IT SYSTEMS ANALYSIS AND DESIGN TERM PROJECT

Project Name: MyFitPath

ISTANBUL TECHNICAL UNIVERSITY

Nilsu Bozan – Mehmet Ali Ozdemir

PLANNING PHASE

System Request

Project sponsor(s): Nilsu Bozan, Mehmet Ali Ozdemir

Business Need:

- Make an online platform where fitness lovers may get training, nutrition advice, and progress reports on achieving their fitness objectives.
- Provide consumers with a personalized experience that focuses on their fitness demands and interests to draw them in and maintain their interest.
- Create a name for your company as a reliable supplier of resources and information on fitness.
- Make money by charging membership fees, selling products, and running ads.

- **Business Requirements:**
- In order to use the functionality of the website, users should be able to register for an account and log in.
- Personalized Fitness Plans: Users should be able to construct personalized exercise plans based on their fitness objectives, current fitness level, and personal preferences.
- Progress Tracker: Users should be able to track their progress on their workouts, measurements and weight.
- Social Features: Users should be able to communicate with other users, learn from their own experiences, follow each other. Additionally, there should be a discussion board where users may exchange advice and support.
- Nutrition Support: Users should have access to different kind of diets and meal plans to maintain healthy life.
- Workout Library: Users should have access to a library of workouts, with filters to limit possibilities based on fitness level, workout style, and required equipment.

- **Business Value:** The website may assist in positioning the company as an industry leader and cultivate a devoted following by offering a thorough fitness platform with helpful tools and individualized recommendations. As a result, the company may see a rise in word-of-mouth recommendations, customer retention, and ultimately income. Increased revenue through membership fees, product sales, and advertising.

Special Issues or Constraints:

- Accessibility: The website should be designed with accessibility in mind, ensuring that it is usable for people with disabilities.

App Name: MyFitPath

Feasibility Study

Technical Feasibility

Overall, MyFitPath project is feasible and can be developed using modern web development tools. While the complexity of this app could arise a risk, we are still confident about our development team's experiences and knowledge. We highly believe that we'll be successful at designing and implementing a fitness app that meets users' needs and goals.

Familiarity with Application:
MyFitPath's risk regarding familiarity with application is moderate.
Our development team consist of people who are experienced in building online platforms for fitness enthusiasts. However, this project has unique features such as personalized fitness plans, progress tracking, social features, nutrition support, and a workout library that require a deeper understanding of the fitness industry. We will need to collaborate closely with personal trainers, fitness instructors and dieticians.

Familiarity with Technology: Our development team has extensive knowledge of the technologies required to construct online apps, including HTML, CSS, JavaScript, and PHP. Therefore, *MyFitPath's risk regarding familiarity with technology is low.*

Project Size: Size of the project can be considered large. We need to collaborate closely with fitness and nutrition experts to understand user's needs and goals, we can say that this project is complex. The project team will likely consist of 9 people.

Compatibility: We need to ensure that data is transferred securely and accurately between the systems that company will use such as payment system, customer database. 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.

Organizational Feasibility

User acceptance: We believe that MyFitPath will be accepted by it's users as it offers personalized fitness plans and nutrition support that are sure to appeal to fitness enthusiasts. Additionally we'll make a research to get to know our target audience better. By understanding our users' requirements, we can design the app's features and functionality to meet their needs.
Key factor: Strategic alignment: We will need to ensure that the app's implementation aligns with the organization's overall strategy and goals. Ensuring that a project is aligned with an organization's goals and objectives is crucial to its success. Therefore, we plan to conduct a thorough evaluation of our fitness app project and make any necessary adjustments to ensure that it aligns with our company's overall direction and strategy. By doing so, we aim to increase the chances of the project being successful in meeting the needs of both the organization and our target audience.

Economic Feasibility

Cash Flow Analysis and Measures

	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	

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 years

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

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

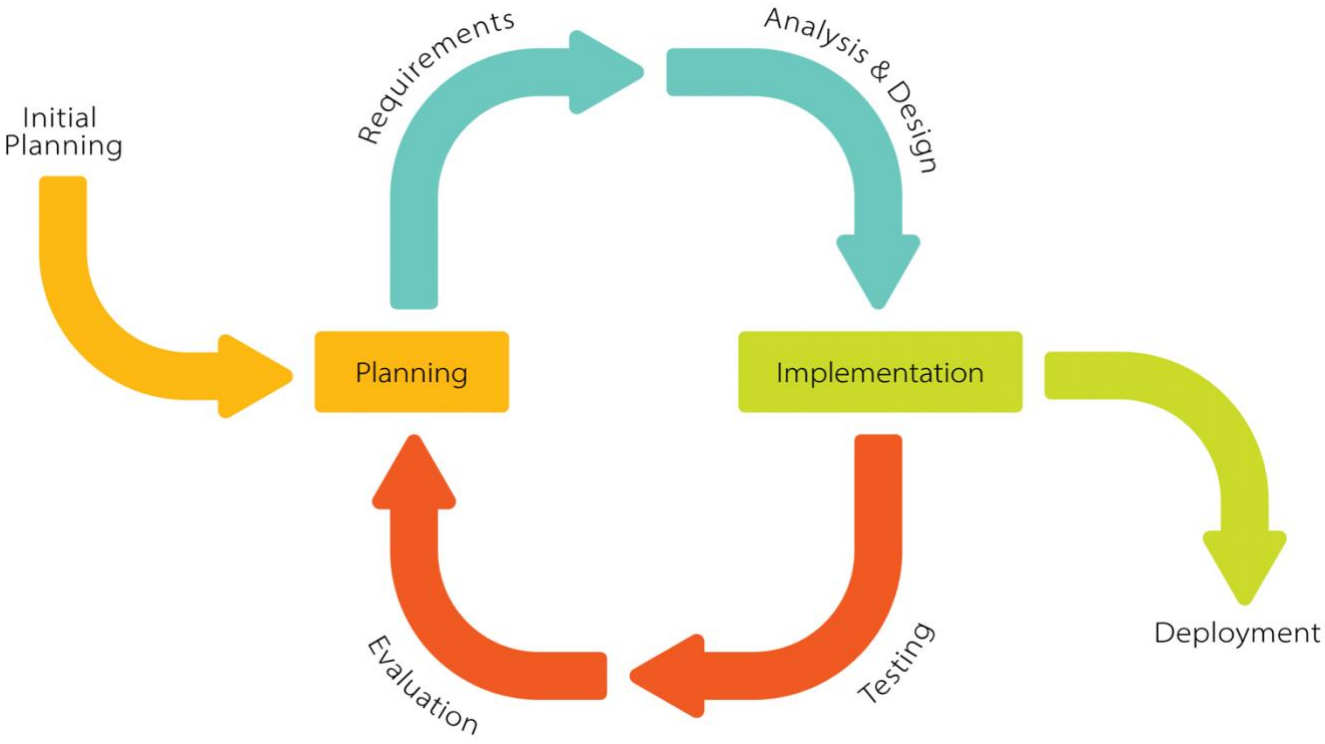
Metodology Selection

After conducting a feasibility analysis, we've decided to use the iterative methodology for our project, MyFitPath.

From a technological perspective, we have faith in our team's ability to employ contemporary web development tools to design a fitness software that satisfies users' wants and objectives. The project is challenging, but our team has expertise creating websites for fitness fans, and we're eager to work closely with dieticians, personal trainers, and fitness instructors to make the app a success.

We are also skilled in the technology needed to create web applications, thus we are unconcerned about any technical difficulties.

The project's size is quite large, and we estimate that the project team will consist of around 9 people. However, we're willing to put in the work to collaborate with fitness and nutrition experts to ensure the app meets our users' needs.



Project Staffing

Our project team comprises of about 9 individuals. We'll have two project managers in charge of the planning, analysis, and design. Implementing and testing functionality will be the responsibility of two software developers. A UX/UI designer will also be engaged to help us create an appealing user interface. The individualized exercise programs, tracking, nutrition assistance, and workout library will be created and implemented by the development team in collaboration with two fitness professionals and a nutritionist. Lastly, a quality assurance expert will make sure that the app has undergone rigorous testing and satisfies our high standards.

Standards

Introduction: The purpose of this document is to define the project standards that will be followed during the development of MyFitPath app.

Types of Standards	Approach
Documentation	The company's standard templates must be used for all project documentation, including requirements, designs, test plans, and user manuals. These templates will be used to make sure all important details are included and the documentation is consistent throughout the project.
Coding	Considering the coding Standards, software developers must ensure that the code is easy to read, maintainable, and efficient.
Version Control	All code, documentation, and other project artifacts will be stored in the company's version control system. Version control system will be used to make sure that all the progress is up to date.
Procedural	Actual task progress in the work plan should be recorded every Monday morning by 9 A.M. Every Friday, there will be a meeting to inform the team about new updates. All changes to a requirements document must be approved by the project manager.

Schedule Refinement

If a deadline is missed during the project, the following steps will be taken to refine the project schedule:

1-Identify the reason for the missed deadline and document it.
2-Examine how it affected to the whole project.
3-Communicate stakeholders and update the project schedule to reflect the delay.
4-Identify the impact of delay on the project timeline.
5- Perform a risk analysis to identify new risks that may emerge
6-Develop a mitigation plan to address any new risks or issues.
7- Closely monitor project progress while implementing corrective action if necessary.

Timeboxing

Timeboxing sets a fixed deadline for a project and delivers the system by that deadline no matter what, even if the functionality needs to be reduced.

The system delivery is 26st of May 2023.

1- System should contain **fitness videos that targets different areas of body**. All the videos should be categorized considering the exercise type. Users should be able to easily filter videos considering their, length, exercise type, difficulty level, targeted body are.
2- **User registration and login:** System should enable users to create accounts and manage their profiles, including personal information, fitness goals, and preferences.

3- **User data encryption:** System should contain strong encryption algorithms to protect user data, such as personal information, health and fitness data, and payment details.

4- **Integration with fitness tracking devices:** Our app should be convenient to integrate with fitness tracking devices such as cellphone, smart watches, fitness bands.

5- **Workout planning and scheduling:** System should allow users to plan and schedule their workouts, set reminders and alerts, and track their progress towards their fitness goals.

6- **Nutrition and meal planning:** System should provide users with nutrition and meal planning tools, such as a food diary, calorie tracker, and recipe suggestions, to help them manage their diets and achieve their fitness goals.

7- **Social sharing and community features:** System should allow users to share their progress with friends and family, join fitness challenges and groups, and connect with other users who have similar fitness interests and goals.

Core of the system

Functionality ranked as most important.

1-Fitness videos that targets different areas of body

2- User registration and login

3- User data encryption

Risk Assessment

Risk #1: Technical complexity: Considering the complexity of the app, there may be some challenges during integrating the app with third-party systems such as payment gateways or fitness tracking devices. The risk could result in delayed development, increased costs, or even project failure.
Likelihood of risk: Moderate
Potential impact on the project: High
Mitigation Plan:
Gather as much information as possible about the third-party systems that we need to integrate with. Therefore, our team will have better understanding of APIs, limitations, and requirements. Additionally, collaborating closely with experts in the third-party systems also contributes our knowledge about their systems better.

Risk #2: Similar apps already exists in the market. This could lead to low user adoption, which would impact the app's success and revenue potential.
Likelihood of Risk: High
Potential impact on the project: Moderate
Mitigation Plan: Ensure that the app's features and functionality meet users' needs and preferences. Collaborating with influencers and famous people can help us promote our app. Therefore, in a short time we can have more users.

Risk #3: With a project team of nine people, there is a risk that resource constraints could impact the project's timeline and deliverables. This could be due to unforeseen absences or competing priorities for team members.
Likelihood of Risk: Moderate
Potential impact on the project: High
Mitigation Plan: It's important to closely monitor the progress of the project and adjust the resource allocation plan if necessary to ensure that team members are available to complete their tasks on time. Additionally, cross-training team members and identifying potential backups can help mitigate the impact of any unexpected absences or turnover.

ANALYSIS PHASE

REQUIREMENTS DEFINITION:

1. Business Requirements

1.1. MyFitPath should be able to provide most suitable exercise videos for individual's needs and goals considering user data and personalized preferences.
1.2. MyFitPath should have a dashboard that enables users to meet and share their own experiences regarding fitness.
1.3. MyFitPath should allow users to login with their Google or Facebook accounts or create a new account.

2. User Requirements

2.1. Creating new account or login with third party services such as Google or Facebook.
2.2. New users should follow the steps displaying on the screen and answer specific questions regarding their fitness and nutrition goals.
2.3. Users will be able to filter videos depending on their fitness goals and needs.
2.4. Users should have access to nutrition information, including meal plans, recipes, and calorie tracking.

3. Functional Requirements

3.1. Information Oriented Requirements

3.1.1. The system should keep user's progress over time, including weight loss/gain, body measurements, and fitness level improvements.
3.1.2. The system should provide nutritional information for foods and meals, including calorie count and macronutrient breakdown.
3.1.3. User profile information such as name, age, gender, weight, height, fitness goals, fitness level, and medical conditions should be stored.

3.2. Process Oriented Requirements

3.2.1. System should allow users to register.
3.2.2. System should be able to make exercise video recommendations by looking at user's video history.
3.2.3. System should allow users to connect with other people who use the app.
3.2.4. The system should send daily motivational messages to users to keep them engaged and motivated towards their fitness goals.
3.2.5. The system should allow users to track their daily water intake and remind them to stay hydrated.

4. Nonfunctional Requirements

Operational Requirements	-The system will run on IOS mobile devices and will be accessible with Web browsers. -The system must be compatible with the latest versions of popular web browsers.
Performance Requirements	- The system should be available 24/7.

	- The system should be scalable to accommodate future growth without affecting its performance. -Any interaction between user and the system should not exceed 3 minutes. -New videos should be available in the system weekly.
Security Requirements	-Only direct managers will be able to review user data and staff data. -System will be ready to fight with any kind of virus, malware, worms, etc. at any time.
Cultural and Political Requirements	-The app must comply with the privacy laws of the region where it will be used. -The app should be available in multiple languages to cater to users from different cultural backgrounds. -The app must be accessible to people with disabilities, such as those with vision or hearing impairments.

5. System Requirements

5.1.1. System needs stable internet connection.

5.1.2. The system should have robust security measures in place to protect user data and prevent unauthorized access.

Use Cases

Use Case Name: User Registration	**ID:** UC-1	**Priority:** High

Actor: User
Description: User registers the system by creating a new account or logs in with third-party services.
Trigger: New user would like to use MyFitPath.
Type:

- ■ External
- ☐ Temporal

Preconditions:

- User has a Google or Facebook account or wants to create a new account.
- User must have access to the internet.
- The system must be accessible.

Normal Course:	**Information for Steps**
1. The user selects the "Login/Signup" option on the MyFitPath system.	
2. The MyFitPath system displays the login/signup page.	
3. The user selects the "Google" or "Facebook" option to login/signup with their respective accounts.	
4. The user is redirected to the respective Google or Facebook login page.	
5. The user enters their login credentials and authorizes the MyFitPath system to access their account information.	
6. The MyFitPath system verifies the user's login information and retrieves their account information from Google or Facebook.	User name and lastname
7. The MyFitPath system creates a new account for the user if they do not have an existing account.	User email User birthdate
8. MyFitPath system sends confirmation email to the user.	New user account
9. The user is redirected to the MyFitPath system dashboard.	

Postconditions:

1. The user is logged in to the MyFitPath system.
2. The user can access the system's features and functionalities.

Summary Inputs	**Source**	**Summary Outputs**	**Destination**

• User's email address (if choosing to create a new account) • User's name (if choosing to create a new account) • User's date of birth (if choosing to create a new account) • User's Google or Facebook credentials (if choosing to log in with those services)	• User • User • User • User	• New user account • Confirmation Email	• MyFitPath’s customer database • User

Use Case Name: Understanding the User Needs	**ID:**UC-2	**Priority:** High

Actor: User
Description: Users should answer some questions about themselves to utilize the app more efficient.
Trigger: A new user wants to create a customized fitness plan.
Type:
- ■ External
- ☐ Temporal

Preconditions:
- The system is available
- User logged into system
- The user is new user

Normal Course:	**Information for Steps**
1. The new user visits the MyFitPath system.	
2. The MyFitPath system displays the onboarding process.	← Specific questions related to the user's fitness goals.
3. The new user follows the onscreen instructions and answers specific questions regarding their fitness goals.	→ User answers
4. The MyFitPath system uses the user's answers to create a customized fitness plan for them.	
5. The new user is directed to the dashboard where they can access their customized fitness plan.	→ Customized fitness plan

Postconditions: The new user has a customized fitness plan and can access it on the MyFitPath system.

Summary Inputs	**Source**	**Summary Outputs**	**Destination**
• User's fitness goals and needs.	• User	• Recommended fitness videos	• MyFitPath's customer database

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

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.

Normal Course:	**Information for Steps**
1. The user selects the "All Videos" option on the MyFitPath system.	
2. The MyFitPath system displays the videos page.	← All videos page
3. The user enters keywords related to their desired fitness video in the search bar.	→ Keyword
4. The user selects “filters” option.	
5. The MyFitPath system displays filter options.	← Filter options
6. The user selects any additional filters to refine their search:	
-User chooses duration of the exercise.	→ Exercise duration
-User chooses difficulty level of the exercise.	→ Difficulty level
-User chooses targeted body area.	→ Targeted area
7. User selects “Show Results” option.	
8. The MyFitPath system displays the search results.	← Search results
9. The user selects a video from the search results.	
10. The MyFitPath system plays the selected video for the user.	← Selected video

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**

• Specific keyword • Exercise duration • Difficulty level • Targeted area	• User • User • User • User	• All videos page • Filter options • Search results	• 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.		

- User completed the questions displayed on the system when first logged in.

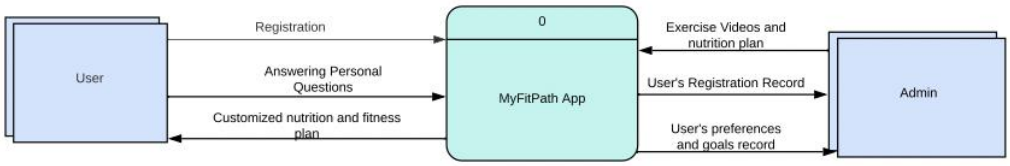
Normal Course:	**Information for Steps**
1. The user opens the fitness app and goes to the "Meal Planning" section.	
2. The app presents a range of nutrition-related options, including meal plans, recipes, and calorie tracking.	← Nutrition related options
3. The user selects the specific option they 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.	← Meal Plans page
5. The user chooses a meal plan that aligns with their dietary needs or goals.	→ User's meal plan choice
6. The app provides detailed information about the selected meal plan, including daily meal schedules, recipes, and nutritional breakdowns.	← Meal plan information
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.	→ Meals that the user consume
10. The app calculates and displays the total calorie intake for the user based on their logged entries.	← Total Calorie Intake
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.	

Postconditions:

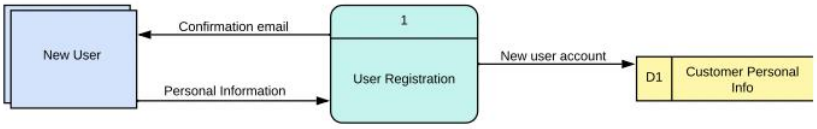
- User has access to nutrition information.

• User can make informed dietary choices, track their calorie intake, and align their nutrition with their goals.			
Summary Inputs	**Source**	**Summary Outputs**	**Destination**
• Meals that the user consume. • User's meal plan choice	• User • User	• Nutrition related options • Meal plans page • Meal plan information • Total calorie intake	• MyFitPath's customer database • User Interface • User Interface • MyFitPath's customer database

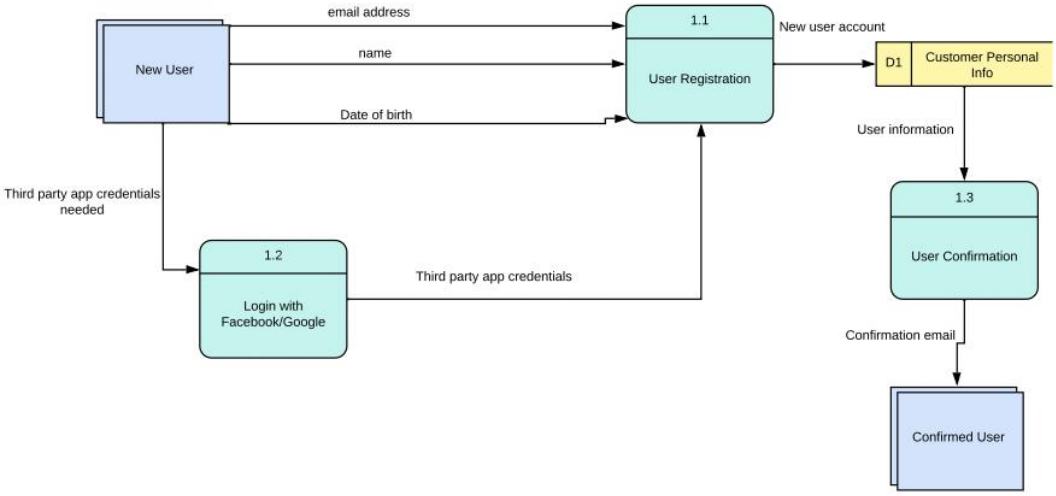
Context Diagram (The Whole System)



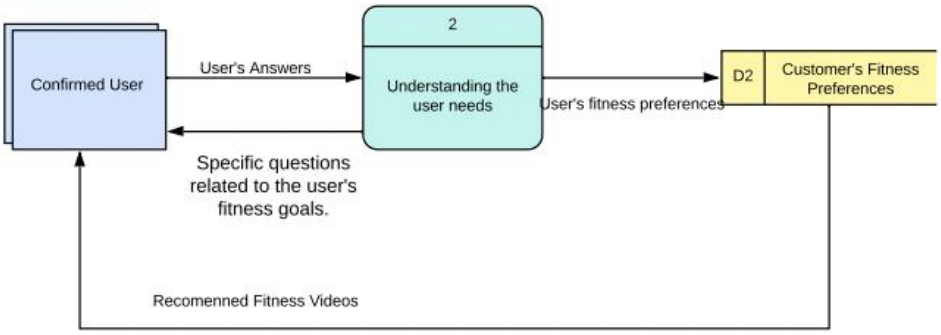
Use Case1, Level 0



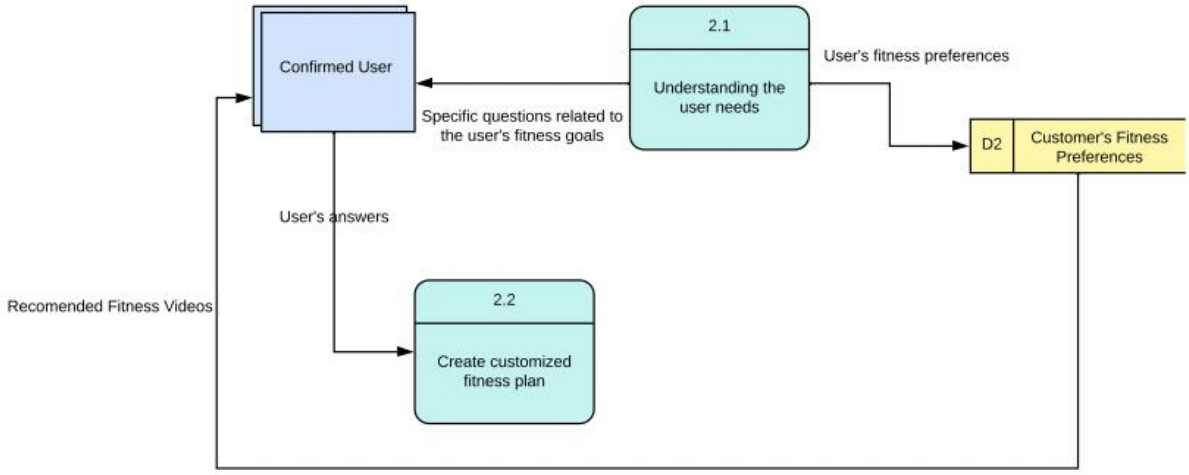
Level 1



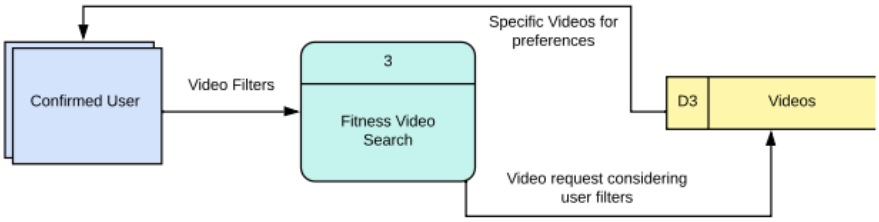
Use Case 2, level 0



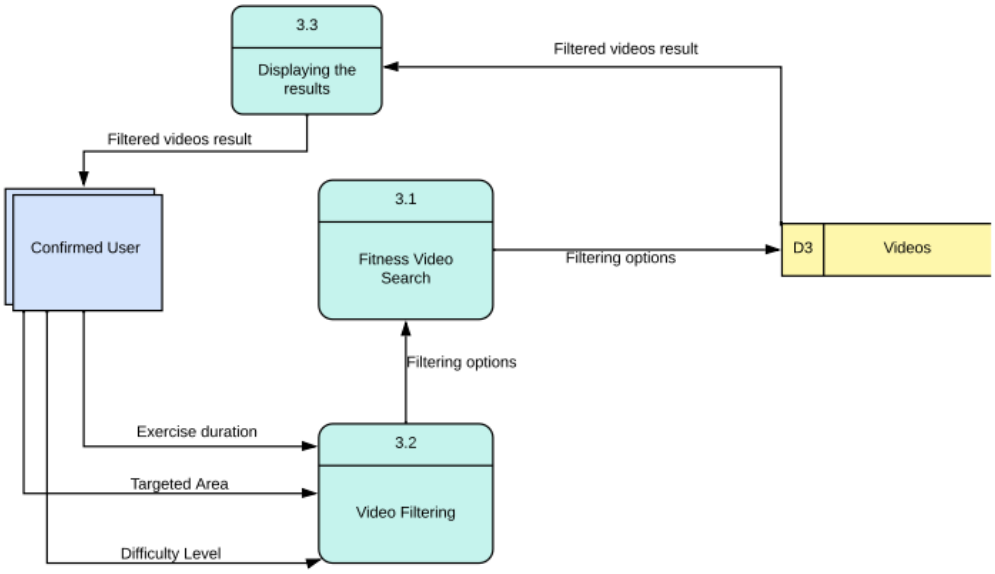
Use Case 2, level 1



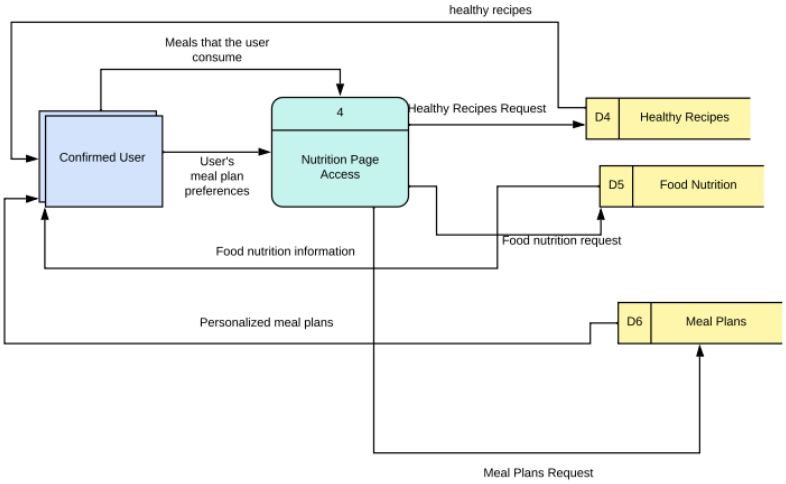
Use Case 3, level 0



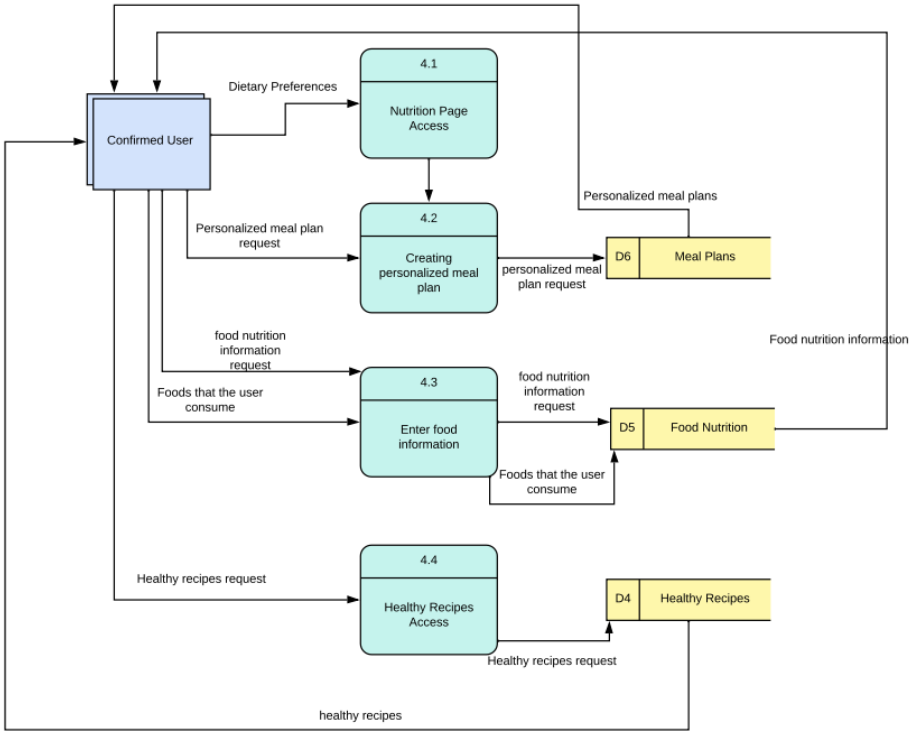
Use Case 3, level 1



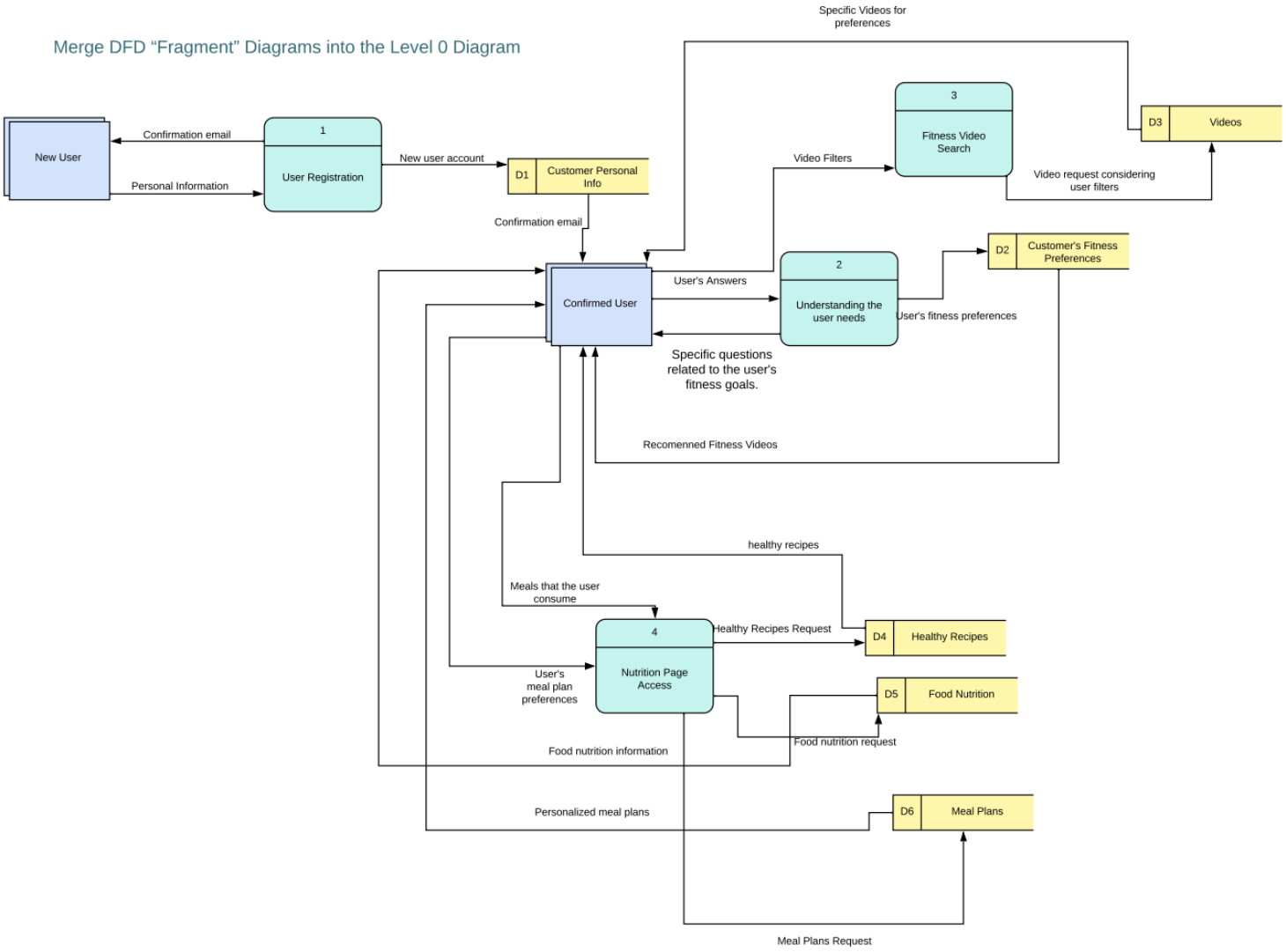
Use Case 4, level 0



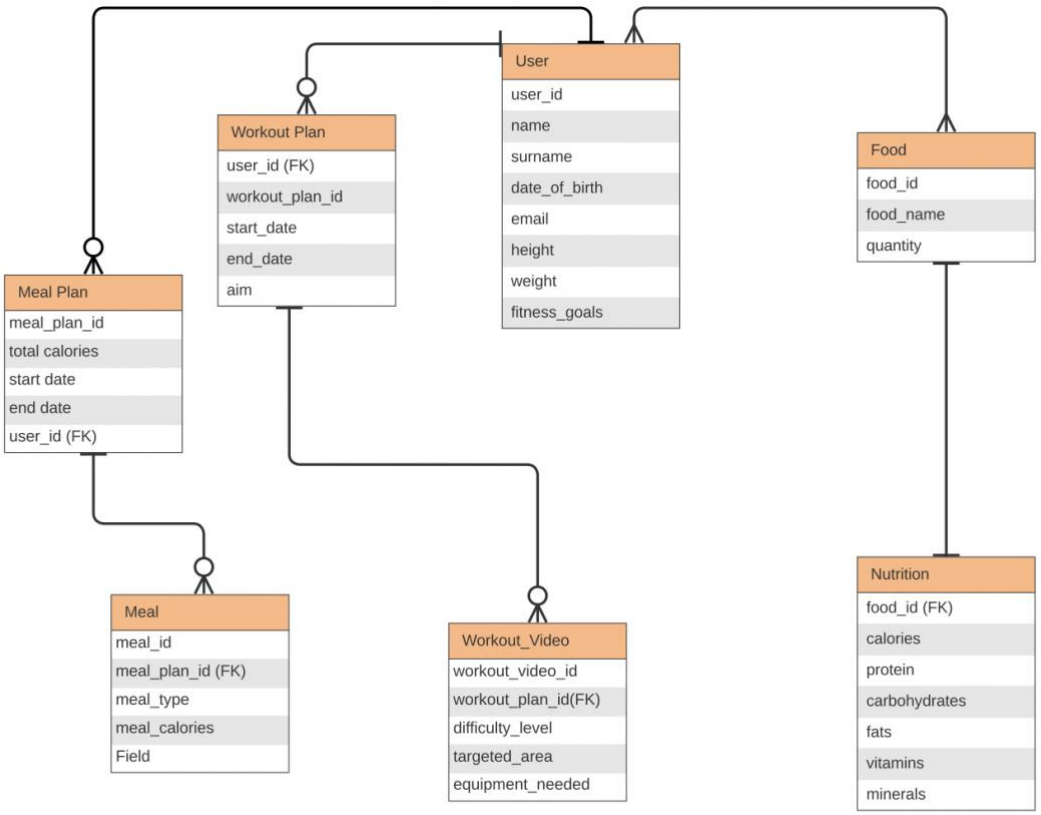
Use Case 4, level 1



Merge DFD “Fragment” Diagrams into the Level 0 Diagram



Entity Relationship Diagram(ERD)



DESIGN PHASE

Alternative Matrix

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 Acceptence	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 Allignment	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		

Architecture Design

The purpose of this architecture report is to provide an overview of the architecture design for MyFitPath project. MyFitPath aims to provide users with a comprehensive platform for tracking their fitness activities, accessing personalized workouts and meal plans, track calories, meet other fitness lovers.

The ***client-server architecture*** was chosen for scalability, allowing multiple clients to access the app simultaneously while offloading complex processing tasks to the server.
Following are the major elements of the architecture:

- Mobile app will be created for the iOS operating system and offers a simple user interface to access the app's features.
- RESTful APIs are implemented on the server side to handle requests from the mobile app, enabling communication and data exchange.
- A relational database that stores user profiles, exercises, nutrition information, and other data.
- Integration with external services such as wearable device APIs for gathering fitness data and third-party APIs for getting nutrition data.

Mobile Application

The mobile application will be developed using native Technologies, such as Swift. It will provide a user-friendly interface for users to log in, access their profiles, view workout routines, track their progress, and monitor nutrition intake.

Web Services/APIs

The web services layer will consist of RESTful APIs implemented using technologies like Node.js and Express.js.

Database

A relational database management system (e.g., MySQL, PostgreSQL) will be used to store user profiles, workout plans, nutrition data, and other relevant information. The database schema will be designed to ensure data integrity and efficient retrieval.

External Services

Integration with wearable device APIs will allow the app to collect real-time fitness data, such as steps taken, heart rate. Third-party APIs will be utilized to retrieve nutritional information for various food items.

Non-functional Requirements

Operational Requirements:

- Our fitness app should be available on iOS mobile devices and popular web browsers, so you can access it anytime, anywhere, using your preferred device.
- You'll be able to use the app seamlessly on the latest versions of web browsers, ensuring a smooth and enjoyable browsing experience.

Performance Requirements:

- We want the fitness app to be available 24/7, so you can use it whenever it suits your schedule, whether it's early in the morning or late at night.
- As our user community grows, we want the app to grow with it. It should handle increased usage and traffic without any slowdowns, providing a consistently smooth and responsive experience.
- We understand that your time is valuable, so we've made it a priority to keep interactions with the app quick and efficient. Whether you're loading pages or submitting forms, you can expect everything to happen within just a few minutes.
- We're committed to keeping the app fresh and engaging. You'll find new fitness videos added to the app every week, so you'll always have something new to discover and stay motivated.

Security Requirements:

- Your privacy is important to us. Only authorized direct managers will have access to review user and staff data, ensuring that your personal information remains confidential and protected.
- We take your online security seriously. Our app is equipped with robust security measures to defend against viruses, malware, worms, and other potential threats, providing you with a safe and secure environment to use and enjoy.

Cultural and Political Requirements:

- We respect your privacy and adhere to the privacy laws of the regions where our app is used. You can trust that your data is handled in accordance with applicable regulations and guidelines.
- We value diversity and inclusivity. That's why our app supports multiple languages, allowing individuals from different cultural backgrounds to use it comfortably in their preferred language.
- Accessibility is important to us. We strive to make our app accessible to everyone, including individuals with disabilities. We're working to ensure that people with vision or hearing impairments can easily navigate and use the app, promoting equal access and a welcoming experience for all.

Hardware and Software Specifications

- The fitness app is designed to run on mobile devices and requires the following ***hardware specifications:***

  iOS Devices:
  iPhone 6 or later models
  iPad Air 2 or later models

- The fitness app requires the following ***software specifications:***

  Operating System:
  iOS 11 or later for iOS devices

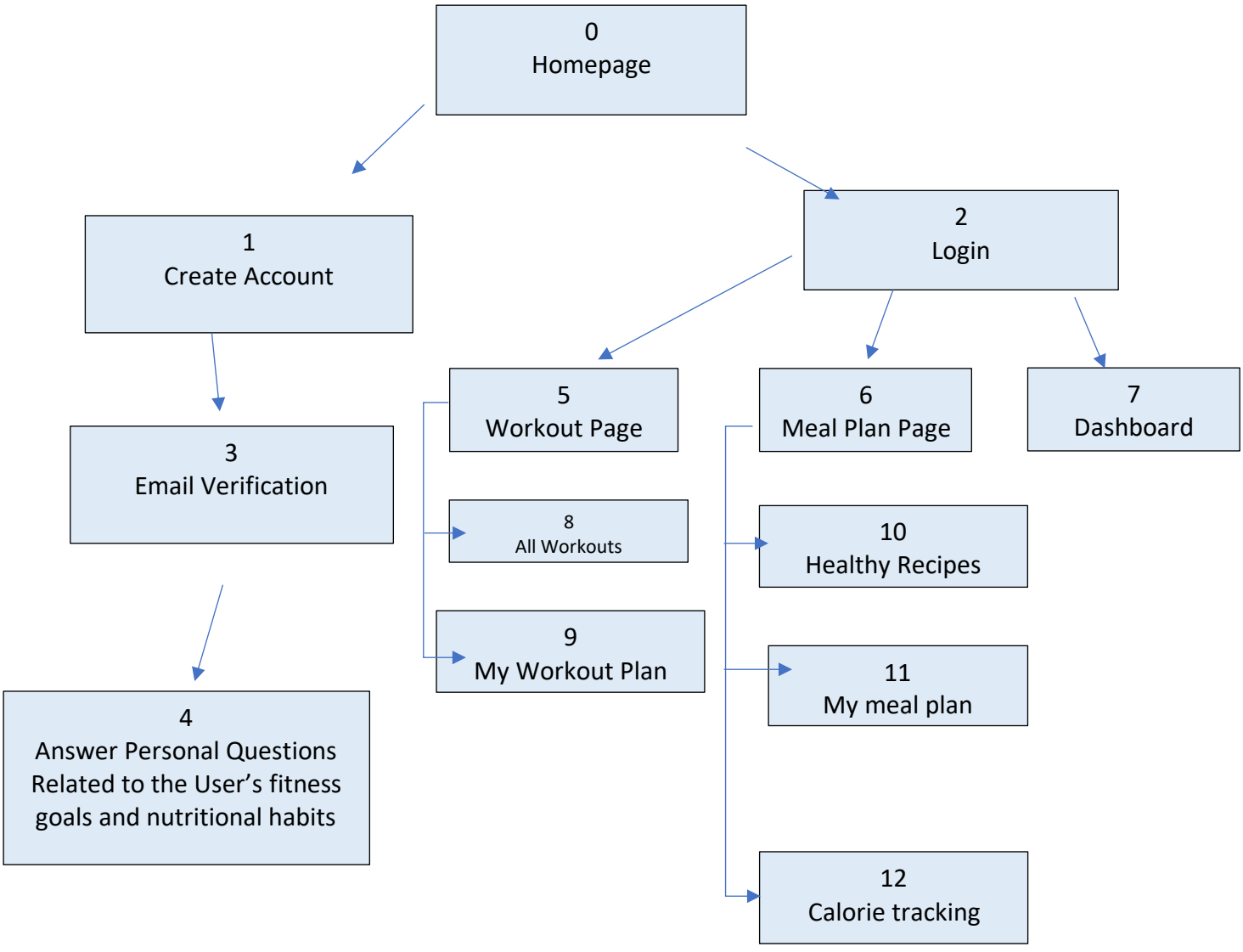
  Web Browsers (for accessing the app via web interface):
  Safari (latest version) for iOS devices

Understanding the Users
Use Scenarios

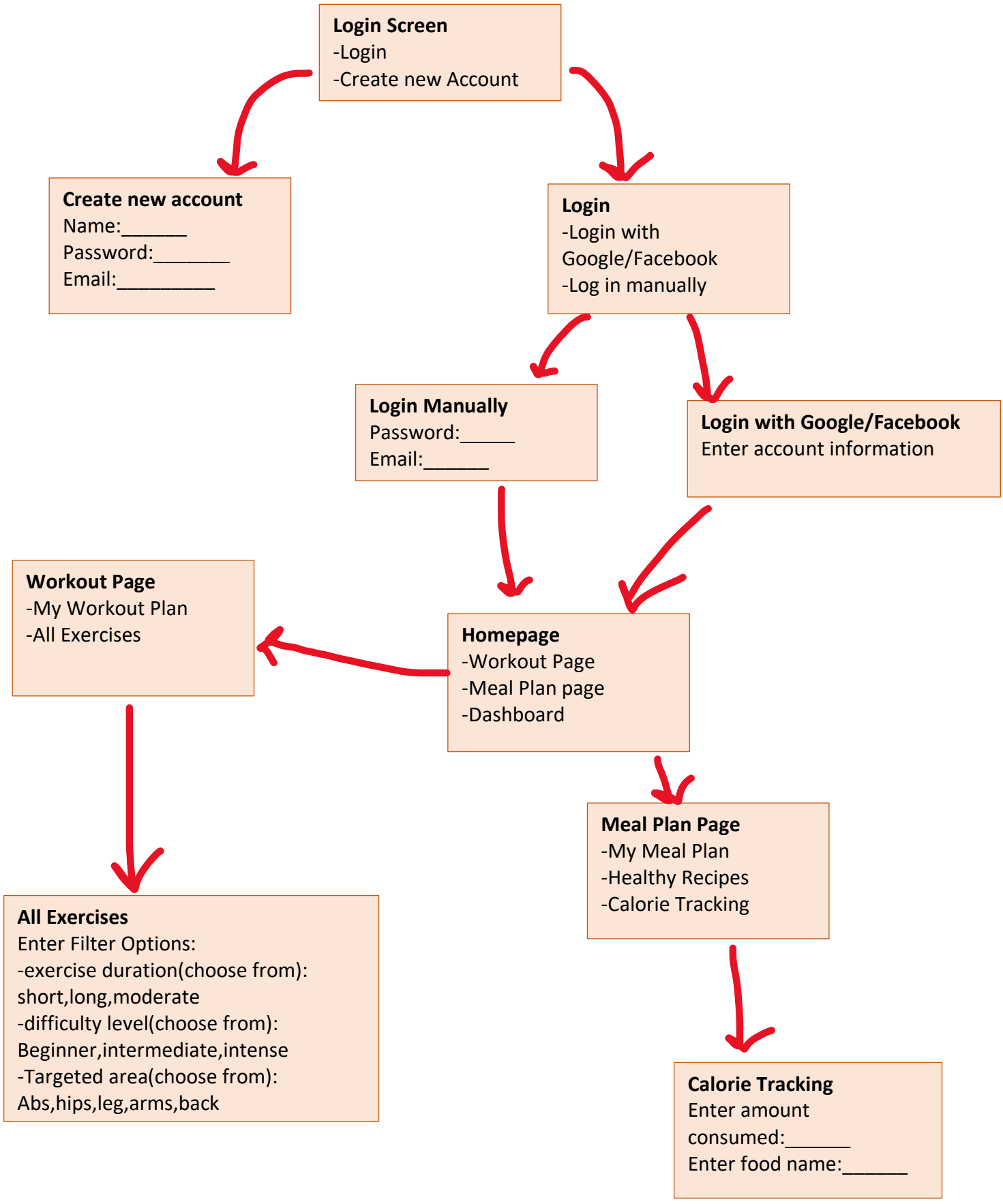
Persona 1: Focused Visitor
Name: Emily
Fitness Goal: Weight Loss
Background: Emily leads a busy lifestyle and is determined to lose weight. She prefers a focused approach to fitness and wants a clear plan to follow.
Scenario: Emily visits the fitness app with the intention of finding a structured workout and meal plan. She wants a user-friendly interface that allows her to easily track her progress and access personalized recommendations. Emily is motivated and committed to following the plan diligently to achieve her weight loss goals.

Persona 2: Exploratory Visitor
Name: Alex
Fitness Goal: General Fitness and Wellness
Background: Alex is tech-savvy and enjoys exploring new fitness trends and techniques. They have a curious nature and want to discover different workout routines and nutrition tips to enhance their overall fitness and well-being.
Scenario: Alex discovers the fitness app through social media and is intrigued by its features. He explores the app's workout library, nutrition articles, and community forums. He enjoys the flexibility to try various exercises and experiment with different meal options. He appreciates a platform that offers a wealth of information and encourages interaction with like-minded individuals.

Interface Structure



StoryBoard


Login Screen
-Login
-Create new Account
Create new account
Name:_____
Password:_____
Email:_____
Login
-Login with Google/Facebook
-Log in manually
Login Manually
Password:_____
Email:_____
Login with Google/Facebook
Enter account information
Workout Page
-My Workout Plan
-All Exercises
Homepage
-Workout Page
-Meal Plan page
-Dashboard
All Exercises
Enter Filter Options:
-exercise duration(choose from): short,long,moderate
-difficulty level(choose from): Beginner,intermediate,intense
-Targeted area(choose from): Abs,hips,leg,arms,back
Meal Plan Page
-My Meal Plan
-Healthy Recipes
-Calorie Tracking
Calorie Tracking
Enter amount consumed:_____
Enter food name:_____

Hierarchical databases