Entities

User
{
  _id: ObjectId,
  name: String,
  email: String,
  phone: String,
  passwordHash: String, // for secure login
  gender: "male" | "female" | "other",
  dateOfBirth: Date,
  heightCm: Number,
  weightKg: Number,
  profileImageUrl: String, // optional

  preferences: {
    preferredWorkoutTime: String, // "06:30"
    preferredMealReminders: [String], // ["08:00", "13:00", "20:00"]
    moodReminderTime: String // "21:00"
  },

  Exercise module
  exercise: {
    defaultPlanId: ObjectId, // from WorkoutPlan
    customPlanIds: [ObjectId], // from WorkoutPlan
    activeGoalId: ObjectId, // from Goal
    streakCount: Number,
    lastWorkoutDate: Date,
    totalCaloriesBurned: Number,
    totalWorkoutTimeMinutes: Number,
    badgeIds: [ObjectId] // from Badge
  },

  Nutrition & Diet module
  nutrition: {
    defaultMealPlanId: ObjectId, // from MealPlan
    customMealPlanIds: [ObjectId], // from MealPlan
    waterTargetLiters: Number,
    totalWaterDrunkToday: Number,
    calorieTargetPerDay: Number,

```
    nutritionStats: {
      protein: Number,
      carbs: Number,
      fats: Number,
      fiber: Number,
      sugar: Number,
      vitamins: [String]
    }
  },

  Mental Health module
  mental: {
    lastMoodLogged: Date,
    weeklyMentalHealthReportId: ObjectId // from MentalHealthReport
  },
  createdAt: Date,
  updatedAt: Date
}


Workoutplan
{
  _id: ObjectId,
  name: String,
  type: "default" | "custom",
  userId: ObjectId, // null for default plans
  exercises: [ObjectId], // list of Exercise _ids
  createdAt: Date
}
Exercise
{
  _id: ObjectId,
  name: String,
  category: String, // e.g., Strength, Cardio
  durationType: "time" | "reps",
  defaultSets: Number,
  defaultReps: Number,
  defaultDurationSec: Number, // if time-based
  intensity: String, // e.g., "Low", "Medium", "High"
  targetMuscles: [String],
```

```
  videoUrl: String,
  instructions: String
}

Badge
{
  _id: ObjectId,
  name: String,                 // e.g., "Streak Master", "500 Calorie Burner"
  description: String,          // e.g., "Awarded for 10-day workout streak"
  iconUrl: String,              // image/icon for badge
  condition: {
    type: "streak" | "calories" | "workouts" | "time",
    threshold: Number           // e.g., 10 for streak, 500 for calories, etc.
  },
  createdAt: Date
}

ExerciseLog
{
  _id: ObjectId,
  userId: ObjectId,
  exerciseId: ObjectId,
  date: Date,
  startTime: Date,
  endTime: Date,
  sets: Number,
  reps: Number,
  durationSec: Number,
  caloriesBurned: Number,
  notes: String
}

Goal
{
  _id: ObjectId,
  userId: ObjectId,
  type: "weekly" | "daily",
  metric: "workouts" | "calories" | "minutes" | "steps",
  targetValue: Number,
  currentValue: Number,
```

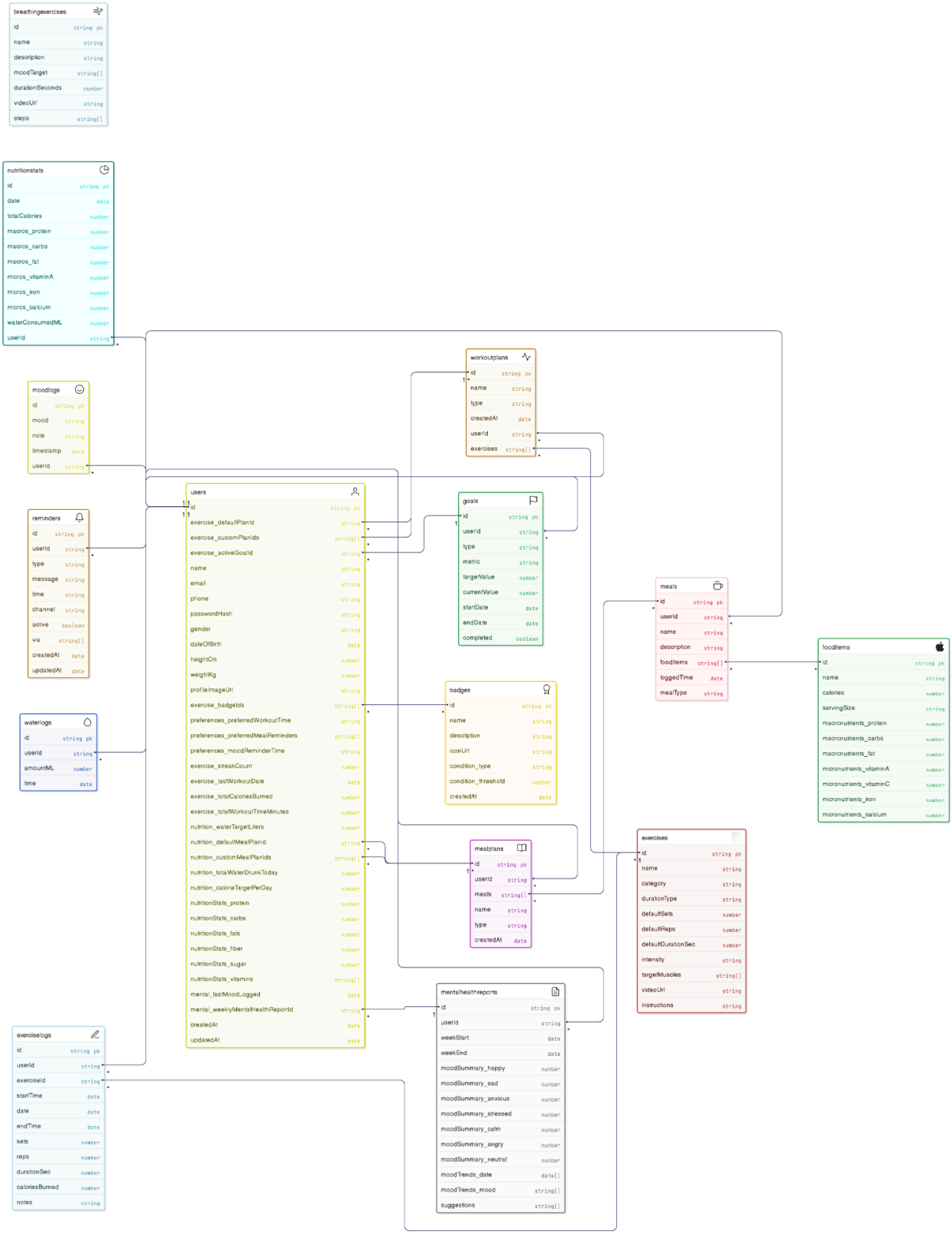
```
  startDate: Date,
  endDate: Date,
  completed: Boolean
}

MealPlan
{
  _id: ObjectId,
  name: String,
  type: "default" | "custom",
  userId: ObjectId, // null for default plans
  meals: [ObjectId], // list of Meal _ids
  createdAt: Date
}

Meal
{
  _id: ObjectId,
  name: String,
  description: String,
  foodItems: [ObjectId], // references to FoodItem
  loggedTime: Date, // actual meal time
  userId: ObjectId,
  mealType: "breakfast" | "lunch" | "dinner" | "snack"
}

FoodItem
{
  _id: ObjectId,
  name: String,
  calories: Number,
  servingSize: String,
  macronutrients: {
    protein: Number, // grams
    carbs: Number,   // grams
    fat: Number      // grams
  },
  micronutrients: {
    vitaminA: Number,
    vitaminC: Number,
```

```
    iron: Number,
    calcium: Number,
    // extendable as needed
  }
}

WaterLog
{
  _id: ObjectId,
  userId: ObjectId,
  amountML: Number,
  time: Date
}

NutritionStats
{
  _id: ObjectId,
  userId: ObjectId,
  date: Date,
  totalCalories: Number,
  macros: {
    protein: Number,
    carbs: Number,
    fat: Number
  },
  micros: {
    vitaminA: Number,
    iron: Number,
    calcium: Number,
  },
  waterConsumedML: Number
}

MoodLog
{
  _id: ObjectId,
  userId: ObjectId,
  mood: "happy" | "sad" | "anxious" | "angry" | "calm" | "stressed" | "neutral",
  note: String,
  timestamp: Date
```

```
}

BreathingExercise
{
  _id: ObjectId,
  name: String,
  description: String,
  moodTarget: ["anxious", "stressed", "sad"], // moods this exercise helps with
  durationSeconds: Number,
  videoUrl: String, // optional
  steps: [String], // step-by-step instructions
}

MentalHealthReport
{
  _id: ObjectId,
  userId: ObjectId,
  weekStart: Date,
  weekEnd: Date,
  moodSummary: {
    happy: Number,
    sad: Number,
    anxious: Number,
    stressed: Number,
    calm: Number,
    angry: Number,
    neutral: Number
  },
  moodTrends: [ // optional - for visualization
    {
      date: Date,
      mood: String
    }
  ],
  suggestions: [String]
}

Reminder
{
  _id: ObjectId,
```

```
  userId: ObjectId,
  type: "workout" | "meal" | "water" | "mood",
  message: String,        // e.g., "Time for your workout!" or "Log your mood"
  time: String,           // "06:30", "13:00", etc.
  channel: "sms" | "email",
  active: Boolean,        // if the reminder is currently enabled
  via: [String],          // ["sms”]
  createdAt: Date,
  updatedAt: Date
}
```

ER Diagram


breathingexercises
id string pk
name string
description string
moodTarget string[]
durationSeconds number
videoUrl string
steps string[]
nutritionstats
id string pk
date date
totalCalories number
macros_protein number
macros_carbs number
macros_fat number
micros_vitaminA number
micros_iron number
micros_calcium number
waterConsumedML number
userId string
workoutplans
id string pk
name string
type string
createdAt date
userId string
exercises string[]
moodlogs
id string pk
mood string
note string
timestamp date
userId string
users
id string pk
exercise_defaultPlanId string
exercise_customPlanIds string[]
exercise_activeGoalId string
name string
email string
phone string
passwordHash string
gender string
dateOfBirth date
heightCm number
weightKg number
profileImageUrl string
exercise_badgeIds string[]
preferences_preferredWorkoutTime string
preferences_preferredMealReminders string[]
preferences_moodReminderTime string
exercise_streakCount number
exercise_lastWorkoutDate date
exercise_totalCaloriesBurned number
exercise_totalWorkoutTimeMinutes number
nutrition_waterTargetLiters number
nutrition_defaultMealPlanId string
nutrition_customMealPlanIds string[]
nutrition_totalWaterDrunkToday number
nutrition_calorieTargetPerDay number
nutritionStats_protein number
nutritionStats_carbs number
nutritionStats_fats number
nutritionStats_fiber number
nutritionStats_sugar number
nutritionStats_vitamins string[]
mental_lastMoodLogged date
mental_weeklyMentalHealthReportId string
createdAt date
updatedAt date
goals
id string pk
userId string
type string
metric string
targetValue number
currentValue number
startDate date
endDate date
completed boolean
reminders
id string pk
userId string
type string
message string
time string
channel string
active boolean
via string[]
createdAt date
updatedAt date
meals
id string pk
userId string
name string
description string
foodItems string[]
loggedTime date
mealType string
fooditems
id string pk
name string
calories number
servingSize string
macronutrients_protein number
macronutrients_carbs number
macronutrients_fat number
micronutrients_vitaminA number
micronutrients_vitaminC number
micronutrients_iron number
micronutrients_calcium number
waterlogs
id string pk
userId string
amountML number
time date
badges
id string pk
name string
description string
iconUrl string
condition_type string
condition_threshold number
createdAt date
mealplans
id string pk
userId string
meals string[]
name string
type string
createdAt date
exercises
id string pk
name string
category string
durationType string
defaultSets number
defaultReps number
defaultDurationSec number
intensity string
targetMuscles string[]
videoUrl string
instructions string
mentalhealthreports
id string pk
userId string
weekStart date
weekEnd date
moodSummary_happy number
moodSummary_sad number
moodSummary_anxious number
moodSummary_stressed number
moodSummary_calm number
moodSummary_angry number
moodSummary_neutral number
moodTrends_date date[]
moodTrends_mood string[]
suggestions string[]
exerciselogs
id string pk
userId string
exerciseId string
startTime date
date date
endTime date
sets number
reps number
durationSec number
caloriesBurned number
notes string

API Documentation

User Service

POST /auth/register: Register a new user.
POST /auth/login: Login user and return token.
GET /users/me: Fetch logged-in user profile.
PUT /users/me: Update user profile.
PUT /users/preferences: Update user preferences (workout time, meal reminders, etc).

Exercise Service

-Workout Plan
GET /workout-plans: Get all default + user's custom plans.
POST /workout-plans: Create a custom workout plan.
GET /workout-plans/:id: Get plan details by ID.
PUT /workout-plans/:id: Update a custom workout plan.
DELETE /workout-plans/:id: Delete a custom workout plan.
PUT /users/exercise/select-plan: Select a default/custom plan for the user.

-Exercise
GET /exercises: Get all exercises.
POST /exercises: Add a new exercise (admin only).
GET /exercises/:id: Get exercise details.

-Workout Session Flow
POST /exercise-log/start-session: Start a new workout session.
POST /exercise-log/log: Log an individual exercise (done button).
POST /exercise-log/end-session: Complete session and calculate summary (time, calories, etc.).
GET /exercise-log/today: Get today’s session log.

-Goals
POST /goals: Create a goal (e.g., calories, time, steps).
PUT /goals/:id: Update goal progress.
GET /goals/active: Get active goal for user.

-Streaks & Badges
GET /users/streak: Get current workout streak.
GET /badges: Get all badges user earned.

GET /badges/check: Check for new badges (after workout).
POST /badges/assign: Assign badge to user (automated after session if threshold met).

-Dashboard
GET /dashboard/exercise: Return today's workout plan, streak, calories burned, time worked out.
GET /exercise-summary: Summary of workout session.
GET /suggestions/workouts:provide suggestion of workout based on the user goals and the stats

Nutrition Service

-Meal Plan
GET /meal-plans: Get all meal plans (default + custom).
POST /meal-plans: Create a custom meal plan.
PUT /meal-plans/:id: Update a custom meal plan.
DELETE /meal-plans/:id: Delete a custom meal plan.
PUT /users/nutrition/select-meal-plan: Select default or custom plan.
GET /suggestions/meals:suggest meals according to stats

-Meals
POST /meals: Log a meal with food items.
GET /meals/today: Get today's meals.
PUT /meals/:id: Update a logged meal.
DELETE /meals/:id: Delete a logged meal.

-Food Items
GET /food-items: List food items with calories & macros.
POST /food-items: Add a new food item (admin).

-Water Logging
POST /water-log: Log water intake.
GET /water-log/today: Get today's water logs.

-Nutrition Statistics
GET /nutrition-stats/today: Get today's stats (calories, macros, micros).
GET /dashboard/nutrition: Dashboard with daily nutrition overview.

Mental Health Service

-Mood Logging
POST /mood-log: Log mood and optional note.
GET /mood-log/today: Get today's mood.
GET /mood-log/weekly-summary: Weekly mood summary for dashboard.

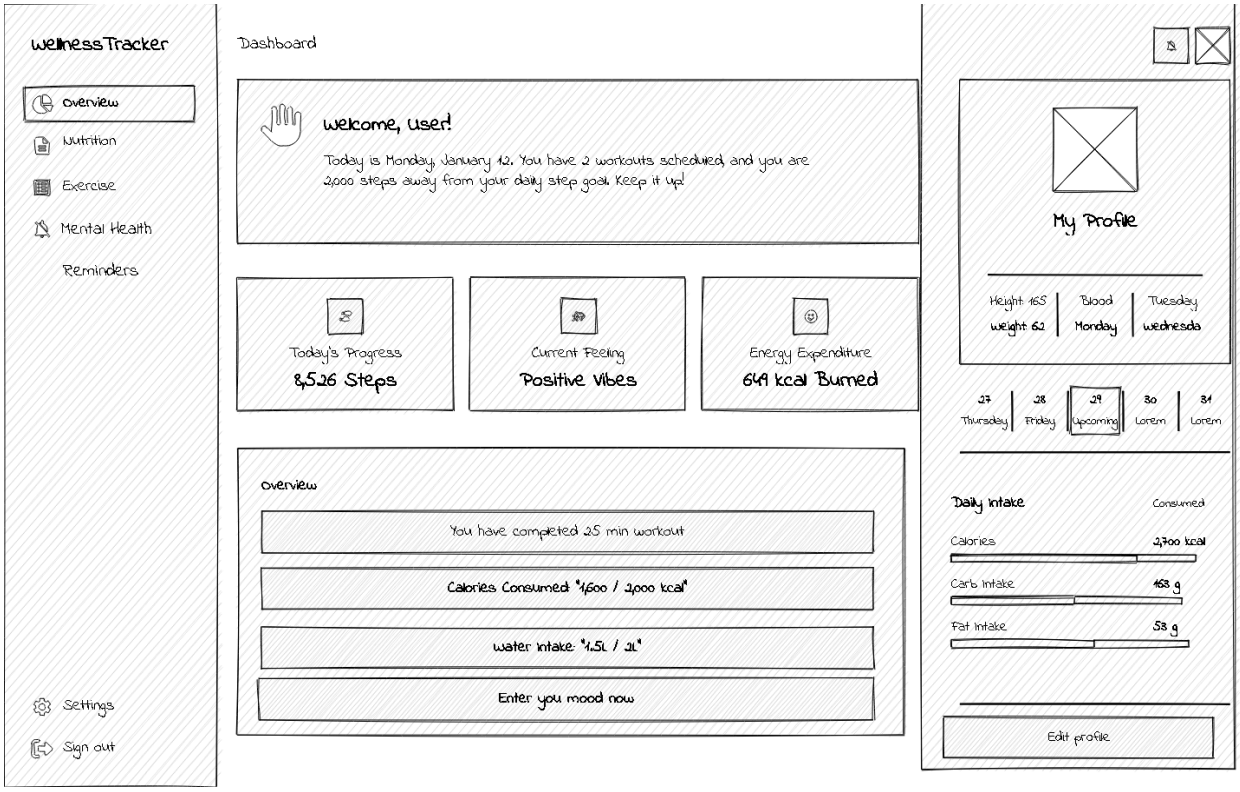
-Breathing Exercises
GET /breathing-exercises?mood=anxious: Get breathing exercises suitable for mood.

-Mental Health Reports
GET /mental-health-report/current-week: Weekly mood breakdown with suggestions.
GET /suggestions/mental:provide mental health tips

Reminder Service

POST /reminders: Create a reminder (meal, workout, mood, water).
GET /reminders: List all reminders.
PUT /reminders/:id: Update a reminder.
DELETE /reminders/:id: Delete a reminder.

Wireframe


WellnessTracker
overview
Nutrition
Exercise
Mental Health
Reminders
Settings
Sign out
Dashboard
Welcome, User!
Today is Monday, January 12. You have 2 workouts scheduled, and you are 2,000 steps away from your daily step goal. Keep it up!
Today's Progress
8,526 Steps
Current Feeling
Positive Vibes
Energy Expenditure
649 kcal Burned
overview
You have completed 25 min workout
Calories Consumed "1,600 / 2,000 kcal"
water intake "1.5L / 2L"
Enter you mood now
My Profile
Height 165
weight 62
Blood
Monday
Tuesday
wednesda
27
Thursday
28
Friday
29
Upcoming
30
Lorem
31
Lorem
Daily Intake
Consumed
Calories
2,700 kcal
Carb Intake
168 g
Fat Intake
53 g
Edit profile

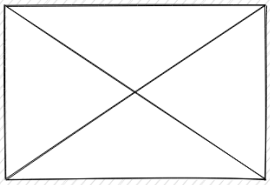
wellnessTracker

Main Dashboard | Exercise Dashboard | Nutrition & Diet Dashboard | Mental Health Dashboard

Workout Routine

Running	30 mins	200 kcal
Cycling	45 mins	350 kcal
Yoga	60 mins	180 kcal

Calories Burned over Time



Exercise Log

Push-ups	15 mins	100 kcal
Swimming	30 mins	300 kcal
Hiking	120 mins	500 kcal

Fitness Goals

- [ ] Run 5 km
- [ ] Cycle 20 km
- [ ] Yoga 3 times a week

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wellnessTracker

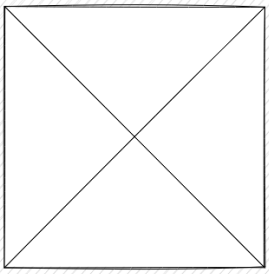
Main Dashboard | Exercise Dashboard | Nutrition & Diet Dashboard | Mental Health Dashboard

Daily Food Intake

Breakfast	350 kcal
Lunch	500 kcal
Dinner	600 kcal
Snacks	150 kcal

Log Meal

Calorie Breakdown



Nutritional Goals

Protein

Carbs

Fats

Update Goals

Diet Suggestions

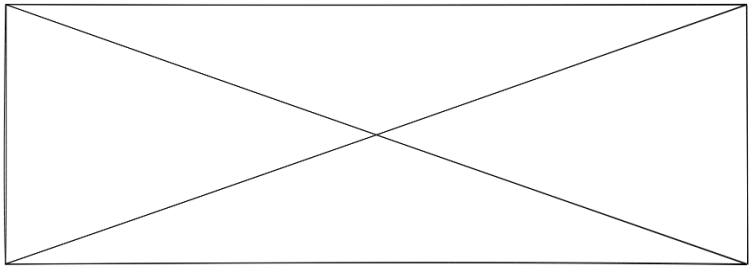
Include more leafy greens in your meals.

Opt for whole grains over refined grains.

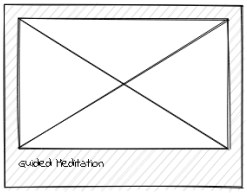
Stay hydrated with at least 8 cups of water daily.

Mood Tracking

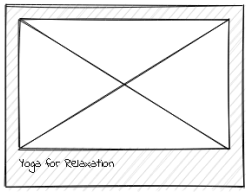
Stress Levels



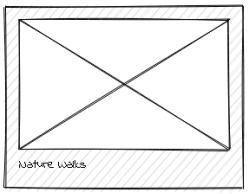
Mindfulness Activities



Guided Meditation



Yoga for Relaxation



Nature Walks

Goal Setting

Set a new goal

Add Goal

- Practice mindfulness daily
- Reduce screen time before bed
- Exercise for 30 minutes

Resources for Managing Stress

- 10 Tips for Reducing Stress
- Understanding Stress and How to Cope
- Mindful Breathing Exercises
- Link to a Mental Health Professional