Inventory Management System

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Introduction

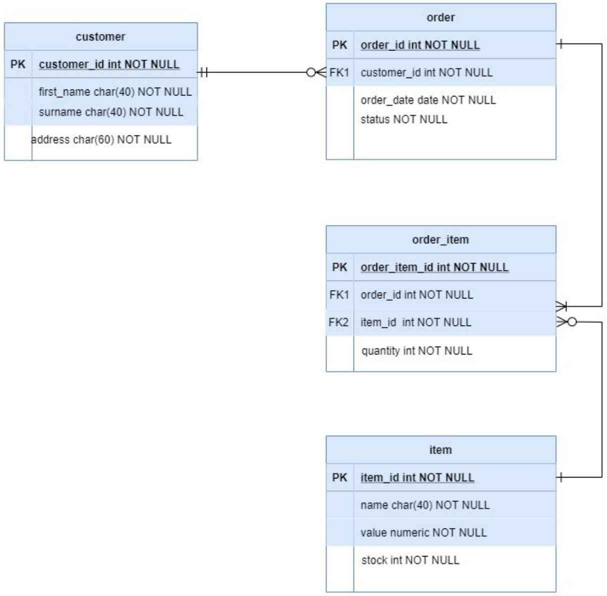
- Background
  - IT, Testing, Design and Project Management
- Approach - Agile
  - Industry leading SDLC (Systems Development Lifecycle Methodology)
  - Flexibility and speed to market

Technologies Used

- Project Management ➔ Jira
- Design ➔ ERD (data), UML (process flow), DAO Design Pattern
- Programming ➔ java, JDBC, mySQL
- Testing ➔ JUnit, Mockito (Maven - build)
- Version Control ➔ git, GitHub (Continuous Integration)

IMS Design diagrams

IMS - Entity Relationship Diagram



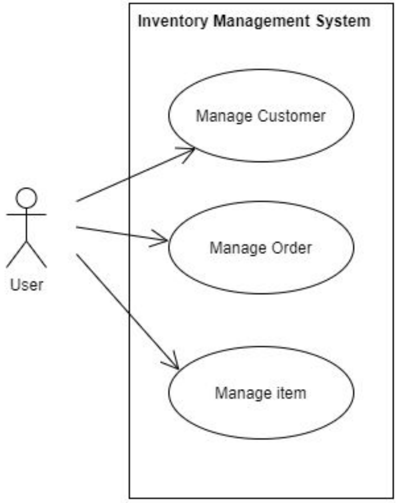
customer	
PK	customer_id int NOT NULL
	first_name char(40) NOT NULL surname char(40) NOT NULL
	address char(60) NOT NULL

order	
PK	order_id int NOT NULL
FK1	customer_id int NOT NULL
	order_date date NOT NULL status NOT NULL

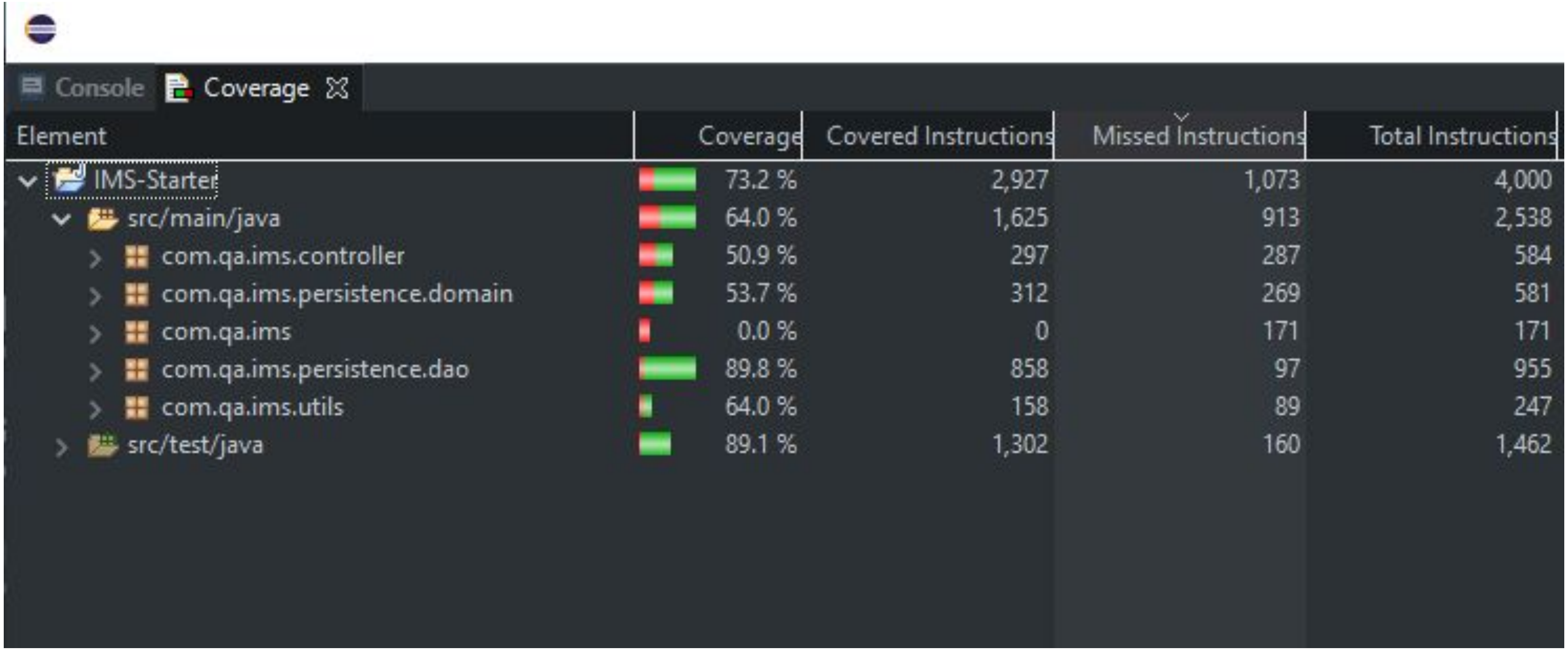
order_item	
PK	order_item_id int NOT NULL
FK1	order_id int NOT NULL
FK2	item_id int NOT NULL
	quantity int NOT NULL

item	
PK	item_id int NOT NULL
	name char(40) NOT NULL
	value numeric NOT NULL
	stock int NOT NULL

IMS - UML use case diagram

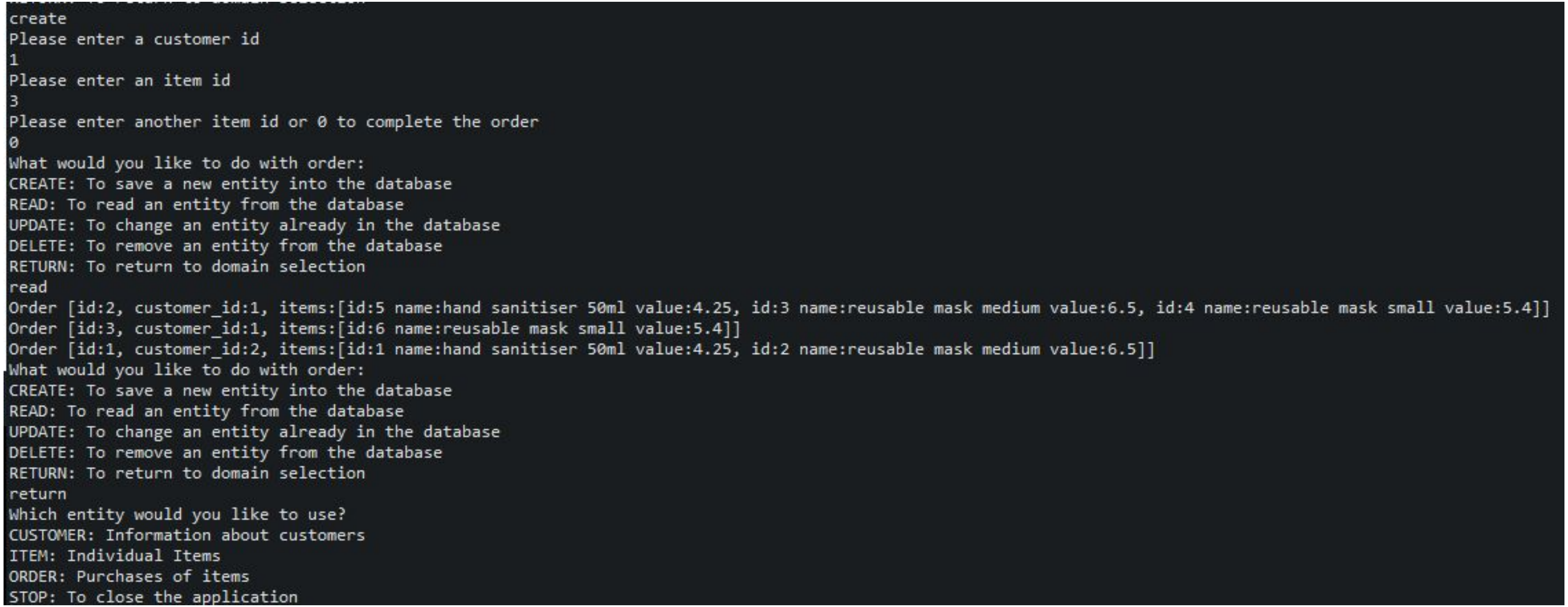


Testing coverage (unit tests)



Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
IMS-Starter	73.2 %	2,927	1,073	4,000
src/main/java	64.0 %	1,625	913	2,538
com.qa.ims.controller	50.9 %	297	287	584
com.qa.ims.persistence.domain	53.7 %	312	269	581
com.qa.ims	0.0 %	0	171	171
com.qa.ims.persistence.dao	89.8 %	858	97	955
com.qa.ims.utils	64.0 %	158	89	247
src/test/java	89.1 %	1,302	160	1,462

Demonstration



```
create
Please enter a customer id
1
Please enter an item id
3
Please enter another item id or 0 to complete the order
0
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
read
Order [id:2, customer_id:1, items:[id:5 name:hand sanitiser 50ml value:4.25, id:3 name:reusable mask medium value:6.5, id:4 name:reusable mask small value:5.4]]
Order [id:3, customer_id:1, items:[id:6 name:reusable mask small value:5.4]]
Order [id:1, customer_id:2, items:[id:1 name:hand sanitiser 50ml value:4.25, id:2 name:reusable mask medium value:6.5]]
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
return
Which entity would you like to use?
CUSTOMER: Information about customers
ITEM: Individual Items
ORDER: Purchases of items
STOP: To close the application
```

Sprint

Review

- Database structure
- 100% item user stories
- 95% order user stories

- User story: total an order
- Some unit testing

Retrospective

- Materialisation of identified risks (minimised)
- Application of existing knowledge and experience

- Knowledge of languages and tools

Conclusion

- Majority of requested functionality (user stories) delivered despite identified risks materialising
- Outstanding user story is a minimal change to delivered functionality
- Scope for future functionality:
  - Stock control management
  - User self-ordering (web interface)
  - Improved MI