CSCI4100 - Mobile Devices

Group Project Proposal

October 20, 2023

1. Overview of Project

A social media platform designed to assist users in achieving their fitness and nutritional goals. At its core, the app serves as a dual fitness and meal tracker, allowing users to record and monitor their exercise routines and dietary intakes. Beyond this, the app allows users to connect with friends and share their fitness journeys. Users can share workout plans, set challenges, and see their progress over time. This acts as an all-in-one platform for any fitness enthusiast.

2. Group Members and Responsibilities

Milan Hennessy
- Database Design & Setup

Kaine Makimoto
- Project planning
- Design & Prototyping
- User account management

Gabe Manaog
- Meal Tracking Management
- Progress and Awards
- Workout Tracking Management

Aidan Mason-Mondesire
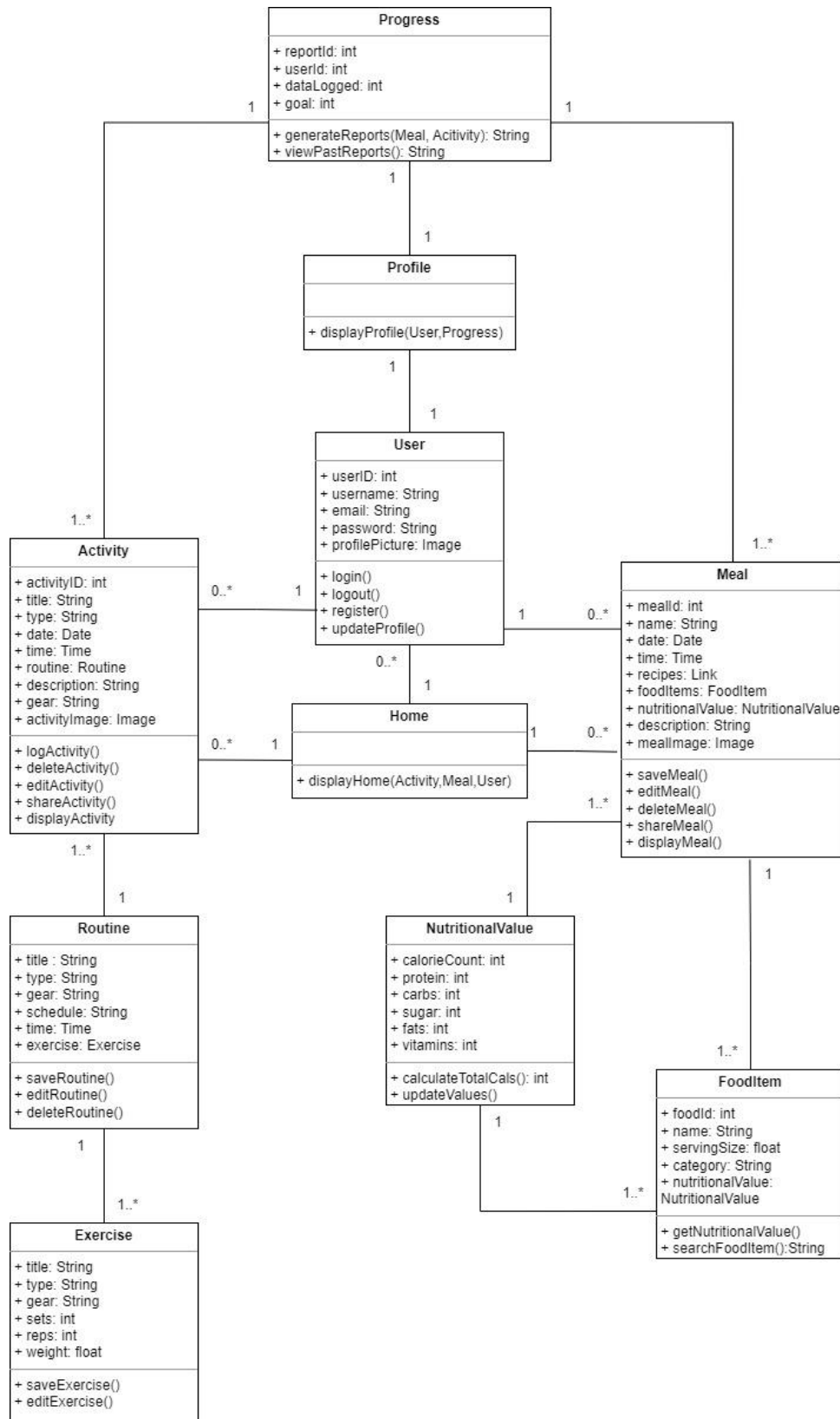- Research and Analysis

Jade Nguyen
- Notifications and Alerts

3. Features and Functional Requirements

- User Profiles:
    - Provides a secure way for users to register, login, and manage their profiles
    - Users will sign up and then log in to access personalized features, view their profile, and edit details
    - Personal information storage (age, weight, height, personal bests)
- Workout Tracking and Management:
    - Allows users to log exercises with categories (weight training, cardio, etc.)
    - Within their profile, they can view all of their previous workouts
    - Friends workouts will appear on home feed
    - Progress charts for growth progression
    - Indicators if you hit your personal record
- Meal Tracking and Management:
    - Users can log meals, fetch nutritional details, and view history
    - Camera functionality to take photos of meals

- ○ Possible barcode scanner for packaged food
- ○ Add recipes to share with friends
- Goal Settings and Achievements:
  - ○ Set fitness and nutrition goals
  - ○ Earn badges for milestones reached
- Progress Analysis
  - ○ Visualization tools like charts and tables to display trends
  - ○ Users can see their progress over time and adjust routines based on visual feedback
- Planning:
  - ○ Create custom workout and meal plans
  - ○ Add default workouts or create your own
  - ○ Create a schedule that will help you stay on track
- Geolocation & Gym Locator:
  - ○ Use geolocation to suggest nearby fitness centers or gyms
- Notifications and Alerts:
  - ○ Reminders for exercise and meals
  - ○ Achievements and milestone notifications
- Local & Cloud Storage:
  - ○ Data storage using local (SQLite) and cloud platforms
  - ○ Quick access and backup for user data
  - ○ Daily logs stored locally, historical data on the cloud
- Social Features:
  - ○ Connect with friends to see their progress
  - ○ Share workout and meal plans
  - ○ Challenges: Challenge your friend to a friendly workout competition

4. Code Design (e.g., UML)

Progress

+ reportId: int
+ userId: int
+ dataLogged: int
+ goal: int

+ generateReports(Meal, Acitivity): String
+ viewPastReports(): String

Profile

+ displayProfile(User,Progress)

User

+ userID: int
+ username: String
+ email: String
+ password: String
+ profilePicture: Image

+ login()
+ logout()
+ register()
+ updateProfile()

Activity

+ activityID: int
+ title: String
+ type: String
+ date: Date
+ time: Time
+ routine: Routine
+ description: String
+ gear: String
+ activityImage: Image

+ logActivity()
+ deleteActivity()
+ editActivity()
+ shareActivity()
+ displayActivity

Meal

+ mealId: int
+ name: String
+ date: Date
+ time: Time
+ recipes: Link
+ foodItems: FoodItem
+ nutritionalValue: NutritionalValue
+ description: String
+ mealImage: Image

+ saveMeal()
+ editMeal()
+ deleteMeal()
+ shareMeal()
+ displayMeal()

Home

+ displayHome(Activity,Meal,User)

Routine

+ title : String
+ type: String
+ gear: String
+ schedule: String
+ time: Time
+ exercise: Exercise

+ saveRoutine()
+ editRoutine()
+ deleteRoutine()

NutritionalValue

+ calorieCount: int
+ protein: int
+ carbs: int
+ sugar: int
+ fats: int
+ vitamins: int

+ calculateTotalCals(): int
+ updateValues()

FoodItem

+ foodId: int
+ name: String
+ servingSize: float
+ category: String
+ nutritionalValue: NutritionalValue

+ getNutritionalValue()
+ searchFoodItem():String

Exercise

+ title: String
+ type: String
+ gear: String
+ sets: int
+ reps: int
+ weight: float

+ saveExercise()
+ editExercise()

5. Mockup of User Interface

Screen 1: User Profile

- Displays user information (Name, location, followers, etc.)
- Displays summary statistics (Total workouts, calories, awards)
- Displays weekly progress based on goals
- Buttons to view past workouts, meals, and goal planning
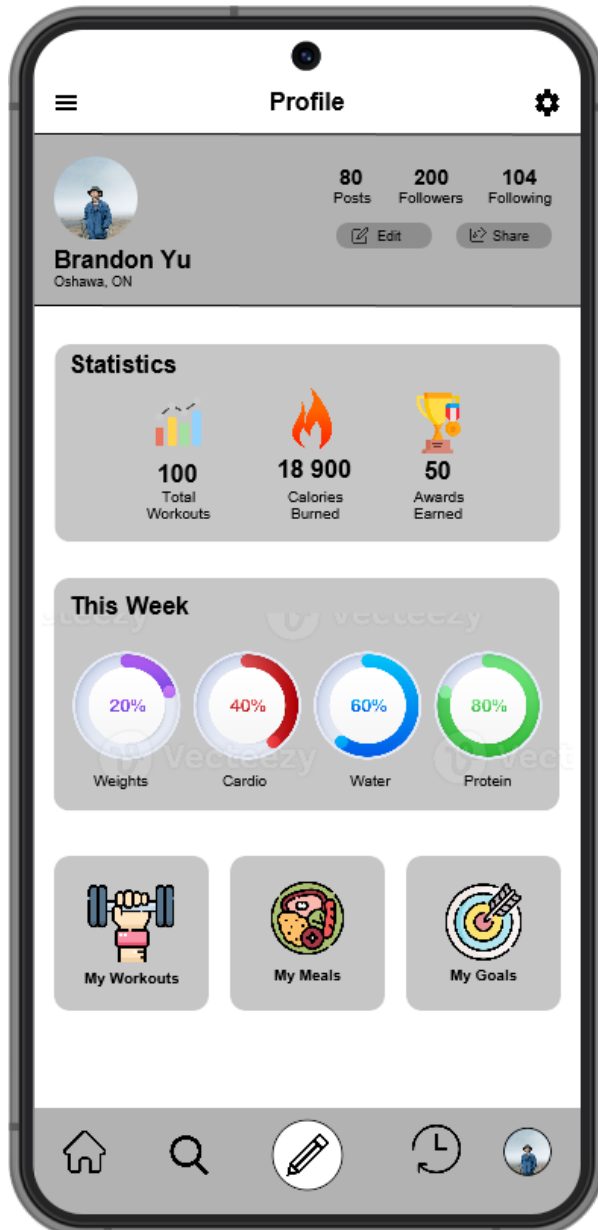
Screen 2: Logging Meals/Workouts
- Allows user to enter title, description, and date
- Activity allows to select from previously defined routines
- Option to add images
- Nutritional information for meals may be manually imported or automatically filled
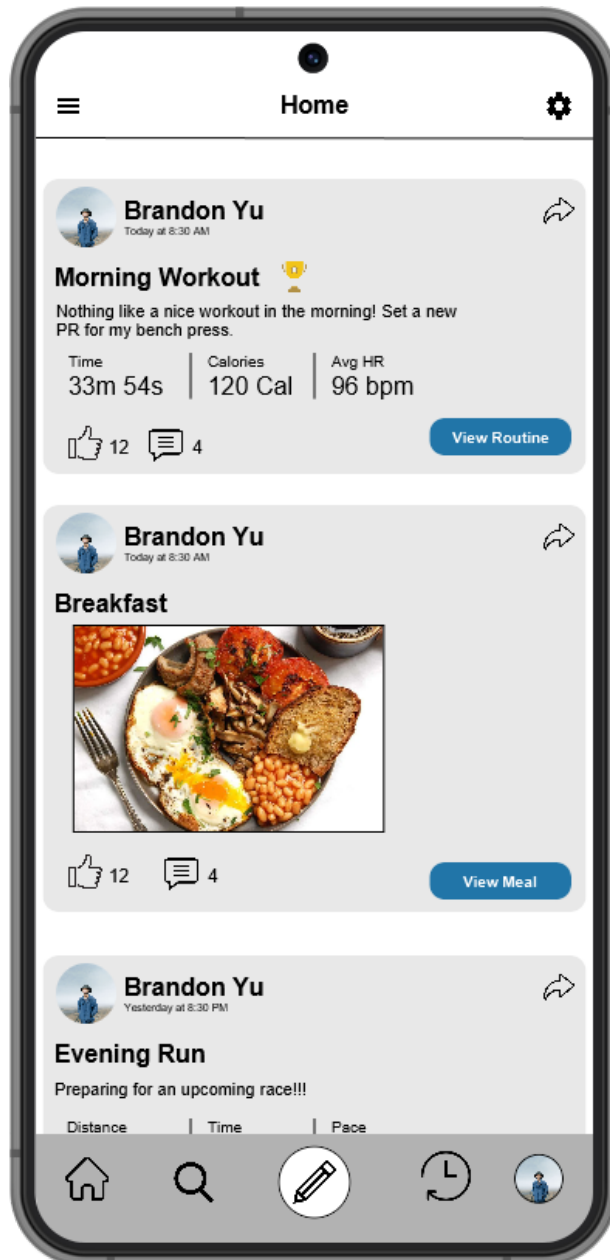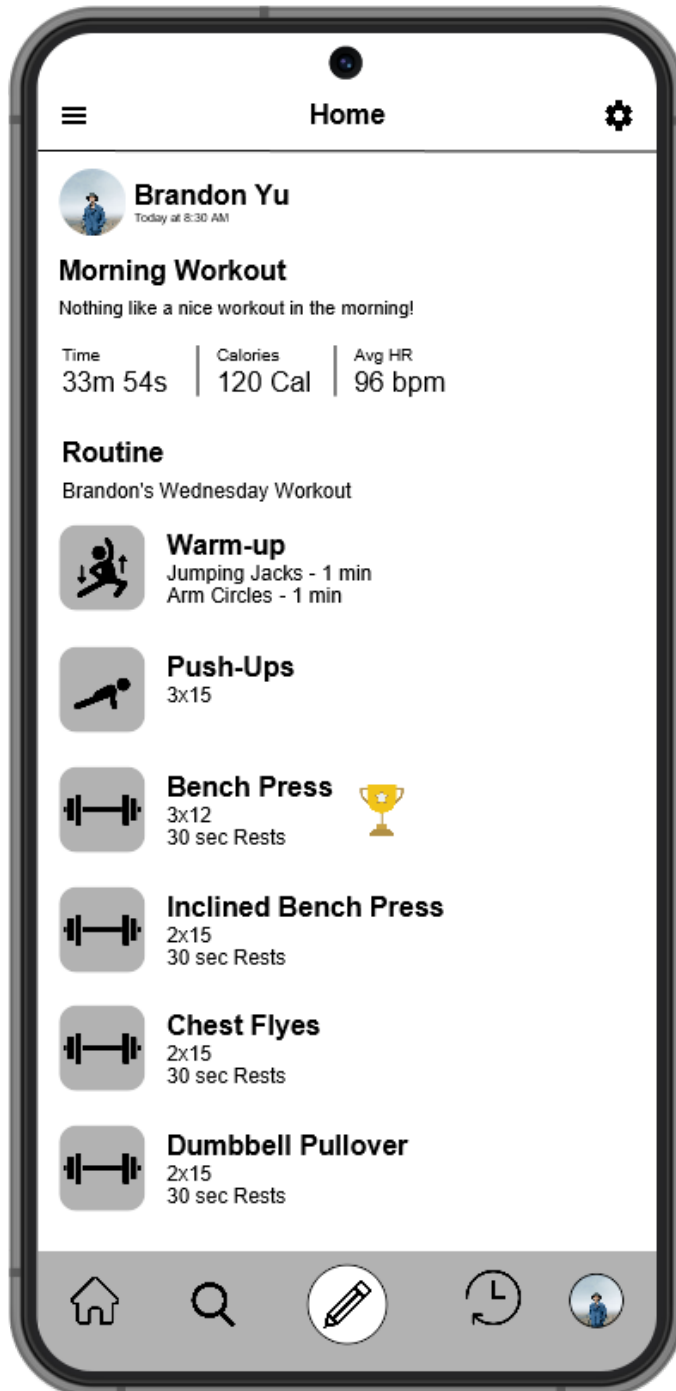
Screen 3: Home Feed
- Displays a card view of workouts/meals from yourself and friends
- Ability to like and comment on posts
- Clicking on expanded view brings user to screen 4

Screen 4: Expanded view
- Allows user to see full details of workout/meal
- View full routine and see their statistics

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Screen 5: Create Routine
- Allows user to create custom routines and schedule them