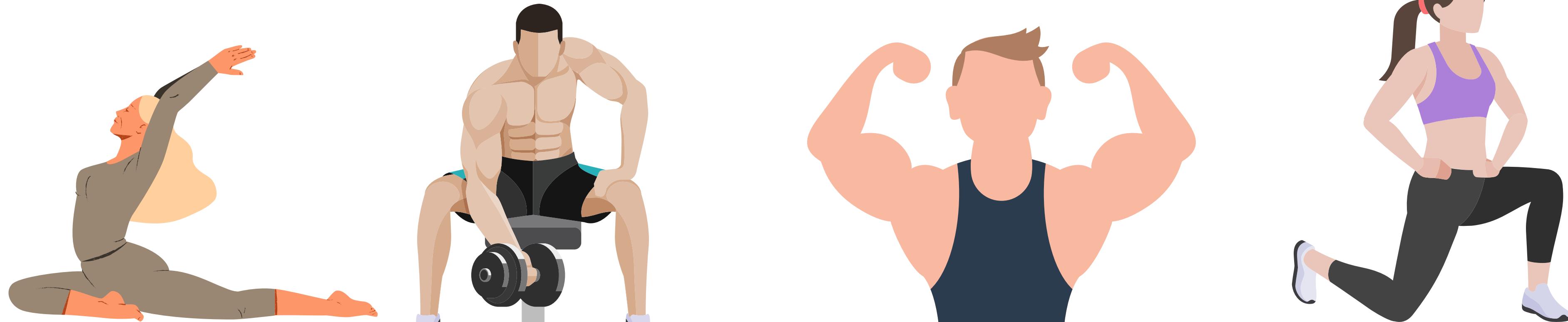


IT SYSTEMS ANALYSIS AND DESIGN TERM PROJECT

MyFitPath

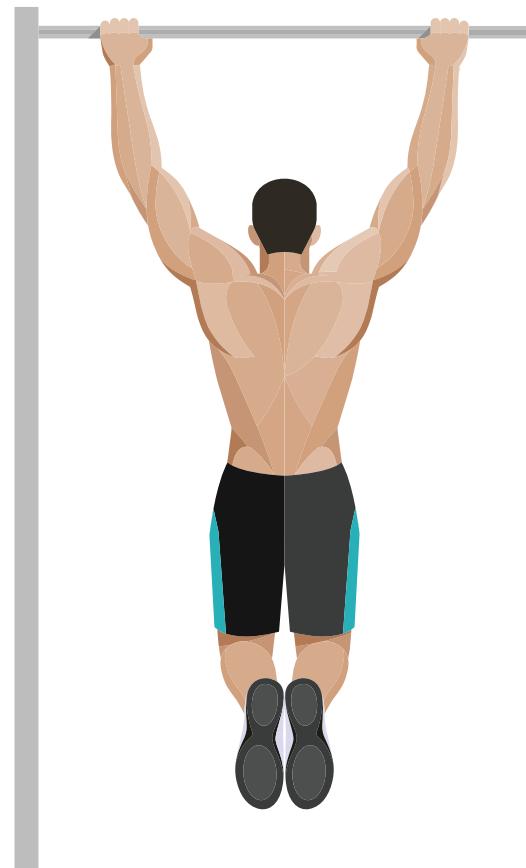


What is MyFitPath?



An all-in-one fitness platform offering personalized fitness plans, progress tracking, social engagement, nutrition support, and a workout library,

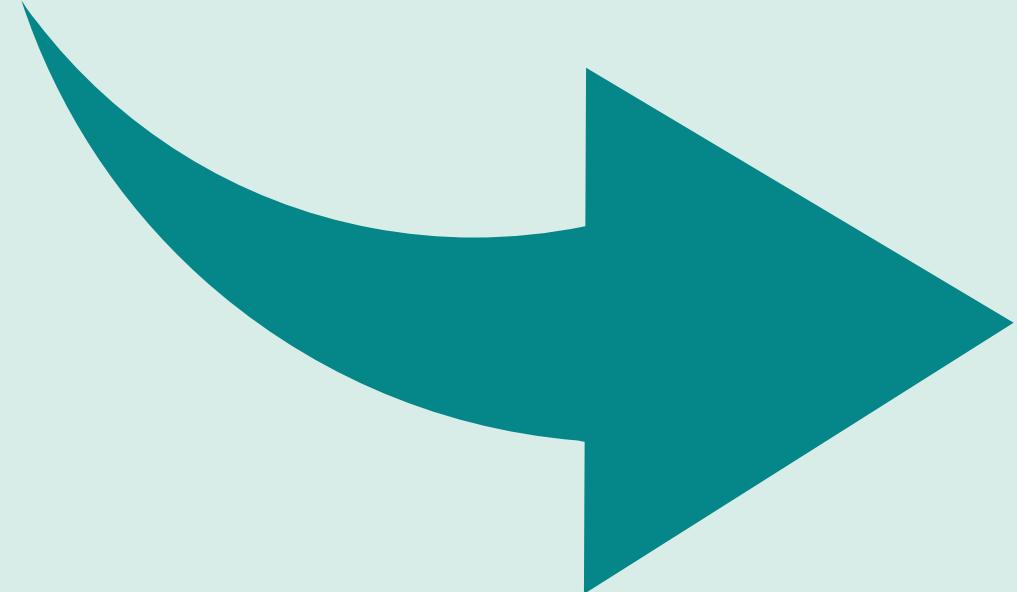
Motivation



Our motivation is to make people's lives easier by providing them excellent fitness journey and help them achieve their fitness goals in a shorter time frame.



Why is this project needed?



- Personalized fitness journey
- Meal Plans
- Workout Library
- Convenient and Accessible
- Motivation and Support
- Results-Oriented Approach
- Progress Tracker

PLANNING PHASE

Planning Phase

- Feasibility Studies
 1. Technical
 2. Economic
 3. Organizational
- Project Plan
- Staffing Plan
- Standards List
- Risk Assessment



Feasibility Study

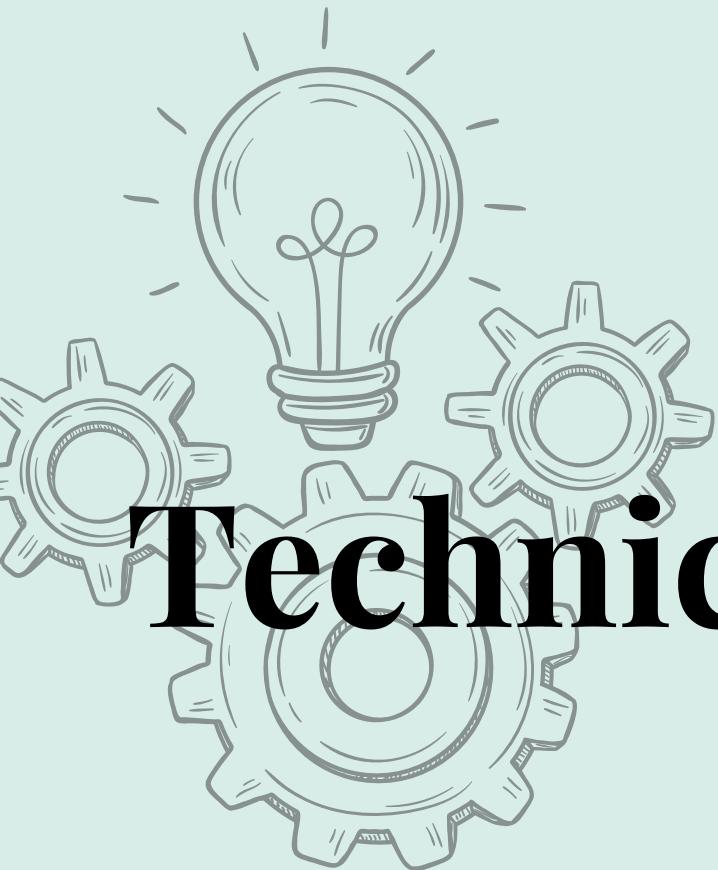
Technical Feasibility

Focuses on whether the system can be successfully developed, implemented, and operated using available technology and resources.

- Technical Feasibility
 - Economic Feasibility
 - Organizational Feasibility
-
- Familiarity with application
 - Familiarity with technology
 - Project size
 - Compatibility



Technical Feasibility

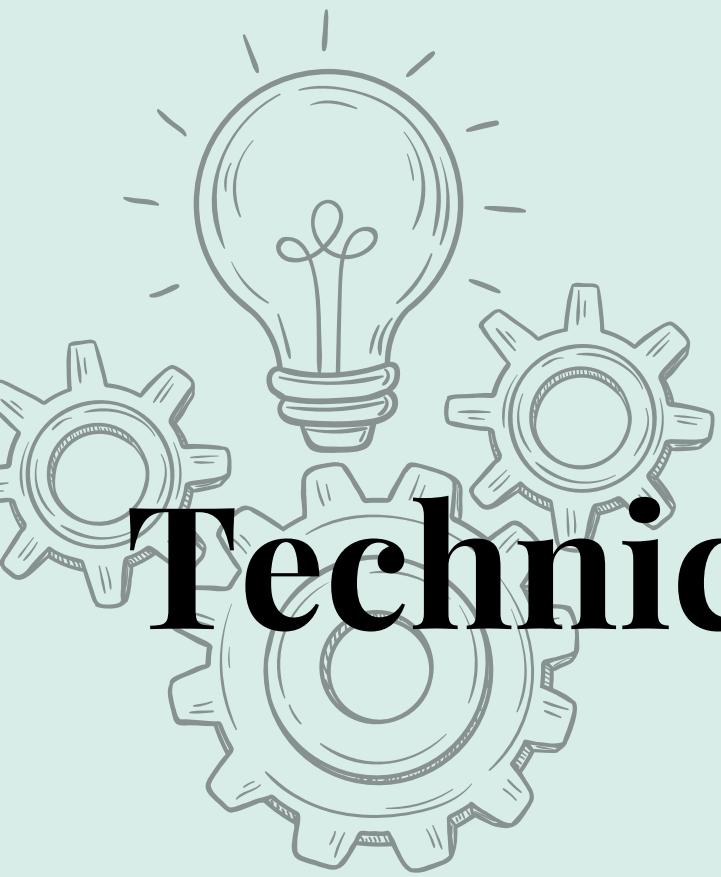


Familiarity with Application

Our development team consist of people who are experienced in building online platforms for fitness enthusiasts.

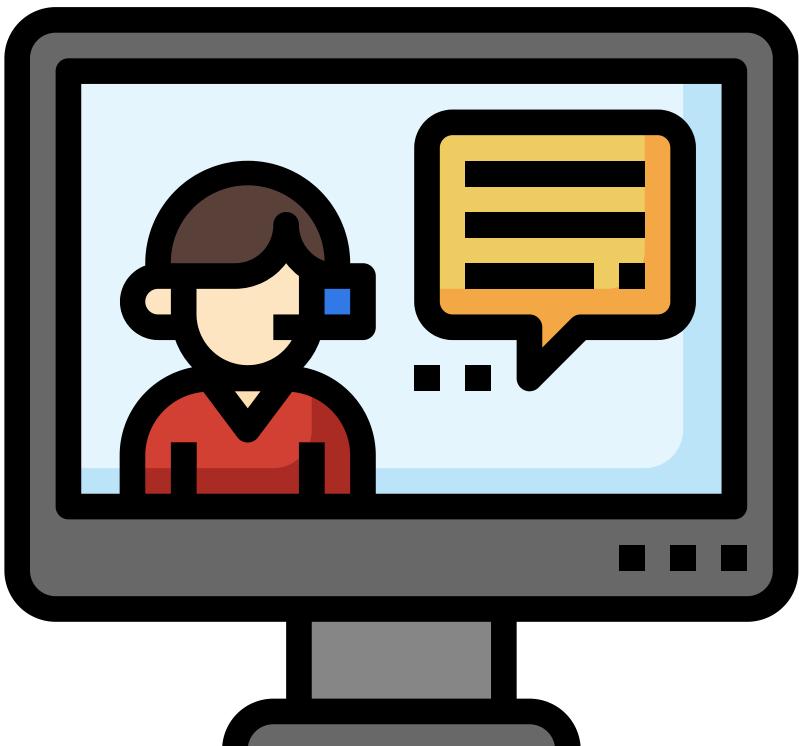


Technical Feasibility

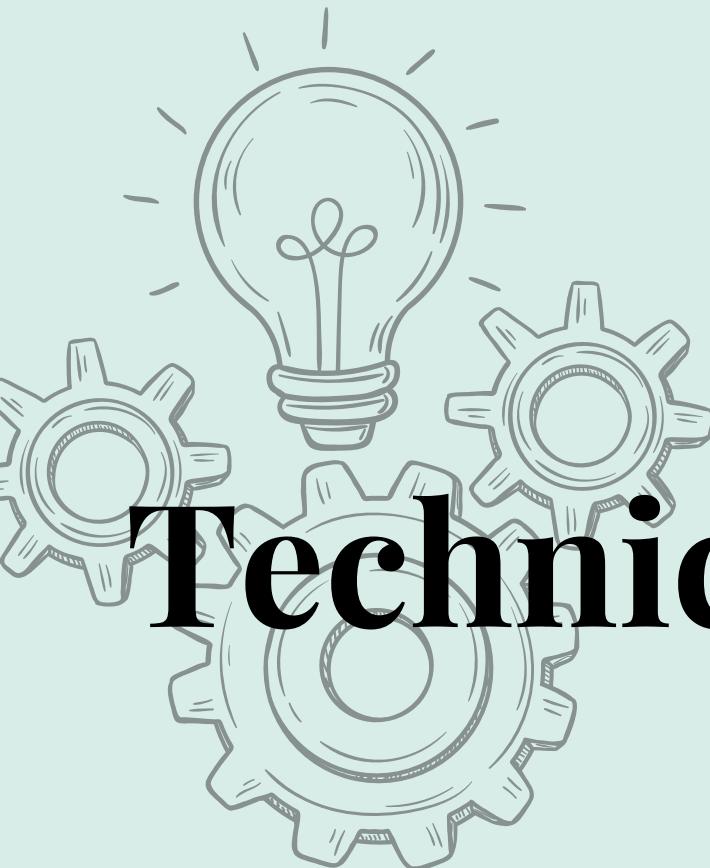


Familiarity with Technology

Our development team has extensive knowledge of the technologies required to construct online apps.



Technical Feasibility

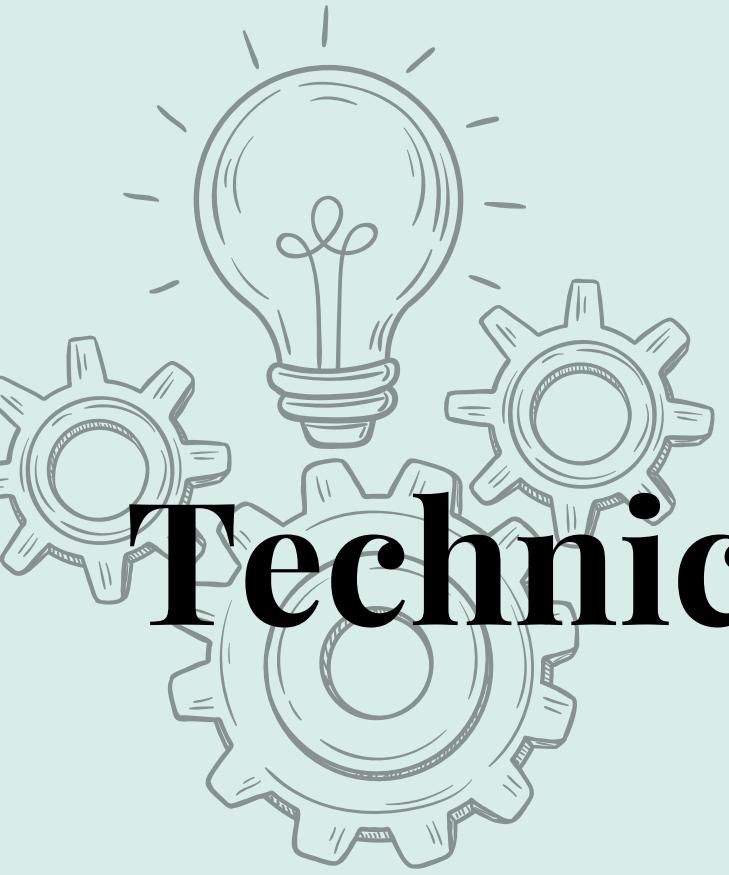


Familiarity with Technology

MyFitPath's risk regarding familiarity with technology is low.



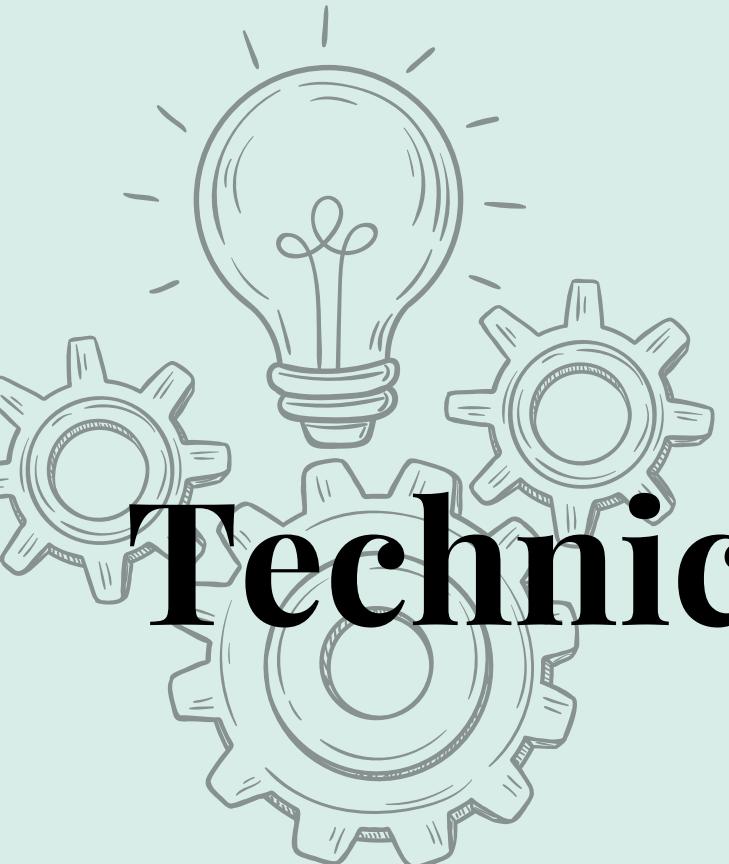
Technical Feasibility



Project size

Size of the project can be considered large.





Technical Feasibility

Compatibility

Our team will need to work closely with the company's IT department to ensure that the app is fully integrated with the company's existing technology stack.



Economic Feasibility



Cash Flow Analysis

	Year 0	Year 1	Year 2	Year 3	Total
Total Benefits	0	35,000	47,000	62,000	\$144,000
Total Cost	80,000	7,000	12,000	19,000	118,000
Net Benefits (TotalBenefits- TotalCost)	(80,000)	28,000	35,000	43,000	26,000
Cumulative Net Cash Flow	(80,000)	(52,000)	(17,000)	26,000	

ROI and BEP



Economic Feasibility

Return on Investment(ROI)=(Total Benefits-Total Cost) /Total Cost
$$=(144,000-118,000)/118,000 = \%22$$

BEP=

#years of negative cash flow + ((that year's net benefits- that year's cumulative net cash flow)/that year's net benefits)
$$= 2 + (43,000-26,000)/43,000) = 2.39 \text{ years}$$





Economic Feasibility

Tangible Benefits

Revenue Generation

Increased Customer Base

Positive Word-of-Mouth
Recommendations

Intangible Benefits

Brand Reputation and Recognition

Customer Loyalty

Competitive Advantage

Enhanced Company Culture

Industry Leadership





Organizational Feasibility



User Acceptance

- Understand target audience's needs.
- Develop personalized fitness plans and nutrition support features.
- Design user-friendly interface.
- Gather user feedback for continuous improvement.
- Market the app effectively to reach the target audience.
- Foster an engaging community for user acceptance and retention.



Organizational Feasibility

Strategic Alignment

Ensure strategic alignment of app implementation with organizational goals.



Project Plan

PROJECT_NAME	MyFitPath	PROJECT_MANAGERS: Nilsu Bozan, Mehmet Ali Ozdemir
PROJECT_SCOPE:	Designing Fitness app.	
START_DATE:	12.03.2023	
END_DATE:	23.05.2023	

TASK_ID	TASK_NAME	ASSIGNED_TO	START_DATE	END_DATE	DURATION
1	System Request	Nilsu Bozan	12.03.2023	19.03.2023	1 Week
1.1	Feasibility Study	Nilsu Bozan	26.03.2023	03.04.2023	8 Days
1.2	Project Plan	Mehmet Ali Ozdemir	14.04.2023	20.04.2023	6 Days
1.4	Staffing Plan	Mehmet Ali Ozdemir	21.04.2023	25.04.2023	4 Days
1.5	Standards List	John D.	25.04.2023	27.04.2023	2 Days
1.8	Risk Assessment	Emily S.	27.04.2023	30.04.2023	3 Days
2	System Proposal	Mehmet Ali Ozdemir	01.05.2023	03.05.2023	2 Days
2.1	Requirements Definition	Mike R.	03.05.2023	05.05.2023	2 Days
2.2	Use Cases	Nilsu Bozan	05.05.2023	08.05.2023	3 Days
2.3	Process Models	Jane K.	08.05.2023	11.05.2023	3 Days
2.4	Data Model	Harry S.	11.05.2023	14.05.2023	3 Days

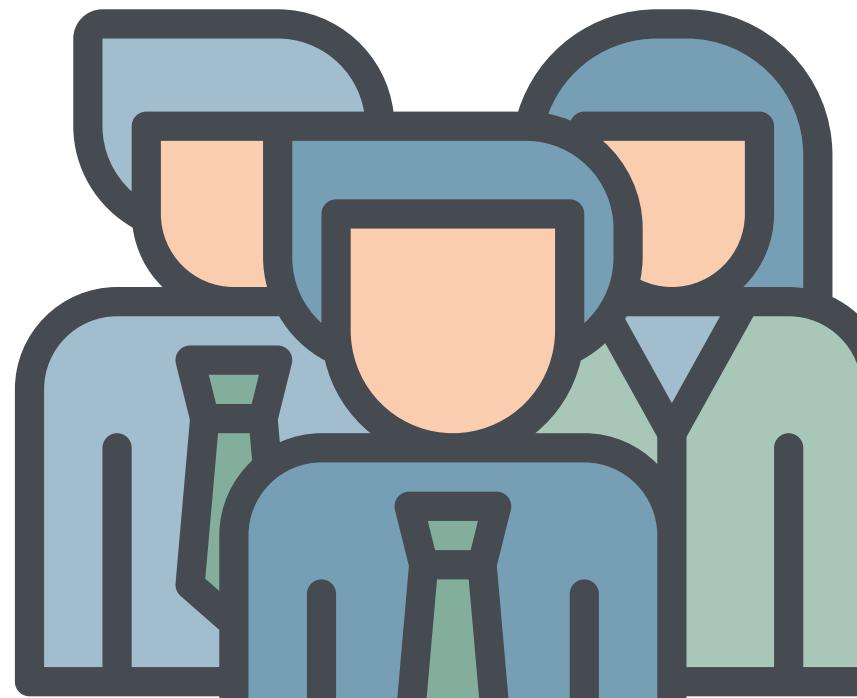
Project Plan

3.	Alternative matrix system specification	John D.	14.05.2023	15.05.2023	1 Day
3.1	Architecture report	Nilsu Bozan	15.05.2023	18.05.2023	3 Days
	hardware and software specification				
3.2	Interface design	Emma P.	18.05.2023	19.05.2023	1 Day
3.3	Physical Process Model	Ashley L.	19.05.2023	21.05.2023	2 Days
	Program design				
3.4	Database and file specification	Jane K.	21.05.2023	23.05.2023	2 Days
	Physical data model				

Staffing Plan

Our project team comprises of about 9 individuals.

- 2 project managers
- 2 software developers
- 2 UX/UI designer
- 2 development team
- 1 QA engineer



Standards

Documentation

Coding

Version Control

Procedural

Standards

If a deadline is missed during the project,

- 1-Identify the reason for the missed deadline and document it.

Standards

If a deadline is missed during the project,

2-Examine how it affected to the whole project.

Standards

If a deadline is missed during the project,

3-Communicate stakeholders and update the project schedule to reflect the delay.

Standards

If a deadline is missed during the project,

4-Identify the impact of delay on the project timeline.

Standards

If a deadline is missed during the project,

- 5- Perform a risk analysis to identify new risks that may emerge

Standards

If a deadline is missed during the project,

6-Develop a mitigation plan to address any new risks or issues.

Standards

If a deadline is missed during the project,

- 7- Closely monitor project progress while implementing corrective action if necessary.



Risk Management

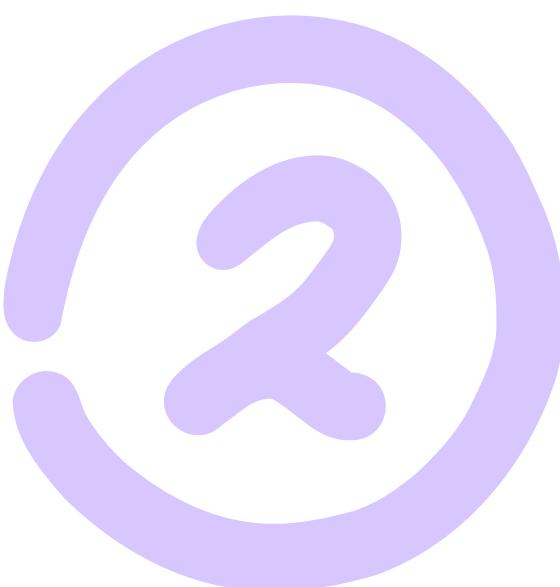
Technical Complexity

Likelihood of risk:
-Moderate



Potential impact on the project:
High

Mitigation Plan:
-Collaborate closely with experts
-Educate the development team



Risk Management

Market Competition



Likelihood of risk:

- High

Potential impact on the project:

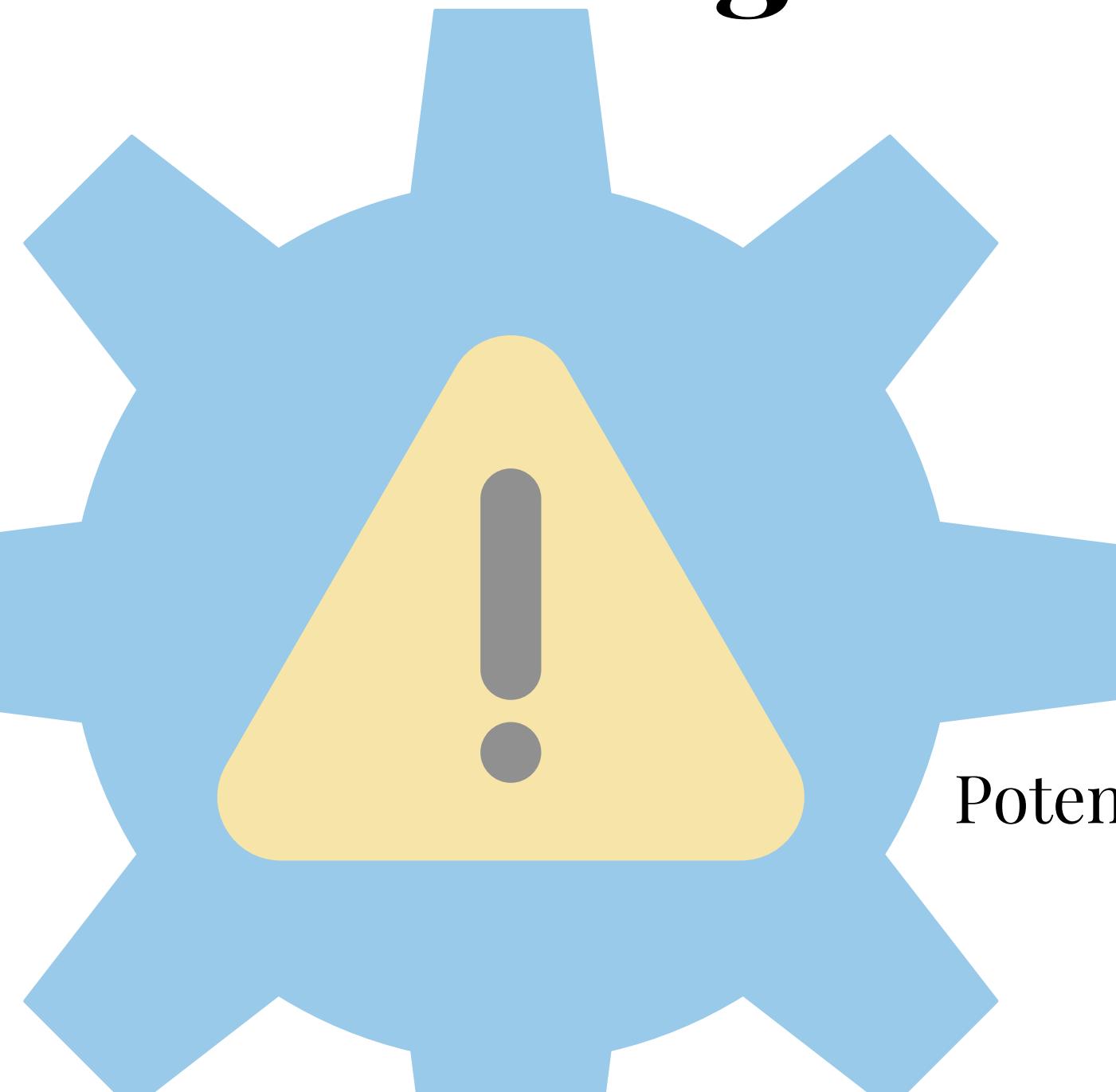
- Moderate

Mitigation Plan:

- Marketing Team
- Collaboration with famous people and influencers



Resource Constraints



Likelihood of risk:
-Moderate

Potential impact on the project:
-High

Ways to address this risk:
-Resource Allocation Plan
-Cross-training

ANALYSIS PHASE

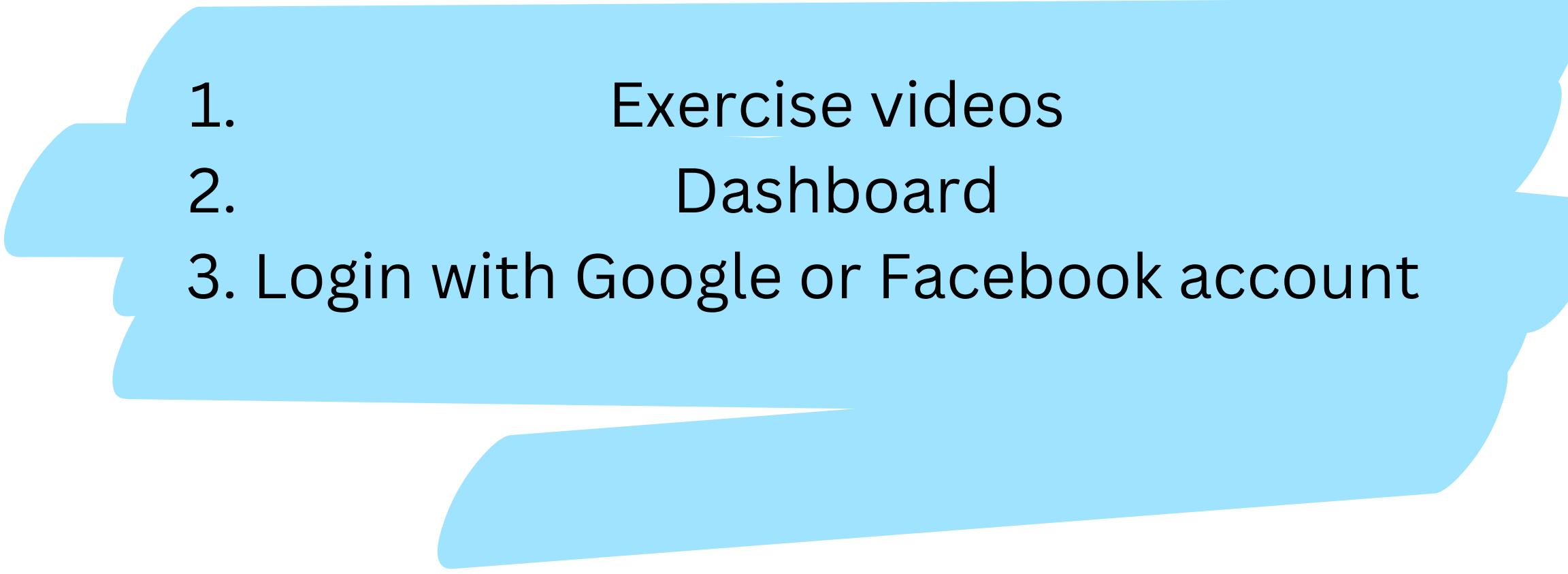
Analysis Phase

- System Proposal
- Requirements Definition
- Use Cases
- Process Model
- Data Model



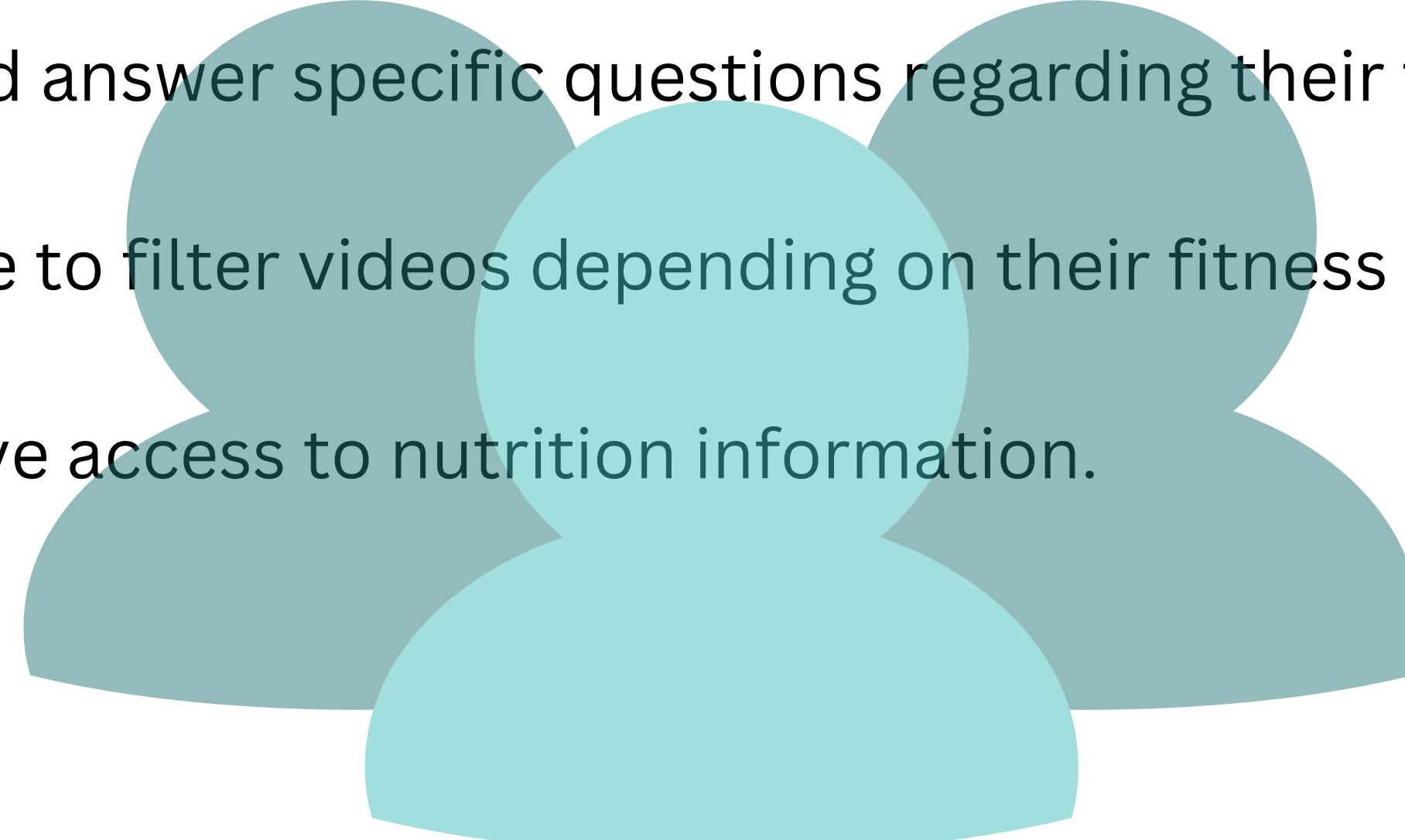
Requirements Definition

Business Requirements

- 
1. Exercise videos
 2. Dashboard
 3. Login with Google or Facebook account

Requirements Definition

User Requirements

- 
- 1-Creating new account or login with third party services such as Google or Facebook.
 - 2-New users should answer specific questions regarding their fitness and nutrition goals.
 - 3-Users will be able to filter videos depending on their fitness goals and needs.
 - 4-Users should have access to nutrition information.

Requirements Definition

Functional Requirements

1-Information Oriented Requirements

1.1- The system should keep user's progress over time.

1.2-The system should provide nutritional information.

1.3-User profile information should be stored.

2-Process Oriented Requirements

1.1- System should allow users to register.

1.2-System should be able to make exercise video recommendations.

1.3-System should allow users to connect with other people

1.4-The system should send daily motivational messages to users

Non-Functional Requirements

1-Operational

- 1.1) The system will run on IOS mobile devices.
- 1.2) The system should be compatible with any Web browser.

3-Security

- 3.1) Only direct managers will be able to review user data and staff data.
- 3.2) System will be ready to fight with any kind of virus, malware, worms, etc. at any time.

2- Performance

- 2.1) Any interaction between the user and the system should not exceed 3 seconds.
- 2.2) The system should be available 7/24
- 2.3) New videos should be available in the system weekly.

4- Cultural and Political

- 4.1)The app must comply with the privacy laws of the region where it will be used.
- 4.2) System should provide language options.

Use Cases

Use Case Name: Fitness video search	ID: UC-3	Priority: High
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Actor: User

Description: Users are allowed to look for additional videos that are not on their personalized fitness plan.

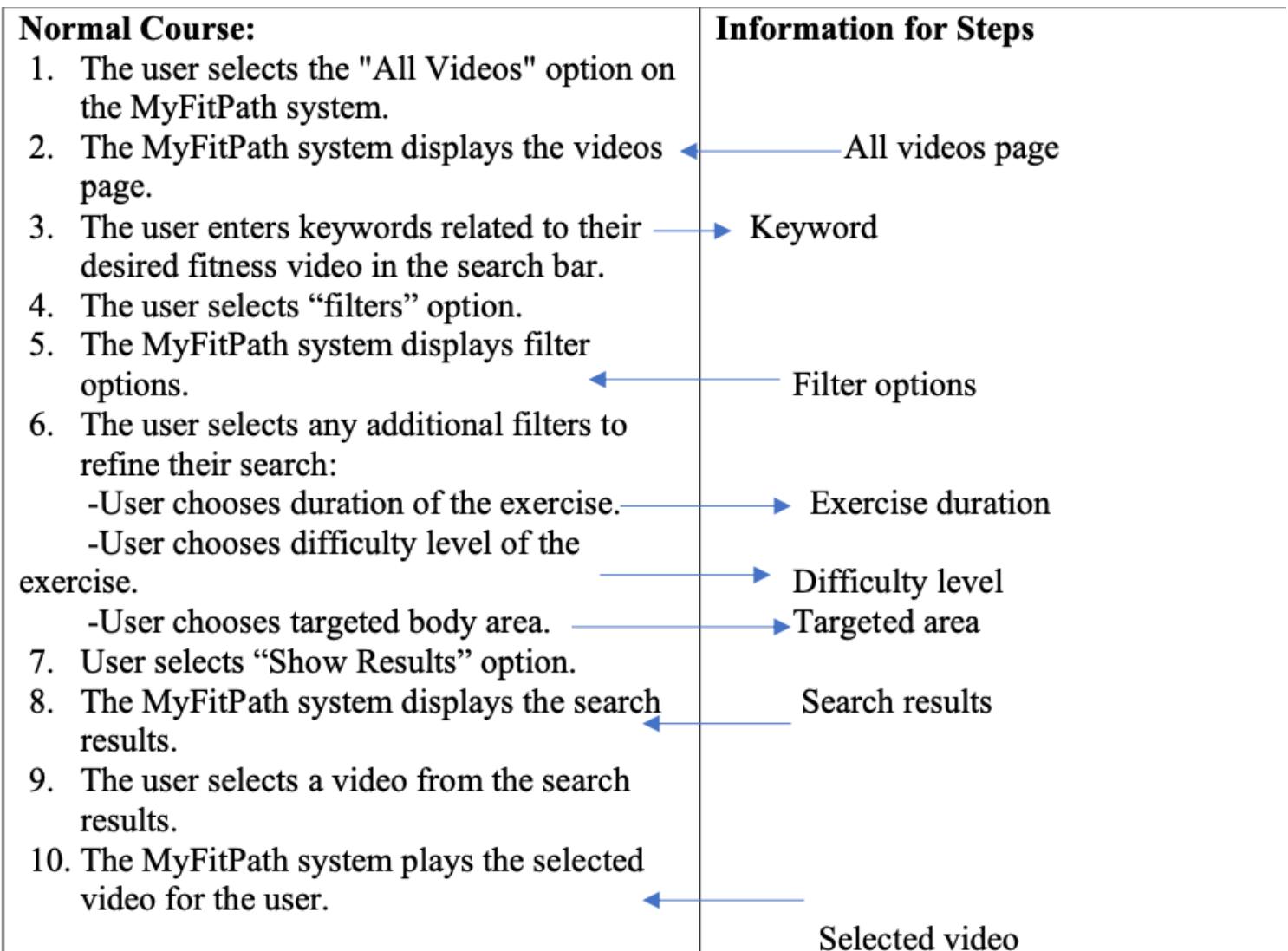
Trigger: Users would like to explore more videos by filtering the videos for specific needs.

Type:

- External
- Temporal

Preconditions:

- The system is available.
- The system has internet connection.
- User logged in to the system.
- User completed the questions displayed on the system when first logged in.



Postconditions:

- The user is able to view and follow the selected fitness video.
- The user can continue to search for additional fitness videos on the MyFitPath system.

Summary Inputs	Source	Summary Outputs	Destination
<ul style="list-style-type: none"> • Specific keyword • Exercise duration • Difficulty level • Targeted area 	<ul style="list-style-type: none"> • User • User • User • User 	<ul style="list-style-type: none"> • All videos page • Filter options • Search results 	<ul style="list-style-type: none"> • User interface • User interface • User interface

Use Case Name:
Nutrition page access

ID: UC-4

Priority: Moderate

Actor: User

Description: Users should be able to review different meal plans, healthy recipes and track calories considering their fitness goals.

Trigger: Users would like to eat healthy while doing exercises.

Type:

- External
- Temporal

Preconditions:

- The system is available.
- The system has internet connection.
- User logged in to the system.

Normal Course:

1. The user opens the fitness app and goes to the "Meal Planning" section.
2. The app presents a range of nutrition-related options, including meal plans, recipes, and calorie tracking.
3. The user selects the specific option they are interested in.
4. The app displays a variety of meal plans tailored to different dietary preferences or goals, such as weight loss, muscle gain, or vegetarian.
5. The user chooses a meal plan that aligns with their dietary needs or goals.
6. The app provides detailed information about the selected meal plan, including daily meal schedules, recipes, and nutritional breakdowns.
7. Within the meal plan, the user can view individual recipes, access ingredient lists, and find preparation instructions.
8. The app offers a calorie tracking feature, allowing the user to track their calorie intake.
9. The user logs the meals or food items they consume, along with the quantities, into the app's calorie tracker.
10. The app calculates and displays the total calorie intake for the user based on their logged entries.
11. The user can monitor their calorie intake and compare it with their desired calorie goals or recommended daily allowances.
12. If needed, the user can make modifications to their meal plan, explore additional recipes, or adjust their calorie tracking within the app.

Information for Steps

Nutrition related options

Meal Plans page

User's meal plan choice

Meal plan information

Meals that the user consume

Total Calorie Intake

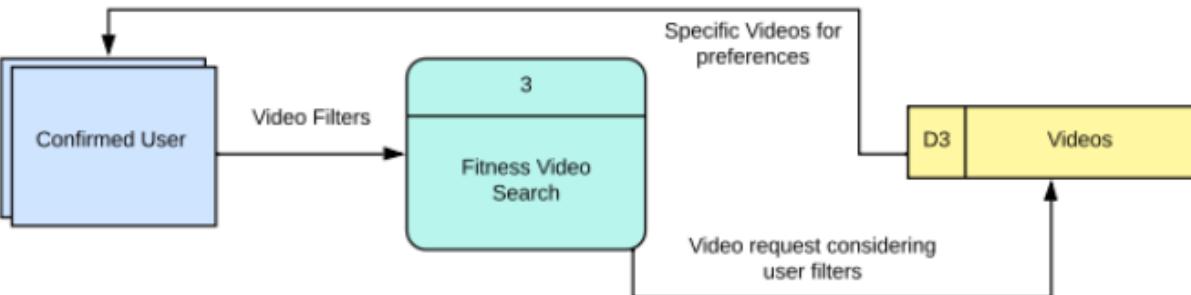
Postconditions:

- User has access to nutrition information.
- User can make informed dietary choices, track their calorie intake, and align their nutrition with their goals.

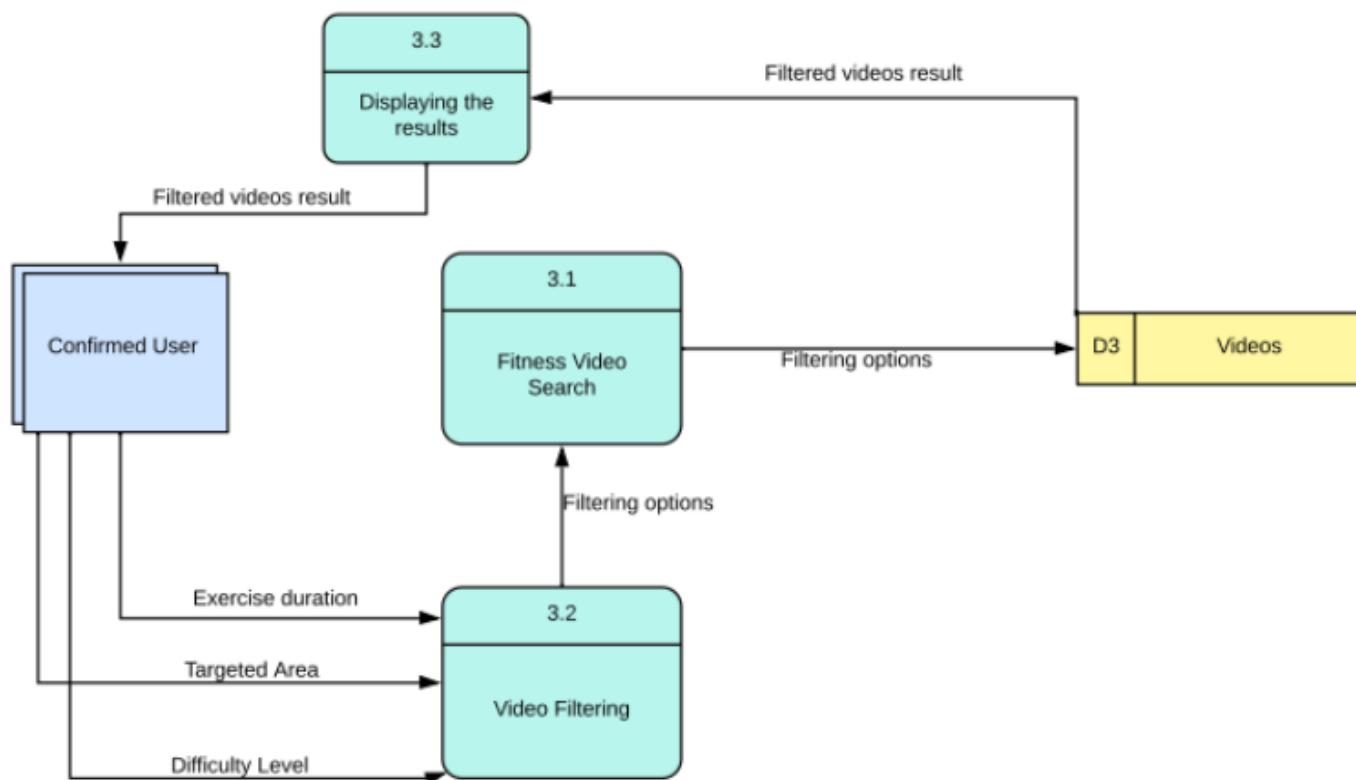
Summary Inputs	Source	Summary Outputs	Destination
<ul style="list-style-type: none">• Meals that the user consume.• User's meal plan choice	<ul style="list-style-type: none">• User• User	<ul style="list-style-type: none">• Nutrition related options• Meal plans page• Meal plan information• Total calorie intake	<ul style="list-style-type: none">• MyFitPath's customer database• User Interface• User Interface• MyFitPath's customer database

Process Model

Use Case 3, level 0



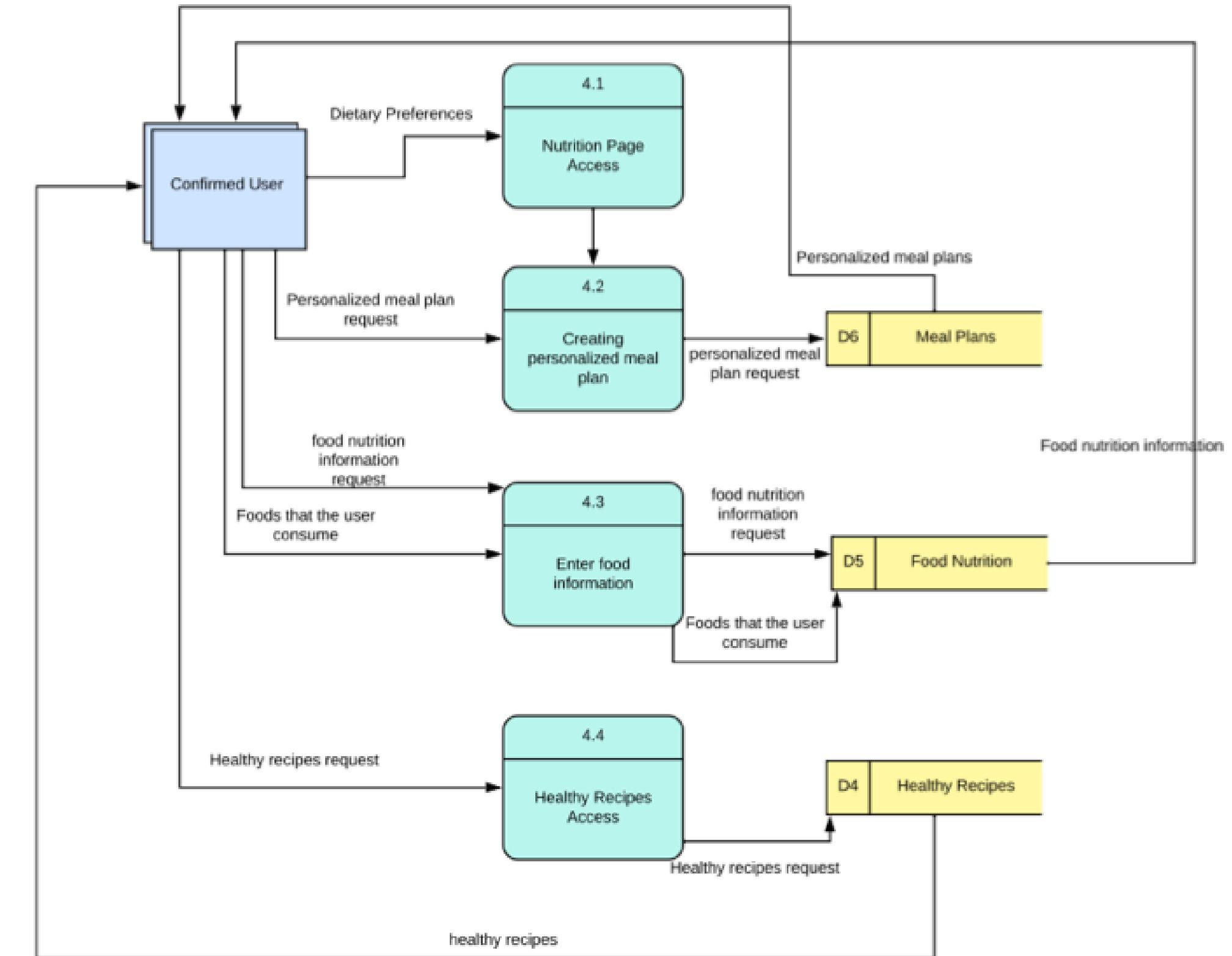
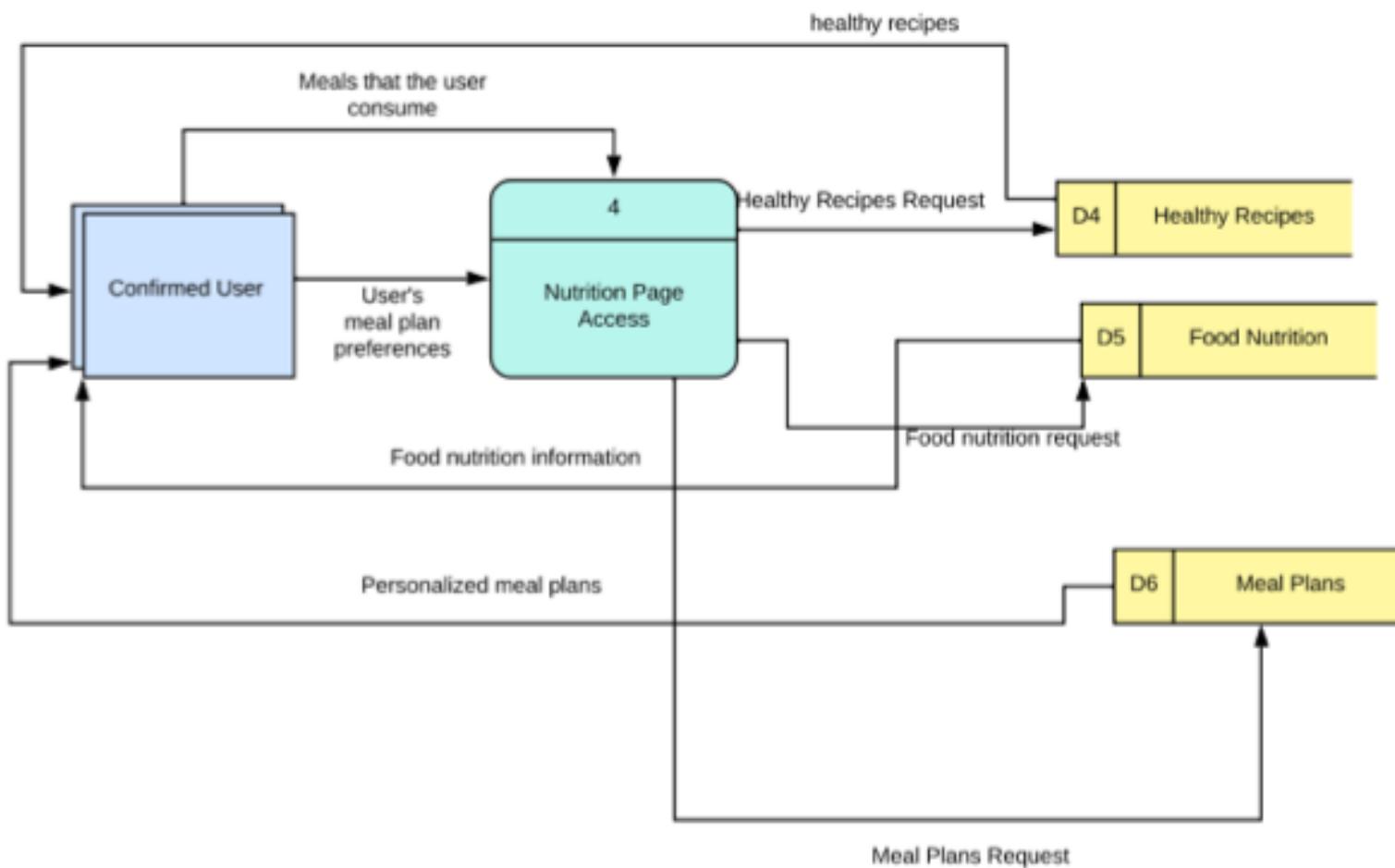
Use Case 3, level 1



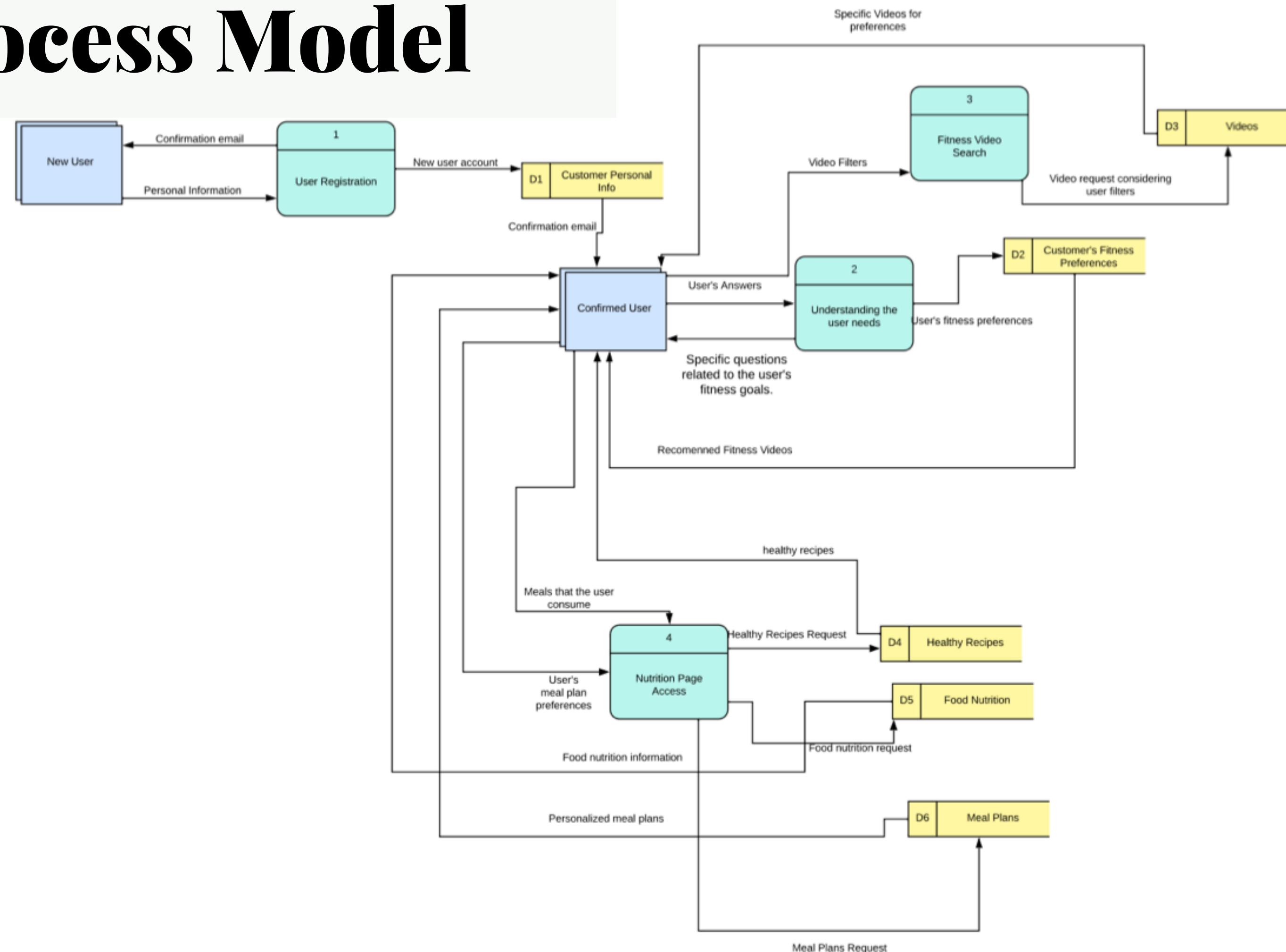
Process Model

Use Case 4, level 1

Use Case 4, level 0

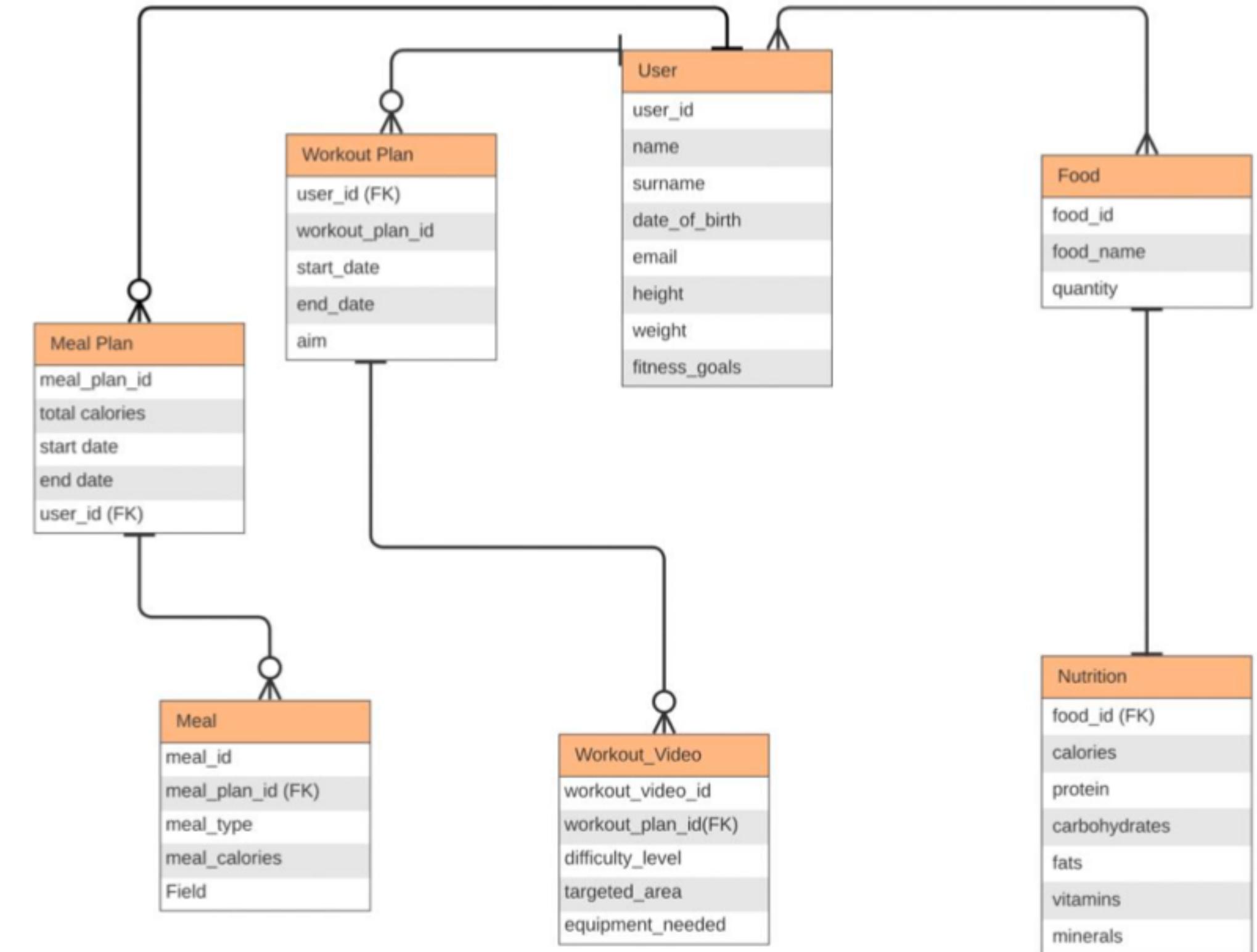


Process Model



Data Model

Entity Relationship Diagram(ERD)



DESIGN PHASE

Design Phase

- Alternative Matrix
- Architecture Report
- Interface Design
- Physical Process Model



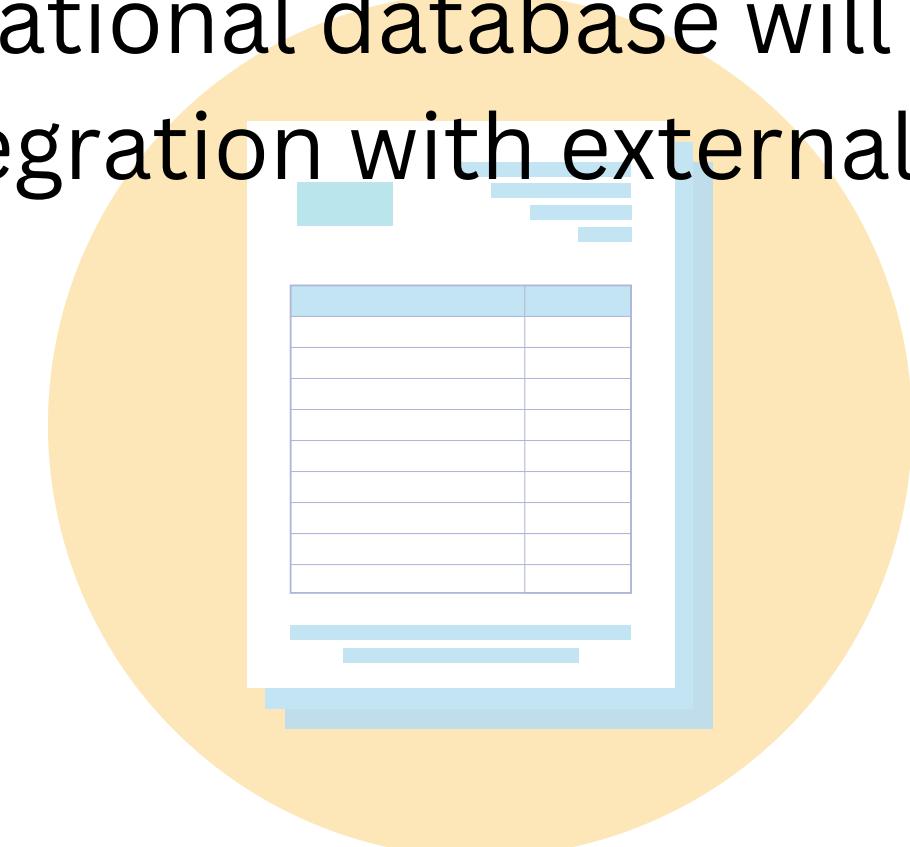
Evaluation Criteria	Relative importance	Alt1: Develop a Minimal Viable Product (MVP) with Core Features	Score(1-5)	Wtd Score	Alt2: Partner with Fitness Experts or Influencers	Score(1-5)	Wtd Score	Alt3: Outsource Development to a Third-Party Vendor	Score(1-5)	Wtd Score(1-5)
Technical Issues										
Familiarity with Application	12	medium	3	36	medium	3	36	Medium to high	4	48
Familiarity with Technology	12	high	4	48	high	4	48	Medium to high	3,5	42
Project Size	10	small	4	40	Small to medium	3,5	35	large	3	30
Compatibility	10	high	4	40	high	4	40	high	4	40
Organizational Issues										
User Acceptance	25	Depends on the core features and usability provided	3	75	Influenced by the reputation and expertise of fitness partners	5	125	Depends on the quality and functionality delivered by the vendor	4	100
Strategic Alignment	11	Can quickly validate the app concept and gather user feedback	5	55	Can leverage the reputation and credibility of fitness experts/influencers	5	55	Can provide access to specialized development expertise	4	44
Economic Issues										
Cost	20	Low to medium	4	80	Varies (may involve partnerships, content licensing, or revenue sharing agreements)	3	60	Varies (depends on the vendor's rates and engagement model)	3	60
Total	100	374			399			364		

Alternative Matrix

Architecture Report

The client-server architecture was chosen for scalability, allowing multiple clients to access the app simultaneously while offloading complex processing tasks to the server.

- Mobile app will be created.
- RESTful APIs will be implemented.
- Relational database will be used.
- Integration with external services



Architecture Report

Non-Functional Requirements

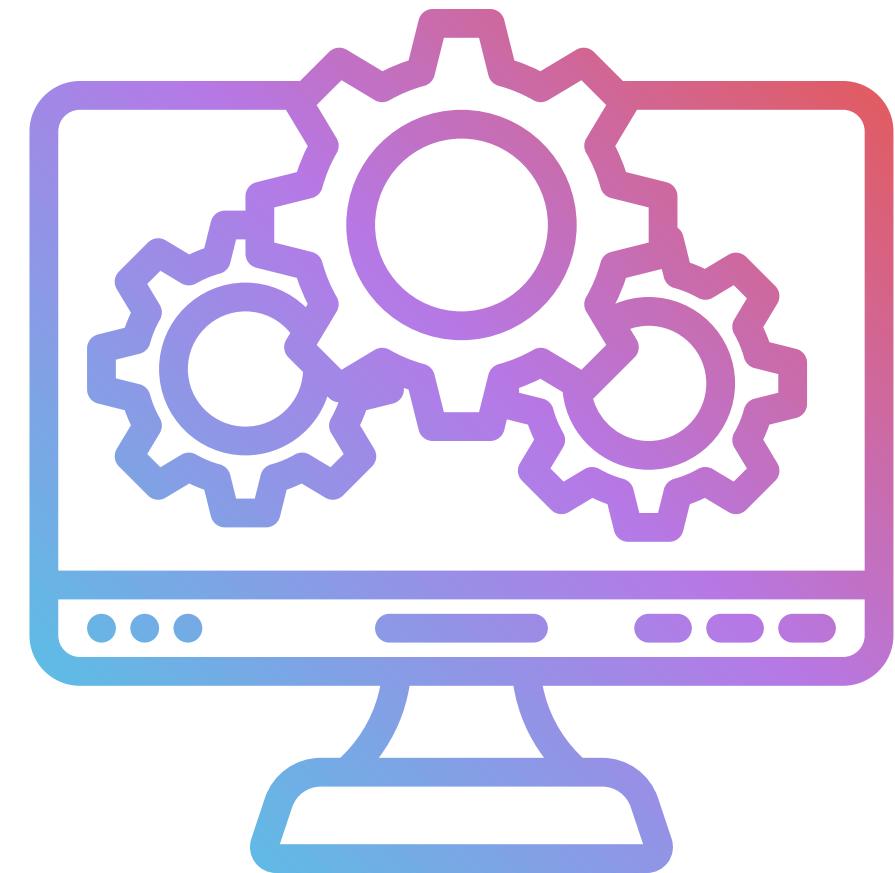
- Operational Requirements
- Performance Requirements
- Security Requirements
- Cultural and Political Requirements



Architecture Report

1) Operational Requirements

- Our fitness app should be available on iOS mobile devices and popular web browsers.
- Users will be able to use the app seamlessly on the latest versions of web browsers.



Architecture Report

2) Performance Requirements

- Our fitness app should be available 7/24..
- Our fitness app will be able to handle increased usage.
- MyFitPath's response time should not exceed 3 second.
- New content will be available weekly.



Architecture Report

3) Security Requirements

- Only authorized direct managers will have access to review user and staff data.
- Our app will be equipped with robust security measures to defend against potential threats.



Architecture Report

4) Cultural and Political Requirements

- Privacy laws of the regions where our app is used will be considered.
- Our app will be supporting multiple languages.
- Accessibility is important to us.

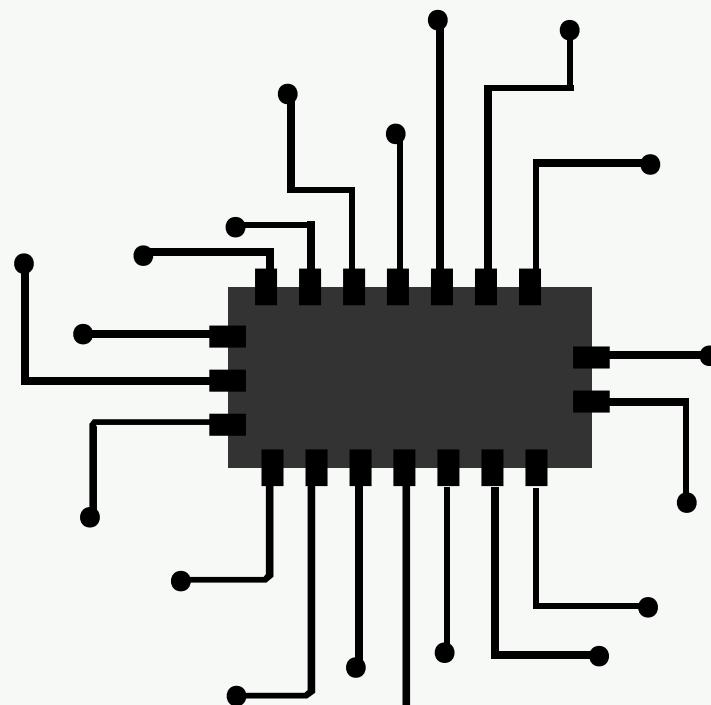


Hardware and Software Specifications

Hardware Specifications:

iOS Devices:

iPhone 6 or later models iPad Air 2 or later
models



Software Specifications:

Operating System:

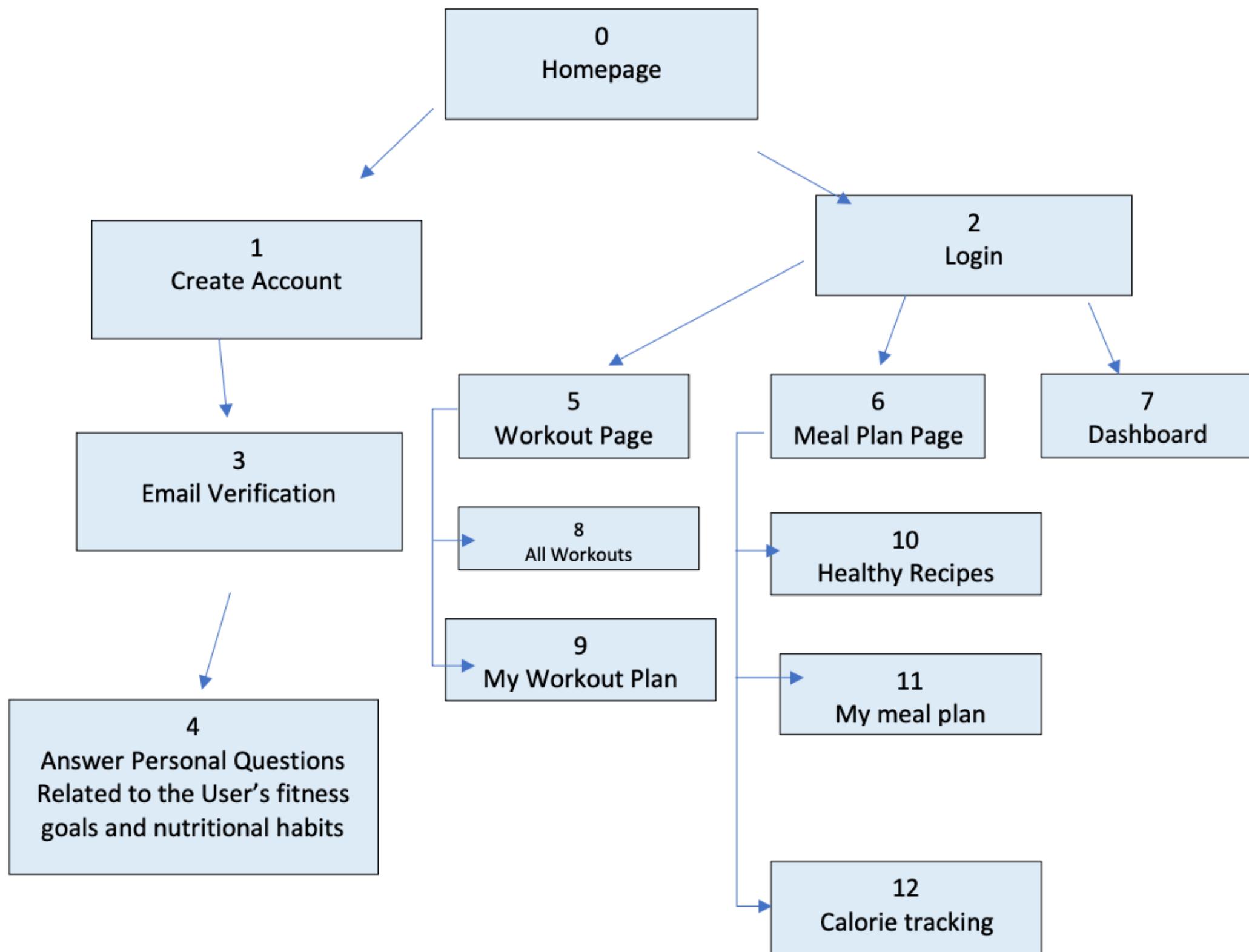
iOS 11 or later for iOS devices

Web Browsers:

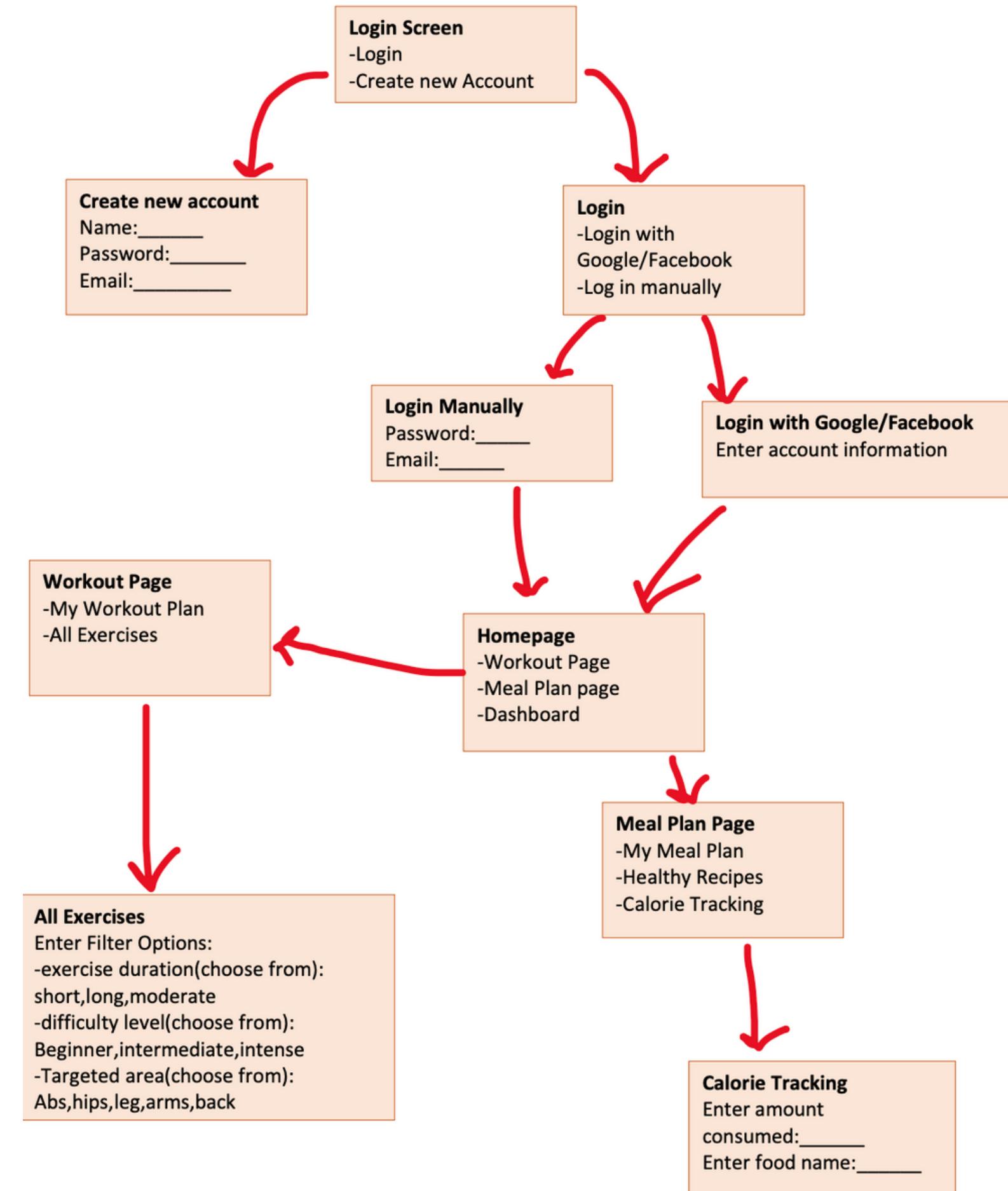
Safari (latest version) for iOS devices



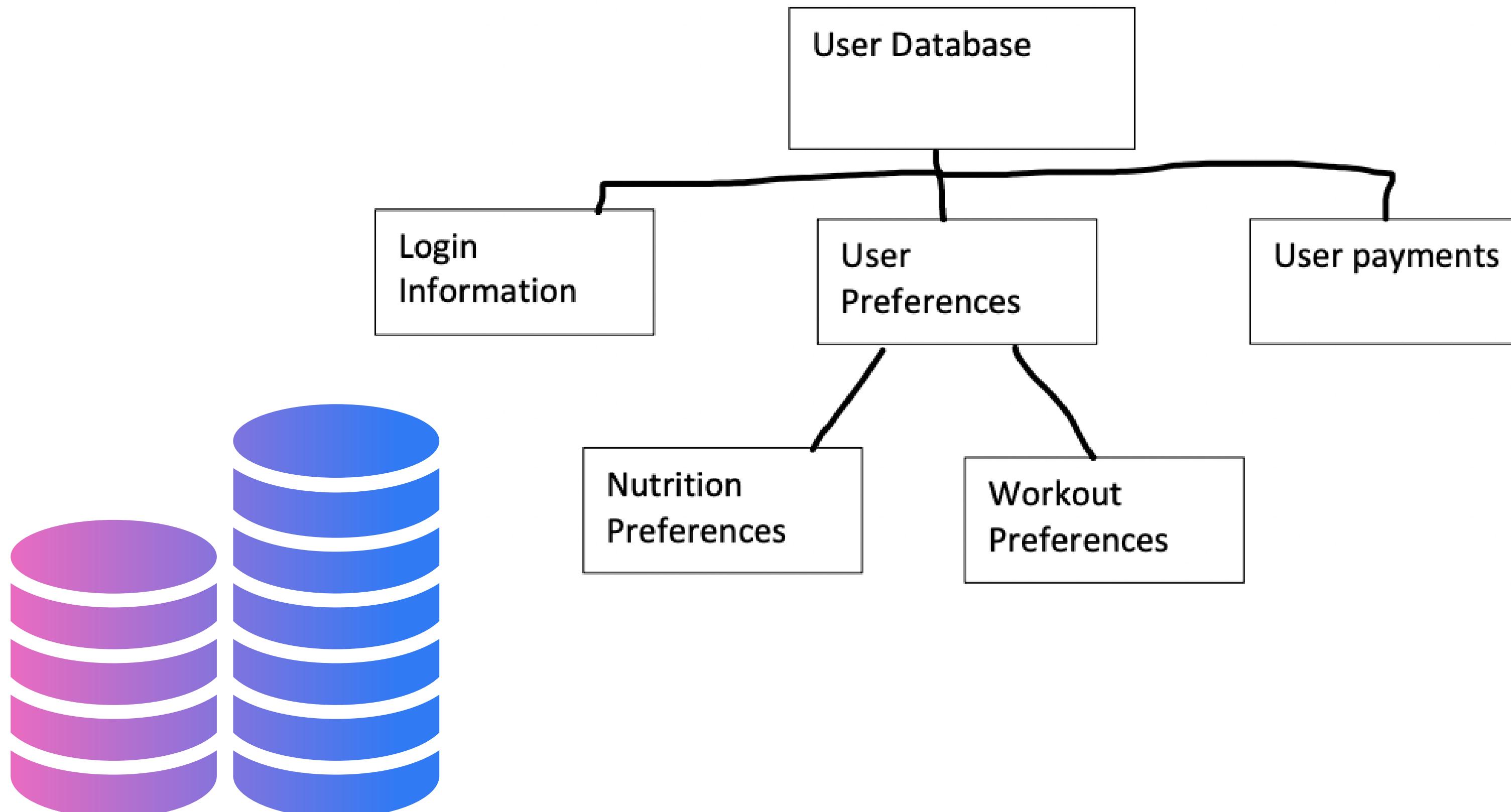
Interface Structure



StoryBoard



Hierarchical Database



Thank you