



CAFÉ 404

PROJECT PLAN

PREPARED FOR

Jeff Akisson

PREPARED BY

Café 404

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Scope

Main Purpose

This application is intended to

- Aid coffee shops in tracking customers,
- Allow user to order drinks, and
- Provide meaningful financial information to management

Functionalities for Customer Information

- Allow user to insert a new customer database based on certain required attributes:
 - Required attributes are first and last name, and phone number.
- Track reward points of customers only if they have an account
 - Awards 10 rewards points for every dollar spent.

Ordering Functionalities

- Allows users to pick a customer if they have an account, or choose anonymous if they do not.
 - If a customer does not have an account, the application will go directly to Order Drink.
- Allows multiple drinks in the same order.
- On the first pane, allows users to customize drink(s) based on several options.
- On a second pane, calculates tax and adds it to the subtotal .

Payment for Orders

- Allows a customer to optionally pay using reward points if they have enough points and they have an account.
- Allow a customer to pay with a credit card, which will be validated.
- Show a receipt which includes all the following information:
 - All drinks and customizations for each individual drink,
 - Payment method,
 - Price which includes tax, subtotal and total,
 - If customer has an account, shows current amount reward points
- Once a transaction is complete, information will be stored and used for management purposes.

Management Information

- Generates a CSV sales report and open it in an Microsoft Excel document

Modification of Data

- Application will allow the user to modify the following data:
 - Sales tax,
 - Rewards points per dollar,
 - The name of the application,

Screens and GUI

- General GUI Information:
 - The GUI will consist of several screens each of which allow for user input in various forms.
 - Screens will have buttons to be used for navigation, leading users from one place to the desired next place.
 - A user can cancel on most screens, or pick the option to return to the main menu.
- Main Screen
 - First screen that loads up, may include a company logo.
- CustomerList Screen:
 - Displays all existing customers,
 - Allows user to navigate to Add Customer Screen
- Add Customer
 - Allows user to add new customers.
- Order Drink Screen
 - Two panes, one for customization, the other for order information and payment information.
- Payment information
 - Processes payment based on how the customer wishes to pay.
- Receipt Screen
 - Shows all necessary information for drinks and payment.
- Management screen
 - Allows manager(s) to print financial information.

Schedule

Total estimation of work hours: 160

Sprint	Tasks	Hrs	Finish by Date
1 - Project Plan			10/9/22
1.1	High Level Scope	5	10/4/22
1.2	Schedule	2	10/4/22
1.3	Team Organization	1	10/6/22
1.4	Technical Description	4	10/6/22
1.5	Data Management Plan	3	10/8/22
1.6	Test Plan	4	10/8/22
2 - Requirements			10/18/22
2.1	Requirement Elicitation	1	10/5/22
2.2	"Must Have" Requirements	4	10/15/22
2.3	"Need to Have" Requirements	4	10/15/22
2.4	"Nice to Have" Requirements	4	10/15/22
2.5	Decision Tables	3	10/18/22
2.6	Use Case Diagrams	3	10/18/22
3 - UI Designs			10/25/22
3.1	Design Main Screen	3	10/20/22
3.2	Design Customer List Screen	6	10/20/22
3.3	Design Add Customer Screen	5	10/22/22
3.4	Design Order Drink Screen	5	10/22/22
3.5	Design Payment Screen	4	10/24/22
3.6	Design Receipt Screen	3	10/24/22
3.7	Design Management Scéen	4	10/25/22
4 - Technical Design			11/7/22

4.1	Configuration Data	3	10/29/22
4.1.1	Read Configuration Data	3	10/29/22
4.2	Customer Data	4	10/30/22
4.2.1	Customer Record	2	10/30/22
4.2.2	Read Customer Record	1	10/30/22
4.2.3	Write Customer Record	1	10/30/22
4.3	Sales Data	4	10/31/22
4.3.1	Sale Record	2	10/31/22
4.3.2	Read Sale Record	1	10/31/22
4.3.3	Write Sale Record	1	10/31/22
4.4	Menu Data	3	11/1/22
4.4.1	Drink Record	2	11/1/22
4.4.2	Read Drink Record	1	11/1/22
4.5	GUI	29	11/7/22
4.5.1	Main Screen	3	11/2/22
4.5.2	Customer List Screen	5	11/2/22
4.5.3	Add New Customer Screen	5	11/3/22
4.5.4	Order Drink Screen	5	11/3/22
4.5.5	Payment Screen	4	11/5/22
4.5.6	Receipt Screen	3	11/6/22
4.5.7	Management Screen	4	11/7/22
5 - Implementation			11/28/22
5.1	Configuration Data	3	11/10/22
5.2	Customer Data	4	11/10/22
5.3	Sales Data	4	11/10/22
5.4	Menu Data	3	11/10/22
5.5	GUI	29	11/25/22

5.5.1	Main Screen	3	11/13/22
5.5.2	Customer List Screen	5	11/16/22
5.5.3	Add New Customer Screen	5	11/16/22
5.5.4	Order Drink Screen	5	11/20/22
5.5.5	Payment Screen	4	11/23/22
5.5.6	Receipt Screen	3	11/23/22
5.5.7	Management Screen	4	11/25/22
5.6	Final Testing	6	11/28/22

Deliverables

Project Plan - October 9, 2022

Sprint 1 - October 12, 2022

Project Requirements - October 18, 2022

Spring 2 - October 19, 2022

Project UI Design - October 24, 2022

Sprint 3 - October 26, 2022

Sprint 4 - November 2, 2022

Project Technical Design - November 7, 2022

Sprint 5 - November 9, 2022

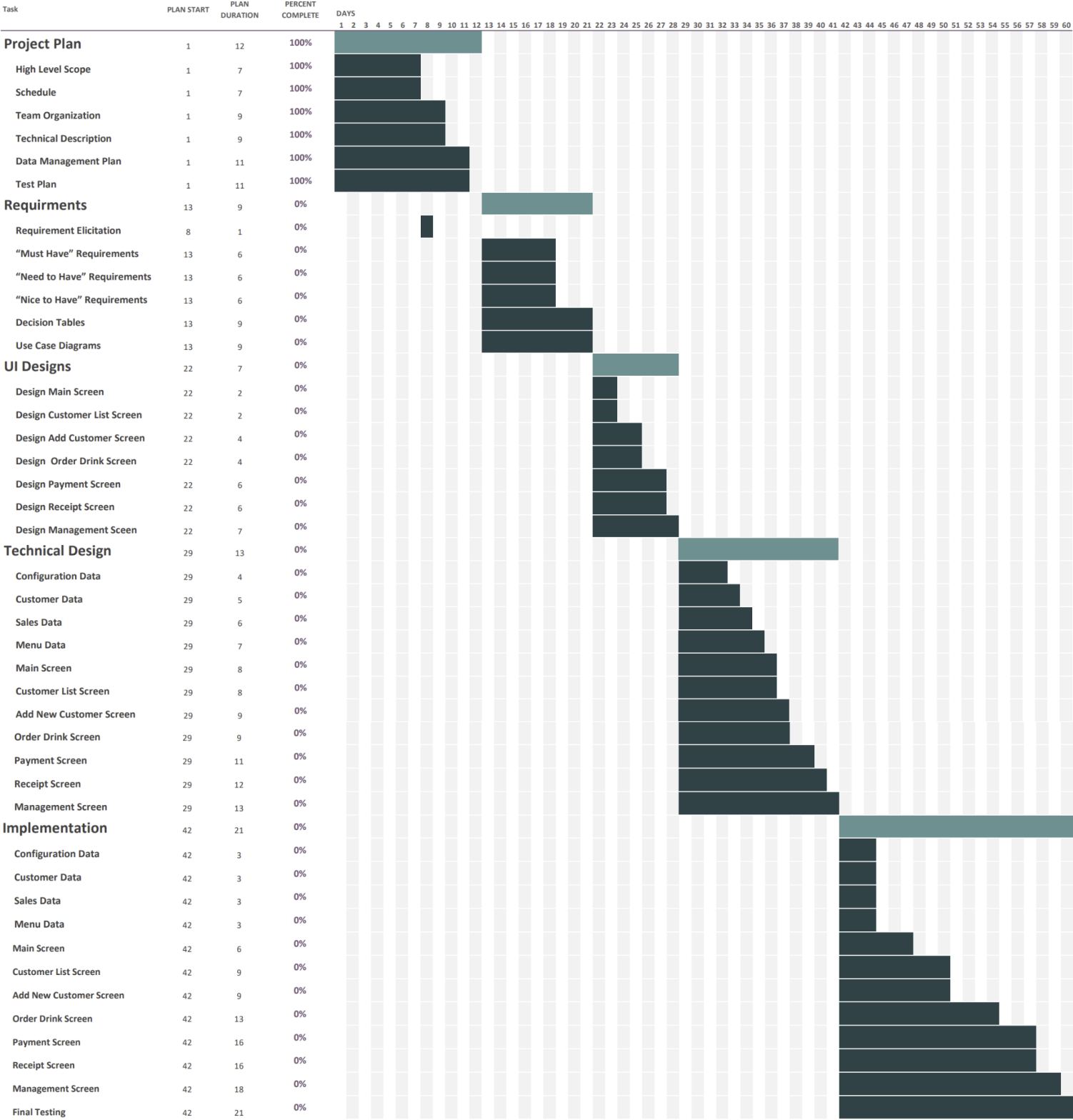
Sprint 6 - November 16, 2022

Sprint 7 - November 23, 2022

Final Application - November 28, 2022

Gantt Chart

Café 404 Project



Team Organization

Emily Mack - Team Manager, Primary Document Writer

- Manages team, organizes meetings, and reviews requirements to ensure project is following appropriate trajectory and schedule
- Writes documentation, gathers required documents prior to submissions
- Collaborates with rest of team, assisting where needed

Mason Sherrill - Lead Programmer

- Lead designer for visual components of program
- Lead programmer, assigns programming tasks to rest of team where appropriate

Aly Hussein - Database Manager, Record Keeper, Secondary Programmer

- Manages Git Repository
- Designs and manages database to organize project
- Assists in programming efforts

Joel Juarez Vazquez - Secondary Programmer, Secondary Document Writer

- Develops appropriate documentation necessary for project, specifically regarding low-level technical details
- Assists in programming efforts

Jeff Adkisson - Product Owner

Emily A. Mack

1824 Defoor Ave NW, Apt 5202

Atlanta, GA 30318

256.226.9301 | emilymack36@gmail.com

OBJECTIVE

Aspiring data scientist aiming to raise the global standard of living by tapping into the relationship between human communication and computing. Two years of published research in Psychology and Communication Sciences & Disorders and 5 years of relevant coursework.

EDUCATION

Kennesaw State University | Kennesaw, GA

January 2022- Present

Bachelor of Science in Computer Science | GPA 3.52

University of Alabama | Tuscaloosa, AL

August 2017 - May 2020

Bachelor of Arts in Communicative Disorders, Minor in Psychology | GPA 4.00

Georgia State University | Atlanta, GA

August 2020 - August 2021

Master of Science in Communicative Sciences and Disorders | GPA 3.92

37/81 Credit Hours Completed

WORK EXPERIENCE

Children's Medical Group | Atlanta, GA

August 2021 - November 2021

Patient Care Technician

- Acted as a liaison between medical staff and patients, greeted and checked in customers before guiding them to their rooms for treatment, addressed and/or solved any disputes between patients and staff, and voiced patient concerns to medical providers.
- Accurately managed patient Private Health Information (PHI) while following HIPAA and other legal protocols. Managed patient insurance information to ensure accuracy prior to filing claims.

Memory and Cognitive Control Research Laboratory | Tuscaloosa, AL

June 2018 - May 2020

Undergraduate Research Assistant

- Collected data for further analysis and interpretation for a long-term study regarding memory processing. Outfitted participants with an EEG cap and uses a Transcranial Direct Current Stimulation device to stimulate brain activity prior to assessing long-term memory abilities.
- Analyzed previous publications in cognitive psychology literature. Evaluated and arranged applicable data for future memory loss studies and other cognitive changes in older adults.
- Scored and organized data packets measuring cognitive abilities of both young and old adults to be used in the Alabama Brain Study on Risk for Dementia.

Alabama Speech Production Laboratory | Tuscaloosa, AL

August 2019 - May 2020

Undergraduate Research Assistant

- Independently reviewed previous literature in stuttering and speech production regarding linguistic differences in children with and without a stutter. Published in March 2020 at the Undergraduate Research & Creative Activity Conference at the University of Alabama.
- Coded for reliability to ensure accuracy of analysis of 2016 Presidential debates. Used InqScribe to mark timings, interruptions, and disfluencies for further review and analysis.

RELEVANT COURSEWORK

Computer Organization and Architecture | Kennesaw State University

Fall 2022

Data Structures | Kennesaw State University

Fall 2022

Research Methods | Georgia State University

Fall 2020

Neuroscience for Communication | Georgia State University

Fall 2020

Speech Science | University of Alabama

Fall 2019

Psychology of Learning | University of Alabama

Summer 2019

Language Development | University of Alabama

Spring 2019

Mason Sherrill

552 Heritage Drive, Ringgold, GA 30736
423-414-1218
Mason0015s@gmail.com

Education

Kennesaw State University, Marietta, GA (*Current GPA: 4.0, Junior*)

August 2020 – Present

Bachelor of Science in Computer Science

- Concentration: Artificial Intelligence
- Minor: Computer Game Design and Development

Heritage High School, Ringgold, GA (*GPA: 3.94*)

May 2020

Work Experience

Amazon Warehouse, Chattanooga, TN

June 2020 – July 2020

Picker

- Gathered and scanned products for packing and order fulfillment

eLink Business Innovations, Ooltewah, TN

June 2021 – Present

Web Programmer

- Work with a team to program and develop web-based solutions

Skills

- Proficient with
 - Adobe Illustrator and Photoshop
 - Google Suite
 - Microsoft Suite
 - IntelliJ
 - Microsoft Visual Studio
 - Java Programming Language
 - C# Programming Language
- Some experience with
 - Apex Programming language (Salesforce)
 - Velo Programming Language (Wix)
 - HTML Programming Language
 - CSS Programming Language
 - Python Programming Language

Awards and Honors

- Graduated Heritage High School with Honors
- National Honors Society: Fall 2017 – Spring 2020 (3 years)
- Beta Club: Fall 2018 – Spring 2020 (2 years)
- National English Honors Society: Fall 2018 – Spring 2020 (2 years)
- Earned the W.W. and Doris Ware Scholarship from Ringgold United Methodist Church
- Earned the Coleman Burroughs Memorial Scholarship from Heritage High School
- Earned the Beta Scholarship from Heritage High School

References

- Chris Matthews (eLink Business Innovations)
 - Phone: (423)-667-9338
 - Email: chrismatthews@elink.bz

601 Mount Sinai Rd

706-459-9586

Dalton, GA 30720

Aly Hussein

alyhussein2001@gmail.com

Education: Dalton State College

- *Associate's Degree of Computer Science*
- Dean's List from Fall 2020- present

Kennesaw State University

- Pursuing *Bachelor's of Science in Computer Science*
- Expected Graduation Date: December 2023
- GPA: 4.0

Relevant Experience:

January 2021-December 2021

Programming 1 and 2 in Kennesaw State University

- Worked with algorithms and interfaces
- Experimented with different data structures: stacks, queues, arrays, linked lists
- Experience with JGrasp, Eclipse, and IntelliJ

Other Experiences:

Picker

Amazon-March 2020- July 2020

- Picked items out for online orders
- Sorted through damaged orders
- Worked on an assembly line

Honors:

- National Honor Society: 2017-2019
- Dean's List, Fall 2020- present

Joel Juarez Vazquez

617 Bellemeade Drive SW, (404) 219-1016, joelj1224@gmail.com

OBJECTIVE: To provide stable and working programs for a team of professionals.

SUMMARY OF QUALIFICATION

- Hardworking
- Responsible
- Trustworthy
- Problem solver

EDUCATION:

Marietta High School

Graduation: May 2018, IB Student

Kennesaw State University (Current GPA: 3.70)

Expected Graduation: 2023

FIELD RELATED EXPERIENCE:

Business and Technology

Microsoft Office Certified

- *Able to navigate and use Microsoft Office 2013* 12/14
- *Able to create professional documents*

Computer Science

- *Proficient in Java, HTML, C#*

Technical Description

The application is intended to aid coffee shops and the like to manage sales and sales data from an easy-to-use user interface (UI) and to provide the ability to change settings when desired. It is expected to run on Windows and Mac OS, as well as other operating systems with minimal requirements, though said machine must be able to run code in C# for this application

Following are some more detailed technicalities the application is expected to perform:

The application will be made using the following tools for programming or data management:

- Application will be coded in C# using VisualStudios
 - Object-oriented with necessary classes and methods for drinks or customers and modifications
- Windows Forms (an extension of VisualStudios) will be used for the creation of the user interface
 - VS allows developers to build UI in the same environment as C#
- JSON for data storage, linking with the main C# app

This application will include 7 screens with buttons to allow for user input. In these screens we prioritize :

- Ease of use
 - Organized view to not confuse users and make flow between screens followable and learnable
- Open to a Main menu from which user can navigate to other necessary initial menus in the first screen
 - Upon choosing one of the menus, more options for drinks or for other menus may present themselves if necessary.
 - This can include reaching the Add Customer screen from the Customer List screen,
- Allow for user configuration (when changing setting such as taxes or adding customer, or rewards points)
- Screen Functionality Description
 1. Main Screen
 - a. Allows user to choose to go directly to the order drink (when user is anonymous), CustomerList, and Management Tools
 2. CustomerList Screen:
 - a. Sorted customer list (alphabetical by last the first name and

- finally phone number), where Anonymous is always at the top, an order drink button included besides each customer
 - b. Shows customer reward points
 - c. Allows user to add customer
 - d. Allow user to return to main screen
- 3. Add Customer
 - a. Requires user to enter all the following information: first name, last name, phone number
 - b. Verify uniqueness of phone number
 - c. Once everything is correctly set, immediately let user go to Order Drink menu
- 4. Order Drink Screen (One window, two panes)
 - a. If coming directly from main menu, the drink will be for the “Anonymous” customer
 - b. Allows customer to order more than one drink
 - c. Pane One: Customization
 - i. Each customization will affect the price
 - d. Pane two: Drink information
 - i. Contains information for each drink including customization and price
 - ii. Contains calculated tax, subtotal and the sum of the two: total
- 5. Payment Screen
 - a. Anonymous customer can only pay with a credit card and they do not receive award points
 - b. Reward point members can pay with credit card or reward points
 - i. Customer must have enough reward points to pay for the entire order
 - ii. Payment with reward points does not earn reward points
 - iii. For each dollar, the customer receives 10 reward points
 - c. Credit card must be validated
 - d. Once payment is successful, immediately go to receipt screen
- 6. Receipt Screen
 - a. Show all drinks customer ordered along with their respective customizations
 - b. Shows all prices
 - c. Shows method of payment, as well as
 - i. Last 4 digits of credit card
 - ii. Redeemed reward points
 - d. Any remaining reward points if customer is not anonymous
- 7. Management Screen
 - a. Allows user to create an Excel CSV file containing sales data

- Upon canceling on screens 1-5, the application shall go back to the Main screen.
- Screens 6-7 will include a “Main Menu” button to allow user to return back to the main screen

The following data storage capabilities will be used:

- JSON will be used as the main data management tools and will be implemented in the following ways:
 - Load menu and prices
 - Record customers
 - Record orders
 - Load configuration data

The team will work together to bring together a functioning application in the following ways:

- The team of four developers will use GitHub to encourage collaborative work, and stay up to date with changes to the program
- The team will use “sprints” to keep track of work needed to be done
 - At the beginning of each sprint, the team will see the project schedule, and work with each other to complete all the requirements for current sprints
 - At the end of each sprint, the team will bring together all their work to see that it functions as desired and required

Data Management Plan

All of our data will be stored within the application files in three different JSON files.

1. Config JSON

- This file will be read and stored into memory when application starts
- This file will store the following
 - String for name of business
 - Decimal for sales tax rate
 - Integer for reward points per dollar

2. Customer JSON

- This file will be read when Customer records are needed and written to when new customer records are added using the application
- This file will store the following
 - list of customer records
 - Customer Record
 - GUID/string for unique customer id
 - strings for customer first/last name, phone number
 - integer for reward points
 - Sales data
 - List of sale records
 - Sale Record
 - GUID/String for unique customer id
 - DateTime for time of sale
 - Decimal for tax
 - Decimal for subtotal
 - Decimal for total
 - String for payment method
 - Drinks Ordered
 - List of Drinks
 - Drink
 - String for name of drink
 - Single comma separated string for drink customizations
 - Decimal for total price of drink

3. Menu JSON

- This file will be read and stored into memory when application start
- This file will store the following

- list of Drink Menu Items
- Drink Menu Item
 - string for drink name
 - list of customizations
 - Customization
 - String for name of customization
 - decimal for price of customization

Test Plan

In the testing stages of our Coffee shop program we will inspect both functional and nonfunctional requirements. Screens from the application that we will examine range from

- Main Menu
- CustomerList
- Add Customer
- Order Drink
- Payment Screen
- Receipt Screen
- Management Screen

A big part of the testing process will involve who can access management-restricted data and data that the employees can see. Our biggest objective is to meet the specifications as the client has ordered. The testing process will also involve looking for bugs between transitions between different screens.

In the testing stage we will execute the program in real time to gauge the speed of the processes during the transitions between the screens. The language used to code this application is C# with the intention to be used for:

- Mac OS
- Windows products
- Other products that support the minimum requirements

The most important testing feature we will focus on is the front end functionality. Since most people who use a product do not really look “behind the scenes” of a computer program, the user interface is the main goal. A well ordered user interface will help employees and managers be trained easily whilst also teaching new employees how to use the system.

There will be two test trials for the new software:

- White box
- Black box

The white box testing stage will be executed by testers who can understand the internal back end of the application. This tester must understand the goal of the application and what requirements must be met for the application to be a success.

The black box testing stage will be executed by testers who do not have prior knowledge about the application’s functionality and the inner workings. This will be an efficient way of knowing how the program works before releasing it to the public with any bugs.

We will also conduct a traceability log of our testing process. The results of every test will be logged into a report with every bug or issue listed. In these reports we will list all the bugs and data that needs fixing to record our progress. An instructional form will also be produced to help detail the functionalities of the product for any new users to help understand.