IMS Project

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Introduction

About

Background in Computer Networks and Security. Previous experience with languages such as PHP, SQL, C+, HTML/CSS.

Project Approach

The project specification was initially analyzed from requirements to deliverables checklist.

Used IMS-Demo as base starting point to understand functionality and flow of the application.

Listed all requirements, user stories, acceptance criteria and prioritized using Moscow analysis. Utilization of Kanban to track and record (Jira/Trello). All completed prior to starting project implementation.

Planning – User Stories

▶ Analysis of project specification, obtaining requirements and creating defined user stories with acceptance criteria.

Worked on   View all

Others will only see what they can access.

HIMS-7 As a user I want to update the price of the item
Hamza - IMS · You created this today

HIMS-6 As a user I want to be able to create an order and display its total
Hamza - IMS · You created this today

HIMS-5 As a user I want to be able to export the data
Hamza - IMS · You created this today

HIMS-4 As a user I want to be able CRUD Items
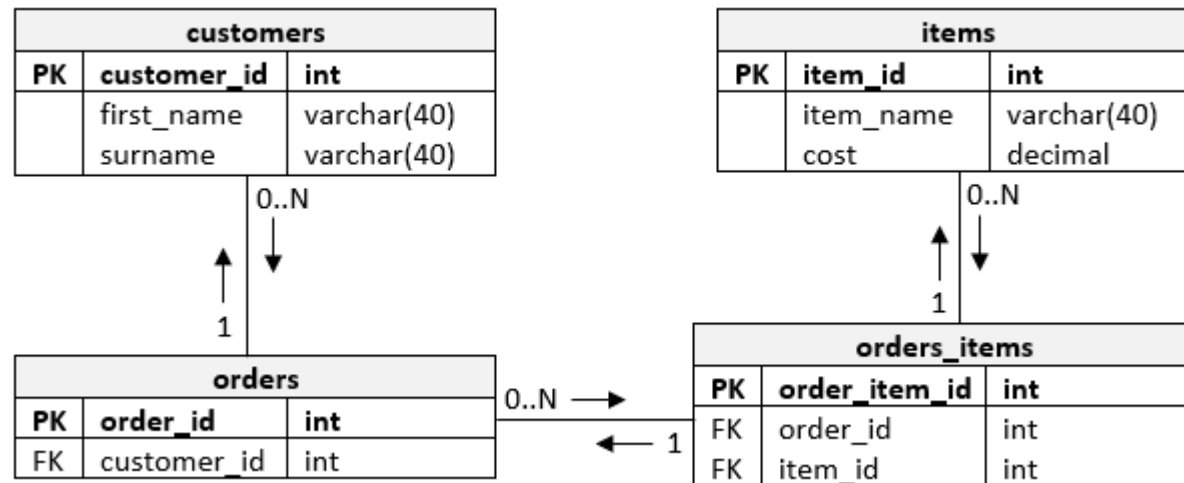Hamza - IMS · You created this today

HIMS-3 As a user i want to be able to CRUD Orders
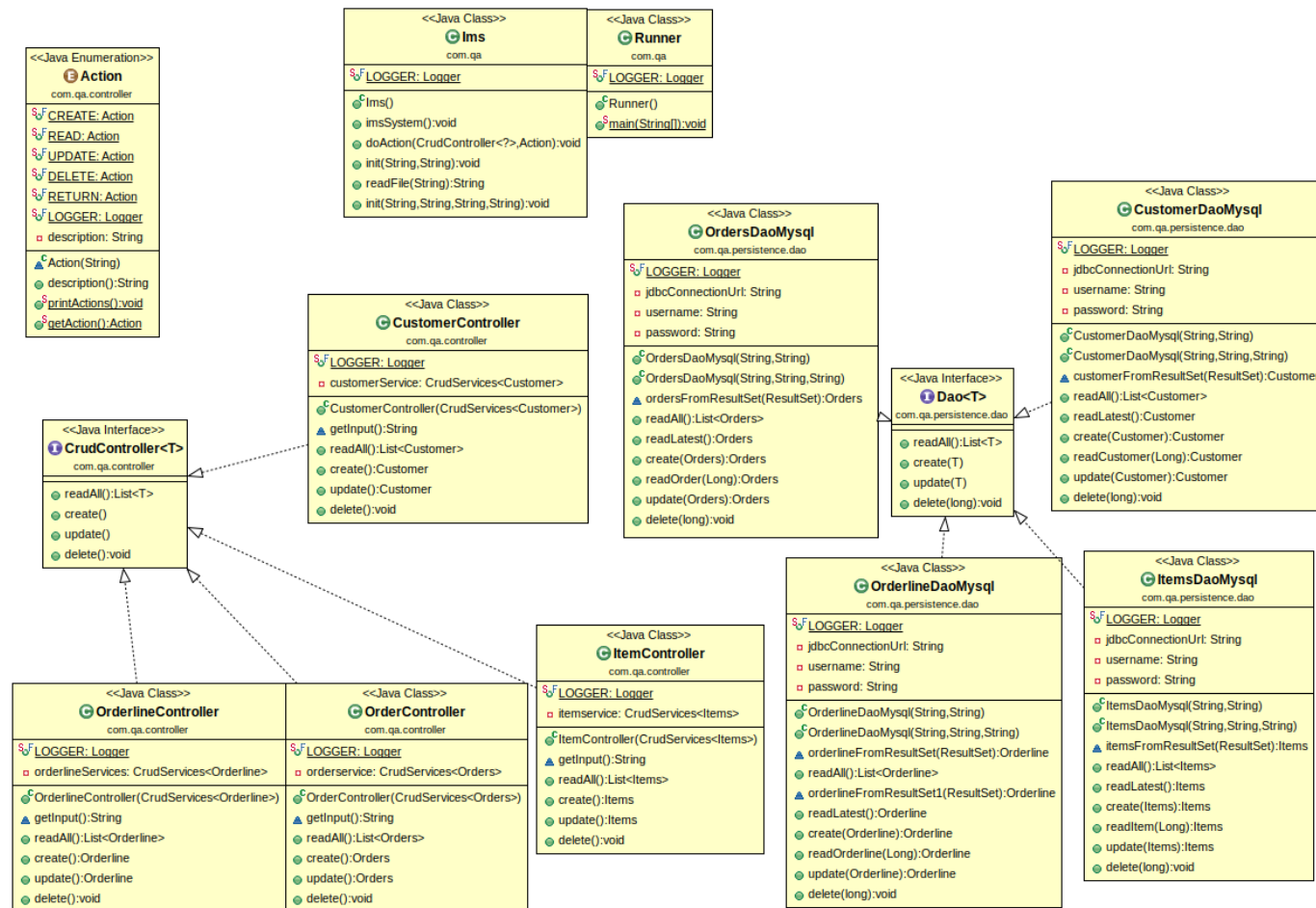Hamza - IMS · You created this today

Show more

Planning - ERD

▶ Use of ERD (Entity Relationship Diagram) for MySQL table structures.

Planning - UML

▶ Use of Unified Modelling Language Diagrams (UML) to understand flow of application.
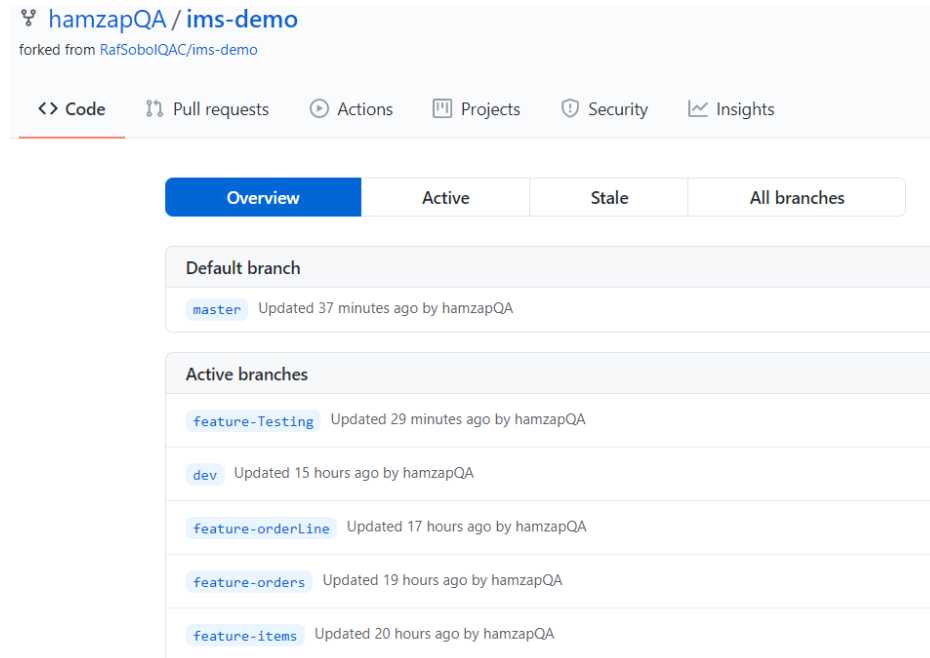
Consultant Journey

▶ Technologies learned and used for this project:

▶ 1. MySQL/Java

▶ 2. Junit and Mockito

▶ 3. GitHub and Eclipse

▶ 4. Maven

▶ 5. JDK runtimes / environments / PATH variables

Continuous Integration/ Version Control

▶ GitHub used for Version Control, using the feature-<concept> model. Features developed incrementally and added to each branch.

https://www.github.com/hamzapQA/ims-demo

Testing

▶ Tests carried out on following classes:

Customer, Items, Order (Domain)

Customer, Items, Order (Controllers)

Customer, Items, Order (DAO)

Element	Coverage	Covered Instructions	Missed Instructi
▼ 📦 ims-demo-testingBranch	🔴 61.9 %	3,619	2,228
▼ 📦 src/main/java	🔴 40.5 %	1,328	1,947
▶ ⊞ com.qa.ims	▎ 12.5 %	37	260
▼ ⊞ com.qa.ims.controller	▎ 71.6 %	418	166
▶ 🗎 Action.java	71.6 %	83	33
▶ 🗎 CustomerController.java	🟢 98.1 %	105	2
▶ 🗎 ItemController.java	🟢 98.4 %	123	2
▶ 🗎 OrderController.java	🟢 98.2 %	107	2
▶ 🗎 OrderlineController.java	🔴 0.0 %	0	127
▼ ⊞ com.qa.ims.persistence.dao	🔴 11.6 %	154	1,172
▶ 🗎 CustomerDaoMysql.java	🔴 29.7 %	92	218
▶ 🗎 ItemsDaoMysql.java	🔴 19.0 %	62	265
▶ 🗎 OrderlineDaoMysql.java	🔴 0.0 %	0	378
▶ 🗎 OrdersDaoMysql.java	🔴 0.0 %	0	311
▶ ⊞ com.qa.ims.persistence.domain	🟢 67.0 %	635	313
▶ ⊞ com.qa.ims.services	▌ 75.0 %	84	28
▶ ⊞ com.qa.ims.utils	0.0 %	0	8
▶ 📦 src/test/java	🟢 89.1 %	2,291	281

Demonstration

- User Stories

Sprint Review

Completed:

▶ CRUD functionality of Customers/Items/Orders + supporting documentation.

▶ GitHub repo and branches used.

▶ Codebase completed.

▶ Fat JAR application which can be deployed via the command line.

Not completed:

▶ - Order and OrderLine are separate classes – integration between the two.

▶ - Further testing.

▶ - GCP MySQL instance integration.

Sprint Retrospective

- IMS-Demo starting point helped a lot as it allowed to understand initial functionality.
- GitHub version control helped to easily revert to amend errors.
- Access to recorded material on MS Teams helped.

Could Improve:

- Logger – Condense console output.
- IMS – Add help screens to assist users.
- IMS – Add export functionality to export SQL data.
- IMS – Create a more user friendly UI.
- Security – Confidentiality / Integrity / Availability of application.
- Encryption – logging into DB.
- Techniques to mitigate vulnerabilities in code (SQL injections etc.) and make code secure.

Conclusion

▶ Project overall was a success as acceptance criteria met.

▶ Technologies and experiences learned will be valuable when developing new applications.

▶ Now aware of SFIA 7 framework

▶ Project allowed understanding of how to plan future projects, (requirements, time management, resources).

▶ Will continue building on project in spare time as a hobby to deepen knowledge and improve functionality.

Thank You