SWE 3313 Pizza Project

By: Adam Burkey, Freddy Erazo, Bregan Frank, Batanado Ulrich

Table of Contents

Scope

Scope Description
Create a comprehensive pizza order and delivery system for a new Pizza Shop,a "Mom and Pop" type start-up. The system will handle customer setup, order placement, bill calculation, payment processing, and menu management. This restaurant will only provide pick-up or delivery.

Acceptance criteria:

- Successful setup of customer records, keyed by phone number, containing name, address, phone, and charge account information.
- Successful processing of payments in the form of checks, cash, or credit cards, with accurate tracking of payment type and amount.
- User access to the customer database for all transactions, displaying established customer addresses and delivery information. (only see past payments if in a manager + position)
- Printing of receipts with customer information, itemized orders, indication of delivery or pickup, and the amount due.
- A complete restaurant menu in the system, offering various pizza sizes, toppings, crust options, and beverages.
- User-friendly GUI for quick entry of desired orders, supporting customization like a medium, thin crust pizza with specific toppings.

Deliverables

- Project Plan consisting of Scope, Schedule, Team Organization, Technical Description of the System, Data Management Plan, and Test Plan
- Requirements Documents including a Requirements Definition Document and Requirements Specification Document
- System Design Documents covering Conceptual System Design and Technical Design
- The completion of two “sprints”

Project exclusions

- Raw code, no website for ordering (inside the compiler).

Constraints

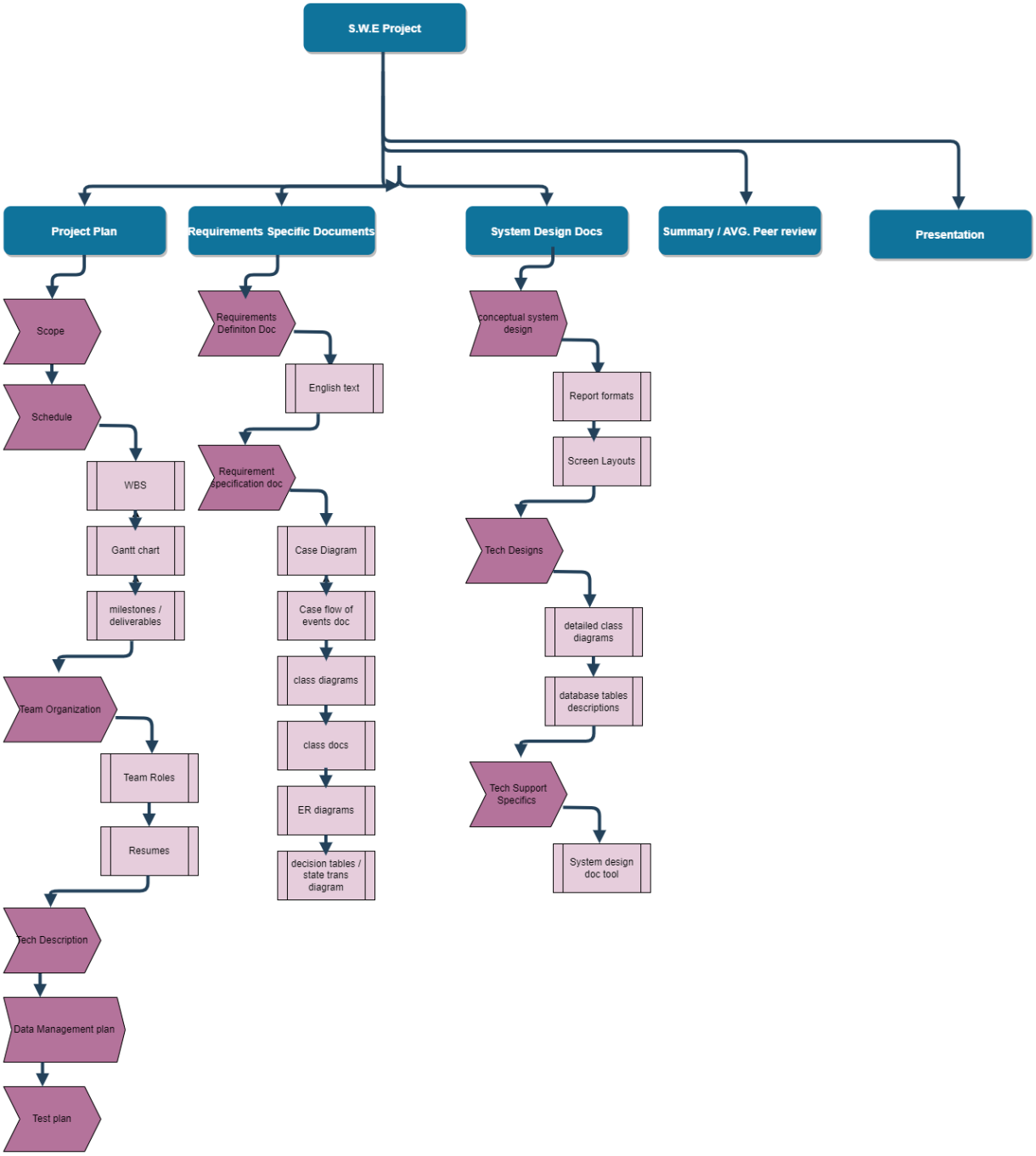
- Java code only. Most of the team uses/prefers Java.
- Deadlines predetermined

Assumptions

- Users have basic knowledge of pizza ordering.
- No major changes in the project scope during development.

Schedule - Work Breakdown Structure

This breakdown organizes the tasks according to the different sections outlined in the requirements. Each section is further broken down into specific tasks or documents.



[Original View]

Schedule - Gantt Chart

Turned in separately as a PDF

Schedule - Milestones

- Completing Project Plan
- Completing Sprint One
- Completing Project Required Documents
- Completing Project System Design Documents
- Completing Sprint Two
- Completing The Entire Project

Team Roles

Freddy Erazo: Co-lead Programmer

Adam Burkey: Lead Document Writer / Project Manager

Batanado Ulrich: Organizer / Technical and Graph Provider

Bregan Frank: Co-lead Programmer

Fake Resumes

Freddy Erazo

Freddypower4213@gmail.com |M: 770-680-1140

Education

Computer Science Student Kennesaw State university, 3.2 GPA. (2021 present)

- Member of the Society of Hispanic Professional Engineers
- Member of the entrepreneur next-gen

High school diploma, Discovery High School Dec 2020

Minor: software engineering, cyber security

Coding languages:
Java, Python, C++, SQL

Professional Work Experience

Intern software engineer, C&E health Care Solutions Jul 2021 – mar 2022

- Analyzed large datasets to identify trends and patterns in insurance claims.
- Used tools like Excel, SQL, or data visualization libraries to create reports and insights.
- Assisted customers with technical inquiries and issues related to insurance software.

relevant coursework:

- Data structures
- Algorithms analysis
- Discrete mathematics
- Linear algebra 1 & 2

Skills and Qualifications

- Time management, strong work ethic
- Effective communication skills
- Great teamwork skills,
- Certified (Word,Access,Excel,Power)
- Productivity & organization
- Effective collaboration and leadership
- Dedicated, Quick learner
- Bilingual in English and Spanish
- Hobbies and interests: chess, reading, exercise, cooking, aviation/aerospace,law

Bregan Frank

OBJECTIVE

My primary objective in this field is continuing and upgrading any and all request given to me by the best of my ability.

REFERENCES

Available upon request.

ADDRESS

PHONE

EMAIL

WEBSITE

EXPERIENCE

JAN 20204 – MAY 2024
Data Structures I Kennesaw State University I Kennesaw, GA

AUG 2023 – DEC 2023
Data Communications I Kennesaw State University I Kennesaw, GA

AUG 2023 – DEC 2023
Computer Architecture I Kennesaw State University I Kennesaw, GA

Key responsibilities: planning and delivering effective instruction across various subjects and programs, assessing and monitoring team progress, and providing individualized support and intervention as needed.

EDUCATION

Kennesaw State University I Kennesaw, GA

Currently Striving for a Bachelors of Computer Science

COMMUNICATION

Collaborating with colleagues, and community members to support software learning and achievement is an essential responsibility of a computer scientist or software engineer.

LEADERSHIP

As a computer scientist interactions and collaboration with a team is the key to a successful program or software system. With a background in scouting, being an eagle scout, I am very familiar with leading and planning.

Adam Trevor Burkey

[redacted], Ga [redacted] | [redacted]-3700 | [redacted]gmail.com

Objective

As an undergraduate student in Software Engineering, I am eager to secure an internship opportunity where I can leverage my programming skills, problem-solving abilities and enhance my communication proficiency within the realm of a computer science work environment.

Proficiency

● Python Programming ● C# Programming ● TinkerCAD ● MS Excel ● MS Word
● MS Powerpoint ● Teamwork ● Leadership● Problem Solving ● Multitasking

Education

Kennesaw State University, Marietta, GA August 2022 - May 2026
● Candidate for Bachelor of Science in Software Engineering GPA:[redacted]
● Relevant Coursework (completed by Summer of 2024):
  ○ Data Structures
  ○ Intro to Software Engineering
  ○ Discrete Structures
  ○ Introduction to Computer Science and Programming Principles (C#, Java, and C++)
  ○ Program Problem Solving 1 (C#, Java, and C++)
  ○ Program Problem Solving 1 Lab (C# only)
  ○ Program Problem Solving 2 (C#, Java, and C++)
  ○ Program Problem Solving 2 Lab (C# only)

[redacted] **High School, Suwanee, GA** August 2018 - May 2022
● [redacted] STEM Program GPA: [redacted]
● Completed 13 AP classes, including AP Computer Science

Clubs

● **Aerospace Robotics team member**
  ○ Writing code that will help with the guidance, navigation and control (GNC) of RC aircrafts
  ○ GNC Reports Lead
● **Beach Volleyball practice officer**
  ○ Help manage tournaments and run practices

Work Experience

KSU Department of Housing, Marietta, GA July 2023 to [redacted]
● **Residential Assistant**
  ○ Managing a university residence hall of 42 freshman students
  ○ Complete administrative tasks throughout the year to support my community
  ○ Adapt in order to handle changing situations and manage unexpected challenges, such as handling crises or emergencies.

Georgia Soccer Association, Suwanee, GA January 2018 to [redacted]
● **Referee**
  ○ Officiate matches and organize the necessary oversight during tournaments while supporting multiple teams simultaneously.

Info

Ulrich Batanado

[redacted]
[redacted] Georgia
(470) [redacted]
ubatanad@student.kennesaw.edu

Skills

-Java, HTML, CSS
-MS Word, MS Excel
-Time management, Strong work ethic, effective communication skill
-Productivity and organization
-Dedicated, Quick learner
-Bilingual in English and French
-Hobbies include Photoshop, Premiere Pro, Various Art Programs and Writing

Education

Graduated 2019

Sprayberry High School, 2525 Sandy Plains

Relevant Coursework

Data Structures, Intro to Database Systems, Computer Organization and Architecture, Intro to Software Engineering, Programming Problem Solving 1 and 2, Programming Problem Solving Lab 1 and 2

Work Experience

Walmart - Cashier
-Management of money and other assigned duties.
-Customer Service

Freelance Graphic Designer
-Designed pieces to customer specifications.
-Management of resources for outsourced files to help with making pieces.

Tech Descriptions

In this program there's a variety of different classes, one of which is the customer class. In this class we have some important attributes to get the right orders and right information for the customer. Just to name a couple we have the name, address to make sure their food gets delivered to the right place, phone number to notify the customer that their delivery has arrived and name to make sure we have the right order for the right person. We would have a constructor to assign the attributes. And setters to control possible errors and we also have getters to fetch the customers information.

We have a class to deal with customer database management which is extended by the customer class. We have some data structures like HashMaps to store customer records, keyed by their phone number. We have curd operations methods for adding customers, retrieving customers by phone number, and other database operations. And of course we have Error handling to deal with scenarios like duplicate phone numbers or invalid operations.

In the Order class we have attributes that keep track of the deliveries and orders. These attributes include itemsOrdered to keep track of how many orders have been sold also to keep track of how much the customer has ordered. We have another attribute called isForDelivery which lets the customer know when their order is ready. And the most important attribute is called amountDue which lets us know how much to charge the customer. We have a constructor to Implement order objects with the necessary details. And we also have setters to make sure everything runs smoothly and getters to fetch the customers data.

The most important class is the menu class. The menu will have a design data structure to represent the restaurant menu, perhaps using a combination of classes or a map. Also making the menu attractive by design to influence customers to buy our products. In the menu class we Initialize the menu with various items, sizes, toppings, and corresponding prices so the customer knows what they are buying and how much it would be. And of course we would Implement methods to retrieve item prices, update the menu, or add new items.

Order Processing: In this module there are several aspects to take into consideration such as but not limited to: calculating cost, status of the order, menu operations. To calculate the cost of the order as the order is being placed an object would need to be instantiated based on the details of the customer's order.

Each item ordered will be a separate object for easy access to show and calculate the grand total of the customer's order. While the customer is ordering their food, the program will need to refresh after every modification or addition to the order so the customers knows exactly what they are getting all the time.

Receipt Generation: The receipt will be a class of its own that has multiple parent classes to inherit all the possible variables and objects necessary to build a receipt containing all of the

information necessary to building a functional and complete receipt. The receipt information is as follows; customer information, ordered and modified items, and payment details.

Payment Processing: Another class of its own, the payment class will consist of three types of payment options all objects and all with their respective methods associated with that payment type. These types include checks, cash, and credit cards. Checks and cash will be short with only the checks having to make certain they are signed. While the credit card class has to make the customer sign after payment meaning more methods for better user experience. Another factor associated with payment but not necessarily in the same class is transaction tracking. All of the customers will need to have access to past payments along with the order associated with said purchase. This will require a separate object that keeps track of all receipts of any given customer. Payments will need error handling if the payment is insufficient or invalid payment type.

Integration and Testing: The functionalities of all the components such as menu, order processing, and payment processing need to flow like water ensuring a seamless experience for the customer. Conduct several unit tests for any and all functionalities such as all methods, classes and objects.

Security: Implement encryption on sensitive content pertaining to all customers. This includes but is not limited to credit card information, personal information, and any data associated with the customers that they themselves wouldn't readily give out. This ensures that there needs to be an access control to enforce restrictions in unauthorized access to sensitive information. This includes the necessity of managerial access and employee access only for such information. Logging into the site using a designated password or encrypted number will allow access but nothing else.

Error Handling: Set the code up for success by implementing try-catches to ensure graceful errors and seamless interaction. Documentation: Within the code behind the scenes use comments to ensure anyone can understand the logic behind coding methods. Develop a manual to document "how to" on system use and include GUI navigation.

Data Management Plan

Customer Access

Customers have access to several key features within the pizza order and delivery system. Firstly, they can utilize the system to place orders, whether they opt for pickup or delivery. Additionally, customers can access their own information stored in the system, including personal details such as name, address, and phone number. They also have the ability to browse through the complete restaurant menu, selecting items according to their preferences. During the ordering process, customers can choose their preferred method of payment, whether it be cash, check, or credit card. After completing an order, customers can view and print receipts, which include detailed information about their order as well as payment details. If the customer chooses to pay with a credit card there needs to be a place to sign the receipt by the customer.

Employee Access

Employees play a role in facilitating the ordering process. They have access to various functionalities within the system, primarily focused on order management. Employees can take orders from customers, whether it's over the phone or in-person, using the system's interface and specifically, the customers phone number. They also have access to the customer database, enabling them to retrieve relevant customer information for order processing and delivery purposes. This will include the customer's name, phone number, and address (i.e., subdivision name, closest major intersection, etc.). Additionally, employees are responsible for processing payments for orders, utilizing the specified payment methods such as cash, check, or credit card. Once an order is processed, employees can generate and print receipts for customers, providing them with a detailed summary of their order and payment information.

Manager Access

Managers possess comprehensive access to the pizza order and delivery system, encompassing all functionalities available to both customers and employees. In addition to these, managers have specific features tailored to their role

Test Plan

This project's main scope is a Pizza order and delivery system. Those two parts are what most of the software is based on, along with any of the additional parts added on to bolster the software's presentability.

Because the software will be created by all of the group, the testing will fall equally on all of us, on the conditions that each member will handle or at least help with the parts that were built upon by them.

In scope, the parts that will be tested are the Customer class, Order class, the Menu class, the Order Processing Modules, and the Payment processing class. All other aspects of the software are immaterial to the testing phase as they aren't part of the main pillars that hold up the functionality of the software.

The testing approaches that will be made use of are Integration testing where the whole software module is tested at once to make sure that all other integrated modules mesh agreeably together without any unseen errors. This works to expose defects in interfaces and interaction.

Unit testing to make sure individual parts like the customer access work well by themselves and have no glaring problems that might stop them from doing the tasks they were made to do. Regression testing to see if changes that were made to the code don't affect other parts unwillingly, and functionality testing to assess the softwares capabilities against specified requirements, this will include data storage, management access and automation.

Users will need low to no training to use the software as most of the software modules will be things that are seen and used a lot in modern society, so user testing will also be a valid strategy as it is easier for people with an outside view in to determine fault points that might have not been obvious from the inside.

After all is said and done the testing phase will end and the software will move on to its release phase.Testing will terminate when all the categories of tests come back with favorable results.