communication on WhatsApp, where members updated each other about any milestones achieved or any problems that were met with. Regular calls and meetings were held on Zoom and Teams for more in-depth discussions and better planning. Moreover, by setting a shared OneDrive folder, the team has been able to share and have access to the UML diagrams including a use case diagram, a class diagram, and activity diagrams as well as the Work Breakdown Structure and Gantt Chart.

Notes of Meetings

To ensure proper teamwork, communication, and planning, weekly sprint meetings were held for which the notes have been uploaded to Azure DevOps.

The team was also required to have daily stand-up meetings to keep track of progress made, obstacles faced, and the next task to accomplish.