**Description:**

Udemy marketplace is a web application which provides multiple courses on different

domains/technologies. Learners can sign up and then enroll for the course by paying the

course fee and start learning. The requirement is to build the backend for the online learning

marketplace application.

Design and implement a backend API to support an ecommerce platform, the backend needs to be implemented in microservices way using Apache Kafka to implement pub-sub model, Spring(Spring boot) as a Framework for the services, MySQL as DRMS and Hibernate as a ORM.

**Technical Requirements:**

* Use SprintBoot and MySQL via hibernate.
* Unit test cases are must for each functionality you implement. Test cases will be running on H2, so each test case should be self-sufficient.
* Use Lombok and Swagger (You must document all methods and services that you create).
* Use Apache Kafka to implement pub-sub model to enable communication between microservices.
* A feature will only be marked as complete only if the corresponding test cases are completed.
* Deletes must be logical, you don’t need to physically delete the data from database.
* Handle exception scenarios gracefully with proper status codes and messages.
* Extra APIs/Functions may need to be created to achieve some milestones.
* Accepted status codes: 200, 201, 400, 404, 405, 401, 415 and self-defined custom

codes (explain if any). 500 BIG NOT accepted

**Functional Requirements:**

• User Management:

1. The application should support adding the users to the application. The basic details

will include information like display name, first name, last name, about yourself/bio,

areas of interest (can choose multiple interests), user type(student/professional),

experience, domain expertise, role, profile picture

2. The application should support updating user details like bio, areas of interest etc.

3. The application should support displaying the user profile and provide an option to

update it.

Udemy Management:

4. The application should support adding Udemy courses to the application. The basic

details will include information like name, domain, description, author, price, duration,

reviews, rating etc.

5. The application should support listing the courses, sorting based on price, filtering

based on the course name.

6. The application should support displaying the details of a single course.

7. The application should support adding reviews and ratings for courses by the

enrolled users.

8. Users should get the recommendation on courses based on their domain of interest.

• Cart Management:

9. The application should support adding the courses to the cart for particular users.

10. The application should support viewing the cart items for particular users.

11. The application should support deleting the courses from the cart for particular users.

12. The application should support calculating the total cart price and on checkout it

should create orders.

Order Management:

13. The user should be able to add the courses to the orders.

14. The user should be able to see all the courses they ordered. This can also have

features like sorting, filter by category/course type.

**Project Plan:**

The delivery is expected to be high quality, iterative and showing progressive enhancements

without waiting for a last-minute integration. There are daily checkpoints to keep up with the

progress.

The milestones below show the must-have features and how they should be planned for

delivery. The remaining time should be used to complete the functionality and prioritized

based on the business context

**Milestones:**

|  |  |  |
| --- | --- | --- |
| Milestone | Description | Estimate |
| Milestone 1 | Create models to support user, udemy  courses, user's cart, user's orders | ok |
| Milestone 2 | Create An API to add user | ok |
| Milestone 3 | Create an API to update user's display name, first name, last name, about  yourself/bio, areas of interest (can choose  multiple interests), user type  (student/professional), experience, domain  expertise, profile picture | ok |
| Milestone 4 | Create an API to show all the details of a  user and the course he's enrolled in | ok |
| Milestone 5 | Create APIs to add and delete courses | ok |
| Milestone 6 | List the available courses. There should be  provision to sort by price (low to high, high  to low) and filter options based on course  name, course category etc. | ok |
| Milestone 7 | Create a APIs to add/remove course to cart  of a given user | ok |
| Milestone 8 | Create an API to summarize what is the  current content of a given user's cart, | ok hoy |
| Milestone 9 | Create an API to check out the cart items.  This will be creating the order.  brownie point: generate a receipt as a f ile | \* |
| Milestone 10 | Create an API to add reviews and ratings  for the course. | Ok hoy |
| Milestone 11 | Create an API to get all the required details  of a single course. | Ok |
| Milestone 12 | Create an API to get all courses of user  along with ratings and reviews. | ok |
| Milestone 13 | Create API to get the courses in inventory  based on the Performance. Performance art  can be decided on parameters like how  many times the course is bought, average  ratings of course | ok |
| Milestone 14 | Create API to get the recommendation on  courses based on the user's domain of  interest and by course's performance | ok |
| Milestone 15 | Provision for users to stay anonymous  when their reviews are displayed to other  users. Milestone 12 must respect this. | ok |