

# Introduction

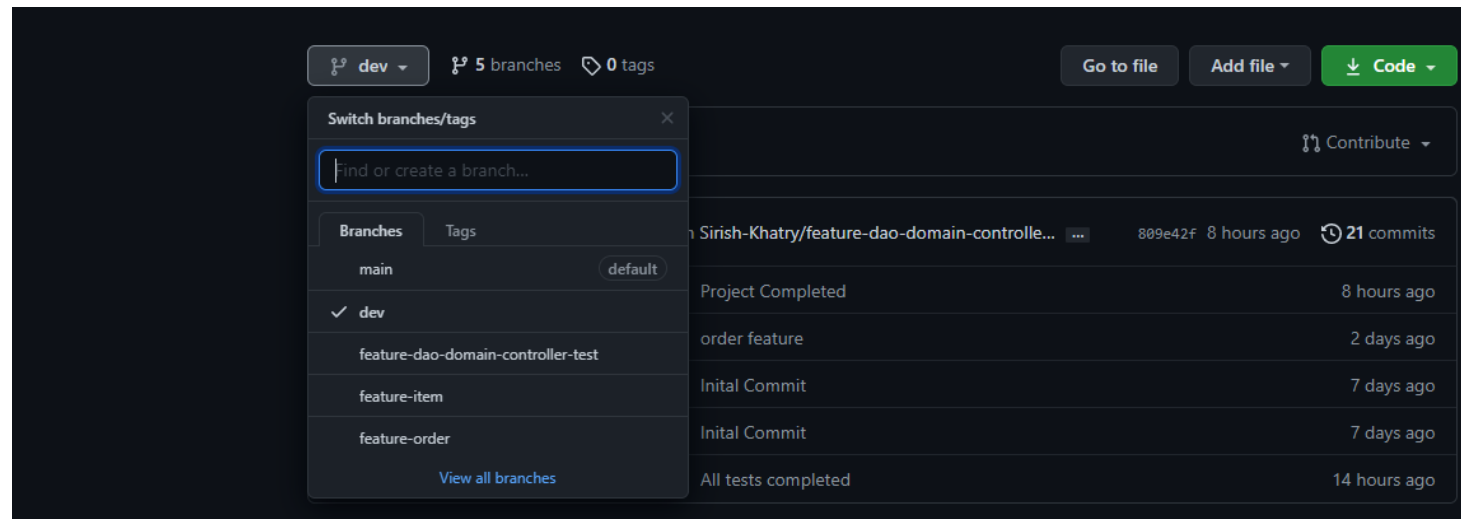
My name is Sirish Khatri and the way I approached the specification is by having a thorough read through and while doing that taking notes of important information's and requirements. Also, during the development I kept on reflecting back to the specs time to time to make sure the requirements were met and I was following the right procedures.

# Technologies Learned

- Git for version control using feature-branch model
- Jira for story boards, epics and sprints
- Agile methodology
- SQL Database using MySQL Workbench
- Unit testing using Junit framework

# Version Control

For this project we learned to use Git for version control and that is what I used to implement the feature-branch model. Where we branch out from main to dev then to a different feature branch and then merging that with dev branch once completed and repeating this feature-branch model for every new feature we work on until every feature is completed and finally merging from dev to main for deployment.



# Testing

Unit testing method was used for testing with JUnit framework. All the controller, domain and DAO classes and methods within them including exceptions were tested however, I was not able to hit the 80% benchmark for testing due to limited time as unexpected issues which delayed the completion of minimum viable product.

IMS-Starter-JuneSDET-Sirish	82.9 %
src/main/java	74.4 %
com.qa.ims	0.0 %
com.qa.ims.controller	79.2 %
com.qa.ims.exceptions	0.0 %
com.qa.ims.persistence.dao	92.1 %
com.qa.ims.persistence.domain	71.0 %
com.qa.ims.utils	70.8 %
src/test/java	98.9 %

```
public class OrderDAOTest {

    private final OrderDAO DAO = new OrderDAO();

    @Before
    public void setup() {
        DBUtils.connect();
        DBUtils.getInstance().init("src/test/resources/sql-schema.sql", "src/test/resources/sql-data.sql");
    }

    @Test
    public void testCreate() {
        final Order created = new Order(1L, 1L, 1L, "jordan", "harrison", "HP Pavilion");
        assertEquals(created, DAO.createOrderItem(created));
    }

    @Test
    public void testCreateOrder() {
        final Order created = new Order(1L);
        final Order expected = new Order(3L, 1L);
        assertEquals(expected, DAO.create(created));
    }

    @Test
    public void totalCost() {
        Long expected = 1400L;
        assertEquals(expected, DAO.TotalCost(2L));
    }

    @Test
    public void testReadAll() {
        List<Order> expected = new ArrayList<>();
        expected.add(new Order(1L, 1L, 1L, "jordan", "harrison", "HP Pavilion"));
        expected.add(new Order(2L, 2L, 2L, "chris", "watkins", "Dell Laptop"));
        expected.add(new Order(2L, 2L, 3L, "chris", "watkins", "Iphone12 ProMax"));
        assertEquals(expected, DAO.readAll());
    }
}
```

# User Stories Demo

IMS-6 / IMS-3

1

As a developer i want to create a UML diagram so that i can visualise and better understand what classes, actions and roles are needed for the IMS

Done Done

Description

Add a description...

Details

Assignee Unassigned

Reporter kcsirish

Labels None

Story Points 1

Epic Link IMS Planning

Sprint None +1

Priority Low

More fields

Original estimate 0m

Time tracking No time logged

Components None

Add a comment...

Pro tip: press M to comment

IMS-27 / IMS-22

1

As a user i want to create a order linking it to a customer so that i can create an order of items that the customer wants.

Done Done

Description

Add a description...

Details

Assignee Unassigned

Reporter kcsirish

Labels None

Story Points 4

Epic Link Order Features and its test...

Sprint None +1

Priority Highest

More fields

Original estimate 0m

Time tracking No time logged

Components None

Add a comment...

Pro tip: press M to comment

IMS-21 / IMS-19

1

As a developer i want to create a risk assesment file containing the issues and risks faced during the project timeframe so that i am aware of what held me back and what issues i face so that it can be avoided on other projects

Done Done

Description

Add a description...

Details

Assignee Unassigned

Reporter kcsirish

Labels None

Story Points 2

Epic Link Documentation

Sprint None +1

Priority Medium

More fields

Original estimate 0m

Time tracking No time logged

Components None

Add a comment...

Pro tip: press M to comment

IMS-17 / IMS-14

1

As a developer i want to test the DAO classes so that the required results are displayed or inputed into the database correctly without errors.

Done Done

Description

Add a description...

Details

Assignee Unassigned

Reporter kcsirish

Labels None

Story Points 3

Epic Link Testing Controller DAO Do...

Sprint None +1

Priority High

More fields

Original estimate 0m

Time tracking No time logged

Components None

Add a comment...

Pro tip: press M to comment

# Epics and Stories

Epic		
▼	<u>#M5-6</u> Creating the UML, ERD diagram to better visualise what is needed for the IMS to be developed successfully and meet the customer needs.	DONE
	■ #M5-3 As a developer i want to create a UML diagram so that i can visualise and better understand what classes, actions and roles are needed...	DONE
	■ #M5-4 As a developer i want to create a database with required tables, fields and constraints by using the ERD so that i can fulfill the user re...	DONE
	■ #M5-5 As a developer i want to create necessary classes and its methods using UML diagram so that the IMS has all the required classes and...	DONE
▼	<u>#M5-10</u> Item/Customer features and its testing	DONE
	■ #M5-8 As a user i want to add/edit/delete and view item details so that i can manage item information according to the need.	DONE
	■ #M5-7 As a user i want to add/edit/delete and view customer details so that i can manage customer information according to the need.	DONE
	■ #M5-9 As a user i want to test the add/edit/delete functionalities for customers and items so that information is stored/deleted/added/edited...	DONE
▼	<u>#M5-27</u> Order Features and its testing	DONE
	■ #M5-22 As a user i want to create an order linking it to a customer so that i can create an order of items that the customer wants.	DONE
	■ #M5-23 As a user i want to add multiple items to an order so that the customer order can be placed.	DONE
	■ #M5-24 As a user i want to delete an order so that if a customer cancels their order it can be deleted from the system.	DONE
	■ #M5-25 As a user i want to view specific order or all orders so that when the customer wants to add more items or delete orders that can be ...	DONE
	■ #M5-26 As a developer i want to test all the controllers, domain and dao classes relating to the orders so that system works as intended.	DONE
▼	<u>#M5-17</u> Testing Controller,DAO,Domain	DONE
	■ #M5-14 As a developer i want to test the DAO classes so that the required results are displayed correctly without errors.	DONE
	■ #M5-15 As a developer i want to test the DOMAIN classes so that the classes are functioning correctly as required.	DONE
	■ #M5-16 As a developer i want to test the CONTROLLER classes so that the classes are functioning correctly as required.	DONE
▼	<u>IMS-21</u> Documentation	
	■ #M5-19 As a developer i want to create a risk assessment file containing the issues and risks faced during the project timeframe so that i am a...	DONE
	■ #M5-20 As a developer i want to create a powerpoint which outlines all the work that i have done, issues faced and reflection on the project ...	DONE
	■ #M5-18 As a developer i want to create a README file which contains instructions on how to use the application that has been developed	DONE

# Sprint Review


All the user stories relating the minimum viable product were completed however, I had thought of adding more complex features such as editing an order, doing more complex testings' of the runner and IMS class but due to unexpected issues I didn't have time at the end to complete those advanced features.










Projects / IMS / IMS board

## IMS Order Feature

Successfully create the order feature which allows of creating order, adding items to orders, updating orders, deleting orders and removing items from orders.

🔗 ☆ ⌚ 1 day remaining Complete sprint 🔗 ⋮

🔍 K  Only My Issues Recently Updated Clear all 📊 Insights

TO DO	IN PROGRESS	DONE
<div>As a user i would like to be able to delete an order entierly so that i can remove it from the records completly.    IMS-13</div> <div>As a user i would like to be able to update orders so that i can add more items or remove items.    IMS-12</div>	<div>As a user i would like to create an order with multiple items and be able to view all the orders with their details so that i can keep track of those orders and what they contain.    IMS-11</div>	

# Sprint Retrospective

Most of the sprints were completed on the set deadline, only few were delayed by few hours due to unexpected errors.

Stories within some of my sprints could have been more detailed and focused on a specific feature rather than two or more features.

The screenshot shows a Jira sprint board for the project 'IMS' and board 'IMS board'. The sprint is titled 'IMS customer/items feature' and is currently in progress, with 0 days remaining. The board is divided into three columns: 'TO DO', 'IN PROGRESS', and 'DONE'. The 'IN PROGRESS' column contains two user stories, both labeled 'Items feature and its testing'. The first story, #IMS-8, describes a user's need to manage item details. The second story, #IMS-9, describes a user's need to test the add/edit/delete functionalities for customers and items. The 'DONE' column contains one user story, #IMS-7, which describes a user's need to manage customer details. The board also includes a search bar, a filter for 'Only My Issues', and a 'Recently Updated' button.

Projects / IMS / IMS board

IMS customer/items feature

0 days remaining Complete sprint

TO DO

IN PROGRESS

As a user i want to add/edit/delete and view item details so that i can manage item information according to the need.

Items feature and its testing

IMS-8

DONE

As a user i want to add/edit/delete and view customer details so that i can manage customer information according to the need.

Items feature and its testing

#IMS-7

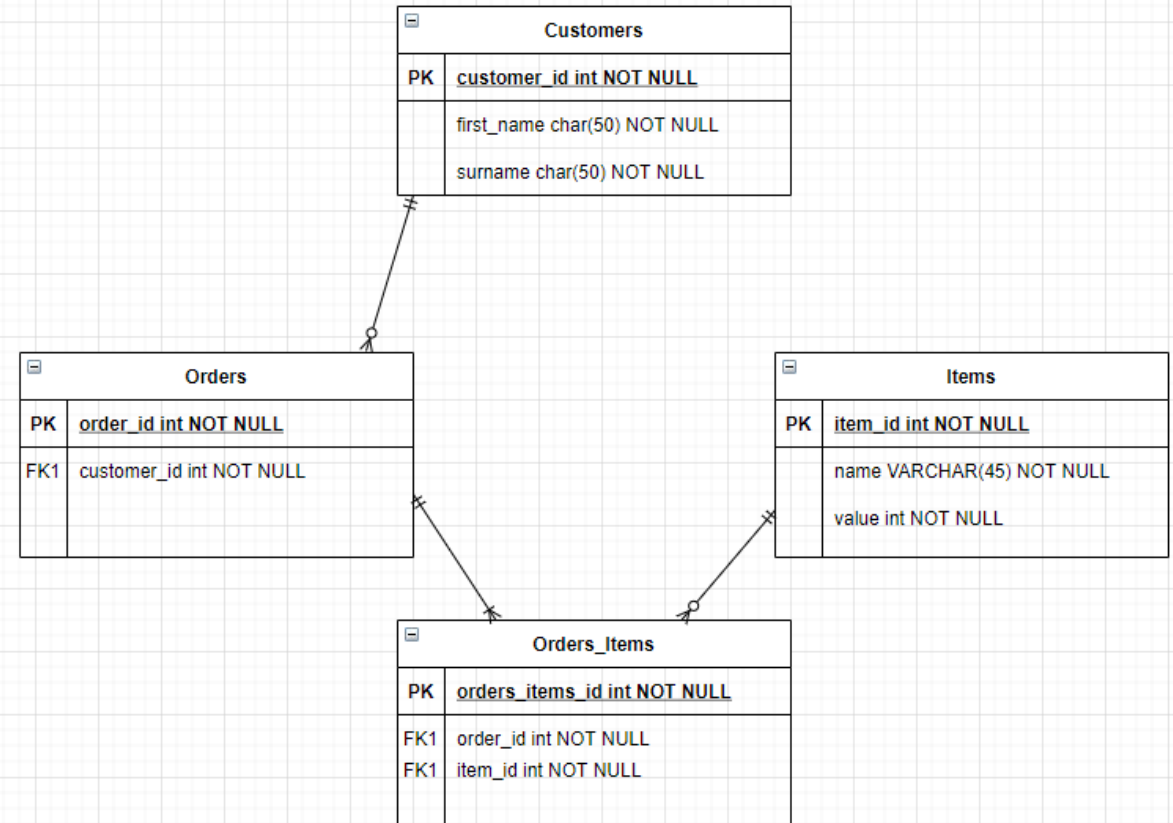
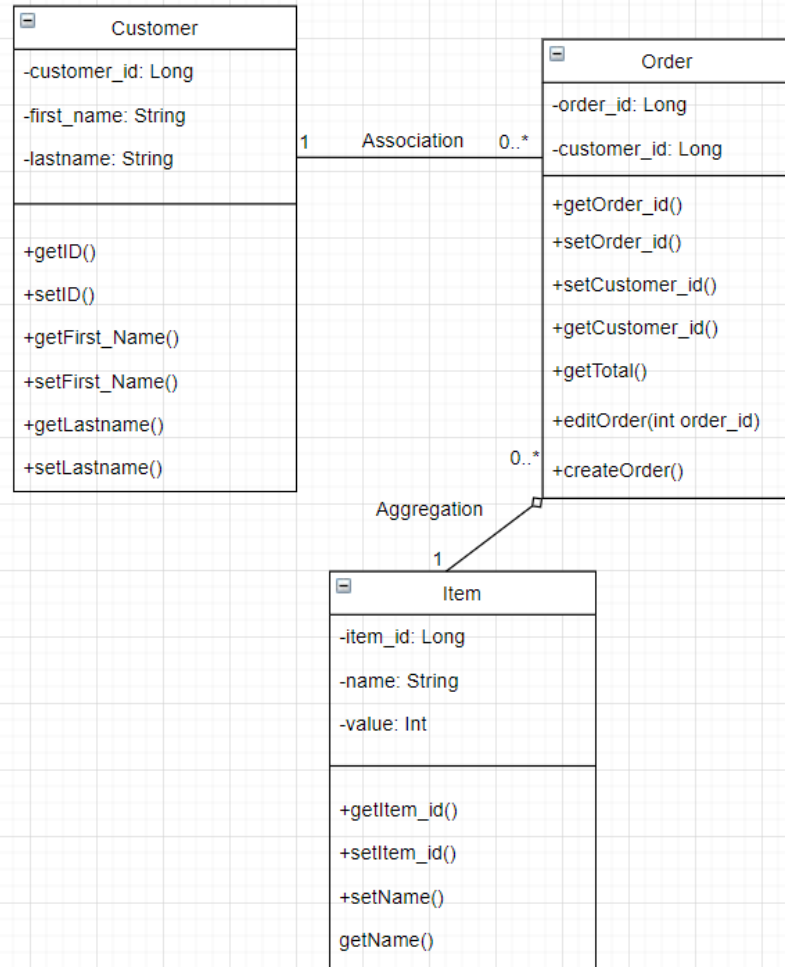
As a user i want to test the add/edit/delete functionalities for customers and items so that infromation is stored/deleted/added/edited correctly

Items feature and its testing

#IMS-9



# UML & ERD



# Risk Assessment

Risk	Statement	Response	Objective	Likelihood	Impact				SEVERITY				
									Minimal	Minor	Moderate	Major	Severe
Prioritising tasks	If i focus on a feature which is not important i wont have the minimum viable product ready.	While working on the project minimum viable product should be main priority.	Prioritising tasks to leave any unimportant task for last.	8	20			Guaranteed	5	10	15	20	25
DAO class testing issue.	While testing the test method wasn't outputting right result therefore failing the test.	I went through alot of different DAO, controller and domain classes to fix the issue	Looking through related classes to find issues and solving them effectively.	8	12			Expected	4	8	12	16	20
Falling behind	If I get stuck on a task for too long and it prevents me from doing other tasks.	I will ensure i seek for help with my trainers so they can help me with the issue and get me going.	Making sure I seek help when stuck on a problem for too long.	15	20			Likely	3	6	9	12	15
Database connection issue	I was having issues with connecting my project to the database server i had setup.	I did some research online and figured out a solution which was sucessful to solve my problem.	Make sure i do my own research and search for solutions or ideas.	6	12			Possible	2	4	6	8	10
Foreign Key setup	When deleting a order or item, it was causing error as they were foreign key constraints on orders_items table	I quickly realised what the error was and altered the tables with foreign key constraint to CASCADE when Update and CASCADE when delete	Planning each table and its constraints effectively	4	4			Unlikely	1	2	3	4	5

# Conclusion

Overall the project has been really good, this has given me hands on experience on not just coding but also the processes involved in SDET such as version control, testing, kanban board and database management. This experience will be very important and useful for my future when I do get deployed as a consultant. Learning agile and TDD has also given me experience on how software development and testing can be done apart from the traditional waterfall methodology. In the future this project could be improved to have GUI features for the users to interact with instead of using command line. Having a GUI would improve the overall experience of the system. Also, updating orders feature and stock feature could be added to further advance the project.