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**Use Case note for my Fitness App**

**Purpose**:

* A use case diagram helps to visualize the functionality of the system by representing the interactions between users (actors) and the system.

**Key Actors**:

1. **User** (e.g., a fitness enthusiast)
2. **Admin** (if managing the app)
3. **Coach/Trainer** (optional, for personalized plans)
4. **Wearable Device** (for health data sync)

**Use Cases**:

1. **Register/Login**: Users sign up or log into the app.
2. **Track Workouts**: Users can log their workouts (e.g., running, weightlifting).
3. **Set Goals**: Users can set fitness goals (e.g., lose 5 kg, run 10 km in under 1 hour).
4. **View Progress**: Users can track their progress over time.
5. **Sync Data from Wearables**: Sync fitness data from devices like smartwatches.
6. **Create/Follow Workout Plans**: Users can create or follow pre-built workout plans.
7. **Receive Notifications**: Get reminders to work out or drink water.
8. **Diet/Meal Plans**: Optionally, allow users to log meals or follow nutrition plans.
9. **Access Personal Trainer**: Users may request personalized training plans from coaches.
10. **Feedback and Reports**: Users can generate reports on performance or receive feedback.

**Sequence Diagram for Key Functionalities**

**Purpose**:

* A sequence diagram shows how the objects in a system interact with each other over time. It focuses on the sequence of messages passed between the objects to complete a use case.

**1. Register/Login Sequence:**

* **Actors**: User, System, Database
  + User enters login credentials.
  + System verifies credentials with the database.
  + If correct, the system logs the user in and shows the dashboard.

**2. Track Workout Sequence:**

* **Actors**: User, System, Database
  + User selects a workout to log (e.g., running).
  + System records the data (distance, duration).
  + Data is stored in the database for future reference.
  + System displays workout summary to the user.

**3. Sync Data from Wearable:**

* **Actors**: User, Wearable Device, System, Database
  + User connects wearable device to app.
  + System fetches fitness data (steps, heart rate).
  + Data is stored and synced to user’s profile.
  + User sees real-time data on the app.

**4. View Progress Sequence:**

* **Actors**: User, System, Database
  + User requests to view progress.
  + System retrieves progress data from the database (workouts, goals, etc.).
  + System displays a summary or chart to the user.