

INTRODUCTION



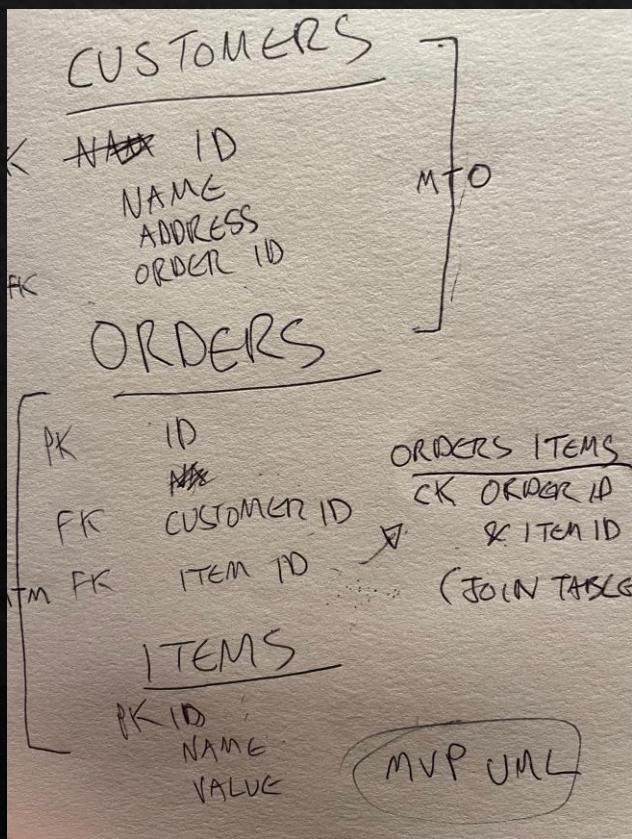
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IMS Project

The first step was planning out how I would go about the project.

I mostly used a small sketchpad for this. Breaking down the tasks and laying out which order I would tackle them in and giving myself a (very) rough timeline for each step.

HERE ARE SOME PICTURES FROM MY SKETCHBOOK



1. GET DRIVER (jar file from maven repos)
2. Import driver into Java project
3. Create a connection to the database using the driver
4. Create a statement (SQL) using that connection
5. Execute the statement
6. Process any results
7. Close the connection to the database.

JAVA / INTERACTING WITH A DB USING JDBC

- CREATE RISK ASSESSMENT
- CREATE MYSQL FILE WITH ENTITIES (CUSTOMERS, PRODUCTS(item), ORDERS & ORDER ITEMS)
- CREATE JAVA FILE THAT IMPORTS THE SQL FILE
- MAVEN FOR TESTING (80%) AND TO CREATE A BUILD.

PROJECT MANAGEMENT

BOARDS - USER STORIES
ACCEPTANCE CRITERIA (STORY POINTS)
& MOSCOW METHODOLOGY

ADD CUSTOMER

VIEW * CUSTOMERS

UPDATE (AMEND) CUSTOMER

DELETE CUSTOMER

ADD ITEM

VIEW * ITEMS

AMEND ITEMS

DELETE ITEMS

SOME STUFF

w. DIFF NAMES

CREATE AN ORDER (ARRAY LIST)

VIEW * ~~ORDERS~~ ORDERS

DELETE, ADD ITEM

CONSULTANT JOURNEY

- ❖ WHAT TECHNOLOGIES HAVE I LEARNED FOR THIS PROJECT?
- ❖ Learning for this project involved a few different languages: GIT, JAVA and SQL.
- ❖ I used these languages within GITBASH, GITHUB, ECLIPSE and MySQL.
- ❖ Also learned about and used Maven and Jira.

Testing

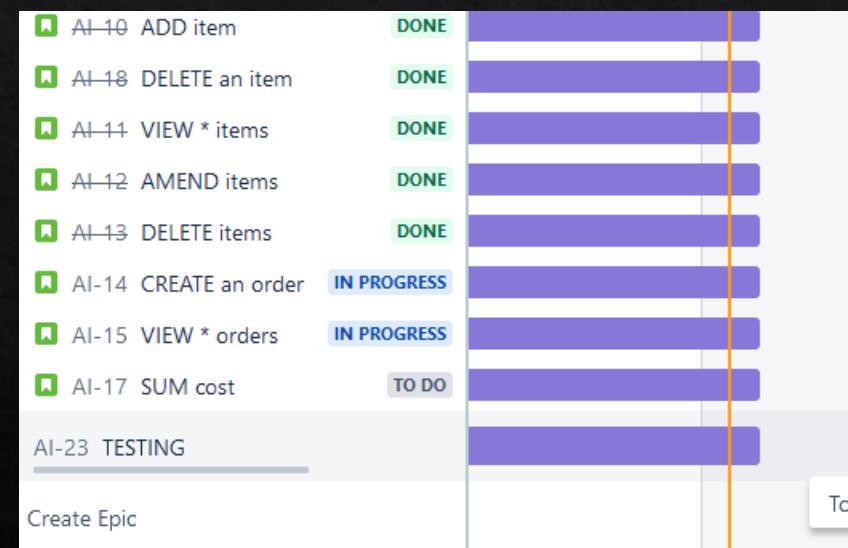
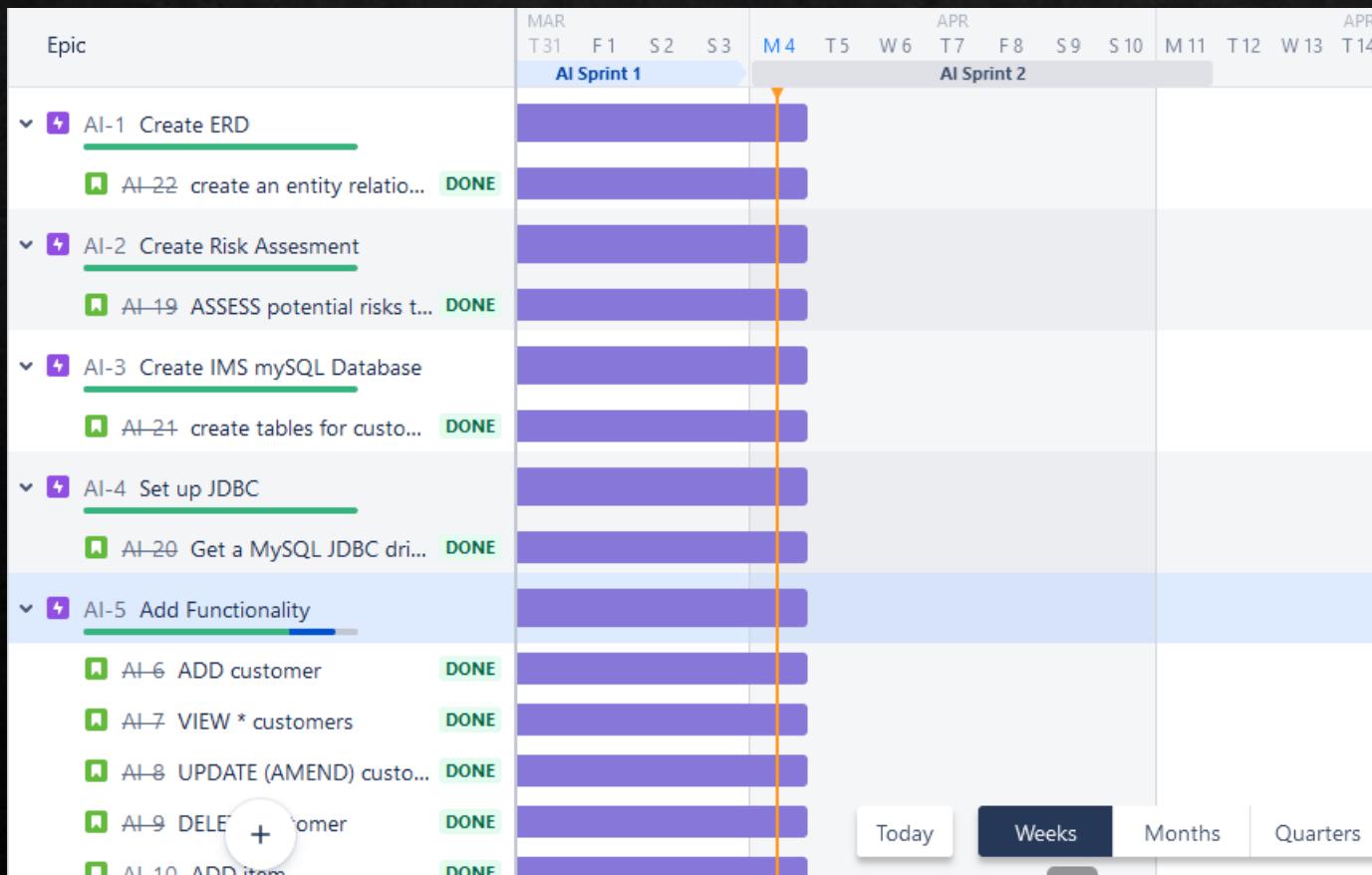
- ❖ My plan was to do my testing for my project on the train from Glasgow to London and then add my coverage percentage retrospectively.
- ❖ (This was not my original plan)
- ❖ Unfortunately the power outlet for my seat wasn't working and I hadn't thought to make sure my laptop had a decent amount of charge.

Demonstration

- ❖ User Stories:

Sprint Review

- ❖ Here is what I had outlined in my Sprint and what was achieved:



SPRINT RETROSPECTIVE

WHAT WENT WELL?

I think I was on the right lines at first with regards to planning.

I was on schedule for most of the time spent on the project.

It was helpful to have a list of tasks that needed completed and to have thought about how to do each one.

WHAT DIDN'T GO WELL

- ❖ I should have spent more time in the planning stage and moved on when I got stuck on certain tasks. Time spent struggling on one task ate into my time for other tasks and meant less got done overall as a result.
- ❖ I made a mistake at one point with my repository and lost quite a lot of work. This was entirely my own fault but merging some branches on GITHUB rather than locally resulted in my local version being overwritten and having to do that work again.
- ❖ Ultimately this meant I didn't have time to meet all of the criteria

THE FUTURE

- ❖ What else could be added to this project in the future?
- ❖ Aside from finishing the project criteria fully certain features could be added to the application, such as adding in a quantity field to order items to allow for the purchase of more than one of each item per order.
- ❖ Reviews could be added for items.
- ❖ A shopping cart object could be used to create an order and then add items to the order, rather than having to create an order and then update the order to add items to it.

REFLECTION

- ❖ How did I feel the project went?
- ❖ Up until about Friday I felt like the project was going okay and that I should be able to get everything done. Unfortunately I ran in to some issues (of my own making) within the code and couldn't get everything finished in time. I was sure I could get orders to work and I kept pushing and this meant everything else I still had to do got forgotten about.
- ❖ I spent too long trying to fix errors I had created instead of reverting to a previous branch.

The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar has sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup), Administration (selected), and Schemas. The main area shows a query editor with the following SQL code:

```
25 PRIMARY KEY(order_id),
26 FOREIGN KEY(customer_id) REFERENCES customers(id)
27 );
28
29 • CREATE TABLE IF NOT EXISTS order_items (
30     order_id INT (11) NOT NULL,
31     item_id INT (11) NOT NULL,
32
33     PRIMARY KEY(order_id, item_id),
34     FOREIGN KEY(order_id) REFERENCES orders (order_id),
35     FOREIGN KEY(item_id) REFERENCES items (item_id)
36 );
37
38 • show tables;
39
40 • SELECT * FROM items;
41 • SELECT * FROM orders;
```

Below the code, there is a results grid for the 'orders' table:

order_id	customer_id
1	1
2	1
3	1
4	1
5	1

The bottom section shows the 'Action Output' log:

#	Time	Action	Message
6	16:44:13	CREATE TABLE IF NOT EXISTS items (item_id INT(11) NOT NULL AUTO_INCREMENT, item_name VARCHAR...) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci	0 row(s) affected, 1 warning
7	16:44:13	CREATE TABLE IF NOT EXISTS orders (order_id INT(11) NOT NULL AUTO_INCREMENT, customer_id INT(11) ...) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci	0 row(s) affected, 2 warnings
8	16:44:13	CREATE TABLE IF NOT EXISTS order_items (order_id INT (11) NOT NULL, item_id INT (11) NOT NULL, PRIMARY KEY(order_id, item_id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci	0 row(s) affected, 2 warnings
9	16:44:19	SELECT * FROM items LIMIT 0, 1000	0 row(s) returned
10	16:49:01	SELECT * FROM items LIMIT 0, 1000	1 row(s) returned
11	17:48:21	SELECT * FROM orders LIMIT 0, 1000	5 row(s) returned

At some point I was able to create orders but I got An error message in the console.
In retrospect this error may have been referring to something else but I didn't notice that the order was being created successfully until much later, by which time I had already changed the code considerably.

Runner (10) [Java Application] C:\Program Files\Java\jdk-14.0.2\bin\javaw.exe (2 Apr 2022, 18:20:03)

```
read
id:6|| item name: test|| description: test|| price: £20.99
id:6|| item name: paint brush|| description: a basic brush for painting|| price: £6.99
id:6|| item name: hog hair brush|| description: a hardy brush for working with acrylics and oils|| price: £12.99
id:6|| item name: brush with a different id|| description: help|| price: £19.99
id:6|| item name: brush|| description: brush|| price: £50.75
id:6|| item name: brush2|| description: brush brush|| price: £9.99
```

What would you like to do with item:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

update

Please enter the id of the item you would like to update

6

Please enter an item name

brushbrush

Please enter a description

bruuuush

Please enter a product price

99.99

You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'WHERE item_id = 6' at line 1

Item Updated

What would you like to do with item:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

read

```
id:6|| item name: test|| description: test|| price: £20.99
id:6|| item name: paint brush|| description: a basic brush for painting|| price: £6.99
id:6|| item name: hog hair brush|| description: a hardy brush for working with acrylics and oils|| price: £12.99
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id:6|| item name: brush|| description: brush|| price: £50.75
id:6|| item name: brush2|| description: brush brush|| price: £9.99
```

What would you like to do with item:

CREATE: To save a new entity into the database

READ: To read an entity from the database

UPDATE: To change an entity already in the database

DELETE: To remove an entity from the database

RETURN: To return to domain selection

I ran into an error with customer
And item.

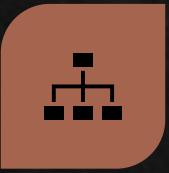
This happened on Saturday and
Admittedly caused me to panic a
Bit.

I eventually found the cause of
The problem but I really should
Have just reverted back to a
Previous branch.

At the time though I couldn't be
Sure when the rogue bit of code
Had been added.

I wasn't testing my code often
Enough.

FINAL THOUGHTS



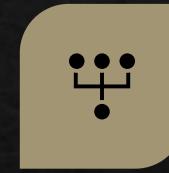
IF I HAD A SECOND GO AT THIS PROJECT I WOULD APPROACH IT VERY DIFFERENTLY.



I WOULD BE MORE CAREFUL IN MY PLANNING.



I WOULD TEST MY CODE MORE OFTEN.



I WOULD THINK MORE CAREFULLY ABOUT HOW I USED REPOSITORIES AND BRANCHING.



I WOULD HAVE SPENT MY TIME MORE EFFECTIVELY.



OVERALL I FEEL LIKE THIS PROJECT HAS GONE PRETTY POORLY FOR ME. I HAVE MADE A LOT OF MISTAKES AND AS A RESULT HAVE NOT ACHIEVED AS MUCH AS I SHOULD HAVE DONE.



I HAVE, HOWEVER, LEARNED A LOT OF VALUABLE LESSONS FROM THOSE MISTAKES.