Fitness Slot Booking System

(Duration: 90 minutes)

Design and implement an application to allow users to choose & book a class. The application should take care of the following aspects:

- Classes can be of multiple types - yoga, gym, dance.

- Each class has a capacity. This refers to the maximum number of users that can attend the class.

- Users can book a class if the capacity is not yet reached.

- If a class is already at capacity, the system should maintain a waiting list of interested users.

- Users can cancel the slot upto 30 mins before the class starts. When a user cancels their booking, allocate the cancelled slot to the first user from the waitlist.

APIs

1. Book a slot in the list of classes available
   - If the size limit is not reached, booking is done.
   - If the size limit is reached, put the user in the waiting list.

2. Cancel a class within 30 mins before the class starts and allocate it to the first person in the waiting list if not empty.

Expectation:

- Clean professional level Code.

- Modelling of core entities and relationships between them.

- Your code needs to be demonstrable. To do this, you can need to have an API based solution either as a WebApp, MobileApp or even provide basic API calls to run through the above mentioned workflows.

- Workflows for creation of user and class repository are not required. This could be pre-loaded as a part of application startup.

- User Identification but not authentication.

- Backend Database is optional. However modelling should be complete.

Guidelines for Submission:

- Create a .zip file of all application related files and upload in the final submission link provided.

- Ensure that a README file is present in the base folder describing steps for any local setup required and steps to execute the application.