Project name: FitWell - Fitness Application

Group Number: 12

Project Domain area: Fitness

Sub-domains: E-commerce

1. Ubiquitous language

| **Vocabulary** | **Meaning** |
| --- | --- |
| Workout | A session of physical exercise performed by a user. |
| Order | A request made by a user to purchase one or more products. |
| Cart | A virtual container where users can temporarily store products before proceeding to checkout. |
| Product | A healthcare supplement or gym related item available for purchase on our website. |
| Subscription | A paid plan that grants users access to premium features or services on our FitWell platform, such as exclusive workouts or personalized training programs. |
| Challenges | A fitness or wellness-related challenge organized within the FitWell community, which users can participate in to achieve specific goals.. |

1. Domain model:
   1. Entities

| **Entity** | **Description** | **Pseudo code** |
| --- | --- | --- |
| User | Represents individuals who register and interact with the FitWell platform. | entity User {  id: string  name: string  email: string  password: string  age: int  registrationDate: date  } |
| Product | Represents a healthcare supplement or gym-related item available for purchase on the FitWell website. | entity Product {  id: string  name: string  description: string  price: float  category: string  image: binary string  } |
| Order | Represents a purchase made by a user on the FitWell website. | entity Order {  id: string  userId: string  products: array of {  productId: string  quantity: integer  price: decimal  }  totalAmount: decimal  orderDate: date  address: string  } |
| Challenges | Represents a fitness or wellness-related challenge organized within the FitWell community for users to participate in. | entity Challenge {  id: string  name: string  description: string  startTime: date  endTime: date  } |
| Workout | Represents any physical exercise which can be performed by a user | entity Workout {  id: string  description: string  Image: Binary String  } |
| Trainer | The Trainer entity represents fitness professionals or instructors who provide guidance, training, and support to users within the FitWell platform. | entity Trainer {  id: string  name: string  specialization: string  description: string  profileImage: Image  } |

* 1. valueObjects

| **valueObjects** | **Description** | **Pseudo code** |
| --- | --- | --- |
| Address | Represents a physical address, such as a user's shipping or billing address. | valueObject Address {  street: string  city: string  state: string  postalCode: integer  country: string  } |
| PaymentInfo | Represents the payment information provided by the user during checkout. | valueObject PaymentInfo {  cardNumber: Big Integer  expirationDate: date  cvv: integer  billingAddress: string  } |
| Price | Represents the price of products, including currency and amount. | valueObject Price {  amount: float  currency: string  } |
| Duration | Represents time lapse between start and end times of a workout, used for filtering or reporting workout records or orders within a specific time frame. | valueObject Duration {  minutes: integer  seconds: integer  } |
| Weight | Represents the weight of a product, including the numerical value and the unit of measurement (e.g., kilograms, pounds). | valueObject ProductWeight {  value: float  unit: string  } |

* 1. Aggregates

| **Aggregate** | **Description** | **Entities** | **valueObjects** | **Pseudo code** |
| --- | --- | --- | --- | --- |
| userAggregate | Represents the aggregate root for managing user-related entities and value objects. | User | Address (for user's address information).  PaymentInfo | aggregate UserAggregate {  user: User  address: Address  paymentInfo: PaymentInfo  } |
| ProductAggregate | Represents a cluster of objects related to a product, including its details and inventory information. | Product,  Order | Quantity,  amount | aggregate ProductAggregate {  product: Product  quantity: ProductWeight  Amount : productPrice  } |
| OrderAggregate: | Represents a cluster of objects related to an order, including products, payment information, and user details. | Order, Products,  Customer, Payment | Product, PaymentInfo | aggregate OrderAggregate {  order: Order  products: array of Product  paymentInfo: PaymentInfo  user: User  } |
| Challenge Aggregate | Represents a cluster of objects related to a fitness challenge, including participants and challenge goals. | Challenge | User, ChallengeGoal | aggregate ChallengeAggregate {  challenge: Challenge  participants: array of Users  } |

* 1. Services

| **Service** | **Description** | **Aggregates** |
| --- | --- | --- |
| OrderService | Manages order-related operations such as placing orders, processing payments, and tracking order status. | OrderAggregate |
| UserService | Manages user-related operations such as registration, authentication, and profile management. | UserAggregate |
| ProductService | Handles product-related operations such as browsing products, adding/removing products to/from the cart, and managing product inventory. | ProductAggregate |
| ChallengeService | Facilitates challenge-related operations such as managing challenges. | ChallengeAggregate |

* 1. Repositories

1. **UserServiceRepository**

Description: Manages the storage and retrieval of User entities.

Methods:

login(email, password)

createUser(name, email, password, age, gender, weight, height, image)

getAllUsers()

2. **AdminRepository**

Description: The Admin Repository manages the persistence and retrieval of admin entities(users with administrative privileges) and management of users and handles the system within FitWell.

Methods:

adminLogin(email, password)

createAdmin(name, email, password)

getAllTrainers()

getAllPayments()

getAllFeedbacks()

getAllCustomer()

getAllOrders()

deleteTrainer(trainerID)

deleteCustomer(custID)

deleteOrder(orderID)

deleteFeedback(feedbackID)

3. **ChallengesRepository**

Description: The Challenge Repository manages the retrieval of challenge entities within FitWell.

Methods:

getAllChallenges()

addChallenge(description, Images)

4. **OrdersRepository**

Description: The Order Repository manages the retrieval of order entities within Fitwell

Methods:

createOrder(userID, name, image, amount, description, address)

deleteOrder(orderID)

getUserOrders(userID)

5. **ProductsRepository**

Description: The ProductsRepository manages the storage and retrieval of product entities within FitWell.

Methods:

getProducts()

getProductsList()

deleteProducts(productID)

getProductSearchResult(searchQuery, filterQuery)

addProduct(name, category, image, description, price)

6. **ReviewsRepository**

Description: The ReviewsRepository manages the reviews given by users within FitWell.

Methods:

getAllReviews()

7. **TrainerRepository**

Description: The TrainerRepository is responsible for the storage and retrieval of trainer entities within FitWell by admin.

Method:

getAllTrainers()

deleteTrainer(trainerID)

createTrainer(name, email, salary, gender, image)

8. **UserActionsRepository**

Description: The UserActionsRepository is responsible for managing various user interactions and actions within FitWell.

Methods:

contactUs(name, email, phone, subject, message)

putReview(userID, name, comments, image)

addToCart(productID, UserID)

checkOutCart(userID, amount, date, address)

updateProfile(userID, name, age, weight, height, image)

getUserPayments(userID)

getUserCartData(userID)

9. **WorkoutRepository**

Description: The WorkoutRepository is responsible for managing workout-related information within FitWell.

Method:

getAllWorkouts()

addWorkout(description, image)