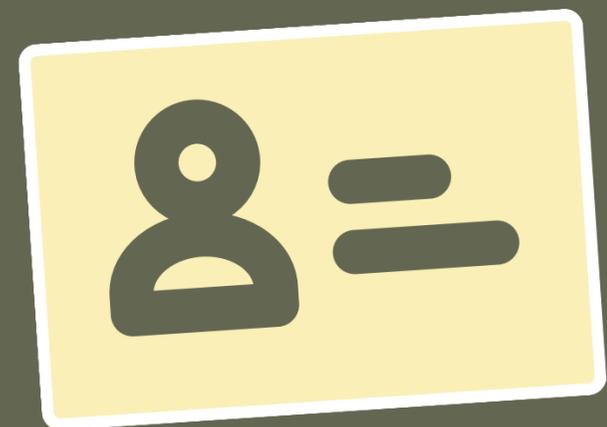




A GUIDE TO EXERCISE AND NUTRITION

CREATED BY BORS

Team Members



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Background

The primary objective of the API is to provide personalized exercise and nutrition guidance. It caters to individuals aiming to build muscle, lose weight, or achieve specific fitness goals.

Motivation

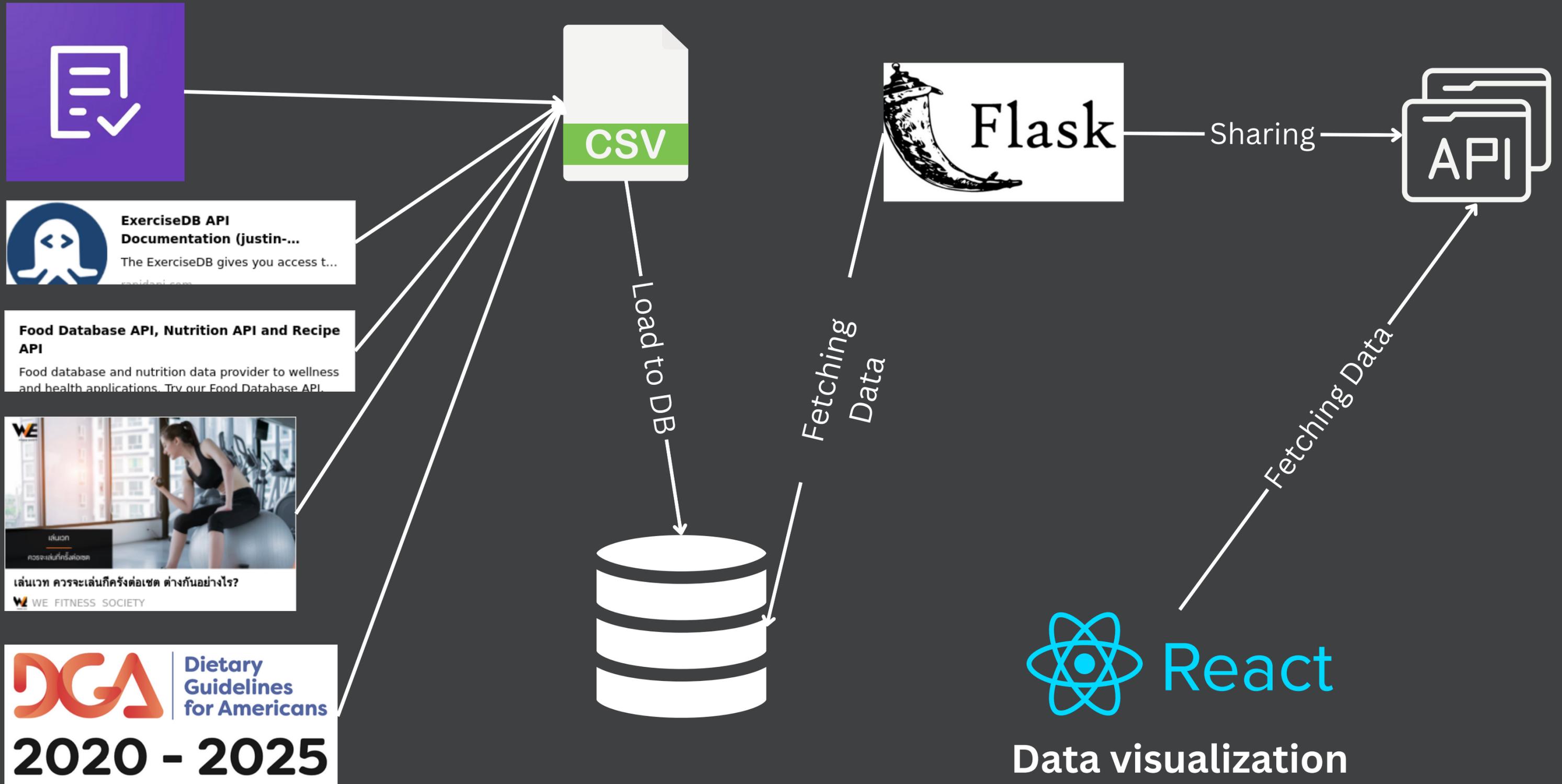
With the growing focus on health and fitness, there's a need for accurate, tailored advice. This API leverages diverse data sources to offer reliable recommendations on exercise routines and nutritional intake.



Our website is about the exercise and nutrition. It aim to answer these question:

- What exercises and foods are recommended for building muscle, losing weight and general health?
- Which exercise is most effective for targeting specific areas or achieving body composition goals, such as muscle building, weight loss and for general health?
- How many calories per day should I consume? So, Our api aim to answer about exercise and nutrition information.

Overall architecture

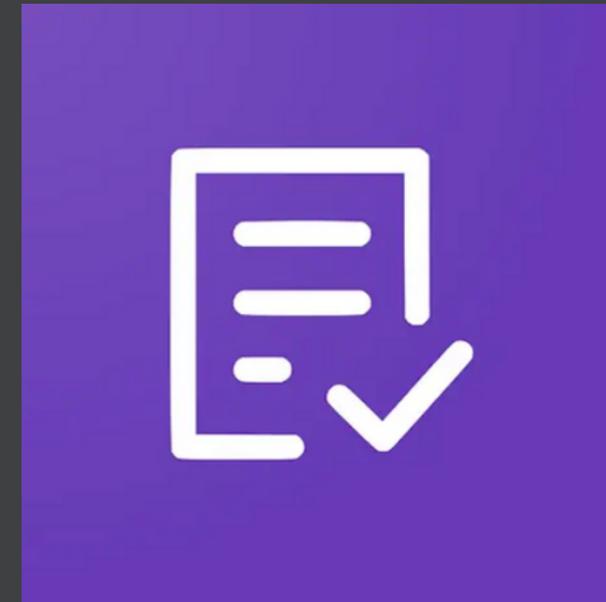


Data Sources and Collection Mechanisms

Primary data source



The primary data is collected through a detailed questionnaire using Google Forms, capturing essential information like name, gender, age, weight, height, exercise level, goals, and targeted body parts.



A Guide to Exercise and Nutrition

[Sign in to Google](#) to save your progress. [Learn more](#)

* Indicates required question

1. What is your anonymous name? *

Your answer

2. What is your gender? *

Male

Female

Data Sources and Collection Mechanisms

The secondary data source

The secondary data sources enrich our service by providing comprehensive information on exercises, nutrition, and workout guidelines. They include a database of exercises, detailed nutritional information of foods, and recommendations on reps/sets. By integrating these diverse data sources, our API offers a unique, user-centric approach to fitness and wellness, ensuring our users receive the most effective and personalized health guidance.

Exercises



ExerciseDB API Documentation (justin-WFnsXH_t6)

The ExerciseDB gives you access to over 1300 exercises with individual exercise data and animated...

 RapidAPI

Foods

Food Database API, Nutrition API and Recipe API

Food database and nutrition data provider to wellness and health applications. Try our Food Database API, Nutrition Analysis API and Recipe Search API.

edamam.com

Reps/Set



เล่นเวท

ควรจะเล่นกี่ครั้งต่อเซต

เล่นเวท ควรจะเล่นกี่ครั้งต่อเซต ต่างกันอย่างไร?

 WE FITNESS SOCIETY

Nutritions



**Dietary
Guidelines
for Americans**

2020 - 2025

Database schema used for data integration

Food

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	food_id 🔑	int(11)			No	None		AUTO_INCREMENT
2	name	text	utf8_general_ci		No			
3	diet	text	utf8_general_ci		No			
4	meal_type	text	utf8_general_ci		No			
5	cal	float			No	None		
6	fat	float			No	None		
7	carb	float			No	None		
8	protein	float			No	None		

User

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	user_id 🔑	int(11)			No	None		AUTO_INCREMENT
2	ts	varchar(30)	utf8_general_ci		No	None		
3	name	text	utf8_general_ci		No			
4	gender	text	utf8_general_ci		No			
5	age	int(11)			No	None		
6	weight	float			No	None		
7	height	float			No	None		
8	level	text	utf8_general_ci		No			
9	goal	text	utf8_general_ci		No			
10	target	text	utf8_general_ci		No			

Exercise

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	exercise_id 🔑	int(11)			No	None		AUTO_INCREMENT
2	name	text	utf8_general_ci		No			
3	body_part	text	utf8_general_ci		No			
4	equipment	text	utf8_general_ci		No			
5	target	text	utf8_general_ci		No			
6	instructions	text	utf8_general_ci		No			

Nutrition

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	nutrition_id 🔑	int(11)			No	None		AUTO_INCREMENT
2	nutrition_recomend	varchar(20)	utf8_general_ci		No	None		
3	goal	varchar(20)	utf8_general_ci		No	None		
4	exercise_recommend	varchar(100)	utf8_general_ci		No	None		

Rep_set

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	reps_id 🔑	int(11)			No	None		AUTO_INCREMENT
2	goal	varchar(30)	utf8_general_ci		No	None		
3	sets	varchar(20)	utf8_general_ci		No	None		
4	reps	varchar(20)	utf8_general_ci		No	None		
5	weight_lifting	varchar(100)	utf8_general_ci		No	None		
6	rest	varchar(20)	utf8_general_ci		No	None		
7	stretching	varchar(100)	utf8_general_ci		No	None		

Data sharing API

User Everything about user

GET /users Get user recommendations

```
[
  {
    "user_id": "string",
    "ts": "string",
    "name": "string",
    "gender": "string",
    "age": 0,
    "weight": 0,
    "height": 0,
    "level": "string",
    "goal": "string",
    "target": "string"
  }
]
```

```
[
  {
    "age": 21,
    "gender": "Female",
    "goal": "Loosing weight",
    "height": 171.0,
    "level": "Beginner",
    "name": "mjrchy",
    "target": "waist",
    "ts": "11/21/2023 22:18:01",
    "user_id": 1,
    "weight": 55.0
  },
  {
    "age": 21,
    "gender": "Male",
    "goal": "Building muscle",
    "height": 180.0,
    "level": "Beginner",
    "name": "breezy",
    "target": "abs",
    "ts": "11/21/2023 22:47:22",
    "user_id": 2,
    "weight": 70.0
  },
  {
    "age": 25,
    "gender": "Male",
    "goal": "Building muscle",
    "height": 200.0,
    "level": "Advanced",
    "name": "John Cena",
    "target": "biceps",
    "ts": "11/21/2023 22:52:32",
    "user_id": 3,
    "weight": 120.0
  },
  {
    "age": 35,
    "gender": "Male",
    "goal": "Building muscle",
    "height": 140.0,
    "level": "Beginner",
    "name": "OattyZeinball",
    "target": "upper legs",
    "ts": "11/21/2023 22:52:49",
    "user_id": 4,
    "weight": 90.0
  }
]
```

Data sharing API

Food		Everything about food
GET	/foods	Get a list of all foods
GET	/foods/diet/{diet}	Get foods for a specific diet
GET	/foods/meal_type/{mealType}	Get foods for a specific meal type

```
[
  {
    "name": "string",
    "diet": "string",
    "meal_type": "string",
    "cal": 0,
    "fat": 0,
    "carb": 0,
    "protein": 0
  }
]
```

```
[
  {
    "cal": 274.0,
    "carb": 42.0,
    "diet": "balanced",
    "fat": 11.0,
    "meal_type": "breakfast",
    "name": "Cranberry Apple Granola Bites",
    "protein": 7.0
  },
  {
    "cal": 233.0,
    "carb": 32.0,
    "diet": "balanced",
    "fat": 7.0,
    "meal_type": "breakfast",
    "name": "Whole Wheat Quinoa Flour Pancakes recipes",
    "protein": 9.0
  },
  {
    "cal": 156.0,
    "carb": 21.0,
    "diet": "balanced",
    "fat": 5.0,
    "meal_type": "breakfast",
    "name": "Pumpkin French Toast Recipe",
    "protein": 8.0
  },
  {
    "cal": 660.0,
    "carb": 88.0,
    "diet": "balanced",
    "fat": 27.0,
    "meal_type": "breakfast",
    "name": "Almond Butter Quinoa Granola recipes",
    "protein": 21.0
  }
],
```

Data sharing API

Nutrition Everything about nutrition

GET `/nutrition` Get a list of all nutrition recommendations

GET `/nutrition/goal/{goal}` Get nutrition recommendations for a specific goal

```
[
  {
    "nutrition_id": 0,
    "nutrition_recomend": "string",
    "goal": "string",
    "exercise_recommend": "string"
  }
]
```

```
[
  {
    "exercise_recommend": "Moderate-intensity exercise at least 30 minutes most days of the week",
    "goal": "General health",
    "nutrition_id": 1,
    "nutrition_recomend": "balanced"
  },
  {
    "exercise_recommend": "Strength training exercises at least three times per week",
    "goal": "Building muscle",
    "nutrition_id": 2,
    "nutrition_recomend": "high-protein"
  },
  {
    "exercise_recommend": "Moderate-intensity cardio exercise at least 30 minutes most days of the week",
    "goal": "Loosing weight",
    "nutrition_id": 4,
    "nutrition_recomend": "low-fat"
  },
  {
    "exercise_recommend": "Moderate-intensity cardio exercise at least 30 minutes most days of the week",
    "goal": "Loosing weight",
    "nutrition_id": 3,
    "nutrition_recomend": "low-carb"
  }
]
```

Data sharing API

Exercise Everything about exercise

GET **/exercises** Get a list of all exercises

GET **/exercises/body_part** Get exercises for a specific body part
/{bodyPart}

GET **/exercises/target** Get exercises for a specific target
/{target}

```
[
  {
    "name": "string",
    "body_part": "string",
    "equipment": "string",
    "target": "string",
    "instructions": "string"
  }
]
```

```
[
  {
    "body_part": "waist",
    "equipment": "body weight",
    "instructions": "Lie flat on your back with your knees bent and feet flat on the ground. Place your hands behind your head. Lift your legs off the ground and bend your knees at a 90-degree angle. Lower your legs towards your left knee while simultaneously straightening your right leg. Return to the starting position and repeat the process towards your right knee while straightening your left leg. Continue alternating sides in a pedaling motion for the desired number of repetitions.",
    "name": "3/4 sit-up",
    "target": "abs"
  },
  {
    "body_part": "waist",
    "equipment": "body weight",
    "instructions": "Stand with your feet shoulder-width apart and your arms extended straight down by your sides. Keeping your feet flat on the ground, lean your torso to one side, lowering your hand towards your knee. Pause for a moment at the bottom, then slowly return to the starting position and repeat on the other side for the desired number of repetitions.",
    "name": "45\u00b0 side bend",
    "target": "abs"
  },
  {
    "body_part": "waist",
    "equipment": "body weight",
    "instructions": "Lie flat on your back with your hands placed behind your head. Lift your legs off the ground and bend your knees at a 90-degree angle. Lower your legs towards your left knee while simultaneously straightening your right leg. Return to the starting position and repeat the process towards your right knee while straightening your left leg. Continue alternating sides in a pedaling motion for the desired number of repetitions.",
    "name": "air bike",
    "target": "abs"
  }
]
```

Data sharing API

Reps_set Everything about reps_set

GET /reps_set Get a list of all reps set recommendations

GET /reps_set/goal/{goal} Get reps set recommendations for a specific goal

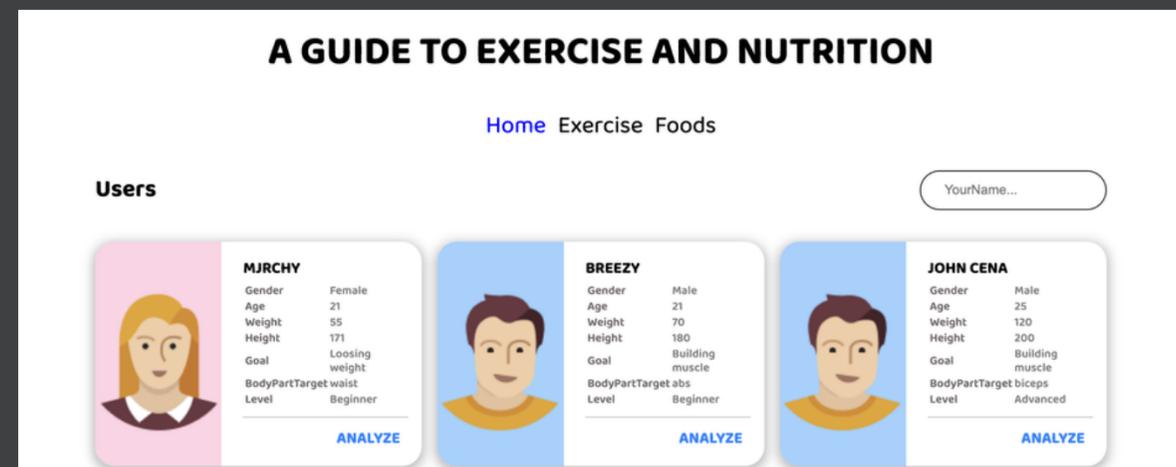
```
[
  {
    "reps_id": 0,
    "goal": "string",
    "sets": 0,
    "reps": 0,
    "weight_lifting": "string",
    "rest": 0,
    "stretching": 0
  }
]
```

```
[
  {
    "goal": "Loosing weight",
    "reps": "10-12",
    "reps_id": 1,
    "rest": "1-2",
    "sets": "1-3",
    "stretching": "Stretch muscles worked during the set",
    "weight_lifting": "Weight challenging towards exhaustion"
  }
]
```

Data visualization

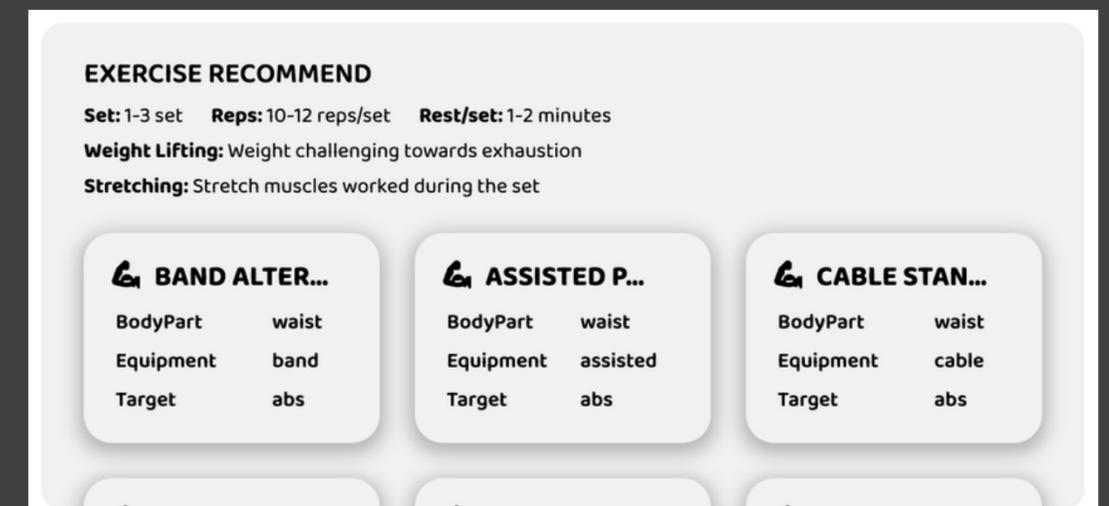
User Profile Cards

Each card contains an avatar, along with details such as gender, age, weight, height, fitness goal, target body part, fitness level, and basal metabolic rate (BMR). The cards have a 'Analyze' button, suggesting interactivity for further analysis or recommendations



Exercise Recommendation Panel

This section pops up when a user's 'Analyze' button is clicked. It provides a customized exercise plan with the number of sets, repetitions, and rest time. Specific exercises are listed with icons, indicating the body part targeted and the equipment needed. It also includes weightlifting and stretching advice.



Data visualization

Food Recommendation Panel

Corresponding to the exercise panel, this area offers dietary advice with nutritional focus, such as low-carb and low-fat options. It suggests a frequency for cardio exercises and lists recipes with their caloric content and macronutrient breakdown.

FOOD RECOMMEND
Nutrition: low-carb low-fat
Recommend: Moderate-intensity cardio exercise at least 30 minutes most days of the week

Recipe	Calories	Protein	Fat	Carb	Meal type
Low Carb Vegan Breakfast	1047 kcal	11 g	104 g	32 g	lunch
Egg Omelette Recipe	412 kcal	24 g	33 g	5 g	breakfast

General Exercise Database

A collection of exercises is displayed, each with a specific focus on a body part, the required equipment, and the exercise target. This database appears to be searchable, allowing users to find exercises tailored to their needs.

A GUIDE TO EXERCISE AND NUTRITION

Home Exercise Foods

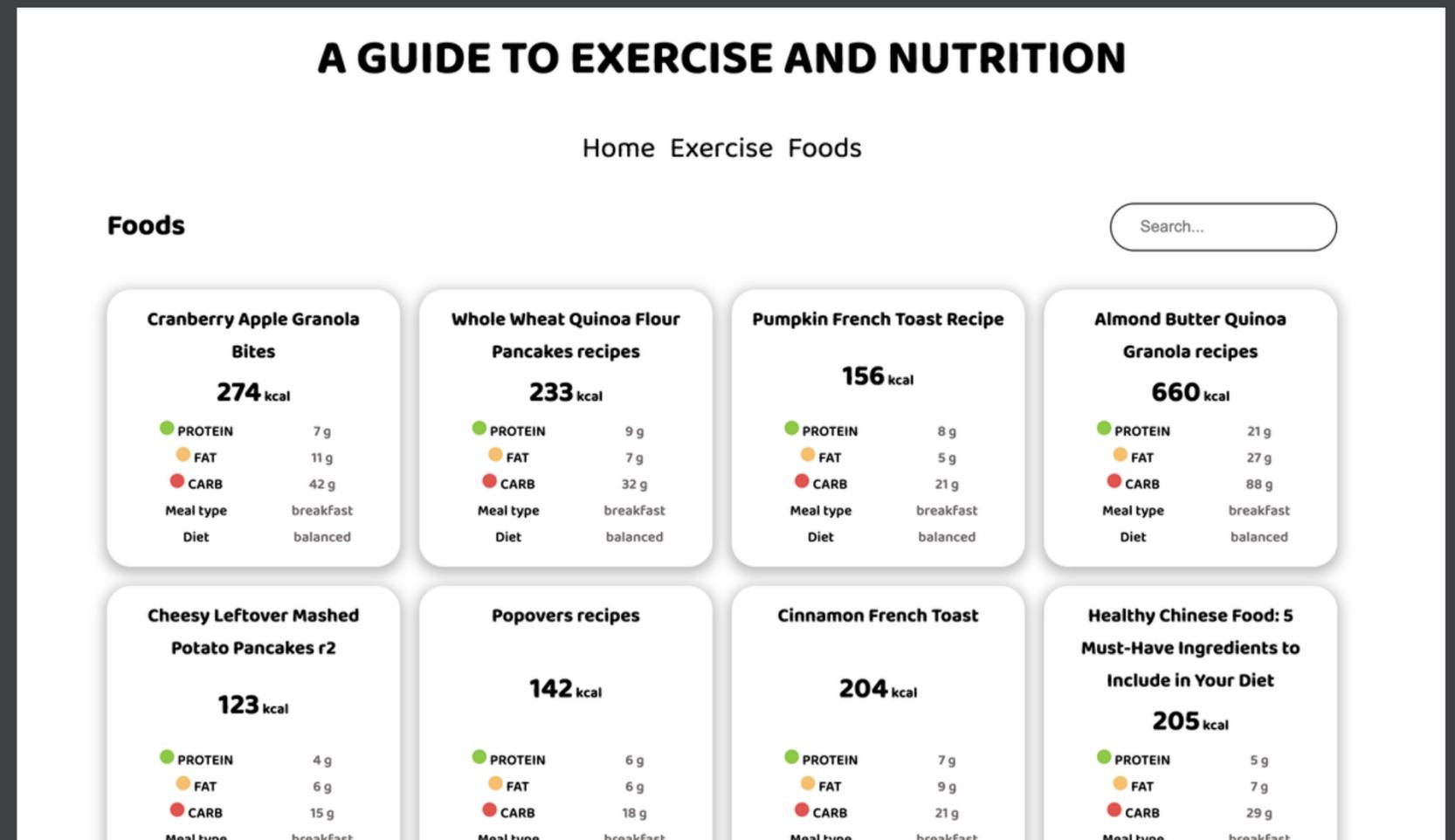
Exercise

Exercise	BodyPart	Equipment	Target
3/4 SIT-UP...	waist	body weight	abs
45° SIDE B...	waist	body weight	abs
AIR BIKE	waist	body weight	abs
ALL FOURS ...	upper legs	body weight	quads
ALTERNATE ...	waist	body weight	abs
ALTERNATE ...	back	cable	lats
ANKLE CIRC...	lower legs	body weight	calves
ARCHER PUL...	back	body weight	lats
ARCHER PUS...	chest	body weight	pectorals
ARM SLINGE...	waist	body weight	abs
ARM SLINGE...	waist	body weight	abs
ARMS APART...	upper legs	body weight	glutes
ARMS OVERH...	waist	body weight	abs
ASSISTED C...	chest	leverage ma	pectorals
ASSISTED H...	waist	assisted	abs
ASSISTED H...	waist	assisted	abs
ASSISTED L...	lower legs	assisted	calves
ASSISTED L...	upper legs	assisted	glutes

Data visualization

Food Database

Similar to the exercise database, a variety of foods are listed with their caloric values and meal types. The diet type is also specified, indicating if the meal is balanced or fits other dietary requirements.



DEMO

THANK YOU