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SAPM Assignment1: Object Orientation Concepts

1. Identify **all major classes** that could be part of the system. **For each class** identify some major attributes and operations (**5-8 attributes and 5-8 operations**). Your classes should be represented using proper object modeling notation (UML notation/ boxes for classes).

| USERS |
|---|
| -firstName: String -lastName: String -dob: DateTime -age: Number -gender: Character -address: String -email: String -physicalAddress: String |
| +viewUserInfo() +updateUserInfo() +deleteUserInfo() +mergeUserInfo() +shareUserInfo() |

| Registration |
|--|
| -customerId: Varchar -username: String -password: Varchar -email: String -age: Number -termsCondition: String |
| +updateEmail() +deleteEmail() +updateUsername() +deleteUsername() +updatePassword() +deletePassword() |

| Customer |
|---|
| -customerId: Varchar -name: String -email: String -gender: String -address: String -subscriptionType: Boolean -termsCondition: String |
| +viewCustomersinfo() +updateCustomersinfo() +deleteCustomersinfo() +updateSubscriptiontype() +updateTermscondition() |

| Employees |
|--|
| -firstName: String -lastName: String -dob: Date Time -age: Number -gender: Number -email: String -address: String -jobPosition: String -jobSpecialization: String -jobId: Varchar |
| +viewEmployeeDetails() +updateEmployeeDetails() +deleteEmployeeDetails() +viewJobspecialization() +deleteJobspecialization() +updateJobspecialization() |

| WorkoutTrainer |
|---|
| -firstName: String -lastName: String -gender: String -trainerId: Varchar -jobPosition: String -jobSpecialization: String -experienceYears: Number |
| +viewTrainerDetails() +updateTrainerDetails() +deleteTrainerDetails() +viewJobspecialization() +updateJobspecialization() |

| Dietician |
|---|
| -firstName: String -lastName: String -gender: String -dieticianId: Varchar -jobPosition: String -jobSpecialization: String -experienceYears: Number |
| +viewDieticianDetails() +updateDieticianDetails() +deleteDieticianDetails() +viewJobspecialization() +updateJobspecialization() |

| HealthCareProviders |
|---|
| -providerId: Varchar -providerName: String -providerAddress: String -serviceList: String -medicalLicenseNumber: Number -hospitalAffiliation: String -serviceCharges: Number |
| +viewProviderDetails() +updateProviderDetails() +deleteProviderDetails() +updateServiceofferinglist() +updateServicecharges() +viewMedicallicense() |

| Questionnaire |
|---|
| -customerId: Varchar -questionnaireId: Varchar -questionType: String -questionNumber: Number -demographicInfo: String -termsCondition: Boolean |
| +viewQuestion() +updateQuestion() +deleteQuestion() +viewTermscondition() +updateTermscondition() |

| HealthQuestionnaire |
|---|
| -questionnaireId: Varchar -bmiIndicator: Number -bodyFat: Number -exerciseType: String -exerciseTime: Number -weight: Number -disability: String -foodType: String |
| +updatePhysicalDetails() +updateExercisedetails() +viewBmichart() +deletePhysicalDetails() +shareBmichart() |

| MedicalQuestionnaire |
|---|
| -questionnaireId: Varchar -medicalHistory: String -allergyType: String -currentAllment: String -vaccination: String -insuranceCover: Boolean -sexualOrientation: String -mentalCondition: String |
| +updateInsurancecover() +updateAllergies() +updateVaccination() +updateMedicalhistory() +viewMedicalstatus() |

| GoalQuestionnaire |
|---|
| -questionnaireId: Varchar -targetBmi: Number -targetWeight: Number -exerciseType: String -exerciseTime: Number -foodgoal: String |
| +viewTargetDetails() +updateTargetDetails() +viewExercisetype() +shareExercisedetails() +shareBmichart() |

| FreeCustomer |
|--|
| -customerId: Varchar -firstName: String -lastName: String -workoutPlan: String -basicDietPlan: String -targetType: String -termsCondition: String -startDate: Timestamp -targetDate: Timestamp |
| +updateSubscriptiontype() +deleteSubscriptiontype() +updateTargettype() +viewTargetmeduration() +viewWorkoutplan() |

| Subscriber |
|---|
| -customerId: Varchar -subscriptionId: Varchar -firstName: String -lastName: String -subscriptionPlanType: Boolean -targetType: String -startDate: Timestamp -targetDate: Timestamp |
| +viewSubscriptiontype() +updateSubscriptiontype() +deleteSubscriptiontype() +updateTargettype() +viewTargetmeduration() |

| ContractType |
|--|
| -subscriptionId: Varchar -providerId: Varchar -subscriptionPlanType: String -contractType: String -contractDuration: Number -termsCondition: String |
| +viewSubscriptionId() +manageSubscriptionplan() +deleteSubscriptiontype() +updateContract() +viewTermscondition() |

| GoldPlan |
|--|
| -subscriptionId: Varchar -customisedWorkoutPlan: String -customisedDietPlan: String -customersTarget: String -startDate: Timestamp -targetDate: Timestamp -providersAccess: String |
| +viewSubscriptionplan() +updateSubscriptionplan() +updateDiet() +updateWorkout() +updateProvidersaccess() +viewProviderlist() |

| PlatinumPlan |
|---|
| -subscriptionId: Varchar -customisedWorkoutPlan: String -customisedDietPlan: String -customersTarget: String -trainerInput: String -dieticianInput: String -providersAccess: String |
| +viewSubscriptionplan() +updateSubscriptionplan() +updateDiet() +updateWorkout() +updateProvidersaccess() +updateTraineraccess() +updateDieticianaccess() |

| WorkoutPlan |
|--|
| -customerId: Varchar -subscriberId: Varchar -workoutType: String -caloriesBurn: Number -time: Number -frequency: Number |
| +updateCustomerId() +viewWorkoutplan() +updateWorkoutplan() +updateSubscriberid() +viewTermscondition() |

| DietPlan |
|---|
| -customerId: Varchar -subscriberId: Varchar -dietType: String -calories: Number -cost: Number -foodCombination: String |
| +updateCustomerId() +viewDietplan() +updateDietplan() +updateSubscriberid() +viewTermscondition() |

| Payment |
|--|
| -customerId: Varchar -subscriptionId: Varchar -planType: String -pricing: Number -paymentCycle: Number -paymentAmount: Number -creditCardDetails: Number -transactionHistory: Timestamp |
| +updatePaymentcycle() +viewEmailnotification() +updateEmailnotification() +deletePaymentmethod() +cancelPayment() +viewTransaction() |

2. For each class identified in question 1, list any states that may be associated with that class.

- A. Users:**
 - a. User Type- Customer, Subscriber, Trainer, Dietician, Health Worker, Doctor
 - b. Gender- Male, Female, LGBTQ
- B. Registration:**
 - a. Type- Customer, Employee, Health Workers
- C. Customers:**
 - a. Gender- Male, Female, LGBTQ
 - b. Type- Long Term (Annual), Short Term (Seasonal)
- D. Employees:**
 - a. Gender- Male, Female, LGBTQ
 - b. Position- Permanent, Contract
- E. Workout Trainer:**
 - a. Gender- Male, Female, LGBTQ
 - b. Skills- Highly Specialized, Certified, New Join
 - c. Experienced- High experienced, less experienced
- F. Dietician:**
 - a. Gender- Male, Female, LGBTQ
 - b. Experience- High, Medium, Low
 - c. Education- Certified, Self-Taught
- G. Health Care Provider:**
 - a. License- Licensed, Not Licensed
 - b. Charges- Costly, Affordable, Cheap
 - c. Services- Specialized, General
- H. Questionnaire:**
 - a. Type- Compulsory, Optional
 - b. Mode- Subjective, Objective
- I. Health Questionnaire:**
 - a. Type- Gender based, Age based, Race based
 - b. BMI Details- High, Medium, Low
- J. Medical Questionnaire:**
 - a. Medical History- Historical, Present
 - b. Ailment- Diagnosed based, Self-Reported
- K. Goal Questionnaire:**
 - a. Type- Personally pegged, Auto-Suggested
 - b. Level- Ambitious, Moderate, Low
- L. Free Customer:**
 - a. User Target Type- Serious follower, Casual visitors
 - b. Gender- Male, Female, LGBTQ
- M. Subscriber:**
 - a. Type- Free, Paid
 - b. Experience based- New, Old
- N. Contract Type:**
 - a. Type- Short, Long
- O. Gold Plan:**
 - a. Plan- Default, Customized
 - b. Provider- Not involved, Involved

P. Platinum Plan:

- a.** Plan- Default, Customized
- b.** Provider- Involved, Not Involved
- c.** Dietician- Involved, Not Involved
- d.** Trainer- Involved, Not Involved

Q. Workout Plan:

- a.** Frequency- Intensive, Moderate, Easy
- b.** Type- Yoga, Strength, Aerobic

R. Diet Plan:

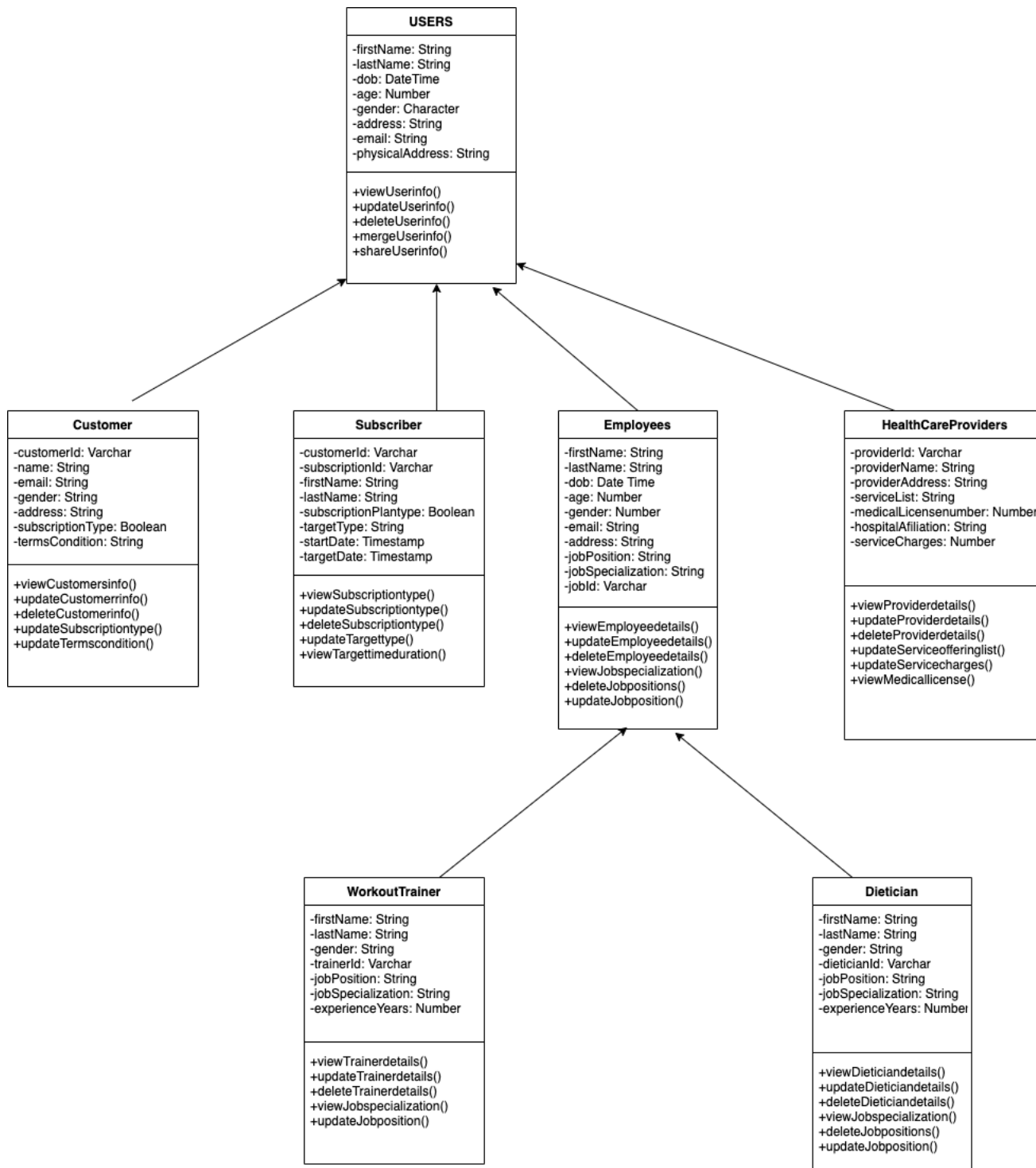
- a.** Type- Vegetarian, Non-Vegetarian
- b.** Cost- Expensive, Cheap

S. Payment:

- a.** Cycle- Weekly, Monthly, Quarterly
- b.** Mode- Auto, manual

3. Are there any superclasses or subclasses in your model? If so, list them and show their relationship. If not, explain your reasoning. Answers without explanation will not receive credit.

- a. USERS is superclass. Which has 3 sub-class, Customer, Employees and Health care Providers. In this inheritance these 3 sub-classes. Employee subclass has 2 subclasses because app is offering paid service to customer and avail dietician and trainer service to Platinum subscription plan. It is Workout Trainer and Dieticians.



B. Customer will be superclass. Whoever subscribe to this app get two options. These 2 are 1) Free Service like basic diet and workout plan 2) Paid subscriber will have perks of custom diet and workout. Subscriber has 2 more subscription offer 1) Gold Plan 2) Platinum Plan. These two will be sub-class to subscriber class.

