Flipkart

JEDI BOOTCAMP PROJECT

Team Iris

Agenda

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The Ask

Problem Statement:
Design a system for "FlipFit," an enterprise fitness application for Flipkart.

Key Requirements:

- Partnering with gyms across Bangalore.
- Manage multiple centers with fixed hourly slots (n slots/day).
- Fixed seat capacity per slot.
- Operations: User registration, view availability, book workouts.

Our Vision

- **Quality:** Scalable microservices architecture.
- **Security:** Robust user authentication and role-based access.
- **Speed:** High-performance backend using Java 17 and MySQL.
- **Interactivity:** Intuitive UI for seamless gym discovery and booking.

Our team

- Sakshi Hingane (Group Lead)
- Nandini Gupta (Sub Group Leader)
- Aditya Hansraj
- Akshat Kumar Nayak
- Biraj Sanghai
- Deepkumar Patel
- Diya Kailash
- Ishan Datta
- Mohim Mahajan
- Pranav Bhutada

Our Journey

Phase 1: Lab Setup & Git Lifecycle
Configuration of Java 17, MySQL, STS/IntelliJ, and Maven.

Phase 2: Design Thinking
Creating UML Artifacts (Use Case, Activity, and Class Diagrams).

Phase 3: Java Development (POS Phase)
Implementing core logic with Collections (List/Map/Set) for hardcoded data.

Phase 4: Persistence & Database
MySQL Schema design and JDBC (DAO) implementation with Prepared Statements.

Phase 5: Advanced Features & Web API
Exception handling, Java 8+ features (Streams/Lambda), and Dropwizard integration.

Engineering Practices

- **Agile Methodology**: Sprint planning, grooming, and implementation.
- **TDD (Test Driven Development):** Ensuring code reliability.
- **SDLC Excellence:** Git commits with PR reviews and Confluence documentation.
- **Static Analysis:** Sonar analysis for code quality.
- **Observability:** Metrics and logs emitted from the code.

Tech Stack

- **Backend:** Java 17, Dropwizard.
- **Database:** MySQL (JDBC for connectivity).
- **Tools:** Maven, Git (SCM), JIRA (Story Management).
- **Frontend/UI:** Figma for design, full-stack integration on FK platform.
- **Infrastructure:** Microservices architecture.

Development &Design

UML Artifacts:

- **Use Case:** Identify Actors (Admin, Customer, Gym Owner).
- **Activity:** Flow of booking and slot management.
- **Class Diagram:** Relationship between User, Role, Center, Slot, and Booking.

Key Modules:

- com.flipfit.dao: Data Access Layer.
- com.flipfit.service: Business Logic with Stream API.
- com.flipfit.exception: Custom error handling (e.g.UserNotFoundException)

Challenges & Learnings

- **Concurrency:** Handling real-time slot availability to prevent overbooking.
- **Transitioning:** Moving from Collections-based storage to persistent MySQL storage.
- **New Tech:** Implementing Dropwizard and JAX-RS annotations for RESTful services.
- **Collaboration:** Working as a 10-member team on a shared Git repository (JEDI-IRIS-DEVELOPMENT-FLIPKART).

DEMO

Live Walkthrough:

- User Login and Session Time logging.
- Filtering Gym Owners (Approved vs. Not Approved) using Stream API.
- The booking flow and "Bonus Stories" (Waitlist promotion/Cancellation).

Any Questions?

Thank You