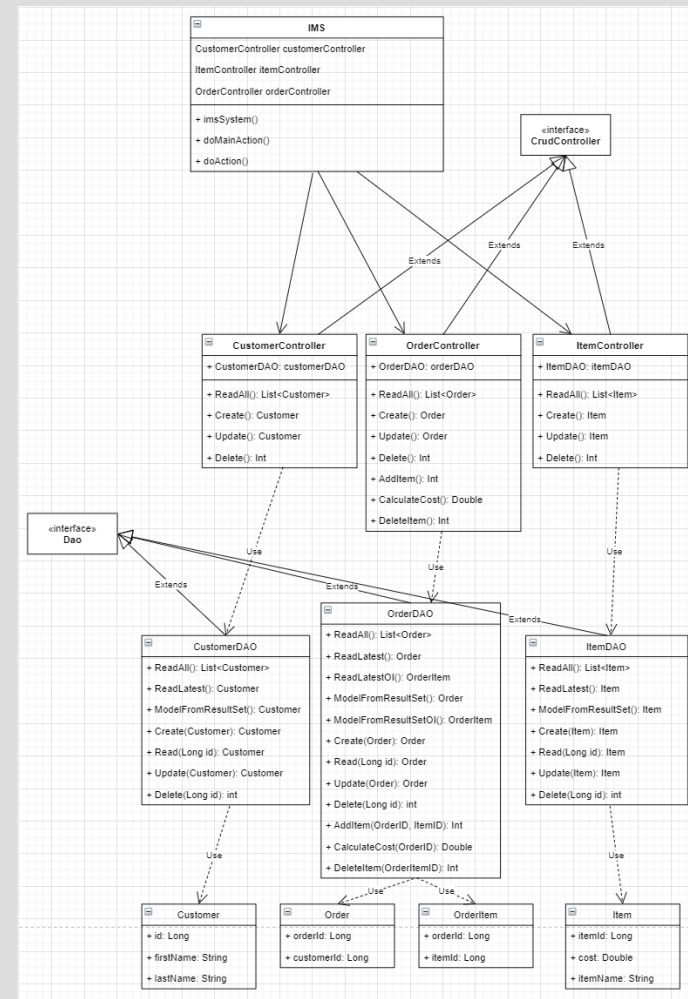
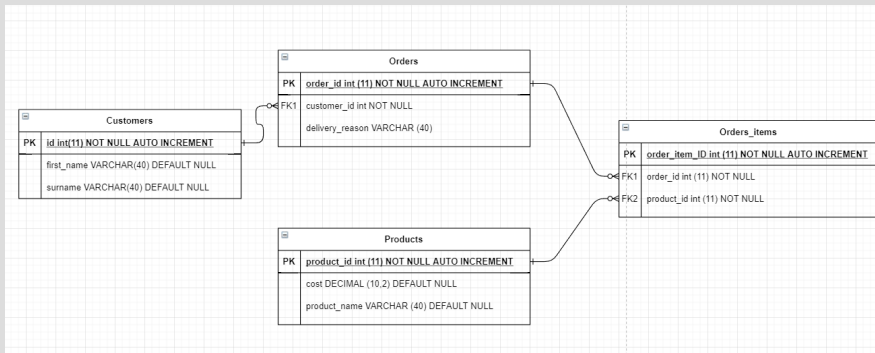


QA PROJECT 1: IMS SYSTEM

Lukas Rygh

Technological Needs – Java, SQL

- Java and JDBC were vital
- Maven for dependencies and final compilation
- MySQL Workbench for query tuning



Version Control



- Offline and Online Storage
- Easy rollback through branches
- Accessible even through complete hard drive failure

Your branches			
dev	Updated 2 hours ago by LukasR23	1 52	New pull request edit delete
SQLCascade	Updated yesterday by LukasR23	1 48	#8 Merged edit delete
mockitoTest	Updated yesterday by LukasR23	1 46	#7 Merged edit delete
costs	Updated yesterday by LukasR23	1 43	#6 Merged edit delete
orderItems	Updated yesterday by LukasR23	1 41	#5 Merged edit delete
orders	Updated 2 days ago by LukasR23	1 30	#4 Merged edit delete
products	Updated 3 days ago by LukasR23	1 19	#3 Merged edit delete
SQL-schema	Updated 3 days ago by LukasR23	1 8	#2 Merged edit delete

Testing

- All testing was done using JUnit 4
- Coverage obtained by testing each individual method multiple times
- Alternate versions for exceptions
- Mockito employed on [X]Controller classes
- Vital for determining if an error exists within the java code or SQL Schema when tests fail

Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
▼ IMS-Starter	88.2 %	3,583	479	4,062
▼ src/main/java	82.0 %	2,171	478	2,649
▼ com.qa.ims	0.0 %	0	211	211
> IMS.java	0.0 %	0	195	195
> Runner.java	0.0 %	0	16	16
▼ com.qa.ims.persistence.dao	84.4 %	737	136	873
> OrderDAO.java	80.7 %	302	72	374
> CustomerDAO.java	87.1 %	217	32	249
> ItemDAO.java	87.2 %	218	32	250
▼ com.qa.ims.utils	68.5 %	170	78	248
> Utils.java	4.8 %	3	59	62
> DBUtils.java	89.8 %	167	19	186
▼ com.qa.ims.persistence.domain	95.8 %	772	34	806
> Domain.java	67.6 %	71	34	105
> Customer.java	100.0 %	175	0	175
> Item.java	100.0 %	176	0	176
> Order.java	100.0 %	175	0	175
> OrderItem.java	100.0 %	175	0	175
▼ com.qa.ims.controller	96.9 %	492	16	508
> Action.java	90.5 %	152	16	168
> CustomerController.java	100.0 %	109	0	109
> ItemController.java	100.0 %	106	0	106
> OrderController.java	100.0 %	125	0	125
▼ com.qa.ims.exceptions	0.0 %	0	3	3
> CustomerNotFoundException.java	0.0 %	0	3	3
▼ src/test/java	99.9 %	1,412	1	1,413
> com.qa.ims.controllers	99.9 %	750	1	751
> com.qa.ims.persistence.dao	100.0 %	544	0	544
> com.qa.ims.persistence.domain	100.0 %	118	0	118

Demo

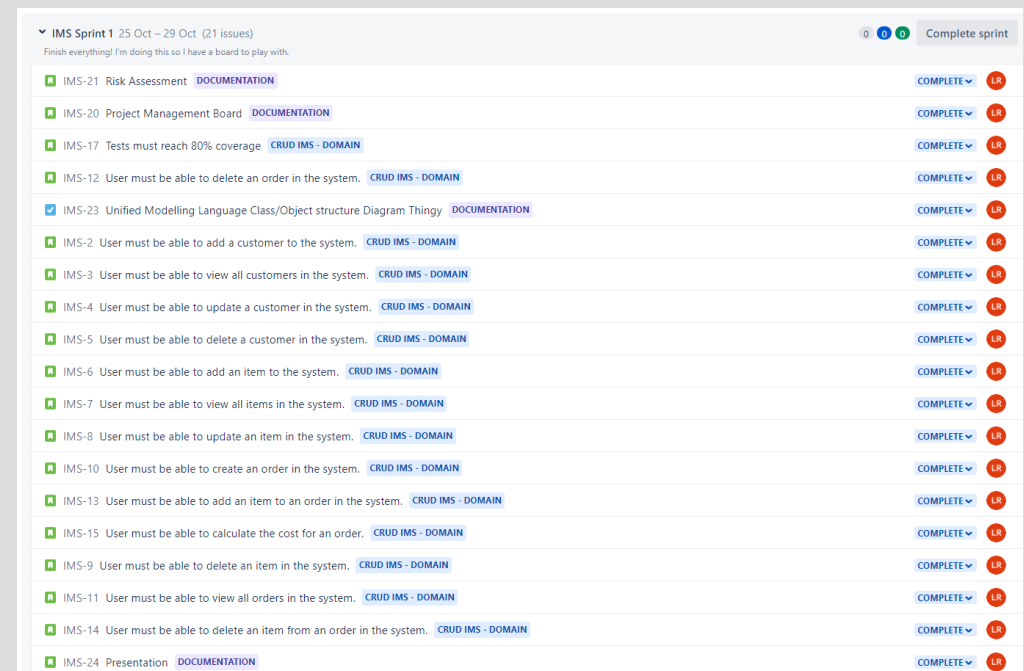
- All tables are interlinked, but the application takes account for this
- Cascading deletion constraint ensures customers can be deleted safely without errors

```
Welcome to the Inventory Management System!
Which entity would you like to use?
CUSTOMER: Information about customers
ITEM: Individual Items
ORDER: Purchases of items
STOP: To close the application
ORDER
What would you like to do with order:
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
ADDITEM: To add an item to an order
REMOVEITEM: To remove an item from an order
COST: To obtain the total cost of an order
```

IMS-7	User must be able to view all items in the system.	CRUD IMS - DOMAIN
IMS-8	User must be able to update an item in the system.	CRUD IMS - DOMAIN
IMS-10	User must be able to create an order in the system.	CRUD IMS - DOMAIN
IMS-13	User must be able to add an item to an order in the system.	CRUD IMS - DOMAIN
IMS-15	User must be able to calculate the cost for an order.	CRUD IMS - DOMAIN
IMS-9	User must be able to delete an item in the system.	CRUD IMS - DOMAIN
IMS-11	User must be able to view all orders in the system.	CRUD IMS - DOMAIN
IMS-14	User must be able to delete an item from an order in the system.	CRUD IMS - DOMAIN

Review

- MVP Created
- All vital user stories completed
- Some irrelevant fields that could have been removed and replaced

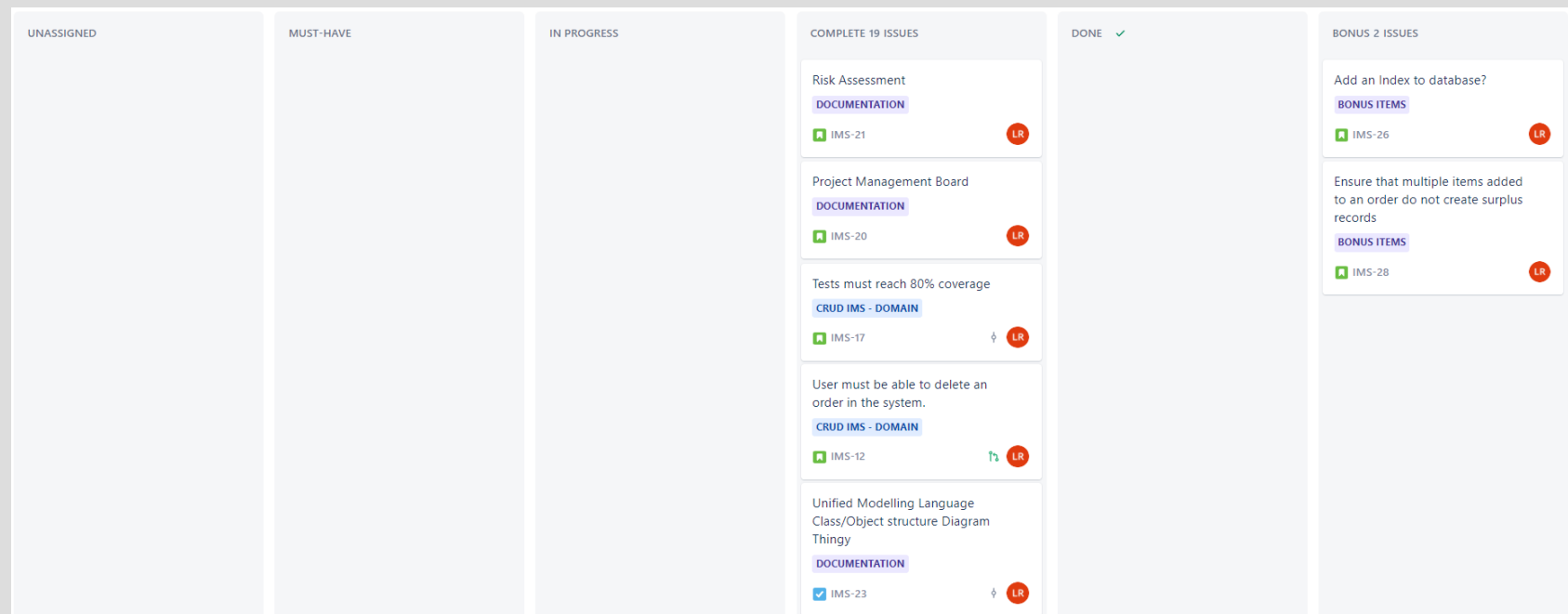


IMS Sprint 1 25 Oct – 29 Oct (21 issues)
Finish everything! I'm doing this so I have a board to play with.

IMS-21	Risk Assessment	DOCUMENTATION	COMPLETE	LP
IMS-20	Project Management Board	DOCUMENTATION	COMPLETE	LP
IMS-17	Tests must reach 80% coverage	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-12	User must be able to delete an order in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-23	Unified Modelling Language Class/Object structure Diagram Thingy	DOCUMENTATION	COMPLETE	LP
IMS-2	User must be able to add a customer to the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-3	User must be able to view all customers in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-4	User must be able to update a customer in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-5	User must be able to delete a customer in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-6	User must be able to add an item to the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-7	User must be able to view all items in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-8	User must be able to update an item in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-10	User must be able to create an order in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
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IMS-15	User must be able to calculate the cost for an order.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-9	User must be able to delete an item in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-11	User must be able to view all orders in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-14	User must be able to delete an item from an order in the system.	CRUD IMS - DOMAIN	COMPLETE	LP
IMS-24	Presentation	DOCUMENTATION	COMPLETE	LP

Retrospective

- Everything completed to a level I'm happy with
- Developing from the bottom up and relying on test-driven development served me well
- Only notable stumbling block was testing IMS.java



Conclusions

- Database fields incomplete, but easy to include with how the project has been designed
- Biggest change to the structure would be to split off OrderDAO+OrderController into orders and orders_items-exclusive classes
- Orders_items does not fill the crudController restrictions however, so this would require significantly more work for very little gain