

# Grocery Store System

## Software Quality Assurance Plan and Report

March 2022

***Prepared by:***

Tinetendo Makata

***Reviewed By:***

Amy Qi Wang

Mario Bouzakhm

Onyekachi Ezekwem

Rui Du

Yash Khapre

## **1.0 Purpose**

A Software Quality Assurance Plan and Report is used to define appropriate tests coverage criteria necessary for the business methods implemented by the system's backend. In this report, we will be discussing the unit testing approaches used to attain our target test coverage of 70%. We will also detail any other means of quality assurance we used in this sprint.

## **2.0 Test Coverage Criteria**

We decided that our target test coverage would be 70% as a team. We chose this figure because it would allow for the majority of cases to be addressed and prevent any major issues as we moved forward in the project sprints. Furthermore, by dividing the testing into unit tests for each service class, our team could quickly achieve our target coverage while targeting edge cases specific to each functionality.

## **3.0 Unit Testing Approach**

The service unit tests were done using Mockito. Each team member used a different method to determine the code coverage depending on the IDE used. The approach taken by the team was Whitebox testing. Each team member tested the service class that they had coded in the previous sprint and had access to their code while testing so they could create edge cases and comprehensive tests to meet our coverage goal. Next, they would merge their tests to the master branch and have them reviewed by the other team members who still had access to the code.

#### 4.0 Report Test Coverage Per Service Class and Member

Amy Qi Wang:

- EmployeeService 82%
- StoreHourService 85%

Mario Bouzakhm

- OwnerService 77%
- CalendarService 77%
- ShiftService 92%

Onyekachi Ezekwem

- DeliveryOrderService 90.8%
- InStoreOrderService 70%
- ItemQuantityService

Rui Du

- ItemService 89.3%
- PickupOrderService 77.7%

Yash Khapre

- CustomerService 91.1%
- SpecialDayService 81.3%

Tinetendo Makata:

- AddressService 78%

## **5.0 Other Means of Quality Assurance**

We had frequent weekly meetings with the team to ensure that we were all progressing at the same pace to complete our unit testing and that any elements that were interdependent across classes were done. This ensured that our team's coding style was uniform and that all elements of the code were understood by the entire team.