Full-Stack-Development of the Event-Management-System „PAF-Event“

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https://github.com/SimonDetmer/PAF-Event

Abstract

This project involves developing a full-stack web-application for creating and managing events. The aim is to provide an efficient, user-friendly platform that enables Eventmanagers to easily create events and offers customers the option to purchase tickets. The project’s primary focus, however, is on the implementation of the ticket purchasing process and related concurrency challenges. Particular attention is given to preventing collisions and handling errors as they arise.

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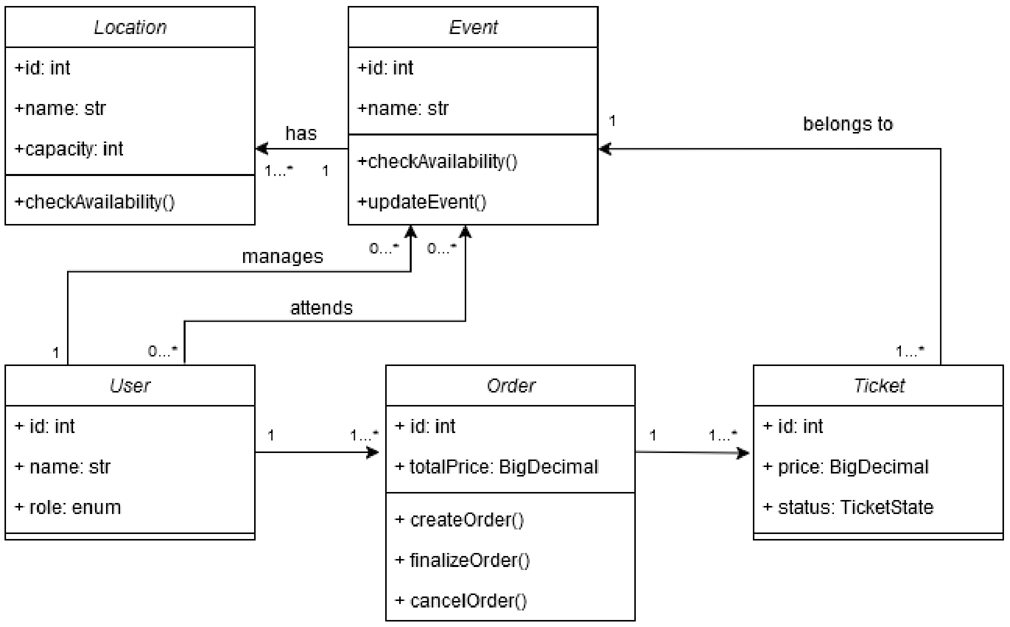
1 Introduction

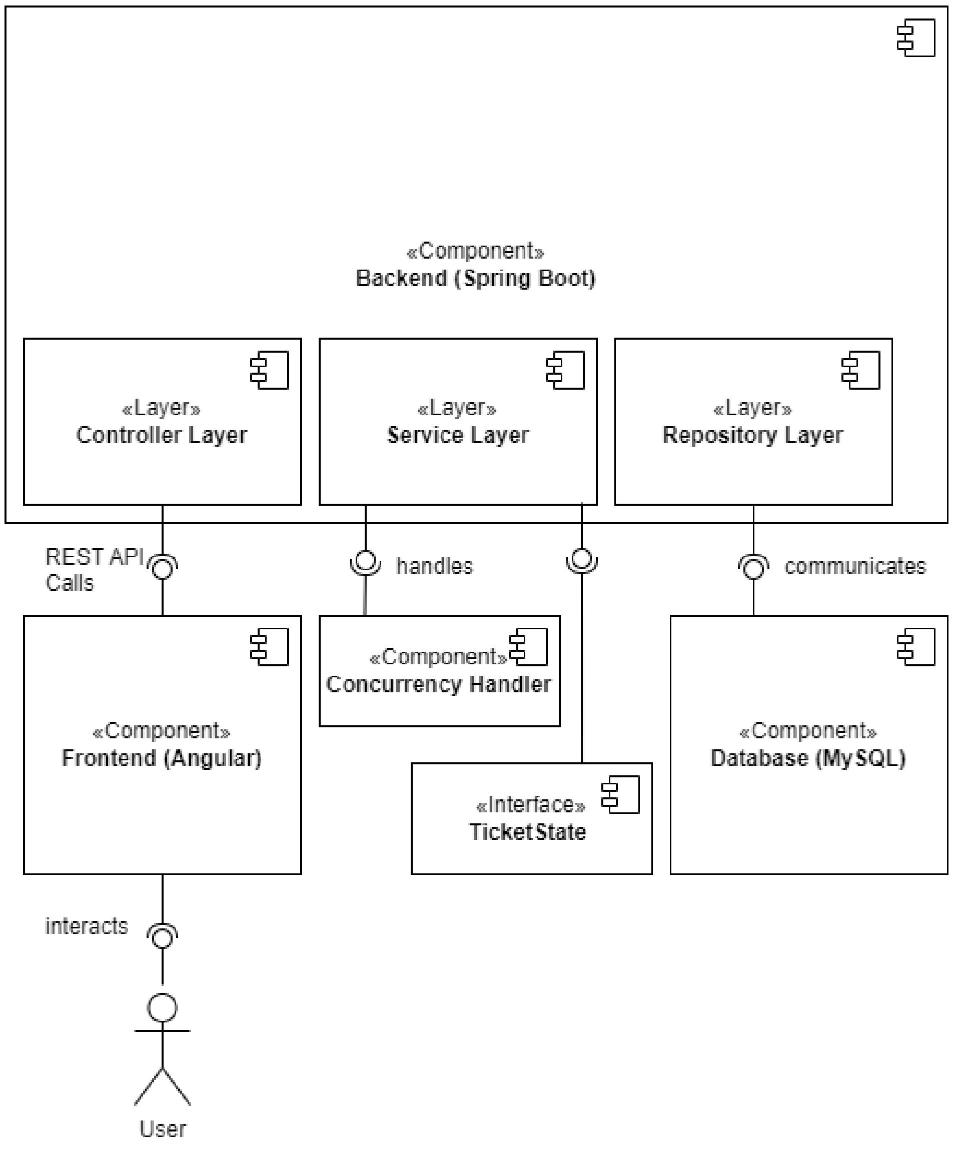
2 Domain Model



3 User Stories

1. As an event eventmanager, I want to create an event with details like name and location so that customers can book tickets for it.
2. As an event eventmanager, I want to assign locations to events so that each event has a venue with a capacity limit.
3. As an event eventmanager, I want to edit event details after creation to reflect any changes.
4. As an eventmanager, I want to view ticket sales reports so that I can track event revenue.
5. As a customer, I want to see a list of upcoming events so that I can decide which one to attend.
6. As a customer, I want to view my past orders so that I can keep track of the events I've attended.
7. As a customer, I want to add tickets to my order and purchase them so that I can attend the event.
8. As a customer, I want to receive meaningful error messages when something goes wrong, such as when a ticket is unavailable, so that I understand the issue.

4 Backend-Components



5 Pattern

5.1 State-Pattern

Sdfdsfsdffsdf

5.2 Observer Pattern (MVC)

5.3 Dependency Injection?

6 Special Topic - Backend: Concurrency

7 Testing

7.1 Backend

7.1.1 Unit Tests

- **LocationControllerTest.java**
  Tests the LocationController in isolation to ensure that it handles HTTP requests and responses correctly.
- **TicketControllerTest.java**
  Ensures that the TicketController processes ticket-related HTTP requests appropriately.
- **UserControllerTest.java**
  Validates that the UserController correctly manages user-related HTTP requests and responses.

7.1.2 Component Tests

- **EventControllerTest.java**
  Tests the EventController class, ensuring that HTTP requests are correctly handled and appropriate responses are returned.
- **OrderControllerTest.java**
  Verifies that order-related HTTP endpoints work as expected. Ensures the OrderController correctly calls the OrderService.
- **TicketControllerTestExtended.java**
  Ensures that the TicketController handles ticket reservation and purchase requests correctly.
- **OrderControllerTestExtended,java**
  Ensures order creation and cancellation endpoints work.

7.1.3 Integration Tests

- **EventMApplicationTests.java**
  This test class is typically used to verify that the Spring Boot application context loads successfully. It ensures that all necessary beans can be created and that the application starts without issues.
- **TicketPurchaseIntegrationTest.java**
  Tests full ticket reservation & purchase workflow.
- **OrderProcessingIntegrationTest.java**
  Ensures orders correctly associate with tickets & users.

7.2 Frontend e2e with Cypress

8 Frontend Logic

½ - 1 Seite: Services, Model-Classes, Utils, Handler etc.

2 Seiten MockUps abgeleitet aus User Stories

9 Special Topic - Frontend: eg. Web Sockets