CS 002 Honors Project

Project Requirements Specification

Version 1

Prepared by:

Gayvalin Sujaritchai (Tammy)

10/16/2022

Changelog

1. 10/16/2022
    a. Planned out key features and document them in personal working space (Notion)
    b. Created a new cpp file and started programming a simple version of the program
    c. Researched concepts that might be useful for the program (arrays, class, vector) and created a simple code to test them out.
2. 10/17/2022
    a. Continued researching and working on creating a simple, yet functional program following previously-planned key features.
    b. Created 2 personas and identify their pain points to better understand the user journey and identify other important features/components.
    c. A documented process on Google docs
    d. Started a new file and started using class
3. 11/12/2022
    a. Recreated personas and make adjustments as needed
    b. Recreated the file using vector and dictionary instead of classes and programmed a simple inventory management system with features that allow users to add and remove items.
    c. Did some research about vectors, map (dictionary), <iomanip> library, etc. and applied the knowledge into the program.
    d. Expanded features and allow users to manage employees and add details to the item (quantity and price).
    e. Schedule an appointment to meet with the stakeholder to discuss further improvement on 11/14/2022 at 8 PM.
4. 11/14/2022
    a. Discuss the development plan with the stakeholders and receive feedback.
    b. Documented given suggestions/feedback on Google docs.
5. 11/25/2022
    a. Implement array as suggested by stakeholder
    b. Made adjustments to the documentation
    c. Finished final project proposal presentation
6. 11/30/2022
    a. Discuss further improvement with Professor
    b. Presented the slides to the stakeholders

Weekly Status Report[1]

Week of 10/16/2022 to 10/23/2022

Project Name: Metamart

Name of Participant: Gayvalin Sujaritchai (Tammy)

1. Actionable items for the current week
    a. Create work plan | Status: in progress
        i. Plan out the overview and objectives of the program. Create personas and explore user journeys.
        ii. Due date: 10/21/2022
        iii. Task assigned to Tammy S.
    b. Created a simple program | Status: done
        i. Implement simple program following the planned features (view available goods, add/remove items from the cart) using C++
        ii. Due date: 10/23/2022
        iii. Task assigned to Tammy S.
2. Issues
    a. Classes implementation doesn't provide the desired outcome and decreases the readability of the program.
    b. Program developer didn't have a strong fundamentals in programming and was spending more time on researching than the program itself.
3. Additional Notes
    - Classes can be useful as they help with code organization and reusability, however, it doesn't work as well in this scenario.
    - User journeys are best explored using real-world software/programs and through interview/survey.

[1] One should be completed for every week, chronicled here.

Weekly Status Report[2]

Week of 11/12/2022 to 11/18/2022

Project Name: Online store management system

Name of Participant: Gayvalin Sujaritchai (Tammy)

4. Status of actionable items from the previous weekly report
    a. Create work plan | Status: done:
        i. Plan out the overview and objectives of the program. Create personas and explore user journey.
        ii. Hours spent: 1 hours
        iii. Tammy worked on the task
    b. Created a simple program | Status: done:
        i. A simple C++ grocery program is created and the user is able to view all available goods and add/remove items from their cart.
        ii. Hours spent: 2 hours
        iii. Tammy worked on the task
5. Actionable items for the current week
    a. Pivot and recreate the whole project | Status: in process:
        i. Rewrite project objectives and overview.
        ii. Created a new program for an online store management system which targets suppliers/business owner specifically.
        iii. Due date: 11/13/2022
        iv. Task assigned to Tammy S.
    b. Get feedback from stakeholder | Status: in progress:
        i. Schedule an appointment with stakeholder to discuss further improvement and scope of work.
        ii. Document the feedback and improve the program accordingly.
        iii. Due date: 11/18/22
        iv. Task assigned to Tammy S.
6. Issues
    a. Program developer didn't know how to use vectors and dictionary (map) in C++ so she has to spend time looking them up which cause a delay in the development process.
    b. The program developer was unclear about the purpose of this document and wanted to consult with the stakeholder to identify the usage of this document.
    c. The project is way behind where it supposed to be in the software development process due to developer's poor time management skills.
7. Additional Notes

[2] One should be completed for every week, chronicled here.

- Ask professor about how to document things and what does some of the questions mean.
- If possible, ask professor if the documentation is done correctly.
- Review personas and consider adding more persona(s).

Weekly Status Report[3]

Week of 11/19/2022 to 11/25/2022

Project Name:	Online store management system
Name of Participant:	Gayvalin Sujaritchai (Tammy)

8. Status of actionable items from the previous weekly report
    a. Pivot and recreate the whole project | Status: in progress:
        i. What was accomplished
        ii. Hours spent: 4
        iii. Tammy worked on the task
    b. Get feedback from stakeholders | Status: done:
        i. The stakeholders review the development plan and the feedbacks were received. The stakeholders suggested more array implementation in the program.
        ii. Hours spent: 1
        iii. Tammy worked on the task
9. Actionable items for the current week
    a. Implement array into the function | Status: done:
        i. Used array to store options in menu function
        ii. Due date: 11/25/22
        iii. Task assigned to Tammy S.
    b. Created a presentation | Status: done:
        i. Created slides using Canva
        ii. Due date: 11/25/22
        iii. Task assigned to Tammy S.
10. Issues
    a. No big issues occur during the process.
11. Additional Notes
    a. Link to the presentation: Canva | CS2 - Honors Project

[3] One should be completed for every week, chronicled here.

Revision History

Name	Date	Reason for Changes	Version
Ver 1	11/18/2022	Change in program objective	1.0

Introduction

Purpose

The goal of this project is to develop an interactive Shopping Management system where users (suppliers) can view available goods, add/remove products, and manage employees by adding or removing staff.

Document Conventions

- The word app is abbreviated for the word application
- C++ is a high-level general-purpose programming language created by Danish computer scientist Bjarne Stroustrup as an extension of the C programming language

Intended Audience and Reading Suggestion

This document is intended for students or anyone who might be interested in understanding the workflow, features, and structure of this program. It is highly recommended to review the overview section of the project for the best experience.

Project Scope

This project is an additional project to the regular class in order for students to earn honors credits. It is intended for students to better understand the software development cycle and to gain insight into software engineers' responsibilities. The final submission of the project should be done prior to December 12 (23:59 PDT)

References

1. https://asana.com/resources/project-scope
2. https://www.tutorialspoint.com/how-to-print-out-the-contents-of-a-vector-in-cplusplus
3. https://stackoverflow.com/questions/15079057/arrays-vs-vectors-introductory-similarities-and-differences
4. https://iq.opengenus.org/ways-to-remove-elements-from-vector-cpp/
5. https://www.educative.io/answers/how-to-iterate-through-a-vector-in-cpp
6. https://stackoverflow.com/questions/15151480/simple-dictionary-in-c
7. https://cplusplus.com/reference/map/map/empty/
8. https://www.quora.com/What-are-some-alternatives-for-if-statements-in-C++
9. https://stackoverflow.com/questions/14765155/how-can-i-easily-format-my-data-table-in-c
10. https://stackoverflow.com/questions/21567291/why-does-stdgetline-skip-input-after-a-formatted-extraction

Overall Description

Project Features

This program allows users to view the products, add/remove items, and manage employees.

User Characteristics

What are the different types of users who will be using this project? What do they do?

- John, a 58-year-old former store manager who is trying to open an online grocery store after retiring from Walmart. He has one grandchild who would come to his house every week to help him manage the store.
    - Pain point: He's familiar with the manual store management system at Walmart but wasn't quite familiar with using technology.

- Rachel, a 20-year-old communication major who just started an online clothing business and is looking for a tool to manage her store and inventories. Her friends have offered to help her during the pre-seed stage but she's looking for part-time students to help her out as the business expands. She is a tech-savvy but she didn't want to spend money on existing management tools in the market.
    - Pain point: She has no experience and wasn't quite sure where to start in her online business journey. Also, she doesn't like using different programs to do different tasks, she wants an all-in-one store management system.

Operating Environment

This is a C++ console-based application project. Users can access and interact with the program through the console or desired IDE.

Design and Implementation Constraints

- The program is built using C++ and implemented on Repl.it
- Dell Latitude 540 which runs on Microsoft Window 11 is used during the development process.
- The program needs to be deployed by December 12.

Assumptions and Dependencies

What are the system and user requirements for someone to get the most out of your project?
Users need a laptop, PC, or other personal devices to run the cpp file and access the features in the program. Users are required to have the program downloaded to their personal device to access the program offline, otherwise, users need internet access to run the program online

using desired compiler or Repl.it. It is required for users to have basic reading and writing skills in order to interact with the program. Although not required, it is suggested that users have a basic understanding of computers and consoles.

System Features

Use Case 1: Add item	
Objective:	Allow user to add item (name, quantity, and price) to the inventory
Priority: High	High
Flow of Events: 1. User enters 1 in the menu option to indicate they want to add item(s). 2. User will be prompted to enter the name, quantity, and price of the item. 3. After the information is stored, user is prompted if they want to continue adding item(s) (Y/N) 4. If yes, the process is repeated. Else, all items is printed out.	

Use Case 2: Remove item	
Objective:	Allow user to remove item from existing list in the inventory
Priority:	High
Flow of Events: 1. User enters 2 in the menu option to indicate they want to remove item(s). 2. User will be prompted to enter the number of item they want to remove from the printed list (ex: 1 for 1. Banana). The item is then removed from the list. 3. User is prompted if they want to continue removing item(s) (Y/N) 4. If yes, the process is repeated. Else, all items is printed out.	

Use Case 3: View all items	
Objective:	Allow user to view all available items in the inventory
Priority:	High
Flow of Events: 1. User enters 3 in the menu option to indicate they want to view all the items. 2. The item's name, quantity, and prices are printed out.	

Use Case 4: Manage employee	
Objective:	Allow users to view employees' names and salaries, and add/remove employees.

Priority:	Medium
Flow of Events: How does the user carry out this feature?	

Maintenance Plan and Update

Maintainance

Since the program is relatively simple and brief, no major maintenance is necessary. However, it is suggested to verify the version of C++ and the compatibility of each device.

Future Update

To expand the usability and increase the impact of the program, it is planned to implement other essential features such as real-time inventory management and role-based access. In addition, it is also beneficial to have a log of changes that were made in the program and the ability to store information in other files after the program end so the adjustment is kept safe regardless of the status of the program.