

36_EEZON- An Inventory management system for Electronic Components

Object Oriented Analysis and Design (CSCI - 5448)
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Agenda



- Project Summary
- Demo
- Use Cases Implemented
- Design Patterns
- Database
- Interesting Facts
- Challenges and Stretch

Project Summary



- A standalone Java application
- This application is accessible by:
 1. Administrator
 2. Professor
 3. Teaching Assistant (TA)
 4. Student

Our Goals



○ The Application is designed to

1. Manage Check IN/ Check OUT details of course specific components
2. Request for electronic components
3. View and update penalties
4. Request for deadline extensions

Use cases Implemented



- User can login into his Profile
- View Course wise details of Electronic Components
- View Check IN/Check OUT details
- Update Check IN/Check OUT details in the System
- View Penalties Incurred
- Override the Penalties Incurred
- Request Unavailable components
- Request for Check IN Extension

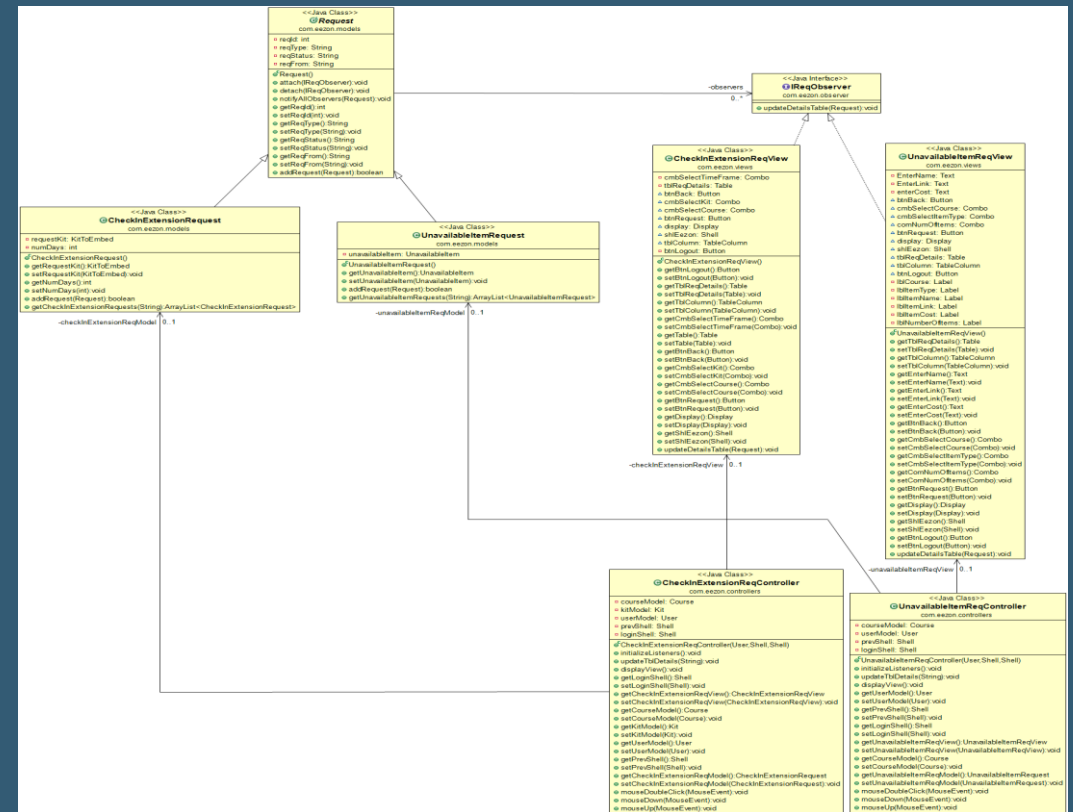
DEMO

Design Patterns



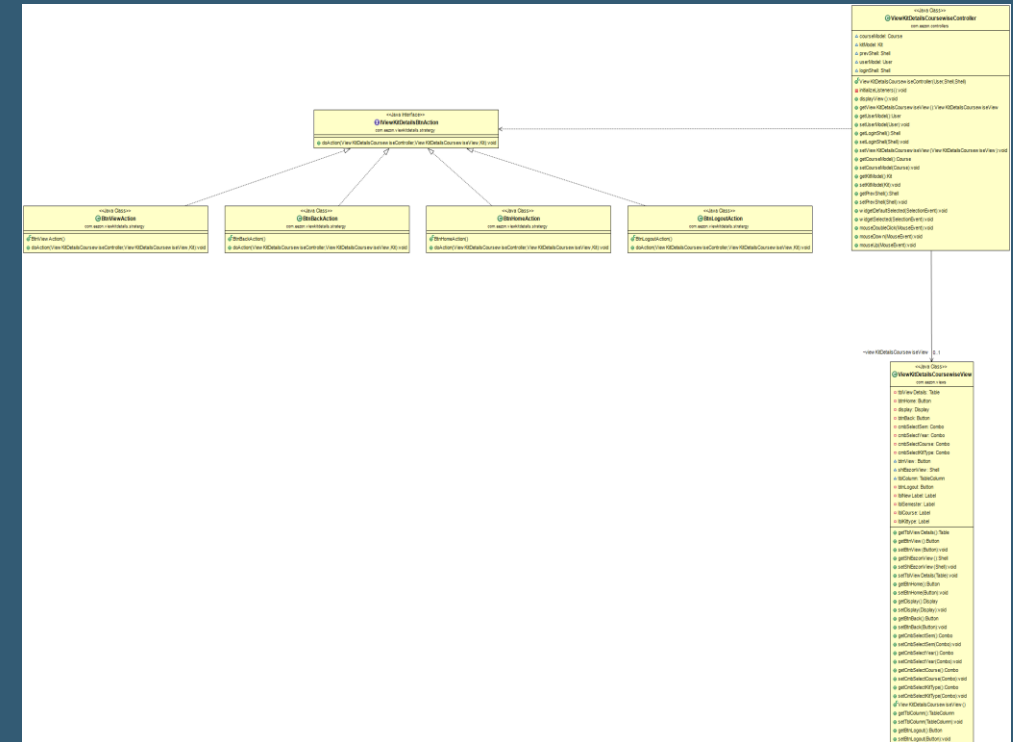
Observer Design Pattern

- **Subject:** Request
- **Observer:** IReqObserver
- **Concrete Subject:** UnavailableItemRequest, CheckInExtensionRequest
- **Concrete observer:** UnavailableItemReqView, CheckInExtensionReqView



Strategy Design Pattern

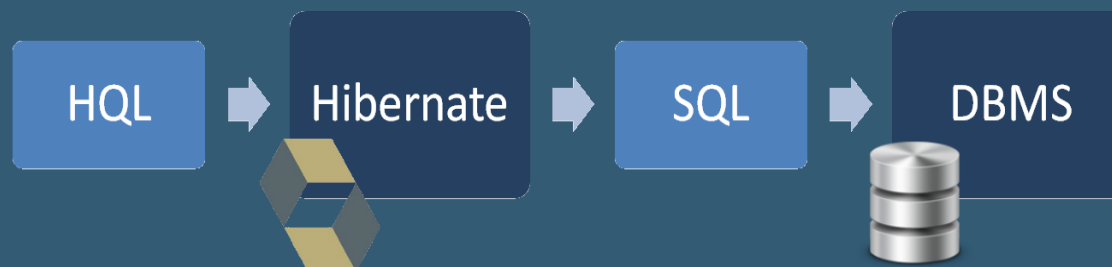
- **Interface:** IUIKitDetailsBtnAction
- **Method:** doAction()
- **Implementations:** BtnHomeAction, BtnBackAction, BtnLogoutAction, BtnViewAction



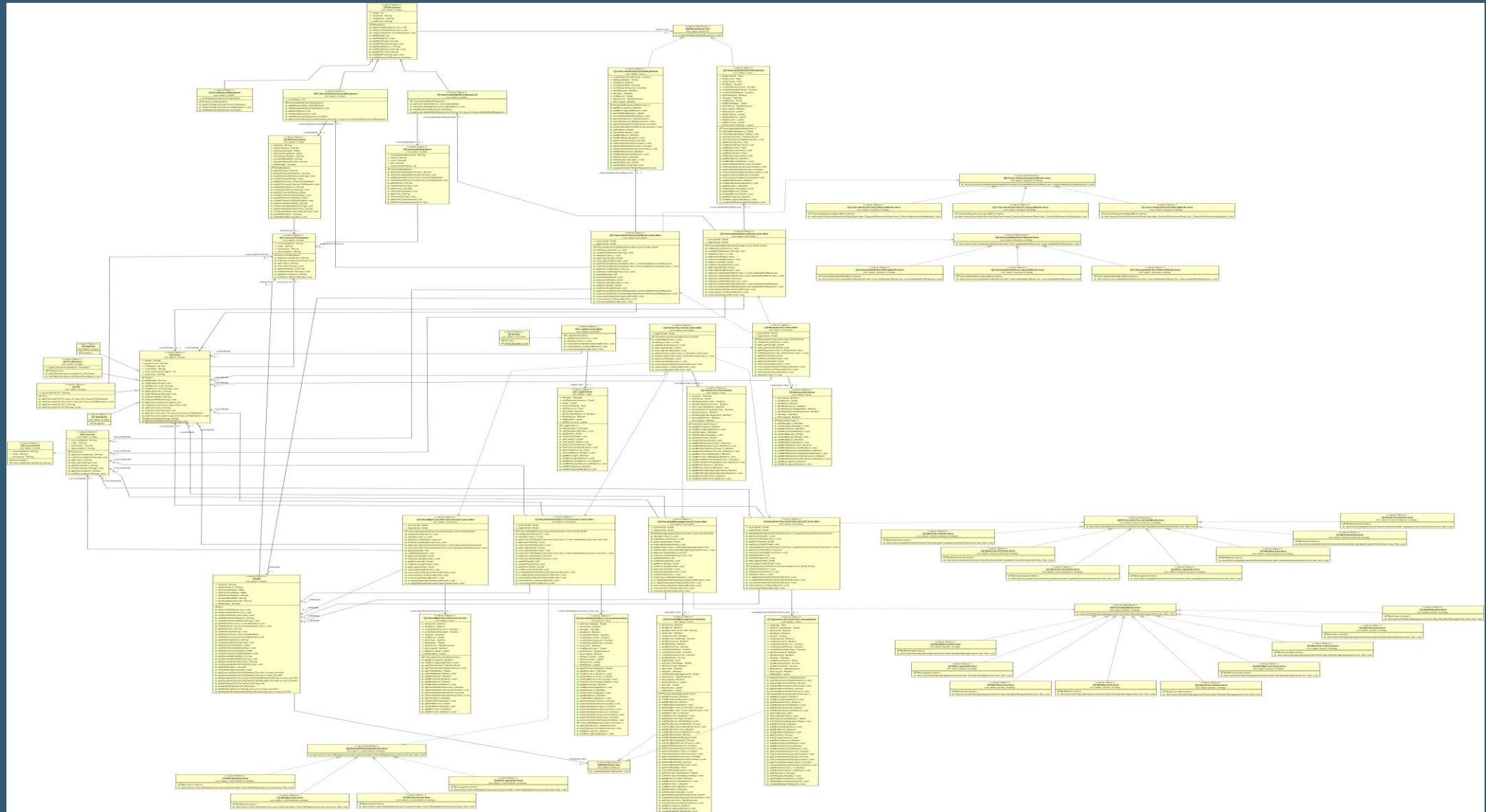
Database



- WAMP Server, PHPMyAdmin
- MySQL Database on localhost (3306 port)
- Data model classes mapped in Hibernate configuration
- Database queries written in Data model classes
- HQL (Hibernate Query Language)



Final Class Diagram



Interesting Facts



- Standalone Desktop Java Application
- GUI design using Java SWT
- MVC Architecture pattern
- Huge transition after Refactoring



Challenges and Stretch

CHALLENGES

- Refactoring to MVC from centralized driver class
- GUI with Java SWT
- MVC with Java SWT

STRETCH

- Command Design pattern to maintain View Flow (Back Button event Handler)
- Make GUI more aesthetic
- Protect from SQL Injections

