

Health Goals

Software Engineering (332:452)

Full Report 1

Group Number: 1

Visit Us At: <https://health-goals.herokuapp.com>

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Table of Contents

Individual Contributions Breakdown:	3
1. Customer Problem Statement	4
a. Introduction	4
i. Health & Lifestyle Changes	4
ii. Mental Health Stats & Significance	5
iii. Our Approach	6
b. Glossary of Terms	8
2. System Requirements	9
a. Enumerated Functional Requirements:	9
b. Enumerated Nonfunctional Requirements:	11
c. On-Screen Appearance Requirements:	12
3. Functional Requirements Specification	17
a. Stakeholders	18
b. Actors and Goals	18
c. Use Cases	19
i. Casual Description	19
ii. Use Case Diagram	21
iii. Traceability Matrix	21
iv. Fully-Dressed Description	22
d. System Sequence Diagrams	27
4. User Interface Specification	31
a. Preliminary Design & User Effort Estimation	31
5. Domain Analysis	47
a. Domain Model - For UC 1, 2, 4, 6, 9, 10, 14, 15	47
b. System Operation Contracts	66
6. Project Size Estimation (based on use case points)	67
a. UUCW - Unadjusted Use Case Weight	68
b. UAW - Unadjusted Actor Weight	695
c. TCF - Technical Complexity Factors	70
d. Environment Complexity Factor	71
7. Plan of Work	72
a. Roadmap with Projected milestones and dates in Gantt view	72

b. Breakdown of Responsibilities:	73
8. Project Management	74
9. References	75

Individual Contributions Breakdown:

Plan of Work (5)	11.11%	100%								
Project Management (10)	11.11%	100%								
Total (points)	11.11	100								

1. Customer Problem Statement

a. Introduction

i. Health & Lifestyle Changes

There is no denying that health is possibly the most important part of our life. We have a duty to ourselves to not only keep ourselves alive but to make sure we are happy and thriving. Good health is the easiest way to achieve long term happiness and peace and is a guaranteed way to live longer and stronger. Good health has many benefits: healthier weight, reduced risk of diseases, strong bones and teeth, better mental health, better sleep, more energy, and more. It is also scientifically proven that maintaining good health can help people keep many painful and dangerous risks at bay, such as cancer, diabetes, strokes, and other diseases. The two best ways to maintain good health are a balanced diet and physical activity. Despite us knowing this, given the technological advances of our world today, it's no surprise that many people ignore healthy habits for more immediate gratification in the form of junk food or lazing around.

As they say, *good things in life do not come easy*. A good, healthy lifestyle does not come easy either. It's much easier to open a bag of processed foods than to buy fresh grocery and prepare a meal. Many times people are too lazy to question, much less read, the ingredients and nutrition labels of what they are eating. Processed foods are loaded in preservatives, sugar, sodium, and fat. They are designed to make us addicted and overeat. Too much junk can lead to serious health risks such as obesity, high blood pressure, diabetes, and cancer. As customers ourselves, we college students find it difficult to avoid eating these foods. We either don't make the time or have the motivation to exercise and prepare healthy meals. Between studying, socializing, and attending student organization meetings/events, it is much easier for us to eat out and be lazy during our time off. It also doesn't help that we're surrounded by other students just like us. Not only does this apply to students, but to people in general.

When it comes to lifestyle changes like dieting, it can be very daunting investing the time to adjust into this new habit. Many people have very tight schedules; dieting is the last thing most would think about in their spare time. The by-product of the lack of time can be many unhealthy habits for the sake of convenience. With that in mind, Health Goals offers users a convenient, effective meal-plan based on the users' health and diet goals. Meals will be conveniently chosen for the user. This alleviates the stress and time it would normally take someone to decide what to eat given their diet. The users will be able to pick from multiple options to take into account all sorts of factors: the convenience of the meal, cost, portion size, etc. Usually, the hardest part of any problem is the planning phase; with that out the way, it's just a matter of discipline and execution of that plan. For further motivation, users will have access to the weight watchers community, where friends and others alike pursue similar goals to that of the user's. The intention here is to promote a fair bit of competition; most don't like falling behind or sticking out, especially when it comes to friends. The leaderboard will maintain and reflect the progression of user goals. Being public, this feature will incentivize users to try their best because it's human nature to strive for first place and being the best at what they're trying to do.

ii. Mental Health Stats & Significance

We believe that a lifestyle change is necessary to maintain health and wellness at all levels. The poor behavior we exhibit and the poor choices we make with physical activity and eating manifest as detrimental mental behaviors and consequences. This also applies in the opposite direction: neglecting mental health affects physical wellness. According to the National Alliance on Mental Illness, "Approximately 1 in 5 adults in the U.S.—43.8 million, or 18.5%—experiences mental illness in a given year" [1]. Besides the scale of mental illness, it is important to acknowledge that although not everyone has a mental condition, everyone has mental health and it must be maintained. Despite its significance, mental health and illness remains a sensitive and controversial topic, which makes it more difficult to recognize and treat. In 2014, less than half (41%) of US adults with mental health conditions received the appropriate services [1]. In 2018, we've only seen a 3% increase in service administered [2].

With such a prevalence of poor mental health, it is important to push for more general awareness and for more emphasis on a balance of mental and physical health. As a Health Goals user, I should be able to understand this balance and find the appropriate resources and environments to foster the improvement of my health. As a general user of online resources, I can search for resources on my own. I can try to find a recipe, an exercise routine, or tips to maintain a better state of mind, but it is

difficult to find it all in one place and further difficult to connect the pieces. Different pieces may contradict directly or implicitly affect each other negatively. With Health Goals, I should be able to use the single platform to find all the resources that can help me make changes to my daily routines, such as eating habits or meditation exercises for example, which are specific to my current level of health and my general profile. Moreover, they will present a holistic approach at improving health. The platform should facilitate one of the biggest challenges customers face, relevancy and quick access of information.

There are many online and mobile resources targeted at improving health, and many have made great strides at their respective goals. In addition, with a simple google search, one can find an article on the topic of their choosing and get some generalized information. More personalized takes more effort. One can also find websites and apps for self-reporting health trackers, client-counselor matching services, recipes and diets, or mental health forums and chats. These approaches take a targeted focus at improving one or two aspects of health while being targeted at general users. Although it is widely accepted that physical and mental health are connected, a limited number of tools try to address both simultaneously. A further limited amount of tools provide a truly personalized experience. As a user, I would like to see a comprehensive, all-in-one site that is personalized to my health level and experience.

iii. Our Approach

As mentioned earlier it is not only difficult to begin a healthy lifestyle but it is also difficult to maintain one. People can often start a diet or start working out but more often than not, they fall out of these good habits and tend to become lazier when it comes to maintaining their physical as well as their mental health. It is difficult to stay up to date with all the trends about new fitness routines and recommended diets. The goal of our website is to offer diets and fitness routines for each individual which will promote a healthy lifestyle and gather a community. We hope that this entices our clients to try the exciting, new ways of keeping their mind and body healthy and also motivate them to remain a member of the community. The captivating factor of Health Goals is that it encompasses many different aspects of wellness and does not just focus on just one feature specifically. It provides them with dieting information, along with fitness and mental health sections which allows them to get all the information they need in one place. This can be helpful because many times while researching a single topic, we refer to multiple different websites or we use different apps to keep up with different aspects of our lives when it comes to mental and

physical health. This website offers a variety of resources in once place which helps promote health and wellness and a sense of community.

To execute our goal we decided to break our community into two aspects, mental health and physical health which was then further divided into different features. Because our platform encourages the importance of lifestyle changes and balance, Health Goals understands that individual experiences can be similar but can also be entirely different, especially when we consider marginalized and minority communities. People who find themselves in such communities may not benefit from a general health improvement approach. Some important health-affecting factors include age, sex, gender identity, etc. Which is why Health Goals accommodates for individual identities and lifestyles by collecting pertinent information, if the user chooses to provide, that affect health. Users will be able to create an account in which they will be prompted to answer questions pertaining to their age, sex, gender identity, sexual orientation, race/ethnicity, weight loss goals, and personal workout goals. As stated before, huge aspect of improving one's lifestyle starts with diet, for that we implemented food recipes and food blogs/articles features. Basically, users will have the option of filtering through thousands of recipes based on their ingredients and dietary needs and restrictions.

Health Goals places a strong importance on a service that allows for a personalized experience for each user. We realize the significance of being updated with current mental and physical health concerns, latest fitness exercises, newest diets that been studied, etc. which leads us to integrating news articles as another feature of this website. We want our clients to always be informed through scholarly health and wellness articles that have been written, reviewed, and published by experts in the field. These articles that are catered specifically for each of the aspects we are focusing on: food, fitness, and mental health. In each of these features, we offer a way to personalize their experience by providing users with different filters. The user can filter through food articles by type of food (breakfast, lunch, dinner, kid friendly, etc) and by dietary restrictions (vegan, gluten-free, etc). Fitness exercise articles can be filtered by type of training (cardio, toning, yoga, etc) as well as type of difficulty ranging from one to five, five being the hardest. Mental health articles can be filtered by type of mental health (depression, anxiety and panic disorders, etc). Health Goals also includes a mental health forum feature so that users can share and contribute their experiences dealing with mental illness, sometimes people don't even realize importance of being able to talk another person about their struggles.

There can only be so much online support offered and many people would prefer to get help in person. Therapy can promote one's self-esteem, relationships,

and outlook on life. Health Goals will filter through therapists based on location and sex, and provide educational details as well so users can know that they are experienced therapists. However, good diet and mental health is not all that it takes to attain a healthy lifestyle, one needs to be physically fit as well. Physical health is the motivator that encourages the balance of nutrition, physical wellness, and mental well-being. We know that it's not always easy to be stay motivated and leading a healthy lifestyle requires dedication and time, which is why we believe that having a partner or a group will really help motivate people.

Health Goals already includes a Weightwatchers community which as we described before stresses how having a group of people who are interested in similar fitness routines and weight loss goals. This will not only encourage people to do their best but it also provides for a sense of community and that really helps our goal to personalize our website to cater to each and every person. But, sometimes people may not always feel comfortable venturing into different fitness routines or they similar want a change of location. Add to that there are always risks of a possible injuries that come with physical activities. The best way to avoid both scenarios is to go a reputable and knowledgeable fitness trainer who will improve the exercise execution and skills to not only reduce your risk for injury but also get the most out of each activity. Through the use of Fitness Instructor Finder, users can filter their choice of trainer based on training type, sex and location. We provide them with not only names and addresses but also the timings and prices of said instructor. Changing a lifestyle is revamping how person lives day to day and we know the stress that comes along with it. Health Goals strives to be able to do everything within our power to motivate and encourage our users in the best ways possible.

b. Glossary of Terms

Center Searches - This application filters out the nearby fitness centers and yoga centers by the users location in case they prefer to physically attend classes. Each center that shows up will have a link which will redirect to the center's web page which will allow for the user to see information about the hours, fees and programs available.

Diet - A special course of food curated to achieve a certain goal, such as weight loss

Exercise Circuit - The completion of a curated set of exercises used to train and condition the body

Fitness Routines - This section will consist of workout videos which will depend on which muscle group the user wishes to work on. The different workout videos will show users how to perform certain exercises and this setting will also recommend certain workouts based on what they mention they wish to work out.

Group - User will be able to create/join groups with their friends in which they will motivate and compete against each other

Leaderboard - A list of top users who accomplished their fitness goals within a group, ordered by goal percentage reached

Meal-plan - A recommended or personalized set of meals with the purpose of achieving a health goal. Also, the intended purpose is to save the user some time, but at the same time offer options to meals that fall under this health goal.

Mental Health Forum - Forums allow users to write about their experiences or ask any questions they have which can be replied to by any other user. This fosters a sense of community and allows the user to communicate about their struggles and problems. The focus of the forum will be mental health topics.

Profile - Allows the user to add additional details about themselves, goals, diet and health info, etc. to personalize their portfolio.

User - Anyone who wishes to access our personalized resources will be required to create an account. This user has access to all features.

Non-Registered User - Visitor to the site who can access most resources, though not personalized. This user cannot join groups, be part of the leaderboard, nor can they take part of the forums.

Weight Watchers Ranking Platform - Each user will be allowed to create a “community” or group consisting of their friends with whom they wish to compete, if they wish to compete. At the beginning of the week, the user will be asked their weight goal for the week. At the end of the week, the platform will allow users to see their weekly standing compared to their friends which will be determined by whether or not they achieved their weekly goal/ how far off they are. This ranking platform promotes healthy competition between users and their friends and helps them stay motivated towards their goal.

2. System Requirements

a. Enumerated Functional Requirements:

Identifier	Priority	Requirement
REQ-1	5	System should receive user input from searches
REQ-2	4	System should store and receive page data
REQ-3	5	System should store user data
REQ-4	4	System should provide pertinent articles/recipes/workouts/information based on profile information
REQ-4a	2	System should provide general articles/recipes/workouts/information based on filters for non-registered users
REQ-5	3	System should provide filtering options for all information resources (blogs, articles, recipes, matching services)
REQ-6	3	System should provide updated resources and information
REQ-7	3	System should recommend therapists based on user profile and filters
REQ-7a	2	System should recommend therapists based on filters for non-registered users
REQ-8	2	System should locate local professionals
REQ-9	2	System should suggest more resources based on previous searches for registered users
REQ-10	4	System should recommend personalized set of meals for a specific health goal
REQ-11	2	System should offer intermittent “challenges” and “trophies” for their completion
REQ-12	4	System should allow the registered user to start or comment on a thread under the Mental Health Forums

REQ-12a	2	System should allow the registered user to anonymously start or comment on a thread under the Mental Health Forums
REQ-12b	2	System should issue a trigger warning before entering the health forums
REQ-13	3	System should display a list of top users who accomplished their fitness goals within a group, ordered by goal percentage reached
REQ-13a	3	System should allow user to join groups and invite others to the group
REQ-*	3	System should recommend fitness/yoga instructors based on user profile and filters
REQ-*a	2	System should recommend fitness/yoga instructors based on filters for non-registered users
REQ-\$	4	System should allow a visitor to create an account
REQ-#	3	System should allow user to update their profile information

b. Enumerated Nonfunctional Requirements:

Identifier	Priority	Requirement
REQ-14	5	The site will require maintenance of at least one per week
REQ-15	2	The site will need updated articles. Every day there are many articles that are released and will prove another discovery wrong. We need to avoid this as much as possible
REQ-16	3	The forums must be regulated by staff in case of policy abuse
REQ-17	4	The site needs to have a strict security. We are handling people's personal data and information which needs to be protected. We'd set certain restrictions between groups in the staff, such as only admins may manage accounts and the server, while moderators can manage accounts but limited compared to admins.
REQ-18	3	The site needs to load articles from the database which would be implemented with a certain data structure prioritizing time

		complexity.
REQ-19	4	The site needs to have weekly backups in order to restore in case of an error, we can use software such as carbonite
REQ-20	4	The site needs to be able to handle at least thousands of users and not crash if it gets close to the limit

c. On-Screen Appearance Requirements:

Welcome page - User login

Welcome to Health Goals

The page features a central login form with fields for Email Address and Password. To the left and right of the form are circular icons representing different health and fitness topics: Weight Watchers, Exercise Videos, Food Blogs, Food Recipes, Mental Health Forums, Find a Therapist, Mental Health Articles, and Fitness Instructors.

LOG IN

Health Goals LOGO

Email Address
Password

Don't have an account? [Sign up here](#)

Create Account (Registration)

Health Goals Logo

Sign Up!

The registration form includes fields for First Name, Last Name, Email Address, Password, Description (with a placeholder "Tell us about yourself..."), Health Goals (with a placeholder "Weight loss, get toned, healthy diet, etc..."), and Dietary Restrictions (with a placeholder "Gluten free, vegetarian, vegan, etc..."). There is also a placeholder for an uploaded photo.

First Name Last Name

Email Address Password

Description
Tell us about yourself...

Health Goals
Weight loss, get toned, healthy diet, etc...

Dietary Restrictions
Gluten free, vegetarian, vegan, etc...

+ UPLOAD PHOTO

Food Recipes

Health Goals Logo

Recipes

Filter Results

Meal Type

- Breakfast
- Lunch
- Dinner
- Snack
- Drink

Additional

- Convenience
- Cost
- Ratings

[Custom Filters](#)

Recommended
Page 1 of 10

	Basic Nutrition: Cals, Servings, etc Diet Labels: Low Health Labels: Fat-free, All-natural	More Info
	Basic Nutrition: Cals, Servings, etc Diet Labels: Low Health Labels: Fat-free, All-natural	More Info
	Basic Nutrition: Cals, Servings, etc Diet Labels: Low, High Protein Health Labels: Multigrain	More Info

Trending Recipes

1. Recipe Title
2. Recipe Title
3. Recipe Title
4. Recipe Title
5. Recipe Title
6. Recipe Title
7. Recipe Title
8. Recipe Title
9. Recipe Title
10. Recipe Title

Food Blogs / Relevant articles

Health Goals Logo

Food blogs

Filter Results

Food

- Vegan
- Keto
- Kid friendly
- Breakfast

Restrictions

- Diary free
- Gluten free
- Vegetarian
- Low carb
- Non-GMO

Newest First
Page 1 of 10

Website 1	description
Website 2	description
Website 3	description
Website 4	description

Top 10 Articles

1. Article Title
2. Article Title
3. Article Title
4. Article Title
5. Article Title
6. Article Title
7. Article Title
8. Article Title
9. Article Title
10. Article Title

Find a Therapist

Angproj

https://health-goals.herokuapp.com

Sign in

Health Goals Logo

Mental Health Service Finder

Filter Results

Treatment Type

Therapist Psychologist
 Counselor Other

Treatment Duration

Short-Term Long-Term

Other Specifications

LGBTQ+ Friendly

Location

Radius

1-3 miles 5-10 miles
 3-5 miles 10+ miles

Search



Name

Details

Address:
Time:
Price:



Name

Details

Address:
Time:
Price:



Name

Details

Address:
Time:
Price:

Mental Health Forums

Mental Health Articles / Information

The screenshot shows a web browser window with the URL <https://health-goals.herokuapp.com>. The page title is "Health Goals Logo". On the left, there's a sidebar titled "Mental Health Resources" with a "Filter Results" section containing checkboxes for various mental health topics: Depression, Anxiety, PTSD, General, Men's Health, Women's Health, LGBTQ, and Suicide Prevention. Below this is a search bar with the placeholder "Search for blogs and articles". The main content area displays four entries, each consisting of a blue link ("Website 1", "Website 2", "Website 3", "Website 4") and a "description" link. At the top right of the main content area, there are buttons for "Newest First" and "Page 1 of 10". On the far right, there's a sidebar titled "Top 10 Articles" listing the first ten articles from the site.

Website	Description
Website 1	description
Website 2	description
Website 3	description
Website 4	description

Top 10 Articles

1. Article Title
2. Article Title
3. Article Title
4. Article Title
5. Article Title
6. Article Title
7. Article Title
8. Article Title
9. Article Title
10. Article Title

Weight Watchers

Fitness Exercises

Angproj

<https://health-goals.herokuapp.com>

Sign in

Health Goals Logo

Exercise Videos

Filter Results

Training Type

- Cardio
- Toning
- Yoga
- Strength Training

Difficulty

- 0
- 1
- 2
- 3
- 4

Search

Newest First

Page 1 of 10

Image	Title	Duration	Description
	UPPER BODY - 10 MIN	Fun Upper Body Workout + A Message About Goal Setting	
	UPPER BODY, LOWER BODY, TOTAL BODY - 38 MIN	Lower Body HIIT and Upper Body Strength; Total Body Workout Combo	
	LOWER BODY - 35 MIN	35 Minute Pilates Workout for Butt and Thighs - At Home Pilates Workout	
	TOTAL BODY - 84 MIN	HIIT Cardio, Total Body Strength, Core Workout - 1000 Calorie Workout for 5 Million Subs!	

Fitness Instructor Match up

Angproj

<https://health-goals.herokuapp.com>

Sign in

Health Goals Logo

Fitness Instructor Finder

Filter Results

Training Type

- Cardio
- Toning
- Strength Training
- Yoga

Trainer

- Male
- Female

Location

Radius

- 1-3 miles
- 5-10 miles
- 3-5 miles
- 10+ miles

Search

Image	Instructor Name	Details
	Instructor Name	Address: Time: Price:
	Instructor Name	Address: Time: Price:
	Instructor Name	Address: Time: Price:

3. Functional Requirements Specification

a. Stakeholders

Identify anyone and everyone who has interest in this system (users, managers, sponsors, etc.). Stakeholders should be humans or human organizations.

- Users
- Fitness & Yoga Instructors
- Mental Health Professionals
- Healthcare Facilities

b. Actors and Goals

Identify the roles of people or devices that will directly interact with the system, their types (initiating vs. participating) and the goals of the initiating actors.

- User (Registered User) is an initiating actor:
 - Get a personalized meal plan
 - Find a local mental health professional match
 - Find a local fitness/yoga instructor match
 - Get mental health advice from other users & share stories
 - Find personalized exercises/workouts
 - Find personalized recipe suggestions
 - Find personalized and updated wellness articles/information
 - Join a group and compete on the weightwatchers leaderboards
 - Visitor (Non-Registered User: Defined in part 1) is an initiating actor:
 - Create an account to become a registered user
 - Search for a mental health professional
 - Search for a fitness/yoga instructor
 - Find non-personalized exercises/workouts
 - Find non-personalized recipe suggestions
 - Find non-personalized and updated wellness articles
 - System (participating actor)
 - Offer the user intermittent challenges and trophies for their completion
 - Issue a trigger warning before entering the mental health forums
 - Fitness & Yoga Instructors (Participating Actor):
 - Find Potential Clients
 - Mental Health Professionals (Participating Actor):

- Find Potential Clients

c. Use Cases

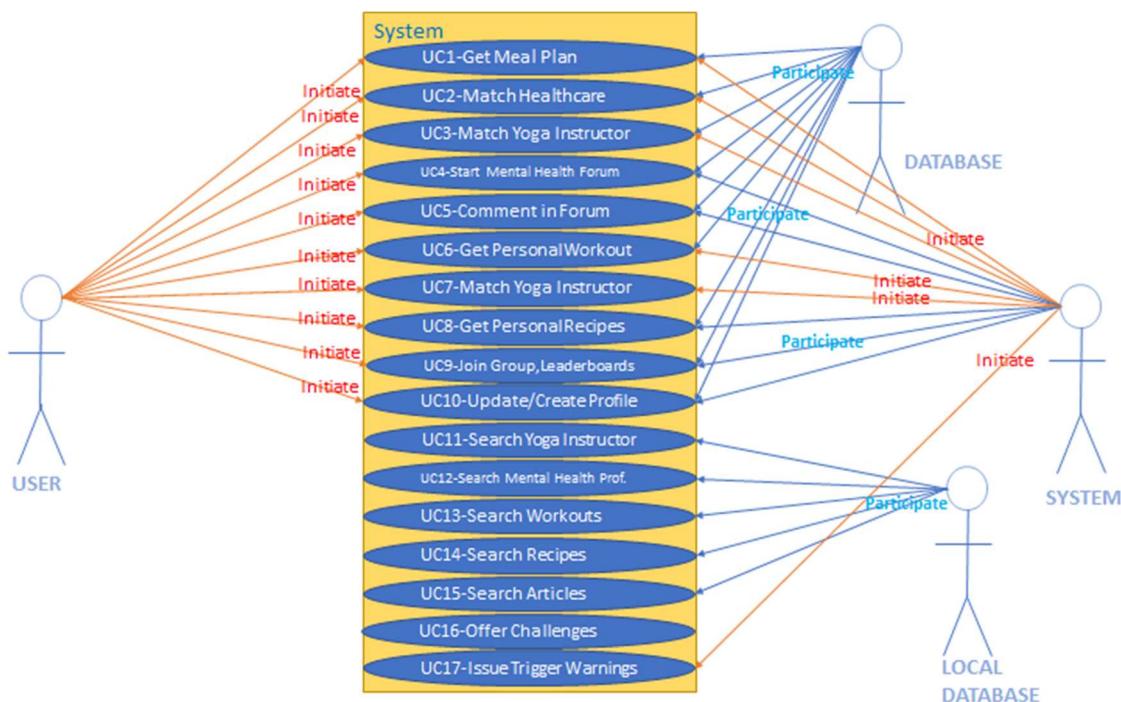
i. Casual Description

Actor	Actor's Goal	Functional Requirement	Use-Case Name
User	To receive a meal-plan based on profile and filters	REQ-3, REQ-10, REQ-5	GetMealPlan (UC-1)
User	To find a local mental health professional match based on profile and filters	REQ-3, REQ-7, REQ-8, REQ-5	MentalHealthMatch (UC-2)
User	To find a local fitness/yoga instructor match based on profile and filters	REQ-3, REQ-*, REQ-8, REQ-5	FitnessYogaMatch (UC-3)
User	To start a mental health forum	REQ-1, REQ-2, REQ-12, REQ-12a	StartForum (UC-4)
User	To comment on an existing mental health forums	REQ-1, REQ-2, REQ-12, REQ-12a	CommentForum (UC-5)
User	To find personalized exercises/workouts based on profile and filters	REQ-3, REQ-4, REQ-5, REQ-9	GetWorkout (UC-6)
User	To find personalized recipe suggestions based on profile and filters	REQ-3, REQ-4, REQ-5, REQ-9	GetRecipe (UC-7)

User	To find personalized and updated wellness articles and information	REQ-3, REQ-4, REQ-6, REQ-9	GetInfo (UC-8)
User	To join a group and compete in the leaderboards	REQ-2, REQ-3, REQ- 13, REQ-13a	JoinGroup (UC-9)
User	To update their profile	REQ-2, REQ-3, REQ-#	UpdateAccount (UC-18)
Visitor	To create an account to become a registered user	REQ-2, REQ-3, REQ-\$	CreateAccount (UC -10)
Visitor	To find a fitness/yoga instructor based on search & filters	REQ-1, REQ-*a, REQ-5	SearchFitYoga (UC-11)
Visitor	To find a mental health professional based on search & filters	REQ-1, REQ-7a, REQ-5	SearchMentalHealthProf (UC-12)
Visitor	To find general exercises/workouts based on search and filters	REQ-1, REQ-4a, REQ-5	SearchWorkout (UC-13)
Visitor	To search and find general recipes based on search & filters	REQ-1, REQ-4a, REQ-5	SearchRecipe (UC-14)
Visitor	To find updated wellness articles and information based on search and filters	REQ-1, REQ-4a, REQ-6, REQ-5	SearchInfo (UC-15)

System	To offer the user intermittent challenges and trophies for their completion	REQ-2, REQ-3, REQ-11	ChallengeUser (UC-16)
System	To issue a trigger warning before entering the forums page	REQ-12b	TriggerWarning (UC-17)

ii. Use Case Diagram



iii. Traceability Matrix

REQ-4a	2												x	x	x		
REQ-5	3	x	x	x			x	x				x	x	x	x		
REQ-6	3							x							x		
REQ-7	3		x														
REQ-7a	2																
REQ-8	2		x	x													
REQ-9	2					x		x	x								
REQ-10	4	x															
REQ-11	2														x		
REQ-12	4			x	x												
REQ-12a	3			x	x												
REQ-12b	2															x	
REQ-13	3								x								
REQ-13a	3								x								
REQ-*	3		x														
REQ-*a	2										x						
REQ-\$									x	x							
REQ-#																	

iv. Fully-Dressed Description

Use Case : UC-1 Related Requirements: Initiating Actor: Actor's Goal: Participating Actors:	Get Meal Plan REQ-3, REQ-10, REQ-5 User To receive a meal-plan based on profile and filters System, Database
Preconditions: Postconditions:	The website displays user's profile and their interests The website displays user's chosen section, in this case their meal plan
Failed End Condition:	Profile not available, please try again

Flow of Events for Main Success Scenario:

- > 1. Users click on profile button
- <- 2. System displays all sections personalized to user's profile
- > 3. Users choose meal plan section.
- <- 4. System displays list of recipes most relevant to user's profile

Flow of Events for Extensions:

- 3(a). Users pick meal plan link that is unavailable or no longer relevant
- <- 1. System displays error message

Table 4-1 UC-1

Use Case : UC-2	Mental Health Match
Related Requirements:	REQ-3, REQ-7, REQ-8, REQ-5
Initiating Actor:	User
Actor's Goal:	To find mental health places match based on profile
Participating Actors:	System, Database, Mental Health Professionals
Preconditions:	The website displays options of therapists from our database
Postconditions:	The website displays user's chosen therapist
Failed End Condition:	Therapist not available, please try again

Flow of Events for Main Success Scenario:

- > 1. Users click on search button and type in therapy type and defines filters
- <- 2. System displays list of therapists most relevant to search
- > 3. Users choose therapist.
- <- 4. System displays new therapist with information

Flow of Events for Extensions:

- 3(a). Users pick therapist link that is unavailable or no longer relevant
- <- 1. System displays error message

Table 4-2 UC-2

Use Case UC-4:	Start Forum
Related Requirements:	REQ-1, REQ-2, REQ- 12, REQ-12a
Initiating Actor:	Users
Actor's Goal:	To start a mental health forum
Participating Actors:	System
Preconditions:	The website displays existing forums and option to start forum
Postconditions:	Users are able to write their own forum

Failed End Condition:	Unable to create forum, please try again
<p>Flow of Events for Main Success Scenario:</p> <p>-> 1. Users click forum button. -< 2. System shows list of existing forums and option to create new forum. -> 3. Users choose to create their own forum -< 4. System displays new page to write own forum</p> <p>Flow of Events for Extensions:</p> <p>3(a). Users pick forum that already exists with similar title -< 1. System displays error message</p>	

Table 4-3 UC-4

Use Case UC-6: Related Requirements: Initiating Actor: Actor's Goal: Participating Actors:	Get Workout REQ-3, REQ-4, REQ-5, REQ-9 Users To find personalized exercises/workouts based on profile and filters Database, System
Preconditions: Postconditions:	The website displays the search page The website displays the user's chosen workout
<p>Failed End Condition:</p> <p>Workout not found, please try again</p> <p>Flow of Events for Main Success Scenario:</p> <p>-> 1. Users click on search button and type in workout keywords -< 2. System displays list of workouts most relevant to search -> 3. Users choose workout. -< 4. System displays new page with workout videos</p> <p>Flow of Events for Extensions:</p> <p>3(a). Users pick workout link that is unavailable -< 1. System displays error message</p>	

Table 4-4 UC-6

Use Case UC-9:	Join Group
Related Requirements:	REQ-2, REQ-3, REQ- 13, REQ-13a
Initiating Actor:	Users
Actor's Goal:	To join a group and compete in leaderboards
Participating Actors:	Database, System
Preconditions:	The website displays join group page with group options
Postconditions:	Users are able to see their own group and participate
Failed End Condition:	Unable to find group please try again
Flow of Events for Main Success Scenario:	
-> 1. Users click Join Group button.	
<- 2. System shows list of available groups along with leaderboard of top users.	
-> 3. Users choose group or choose to create their own group	
<- 4. System adds user to group and displays new page	
Flow of Events for Extensions:	
3(a). Users pick group that is unavailable or maximum capacity	
<- 1. System displays error message	

Table 4-5 UC-9

Use Case UC-10:	Create Account
Related Requirements:	REQ-2, REQ-3, REQ- \$
Initiating Actor:	Users, Visitors
Actor's Goal:	To create an account to become a registered user
Participating Actors:	System
Preconditions:	The website displays personal information dialog boxes
Postconditions:	User fills in necessary information and creates an account
Failed End Condition:	Unable to find account, please try again
Flow of Events for Main Success Scenario:	
-> 1. Visitor clicks create account button.	
<- 2. System shows empty dialog boxes asking for visitor's personal information	
-> 3. Users fills in the necessary information and creates an account	
<- 4. System creates a new account for the user.	
Flow of Events for Extensions:	
3(a). Users create account that already exists	
<- 1. System displays error message	

Table 4-6 UC-10

Use Case UC-14:	Search Recipe
Related Requirements:	REQ-1, REQ-4a, REQ-5
Initiating Actor:	Users, Visitors
Actor's Goal:	To find personalized recipes based on search & filters
Participating Actors:	System
Preconditions:	The website displays list of existing recipes with filters on side
Postconditions:	Users are able to narrow their search by selecting filters
Failed End Condition:	Unable to find recipe, please try again
Flow of Events for Main Success Scenario:	
-> 1. Users click recipe button.	
<- 2. System shows list of existing recipes and option to filter them based on needs	
-> 3. Users select from the different option shown based on their search	
<- 4. System displays recipe of user's choice	
Flow of Events for Extensions:	
3(a). Users pick recipe that has been deleted	
<- 1. System displays error message	

Table 4-7 UC-14

Use Case UC-15 :	Search Info
Related Requirements:	REQ-1, REQ-4a, REQ-6, REQ-5
Initiating Actor:	User, Visitor
Actor's Goal:	To find updated wellness articles and information based on search
Participating Actors:	Database, System
Preconditions:	The website displays existing articles and option to search
Postconditions:	Users are able to see other articles relating to their search
Failed End Condition:	Unable to find any relevant article, please try again

Flow of Events for Main Success Scenario:

- > 1. Users click on search button and type in article name or relevant keywords
- <- 2. System displays list of articles most relevant to search
- > 3. Users choose article.
- <- 4. System displays new article with information

Flow of Events for Extensions:

- 3(a). Users pick article that is unavailable, recently deleted or nonexistent
- <- 1. System displays error message

Table 4-8 UC-15

d. System Sequence Diagrams

UC-1

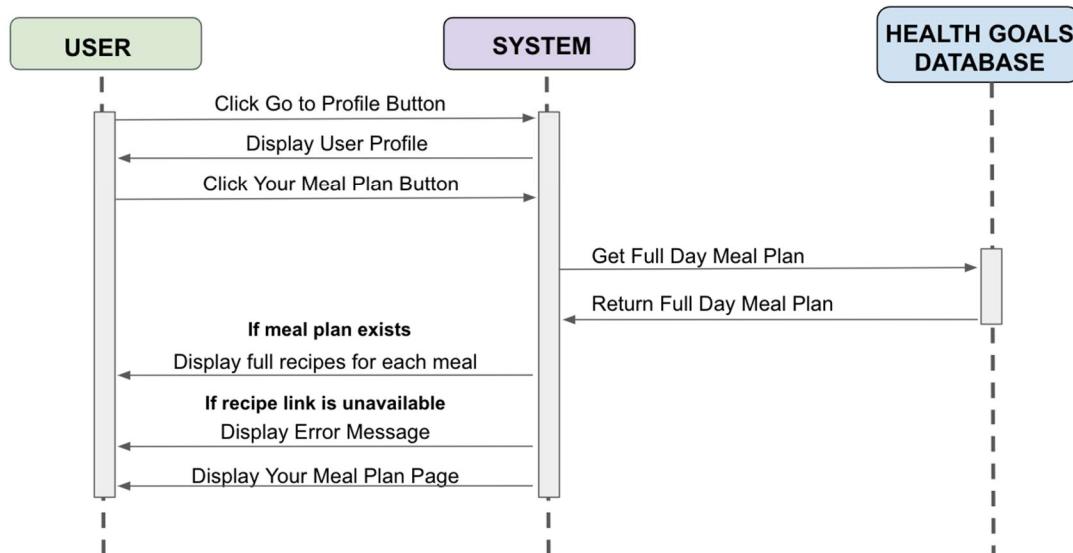


Figure 4-1 UC-1

UC-2

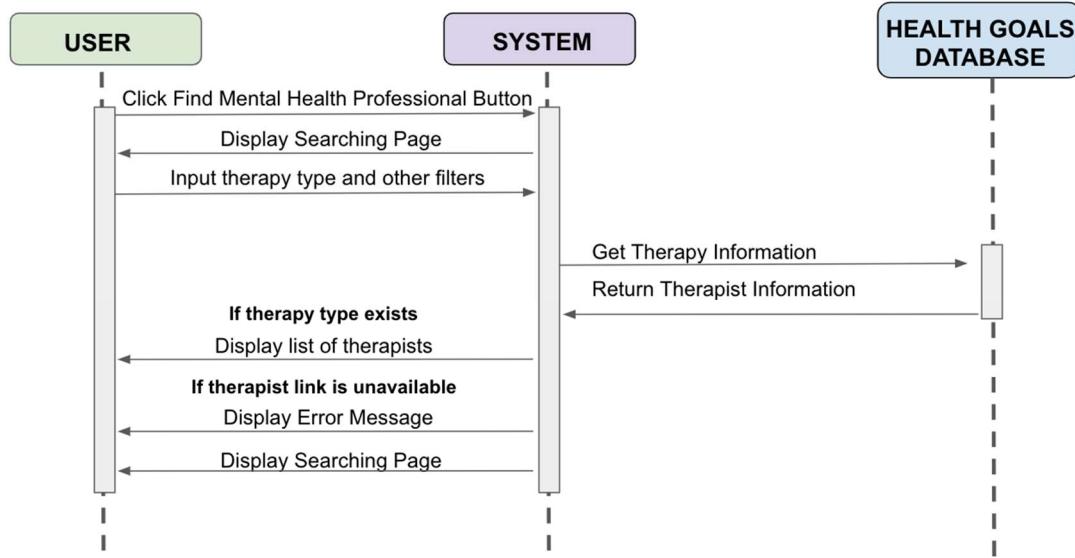


Figure 4-1 UC-2

UC-4

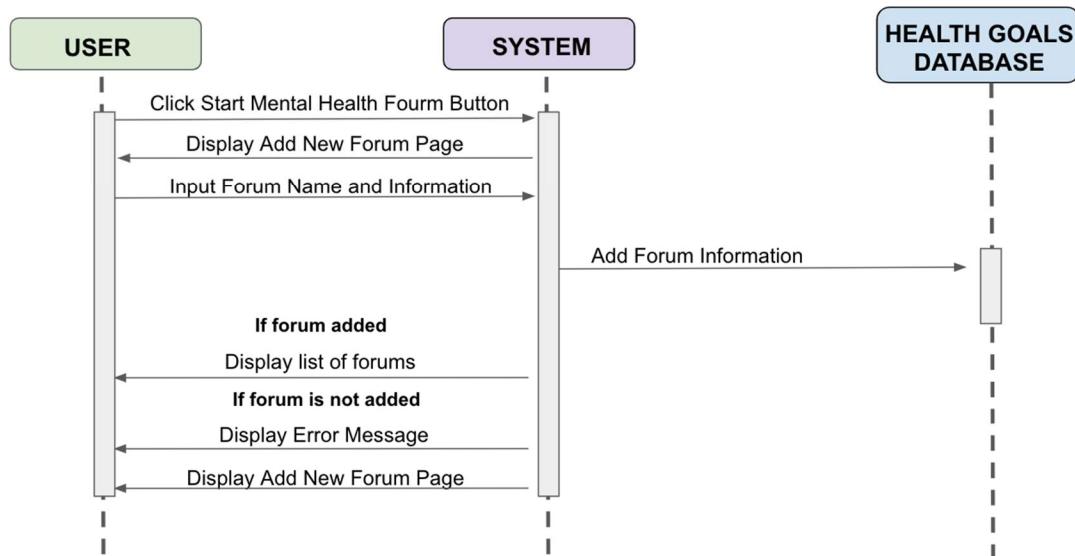


Figure 4-2 UC-4

UC-6

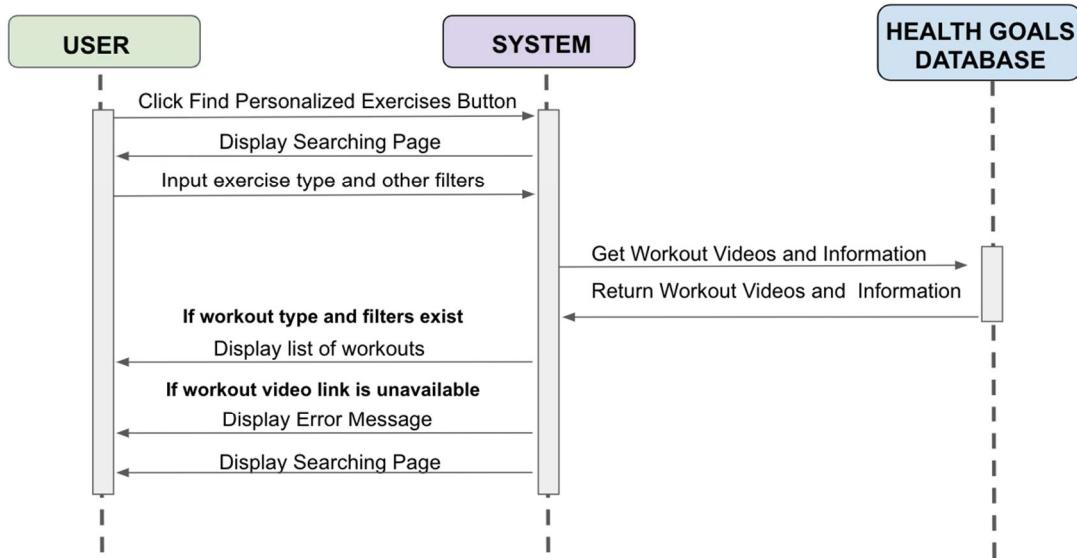


Figure 4-2 UC-6

UC-9

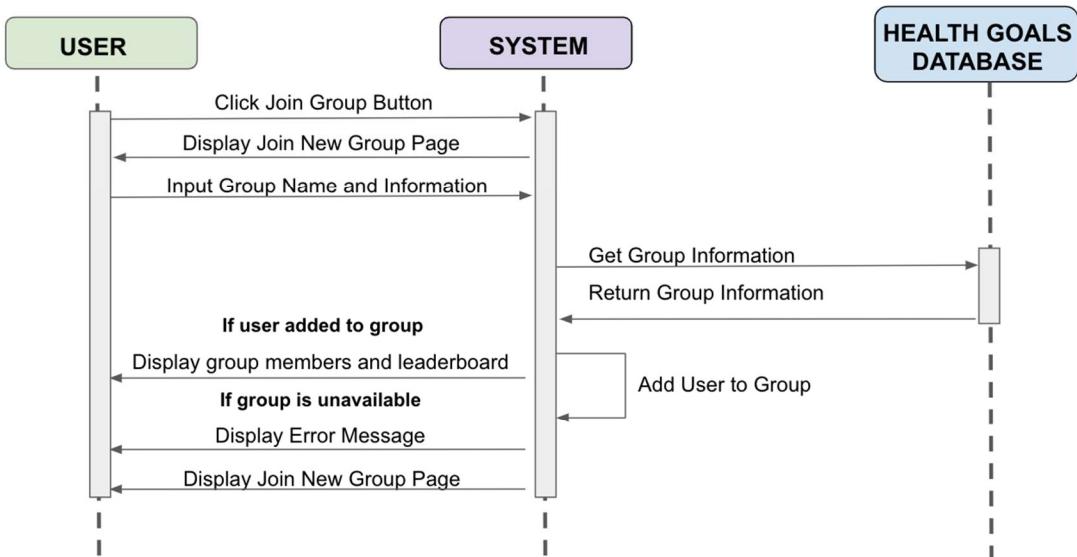


Figure 4-2 UC-9

UC-10

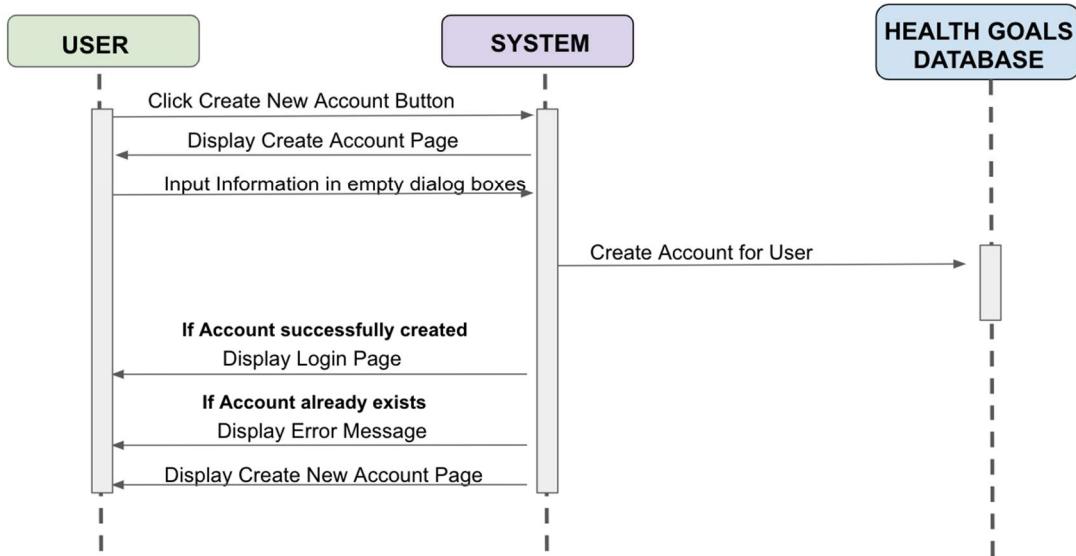


Figure 4-2 UC-10

UC-14

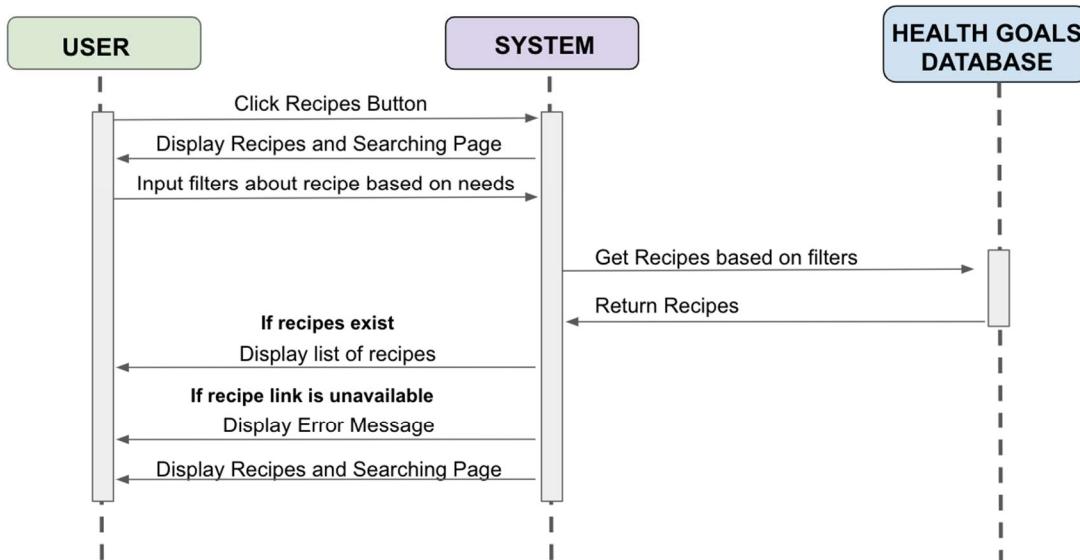


Figure 4-2 UC-14

UC-15

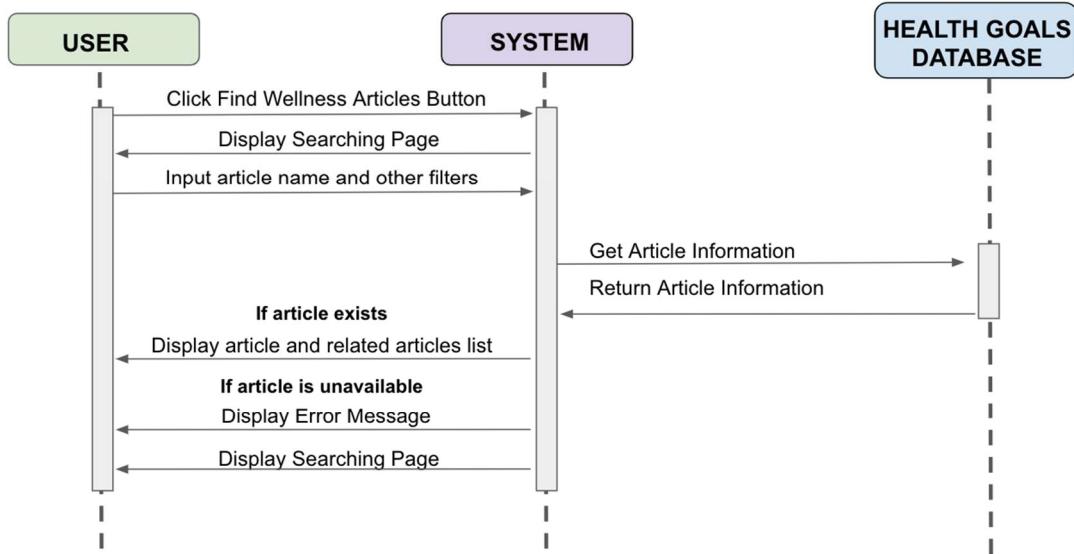


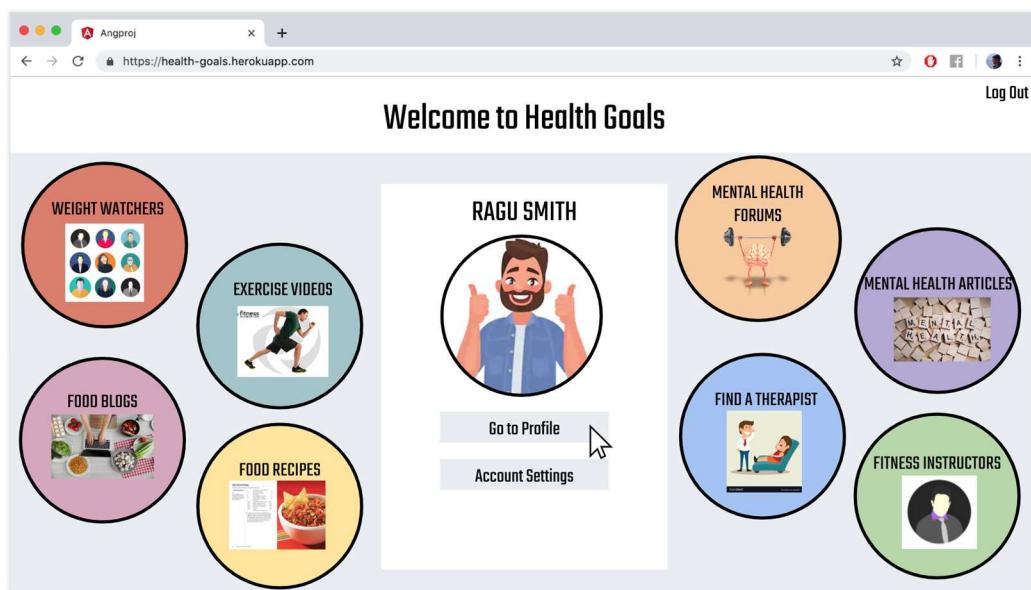
Figure 4-2 UC-15

4. User Interface Specification

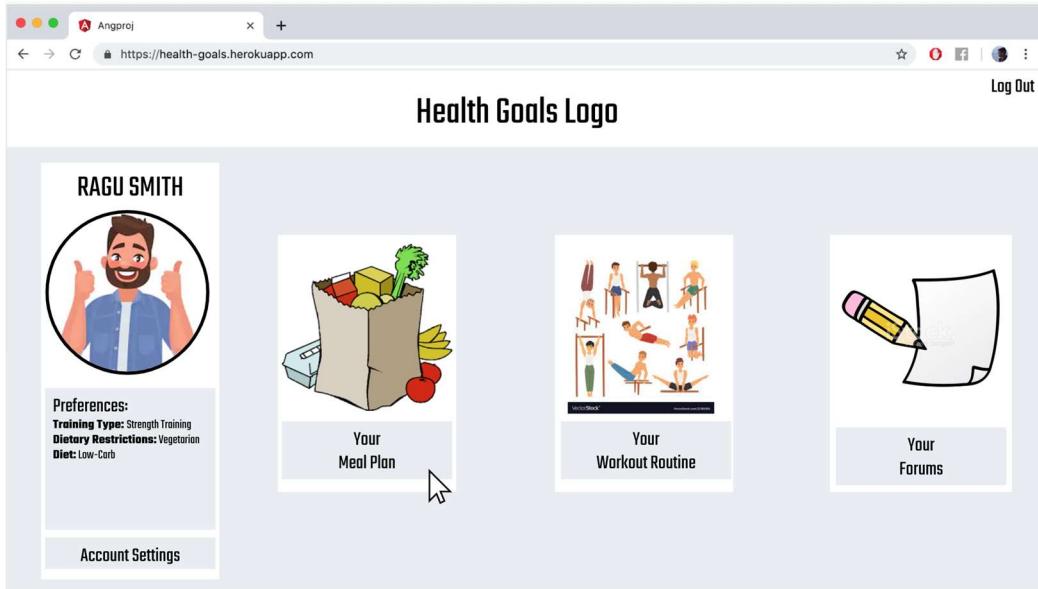
a. Preliminary Design & User Effort Estimation

UC 1: Get a Meal Plan

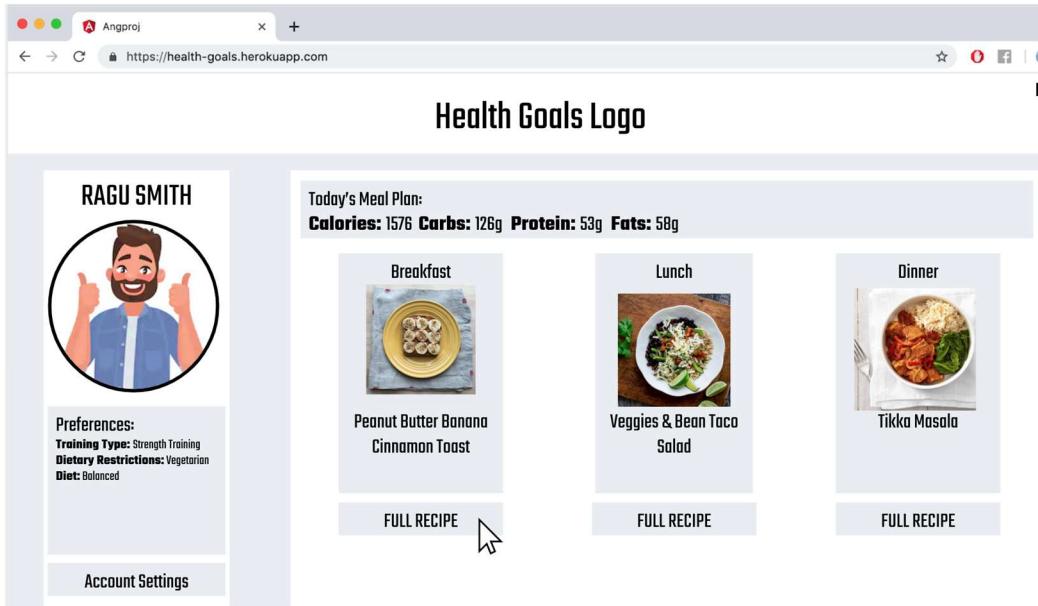
1. User will click on “Go to Profile” to view their custom settings and meal plans. 1 click – user interface navigation (100%)



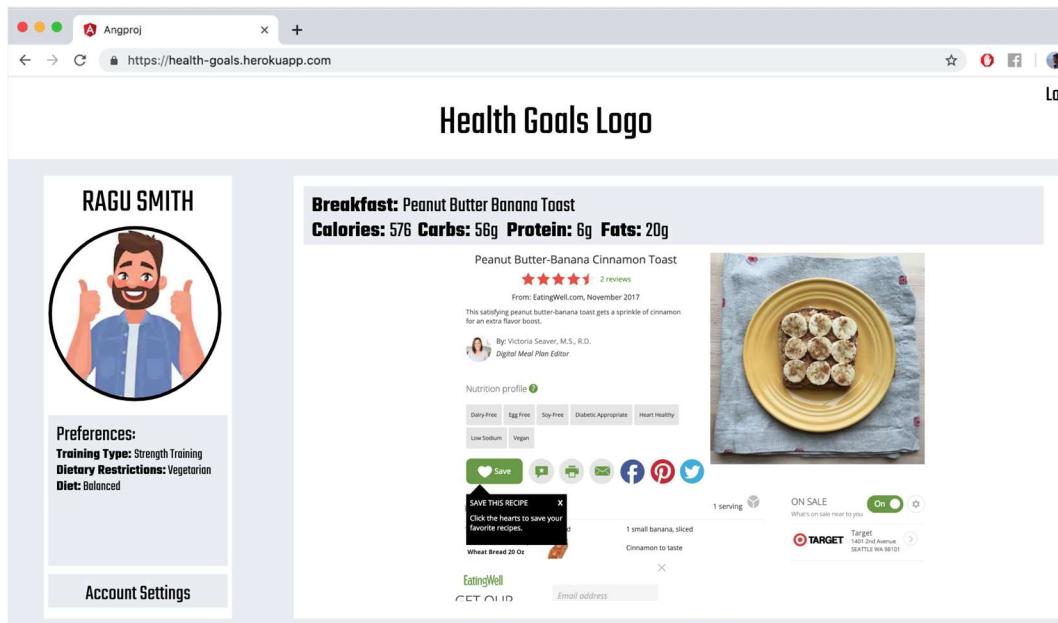
2. User will view their preferences and select Your Meal Plan to get their meal plan. 1 click - user interface navigation (100%)



3. User will view their meal plan of the day and the nutrition information. They will select the recipe they want to see. 1 click - user interface navigation (100%)

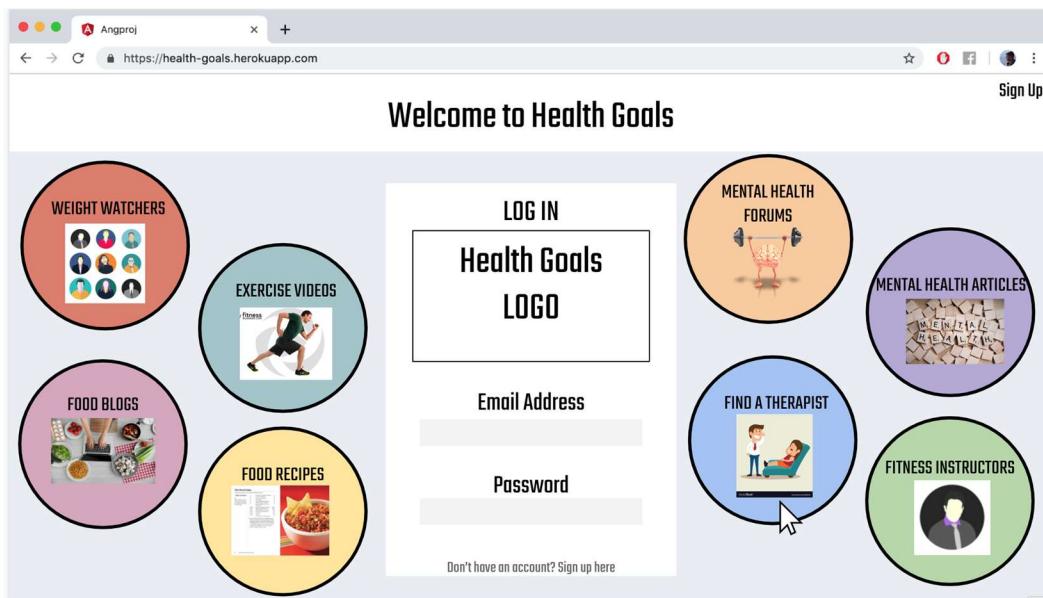


4. User will view the recipe

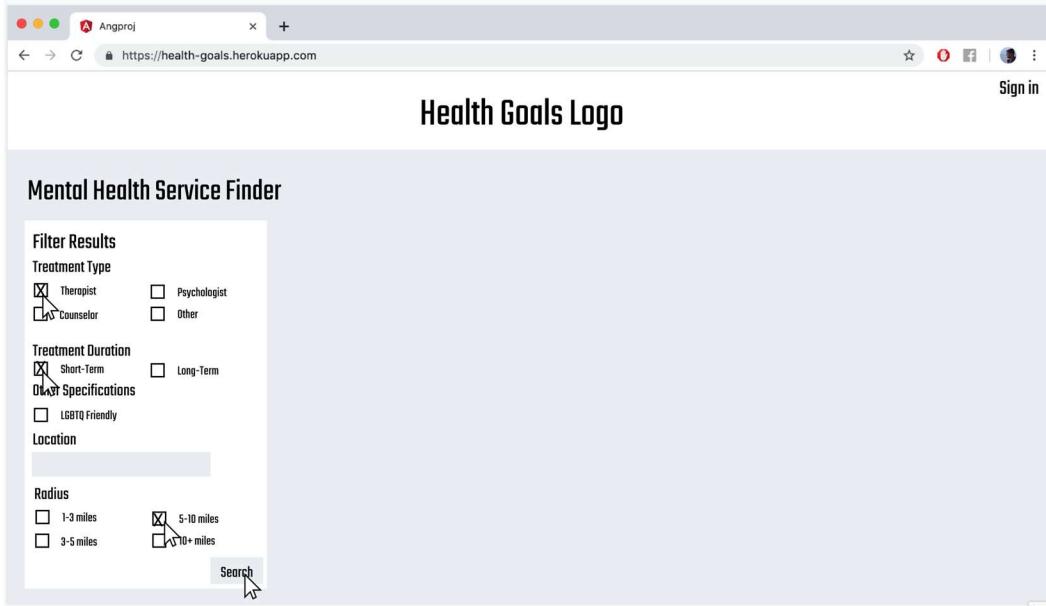


UC 2: Mental Health Match

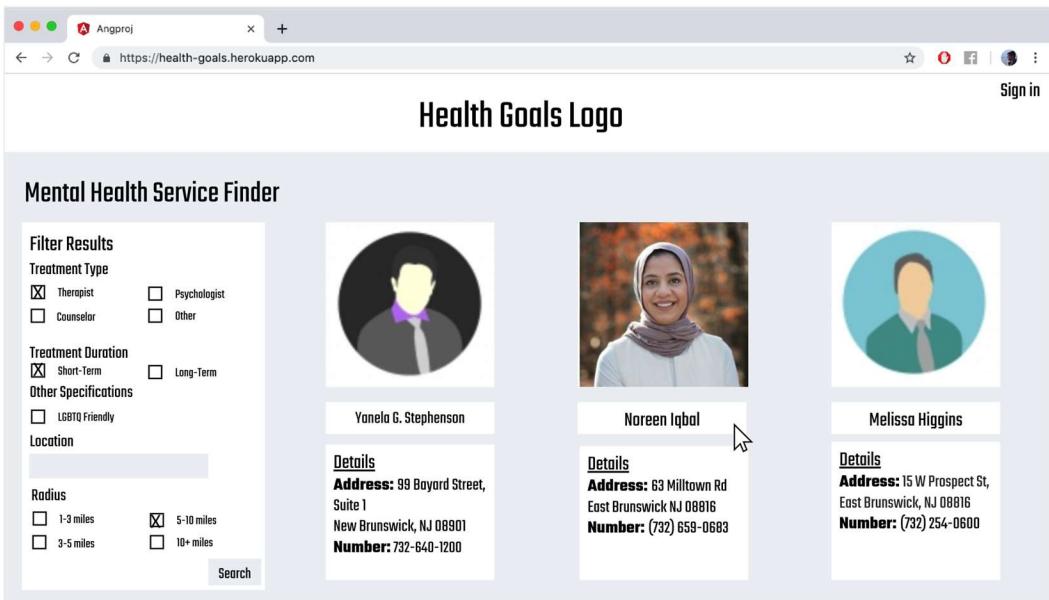
1. User will put their cursor on the Find a Therapist icon and click once to go the Therapist main screen. 1 click - user-interface navigation (100%)



2. User will select the filters they need with their cursor and click, and then they will click on the search button for the results. There are 11 options that the user can select, however they are more likely to select around 3. 3 clicks - data entry (75%). 1 click - UI navigation (25%)



3. User will select the therapist they prefer. 1 click - UI navigation (100%)



4. User will scroll and read more information on selected therapist on this page. 100% UI navigation



NOREEN IQBAL, LCSW

Welcome to our group therapy practice. I am the owner and director of the Olive Branch Therapy Group, where I hope you are able to find a therapist to walk with you on your life journey.

Are you new to therapy? Rest assured, for most of my clients, this was their first time in therapy. Many times, we come from backgrounds, cultures, and religions that don't believe in therapy. The therapeutic process can be an integral tool in helping you help yourself and motivating you towards positive change. Therapy allows us that moment to invest in our healing. One day, life catches up with us and we may feel that our balance is off. This is when sadness and anxiety may set in.



Often, with our busy lives, we are not given the opportunity to heal from our past. We all need that moment. That time to heal our lifetime wounds. Whether it is childhood sexual abuse, physical abuse, trauma, an abusive marriage or even gaining self-confidence, make your healing a priority. Allow me the chance to help you believe that there are better days ahead.

Relationships can be challenging. Many of us feel we weren't properly prepared for the roles we take on. Parenthood can take a toll on us. Our intimate relationships- dating and marriage require work. Whether you are struggling with communication, dealing with infidelity, lack of intimacy or building an arranged marriage, therapy can help. I offer premarital therapy, and marriage counseling in a nonjudgmental, warm confidential space. Therapy can help you figure out what you want and need in a relationship and how to get it.

I deeply understand, honor and respect the South Asian and Middle Eastern religions and cultures. I am fluent in Urdu, Hindi, Hinko and Punjabi. Take the steps to live your best life. Your story isn't over yet. I look forward to speaking with you. Contact me, If you would like to schedule a complimentary 15-minute consultation, appointment or have insurance questions.



UC 4: Start Mental Health Forum

- User will put their cursor on the Find a Therapist icon and click once to go the Therapist main screen. 1 click - user-interface navigation (100%)

The screenshot shows the homepage of a website called "Health Goals". At the top, there's a navigation bar with icons for back, forward, search, and a URL bar showing "https://health-goals.herokuapp.com". On the right side of the header is a "Sign Up" button. The main title "Welcome to Health Goals" is centered above a grid of circular icons. The icons represent different services:

- WEIGHT WATCHERS**: Shows a grid of small profile pictures.
- EXERCISE VIDEOS**: Shows a person running.
- FOOD BLOGS**: Shows a plate of food.
- FOOD RECIPES**: Shows a bowl of food.
- MENTAL HEALTH FORUMS**: Shows a cartoon character lifting weights.
- MENTAL HEALTH ARTICLES**: Shows a stack of papers.
- FIND A THERAPIST**: Shows a therapist and a patient.
- FITNESS INSTRUCTORS**: Shows a silhouette of a person.

In the center, there's a "LOG IN" section with the "Health Goals LOGO" and fields for "Email Address" and "Password". Below the password field is a link "Don't have an account? Sign up here".

- User will click on the "Start a Forum" icon once to start their own forum. 1 click - UI Navigation (100%)

The screenshot shows a web browser window for 'Angproj' at <https://health-goals.herokuapp.com>. The title bar says 'Health Goals Logo' and there's a 'Sign in' link. The main content area has a header 'Mental Health Forums: A safe discussion space for anyone who needs it'. On the left, a sidebar titled 'Filter Results' lists 'Mental Health Topics' with checkboxes for Depression, Anxiety, PTSD, General, Men's Health, Women's Health, LGBTQ, and Suicide Prevention. One checkbox for 'Anxiety' is checked. The main content area has a 'Start a Forum' button, a search bar, and navigation links for 'Newest First' and 'Page 1 of 10'. It displays three forum posts: 'Should I See a Therapist?', 'No Motivation', and 'I Have a Story to Share', each with a short Lorem ipsum text. To the right, a column titled 'Active Forums' lists ten entries, all labeled 'Title'.

3. User will write their forum on this page. There are 3 clicks for UI navigation – 1 to place typing cursor in the title box, 1 to place typing cursor in the forum box, and 1 to post the forum. There is 1 click for data entry where the user chooses the topic of the post. The rest of the data comes from what the user types. Let's assume the user types 1500 characters (approx. 250 words).

3 clicks - UI Navigation (0.2%). 1 click + 1500 keyboard strokes (99.8%)

The screenshot shows a 'Start a Forum' page for 'Mental Health Forums'. The title bar says 'Health Goals Logo' and there's a 'Sign in' link. The main content area has a header 'Mental Health Forums: Start a Forum'. On the left, a sidebar titled 'Select Relevant Topic' lists 'Mental Health Topics' with checkboxes for Depression, Anxiety, PTSD, General, Men's Health, Women's Health, LGBTQ, and Suicide Prevention. The 'Anxiety' checkbox is checked. The main content area has a 'Title:' input field containing 'Coping with Anxiety' with a cursor, and a text area for the post content starting with 'Start your forum here:'. Below the text area is a 'Post' button with a plus sign. To the right, a column titled 'Active Forums' lists ten entries, all labeled 'Title'.

4. User's post will appear on the main screen. 100% UI Navigation

The screenshot shows a web browser window for 'Angproj' at <https://health-goals.herokuapp.com>. The title bar says 'Health Goals Logo'. The page content includes:

- Filter Results** sidebar with 'Mental Health Topics' checkboxes: Depression, Anxiety, PTSD, General, Men's Health, Women's Health, LGBTQ, Suicide Prevention.
- Start a Forum** button and **Search for Forums** input field.
- Newest First** sorting option and **Page 1 of 10**.
- Coping with Anxiety** topic with a post: "Recently, I've been super stressed and hung up on assignments in school. I feel anxious everyday, hoping I don't flunk. Does anyone know how I can overcome this? I just need someone to talk to." (Lorem ipsum placeholder text follows).
- Should I See a Therapist?** topic with a post: "Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco" (Lorem ipsum placeholder text follows).
- No Motivation** topic with a post: "Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco" (Lorem ipsum placeholder text follows).
- I Have a Story to Share** topic with a post: "Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco" (Lorem ipsum placeholder text follows).
- Active Forums** sidebar listing 10 forums: Coping with Anxiety, Title, Title, Title, Title, Title, Title, Title, Title, Title.

UC 6: Get Workouts

- User is on Welcome Page and clicks on Exercise Videos Button. 1 click - UI Navigation (100%)

The screenshot shows a web browser window for 'Angproj' at <https://health-goals.herokuapp.com>. The title bar says 'Welcome to Health Goals'. The page content includes:

- LOG IN** section with 'Health Goals LOGO' and fields for **Email Address** and **Password**. A link 'Don't have an account? Sign up here' is at the bottom.
- Exercise Videos** button highlighted with a cursor.
- Other buttons in circles: **WEIGHT WATCHERS**, **FOOD BLOGS**, **FOOD RECIPES**, **MENTAL HEALTH FORUMS**, **FIND A THERAPIST**, **MENTAL HEALTH ARTICLES**, and **FITNESS INSTRUCTORS**.

- User is taken to search page for exercises/workouts. User can type in keywords or click on filters to personalize search.

- a. Data entry - User must enter search terms. We can assume about 1000 characters
- b. UI Navigation - User can pick between different filters. We can assume about 2 clicks.

Exercise Videos

Filter Results

Training Type

- Cardio
- Toning
- Yoga
- Strength Training

Difficulty

- 0
- 1
- 2
- 3
- 4

Search cardio strength workout

Newest First

Page 1 of 10

3. List of relevant workouts is displayed and user can choose one. UI Navigation - 1 click

Exercise Videos

Filter Results

Training Type

- Cardio
- Toning
- Yoga
- Strength Training

Difficulty

- 0
- 1
- 2
- 3
- 4

Search cardio strength workout

Newest First

Page 1 of 10

4. New page with workout video and steps for chosen exercise is shown

The screenshot shows a web browser window titled "Angproj" with the URL "https://health-goals.herokuapp.com". The main content area is titled "Health Goals Logo". Below it, there is a search bar with the text "Search cardio strength workout", a "Newest First" button, and a "Page 1 of 10" button. A large thumbnail for a video titled "Fun Upper Body Workout + A Message About Goal Setting" is displayed. The thumbnail features a woman in a blue top and black pants performing an upper body exercise. To the left of the thumbnail is a sidebar with "Filter Results" and two sections: "Training Type" and "Difficulty". Under "Training Type", "Strength Training" is checked. Under "Difficulty", "3" is checked. The video thumbnail includes the text "fitness-blender.com" and "UPPER BODY - 10 MIN".

UC-9: Join Group

1. User clicks join group button and reaches Group Page. UI Navigation - 1 click

The screenshot shows a web browser window titled "Angproj" with the URL "https://health-goals.herokuapp.com". The main content area is titled "Welcome to Health Goals". On the left side, there are five circular icons: "WEIGHT WATCHERS" (red), "EXERCISE VIDEOS" (teal), "FOOD BLOGS" (pink), "FOOD RECIPES" (yellow), and "MENTAL HEALTH FORUMS" (orange). In the center, there is a "LOG IN" section with "Health Goals LOGO" text, "Email Address" and "Password" input fields, and a "Sign up here" link. On the right side, there are three circular icons: "MENTAL HEALTH ARTICLES" (purple), "FIND A THERAPIST" (blue), and "FITNESS INSTRUCTORS" (green).

2. User can search for available groups and look at their leaderboards of top users.
User can choose group or create their own

- Data entry - User must enter search terms. About 1000 characters.
- Navigation - User can pick between different filters. About 2 clicks.

The screenshot shows a web browser window with the URL <https://health-goals.herokuapp.com>. The page title is "Health Goals Logo". On the left, there is a sidebar with a "Join Group" section containing a text input field with placeholder text "Type name here" and a "Find" button. Below it is a "Find Group" section with a "Filter Results to find best group" heading, followed by checkboxes for "Training Type" (Cardio, Toning, Strength Training, Yoga), "Calorie Goal per week" (1000-2000, 2000-3000, 3000-5000, 5000+), and a "Find" button. The main content area is titled "Weight Watchers" and displays the search results for the group.

3. User reaches new group page where they can interact with their group

The screenshot shows the same web browser window with the URL <https://health-goals.herokuapp.com>. The page title is "Health Goals Logo". The sidebar on the left remains the same as the previous screenshot. The main content area is titled "Weight Watchers" and shows the "Cardio Crew" group. It features a "Members" section displaying nine user icons and a "Top 10 Leaderboard" section with three columns: "Name", "Rank", and "% Goal Reached". The "Sort: Rank" button is visible above the leaderboard table.

UC-10: Create Account

- Visitor clicks link to sign up to create new account - Navigation 1 click



2. The system shows empty dialog boxes so visitor can fill out personal information



3. Visitor fills in necessary information – User must enter personal information. We can assume about 2000 characters

Sign Up!

First Name John **Last Name** Smith

Email Address john.smith@gmail.com **Password**

Description I love long walks on the beach and hiking

Health Goals I want to eat healthier and stay on the right path

Dietary Restrictions Vegan

Sign in

4. System creates account for new user. User can now log in with their own account.

Welcome to Health Goals

LOG IN

Health Goals LOGO

Email Address
john.smith@gmail.com

Password

Don't have an account? [Sign up here](#)

WEIGHT WATCHERS

EXERCISE VIDEOS

FOOD BLOGS

FOOD RECIPES

MENTAL HEALTH FORUMS

MENTAL HEALTH ARTICLES

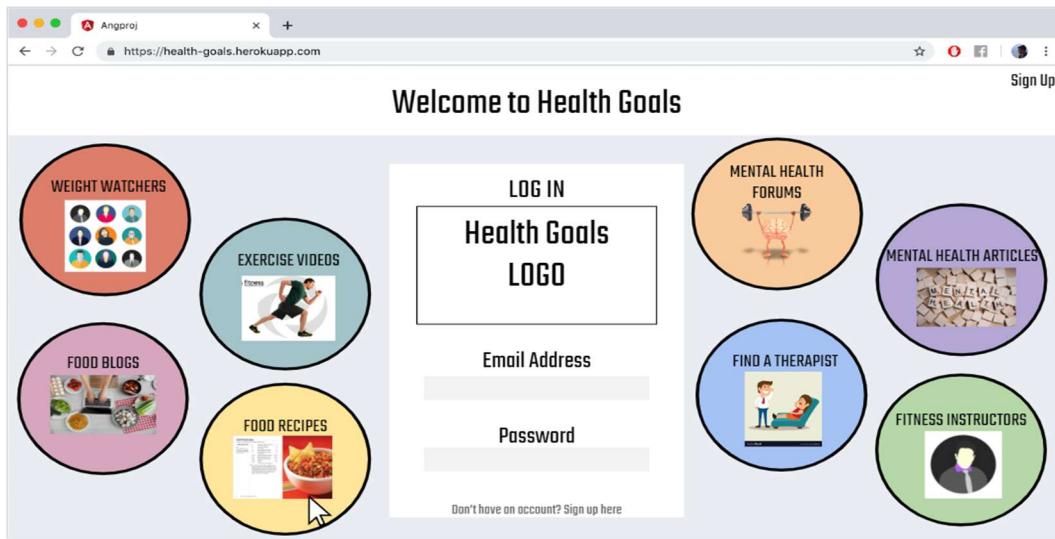
FIND A THERAPIST

FITNESS INSTRUCTORS

Sign Up

UC-14: Search Recipes

1. The user is on the Welcome Page and clicks on “Food Recipes”.



2. The user lands on the “Recipes” page where he or she can view the top 10 trending recipes related to their profile health goals and diet restrictions (if any) or query and filter recipes with the search bar and options on the left.

3. A relevant list of recipes is returned based on the search query and filters applied by the user. The user then selects the recipe that they are most interested in (top result).

The screenshot shows a web browser window titled 'Angproj' with the URL 'https://health-goals.herokuapp.com'. The main content area is titled 'Health Goals Logo' and features a 'Recipes' section. On the left, there is a 'Filter Results' sidebar with sections for 'Meal Type' (Breakfast, Lunch, Dinner, Snack, Drink), 'Additional' (Convenience, Cost, Ratings), and a 'Custom Filters' button. The main search results area has a search bar containing 'Chicken', a 'Recommended' button, and a 'Page 1 of 10' indicator. Below the search bar, three recipe cards are displayed: 'Lemon Herb Chicken', 'Grilled Rosemary Chicken', and 'Summer Chicken Burgers'. Each card includes a small image, the recipe name, basic nutrition facts, diet labels, health labels, and a 'More Info' button. To the right of the search results is a 'Trending Recipes' sidebar listing ten items: Peaches, Fruit Salad, Bagel Avocado Sandwich, Tomato Basil Salmon, Lemon Herb Chicken, Grilled Rosemary Chicken, Lentil Soup, Easy Herb Potatoes, Fresh Green Bean Salad, and Roasted Garlic Cauliflower.

4. “Recipes” returns more information about the selected recipe and gives the user the option to add it to their meal plan. This information can be used for more accurate recommendations.

UI Navigation - A total of 1 mouse click, as follows: Click “Food Recipes”.

Data Entry - A total of 4 mouse clicks and 8 keystrokes, as follows:

- Click the “Lunch”, “Convenience”, and “Ratings” filters and hit enter after typing “Chicken” in the search bar.
- Click “More Info” to retrieve more information regarding the recipe

The screenshot shows a web browser window for 'Angproj' at <https://health-goals.herokuapp.com>. The title bar says 'Health Goals Logo'. On the right, there's a 'Sign in' button. The main content area has a header 'Recipes' and a search bar with 'Chicken'. Below it is a card for 'Simple Lemon Herb Chicken' with a 5-star rating, 759 reviews, and 22 photos. The card includes 'Directions', 'Ingredients', and 'Nutrition Facts'. To the right is a sidebar titled 'Trending Recipes' listing items 1 through 10.

- 1. Peaches
- 2. Fruit Salad
- 3. Bagel Avocado Sandwich
- 4. Tomato Basil Salmon
- 5. Lemon Herb Chicken
- 6. Grilled Rosemary Chicken
- 7. Lentil Soup
- 8. Easy Herb Potatoes
- 9. Fresh Green Bean Salad
- 10. Roasted Garlic Cauliflower

UC-15: Search Info

1. The user is on the Welcome Page and clicks on “Mental Health Articles”.

The screenshot shows a web browser window for 'Angproj' at <https://health-goals.herokuapp.com>. The title bar says 'Welcome to Health Goals'. On the right, there's a 'Sign Up' button. The main content area features several circular icons: 'WEIGHT WATCHERS' (red), 'EXERCISE VIDEOS' (teal), 'FOOD BLOGS' (pink), 'FOOD RECIPES' (yellow), 'MENTAL HEALTH FORUMS' (orange), 'MENTAL HEALTH ARTICLES' (purple), 'FIND A THERAPIST' (blue), and 'FITNESS INSTRUCTORS' (green). In the center, there's a 'LOG IN' section for 'Health Goals LOGO' with fields for 'Email Address' and 'Password'. At the bottom, it says 'Don't have an account? Sign up here'.

2. The user lands on the “Mental Health Resources” pages where he or she can view the top 10 trending articles related to mental health and wellness or query and filter articles with the search bar and options on the left.

3. A relevant list of articles is returned based on the search query and filters applied by the user. The user then selects the article relevant to meditation (top result).

4. “Mental Health Resources” returns more information about the meditation article and gives the user the option to visit the article, leaving the Health Goals site.
 UI Navigation - A total of 1 mouse click, as follows: Click “Mental Health Articles”
 Data Entry - A total of 2 mouse clicks and 23 keystrokes, as follows:

- a. Click the “Anxiety” filter and hit enter after typing “How to overcome stress” in the search bar.
- b. Click “Learn More” to retrieve more info regarding the meditation article

Health Goals Logo

Mental Health Resources

Filter Results

Mental Health Topics

- Depression
- Anxiety
- PTSD
- General
- Men's Health
- Women's Health
- LGBTQ
- Suicide Prevention

Search Bar: How to overcome stress

Results:

Abstract

In this study, respiratory functions, cardiovascular parameters and lipid profile of those practicing Roja Yoga meditation (short and long term meditators) were compared with those of nonmeditators. Vital capacity, tidal volume and breath holding were significantly higher in short and long term meditators than nonmeditators. Long term meditators had significantly higher vital capacity and expiratory pressure than short term meditators. Diastolic blood pressure was significantly lower in both short and long term meditators as compared to nonmeditators. Heart rate was significantly lower in long term meditators than in short term meditators and nonmeditators. Lipid profile showed a significant lowering of serum cholesterol in short and long term meditators as compared to nonmeditators. Lipid profile of short and long term meditators was better than the profile of nonmeditators *inspite of similar physical activity*. This shows that Roja Yoga meditation provides significant improvements in respiratory functions, cardiovascular parameters and lipid profile.

[Go To Article](#)

Newest First **Page 1 of 10**

Top 10 Articles

1. Effects of Meditation
2. Depression in Teens
3. Overcoming Judgement
4. Self-worth
5. What's Your Measure of Success?
6. Plan Your Work, Work Your Plan
7. Boost Motivation
8. Why do People Give Up?
9. Accepting Yourself
10. How to Discipline Yourself

5. Domain Analysis

- a. Domain Model - For UC 1, 2, 4, 6, 9, 10, 14, 15

UC-1: Get Meal Plan

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Form containing search parameters, obtained from profile information and selected filters (if selected)	K	Search AutoFill
R3: Contains user's search bar input and timestamp	K	Search Entry
R4: Keep track of user searches and their timestamp	D	Logger
R5: Prepare a database query that best matches the users search bar input and autofill information and retrieve the meal plan from the database	D	DB Connect
R6: Contains user's choice from presented options	K	User Choice

Extracting Associations

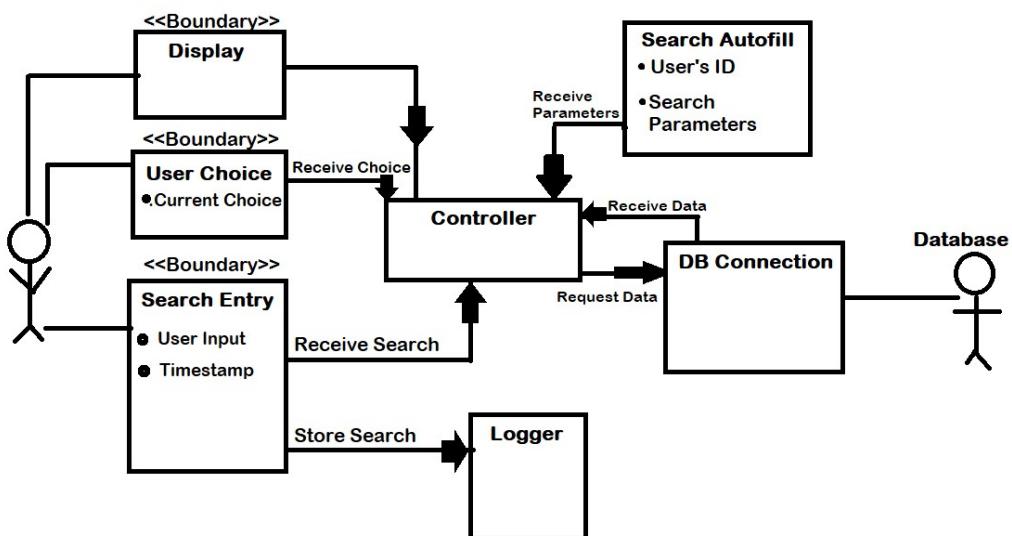
Concept Pair	Association Description	Association Name
Search Autofill - Controller	Controller receives autofill search parameters	Receive parameters
Search Entry - Controller	Controller receives the user's search input	Receive search
Search Entry - Logger	Logger receives the user's search input and stores it	Store search
Controller - DB Connect	Controller generates request from database	Request Data
Controller - DB Connect	Controller receives data from database	Receive Data

User Choice - Controller	Controller receives user's choice	Receive Choice
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Extracting the Attributes

Concepts	Attributes	Attribute Description
Search Autofill	User's ID	Used to determine user's autofill search parameters
	Search Parameters	Existing health conditions, age, sex, etc. used as autofill search data
Search Entry	User input	Used to form the database request
	Timestamp	Used for logging search entries
User Choice	CurrentChoice	Used to display additional information on the chosen mental health professional

Domain Model Sketch



UC-2: Mental Health Match

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Form containing search parameters, obtained from profile information and selected filters (if selected)	K	Search AutoFill
R3: Contains user's search bar input and timestamp	K	Search Entry
R4: Keep track of user searches and their timestamp	D	Logger
R5: Prepare a database query that best matches the users search bar input and autofill information and retrieve the therapists from the database	D	DB Connect
R6: Contains user's choice from presented options	K	User Choice

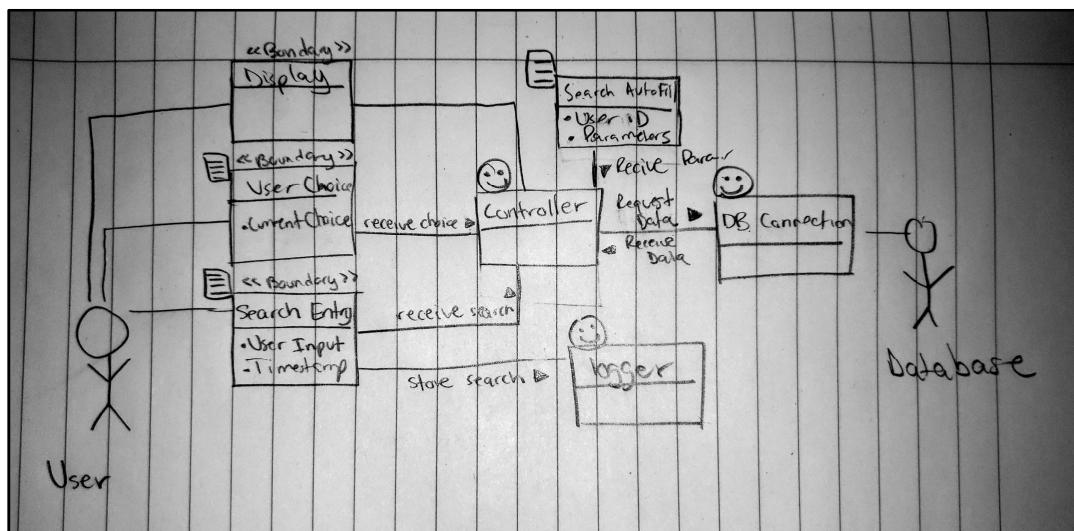
Extracting Associations

Concept Pair	Association Description	Association Name
Search Autofill - Controller	Controller receives autofill search parameters	Receive parameters
Search Entry - Controller	Controller receives the user's search input	Receive search
Search Entry - Logger	Logger receives the user's search input and stores it	Store search
Controller - DB Connect	Controller generates request from database	Request Data
Controller - DB Connect	Controller receives data from database	Receive Data
User Choice - Controller	Controller receives user's choice	Receive Choice

Extracting the Attributes

Concepts	Attributes	Attribute Description
Search Autofill	User's ID	Used to determine user's autofill search parameters
	Search Parameters	Existing health conditions, age, sex, etc. used as autofill search data
Search Entry	User input	Used to form the database request
	Timestamp	Used for logging search entries
User Choice	CurrentChoice	Used to display additional information on the chosen mental health professional

Domain Model Sketch



UC- 4: Start Forum

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Adds a new forum to the list of existing forums	D	DB Connection
R3: Contain the forum's information entered by the user, including title, description, and associated topics. Also contains system generated data	K	ForumInfo
R4: Ensures that a name is not being used in a different thread	D	NameChecker

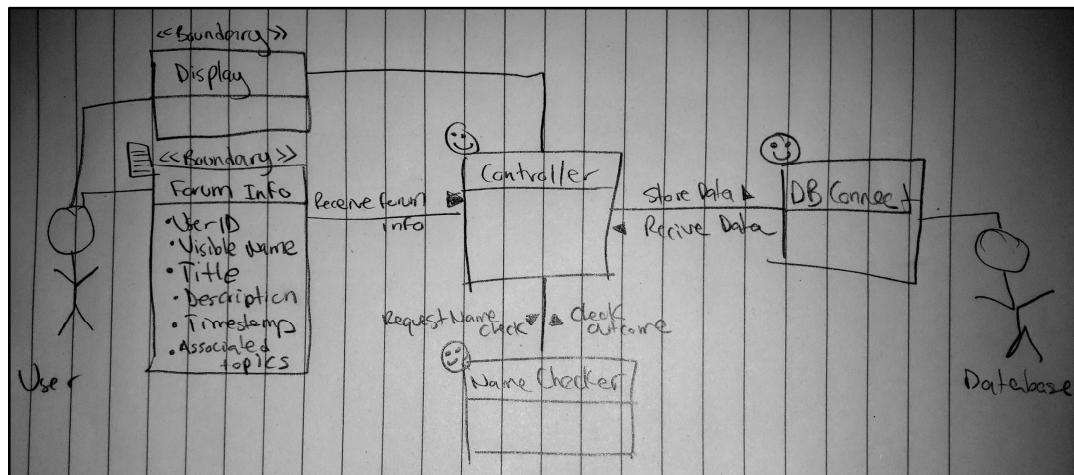
Extracting Associations

Concept Pair	Association Description	Association Name
Controller - DB Connect	Controller generates request to store to database	Store Data
Controller - DB Connect	Controller generates request to retrieve data from database	Receive Data
Controller - ForumInfo	Controller receives forum information from user and systems	Receive Forum Info
Controller - NameChecker	Controller conveys a namecheck request and passes list of used names	Request Name check
Controller - NameChecker	Namechecker returns whether name is approved or denied	Check Outcome

Extracting the Attributes

Concepts	Attributes	Attribute Description
Forum Info	User's ID	Used to access created forums and to display name if attribute “visible name” is null
	Visible Name	Used for anonymity. If user does not want to display their real user id, they can create one for a given thread
	Forum Title	Title of the forum
	Forum Description	Detailed description of the forum
	Timestamp	Used for recordkeeping
	Associated Topics	Used for improved search abilities

Domain Model Sketch



UC- 6: Get Workout

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Form containing search parameters, obtained from profile information and selected filters (if selected)	K	Search AutoFill
R3: Contains user's search bar input and timestamp	K	Search Entry
R4: Keep track of user searches and their timestamp	D	Logger
R5: Prepare a database query that best matches the users search bar input and autofill information and retrieve the workouts from the database	D	DB Connect
R6: Contains user's choice from presented options	K	User Choice

Extracting Associations

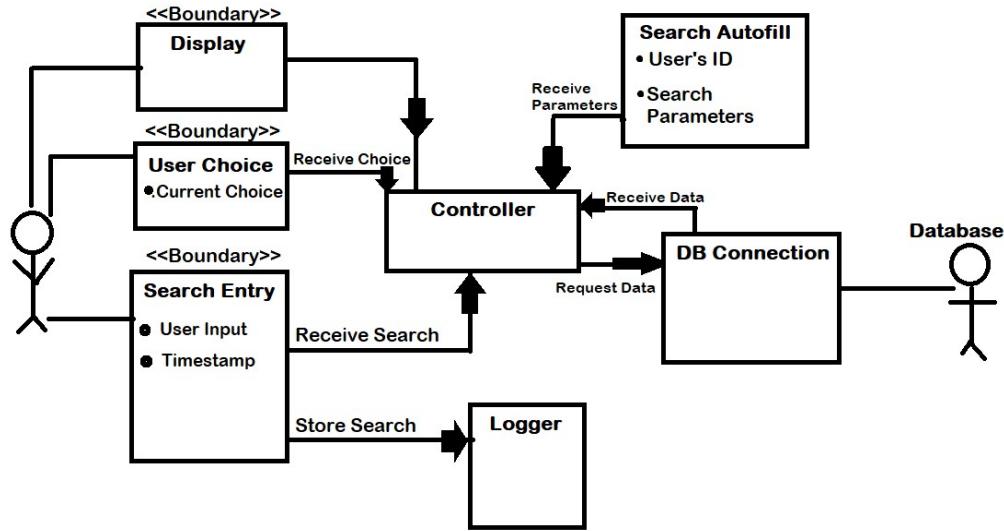
Concept Pair	Association Description	Association Name
Search Autofill - Controller	Controller receives autofill search parameters	Receive parameters
Search Entry - Controller	Controller receives the user's search input	Receive search

Search Entry - Logger	Logger receives the user's search input and stores it	Store search
Controller - DB Connect	Controller generates request from database	Request Data
Controller - DB Connect	Controller receives data from database	Receive Data
User Choice - Controller	Controller receives user's choice	Receive Choice

Extracting the Attributes

Concepts	Attributes	Attribute Description
Search Autofill	User's ID	Used to determine user's autofill search parameters
	Search Parameters	Existing health conditions, age, sex, etc. used as autofill search data
Search Entry	User input	Used to form the database request
	Timestamp	Used for logging search entries
User Choice	CurrentChoice	Used to display additional information on the chosen mental health professional

Domain Model Sketch



UC- 9: Join Group

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Adds a user to existing group	D	DB Connection
R3: Contain the group data including the assorted chats. Also contains system generated data	K	GroupInfo
R4: Ensures that a group exists to join	D	NameChecker

Extracting Associations

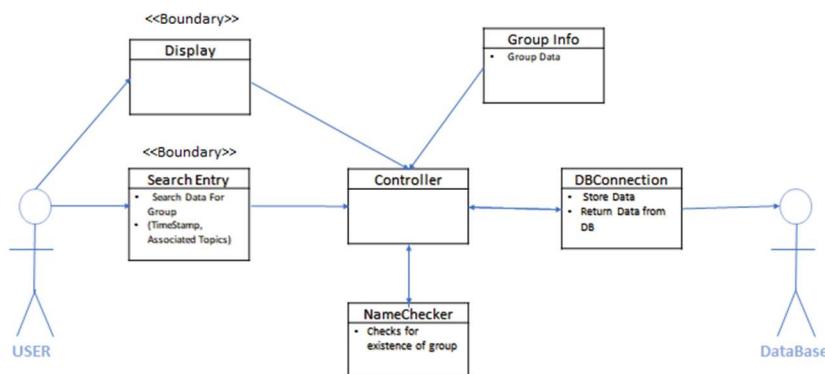
Concept Pair	Association Description	Association Name
Controller - DB Connect	Controller generates request to store to database	Store Data
Controller - DB Connect	Controller generates request to retrieve data from database	Receive Data
Controller - GroupInfo	Controller receives group information from user and systems	Receive Forum Info
Controller - NameChecker	Controller conveys a namecheck request and passes list of used names	Request Name check
Controller - NameChecker	Namechecker returns whether name is existent or not	Check Outcome

Extracting the Attributes

Concepts	Attributes	Attribute Description
Forum Info	User's ID	Used to access created forums and to display name if attribute “visible name” is null
	Visible Name	Used for anonymity. If user does not want to display their real user id, they can create one for a given thread
	Forum Title	Title of the group

Forum Description	Rough description of the group
Timestamp	Used for recordkeeping
Associated Topics	Used for improved search abilities

Domain Model Sketch



UC- 10: Create Account

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller

R2: Adds a new account to the database and provides information about existing accounts	D	DB Connection
R3: Form containing the user's information (entered during the account creation process. Can be modified at later times)	K	ProfileInfo
R4: Ensures that the user id is not being used by a different user	D	IDChecker

Extracting Associations

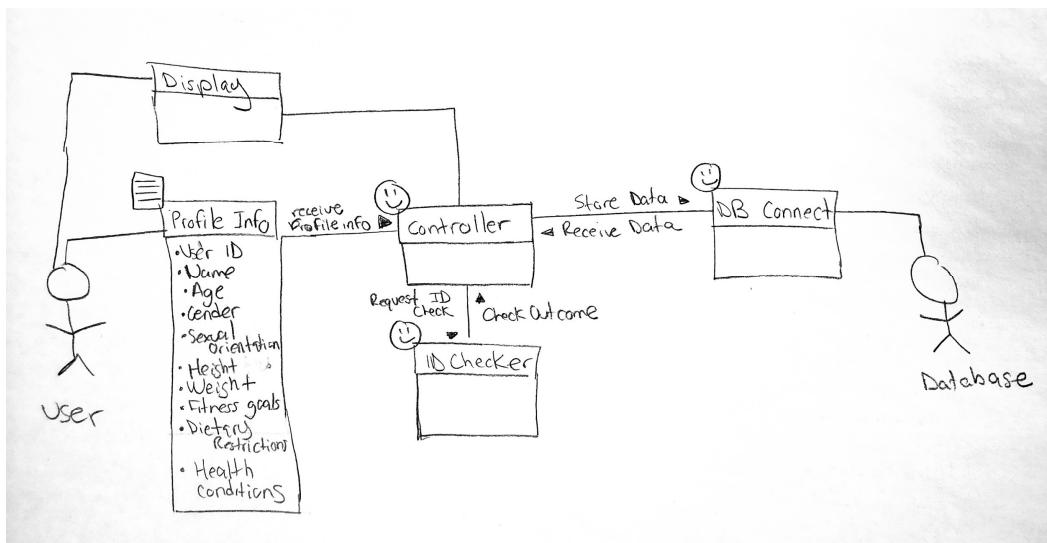
Concept Pair	Association Description	Association Name
Controller - DB Connect	Controller generates request to store to database	Store Data
Controller - DB Connect	Controller generates request to retrieve data from database	Receive Data
Controller - ProfileInfo	Controller receives profile information from user	Receive Profile Info
Controller - IDChecker	Controller conveys a id check request and passes list of used user IDs	Request ID check
Controller - IDChecker	IDchecker returns whether id is approved or denied	Check Outcome

Extracting the Attributes

Concepts	Attributes	Attribute Description
Profile Info	User's ID	Used to identify users
	Name	First and Last Name

	Age	
	Gender	
	Sexual Orientation	
	Height & Weight	Use for tailoring information
	Existing Health Conditions (Physical)	
	Existing Health Conditions (Mental)	
	Dietary Restrictions	
	Fitness Goals	

Domain Model Sketch



UC-14: Recipe Match

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Form containing search parameters, obtained from profile information and selected filters (if selected)	K	Search AutoFill
R3: Contains user's search bar input and timestamp	K	Search Entry
R4: Keep track of user searches and their timestamp	D	Logger
R5: Prepare a database query that best matches the users search bar input and autofill information and retrieve the recipes from the database	D	DB Connect
R6: Contains user's choice from presented options	K	User Choice
R7: Retrieve information from the user's profile to further aid searches	D	Profile Connect

Extracting Associations

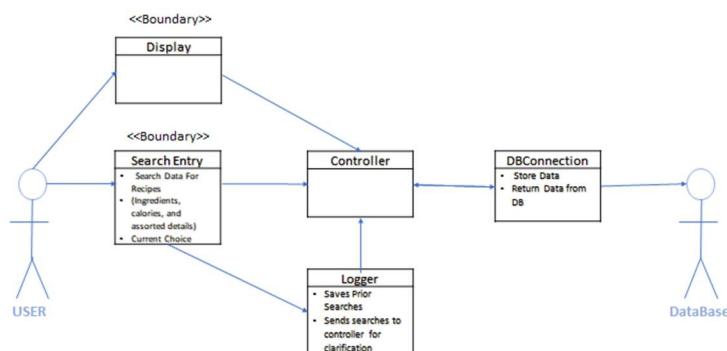
Concept Pair	Association Description	Association Name
Logger - Controller	Controller receives logger data	Receive prior parameters
Search Entry - Controller	Controller receives the user's search input	Receive search
Search Entry - Logger	Logger receives the user's search input and stores it	Store search
Controller - DB Connect	Controller generates request from database	Request Data

Controller - DB Connect	Controller receives data from database	Receive Data
User Choice - Controller	Controller receives user's choice	Receive Choice

Extracting the Attributes

Concepts	Attributes	Attribute Description
Search Autofill	User's ID	Used to determine user's autofill search parameters by accessing profile
	Search Parameters	Calorie Count, ingredients, cost, and additional dietary requirements
Search Entry	User input	Used to form the database request
	Timestamp	Used for logging search entries
User Choice	CurrentChoice	Used to display additional information on the chosen recipes

Domain Model Sketch



UC- 15: Search Info

Extracting Responsibilities (Concept Definitions)

Responsibility Description	Type	Concept Name
R1: Coordinate actions of concepts associated with this use case and delegate work to other concepts	D	Controller
R2: Form containing search parameters, obtained from profile information and selected filters (if selected)	K	Search AutoFill
R3: Contains user's search bar input and timestamp	K	Search Entry
R4: Keep track of user searches and their timestamp	D	Logger
R5: Prepare a database query that best matches the users search bar input and autofill information and retrieve the articles from the database	D	DB Connect
R6: Contains user's choice from presented options	K	User Choice

Extracting Associations

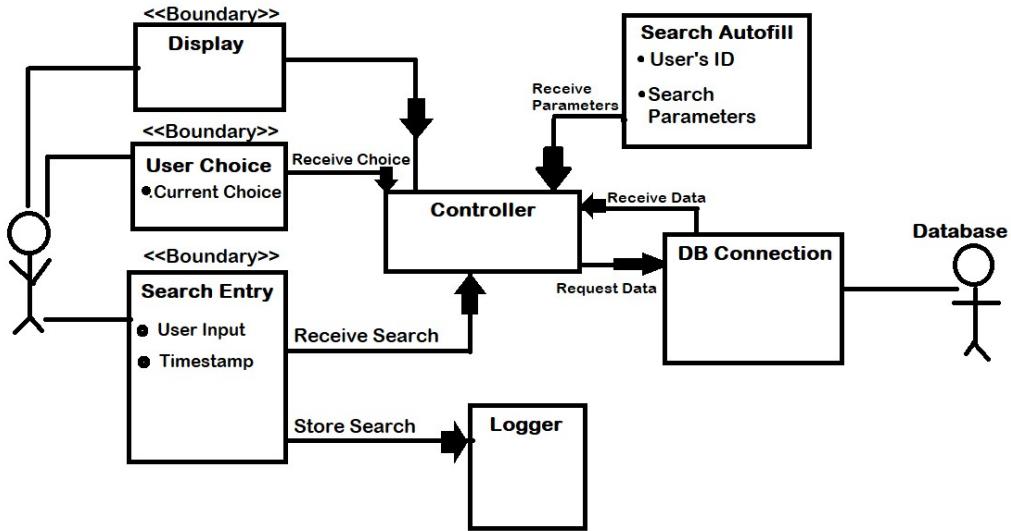
Concept Pair	Association Description	Association Name
Search Autofill - Controller	Controller receives autofill search parameters	Receive parameters
Search Entry - Controller	Controller receives the user's search input	Receive search
Search Entry - Logger	Logger receives the user's search input and stores it	Store search

Controller - DB Connect	Controller generates request from database	Request Data
Controller - DB Connect	Controller receives data from database	Receive Data
User Choice - Controller	Controller receives user's choice	Receive Choice

Extracting Attributes

Concepts	Attributes	Attribute Description
Search Autofill	User's ID	Used to determine user's autofill search parameters
	Search Parameters	Existing health conditions, age, sex, etc. used as autofill search data
Search Entry	User input	Used to form the database request
	Timestamp	Used for logging search entries
User Choice	CurrentChoice	Used to display additional information on the chosen mental health professional

Domain Model Sketch



Traceability Matrix

Domain Model	UC-1	UC-2	UC-4	UC-6	UC-9	UC-10	UC-14	UC-15
Controller	X	X	X	X	X	X	X	X
Search Autofill	X	X		X				X
Search Entry	X	X		X			X	X
Logger	X	X		X			X	X
DB Connect	X	X	X	X	X	X	X	X
User Choice	X	X		X			X	X
ForumInfo			X		X			

NameChecker			X		X			
ProfileInfo						X		
IDChecker						X		

b. System Operation Contracts

Get Meal Plan - UC 1

Pre Condition	The website displays user's profile and their interests
Post Condition	The website displays user's chosen section, in this case their meal plan

Mental Health Match - UC 2

Pre Condition	The website displays options of therapists from our database
Post Condition	The website displays user's chosen therapist

Start Forum - UC 4

Pre Condition	The website displays existing forums and option to start forum
Post Condition	Users are able to write their own forum

Get Workout- UC 6

Pre Condition	The website displays the Search page
Post Condition	The website displays the user's chosen workout

Join Group - UC 9

Pre Condition	The website displays join group page with group options
Post Condition	Users are able to see their own group and participate

Create Account - UC 10

Pre Condition	The website displays personal information dialog boxes
Post Condition	User fills in necessary information and creates an account

Search Recipe - UC 14

Pre Condition	The website displays list of existing recipes with filters on side
Post Condition	Users are able to narrow their search by selecting filters

Search Info - UC 15

Pre Condition	The website displays existing articles and option to search
Post Condition	Users are able to see other articles relating to their search

6. Project Size Estimation (based on use case points)

Use Case Points: (For UC 2, 4, 6, 9, 15)

To estimate the project size, we will calculate the use case points using this equation:

$$\text{UCP} = \text{UUCP} \times \text{TCF} \times \text{ECF}$$

(Unadjusted Use Case Points x Technical Complexity Factor x Environment Complexity Factor)

1. **Unadjusted Use Case Points** refers to the size of functional features involved in the project. We will find UUCP by calculating $\text{UUCP} = \text{UUCW} + \text{UAW}$ (Unadjusted Use Case Weight + Unadjusted Actor Weight).

We will classify our use case weights as such:

[https://en.wikipedia.org/wiki/Use_Case_Points#Unadjusted_Use_Case_Weight_\(UUCW\)](https://en.wikipedia.org/wiki/Use_Case_Points#Unadjusted_Use_Case_Weight_(UUCW))

a. UUCW – Unadjusted Use Case Weight

Use Case Classification	No. of Transactions	Weight
Simple	1 to 3 transactions	5
Average	4 to 7 transactions	10
Complex	8 or more transactions	15

Use Case	Description	Weight
UC-1	Get Meal Plan - Simple user interface - 4 steps for the main success scenario - 2 participating actors	10
UC-2	Mental Health Match - Average user interface - 4 steps for the main success scenario - 3 participating actors	10
UC-4	Start Mental Health Forum - Simple user interface - 4 steps for the main success scenario - 1 participating actor	10
UC-6	Get Workout - Simple user interface - 4 steps for the main success scenario - 2 participating actors	10
UC-9	Join Group - Simple user interface - 4 steps for the main success scenario - 2 participating actors	10
UC-10	Create Account - Simple user interface	10

	<ul style="list-style-type: none"> - 4 steps for the main success scenario - 1 participating actor 	
UC-14	<p>Search Recipe</p> <ul style="list-style-type: none"> - Simple user interface - 4 steps for the main success scenario - 1 participating actor 	10
UC-15	<p>Search Info</p> <ul style="list-style-type: none"> - Simple user interface - 4 steps for the main success scenario - 2 participating actors 	10

$$\text{UUCW} = (\text{Total No. of Simple Use Cases} \times 5) + (\text{Total No. Average Use Case} \times 10) + (\text{Total No. Complex Use Cases} \times 15) = 10(8)$$

Thus the UUCW is 80.

b. UAW – Unadjusted Actor Weight

Actor Classification	Type of Actor	Weight
Simple	The actor is another system which interacts with our system through a defined application programming interface (API).	1
Average	The actor is a person interacting through a text- or numeric-based user interface, or another system interacting through a protocol, such as a network communication protocol	2
Complex	The actor is a person interacting via a graphical user interface (GUI).	3

Actor Name	Description of Characteristics	Classification	Weight
User	The user interacts with our system through a text-based user interface by creating an account, writing their own blogs, and	Complex	3

	searching through our data using keyboard and mouse		
Database	The database interacts with our system by running and returning queries based on user's searches (text-based) when looking for therapists, exercise videos, etc.	Average	2
System	System displays results of the query returned by the database on the screen	Simple	1

$$\text{UAW} = (\text{No. of Simple actors} \times 1) + (\text{No. Average actors} \times 2) + (\text{No. Complex actors} \times 3)$$

$$\text{UAW} = (1 \times 1) + (1 \times 2) + (1 \times 3) = 6$$

$$\text{UUCP} = \text{UUCW} + \text{UAW} = 80 + 6 = 86$$

The UAW is 6 and thus the UUCP is 86.

c. TCF – Technical Complexity Factors

Technical Complexity Factors are nonfunctional factors. They account for technical considerations, based on whether the features are irrelevant or not.

Factor	Description	Weight	Perceived Complexity	Factor
T1	Distributed system (able to run on multiple machines)	2.0	3	6
T2	Response time/performance objectives	1.0	3	3
T3	End-user efficiency	1.0	3	3
T4	Internal processing complexity	1.0	4	4
T5	Code reusability	1.0	3	3
T6	Easy to install	0.5	0	0
T7	Easy to use	0.5	5	2.5
T8	Portability to other platforms	2.0	1	2
T9	System maintenance (for existing or new features)	1.0	5	5

T10	Concurrent/parallel processing (multiple user requests and communication between users)	1.0	4	4
T11	Security features (for sensitive personal details)	1.0	3	3
T12	Access for third parties (None)	1.0	0	0
T13	End user training (None)	1.0	0	0
Technical Complexity Factor Total:				35.5

$$TCF = 0.6 + (TF / 100)$$

$$TCF = 0.6 + 35.5 / 100 = 0.955$$

d. Environment Complexity Factor

Environment Complexity Factor refers to the influence that different environmental factors may add to our project's evaluation. However we will assume that all of the members will work under the same environmental factors.

Thus we will take ECF = 1.

Deriving Project Size Estimation:

$$UCP = UUCP \times TCF \times ECF$$

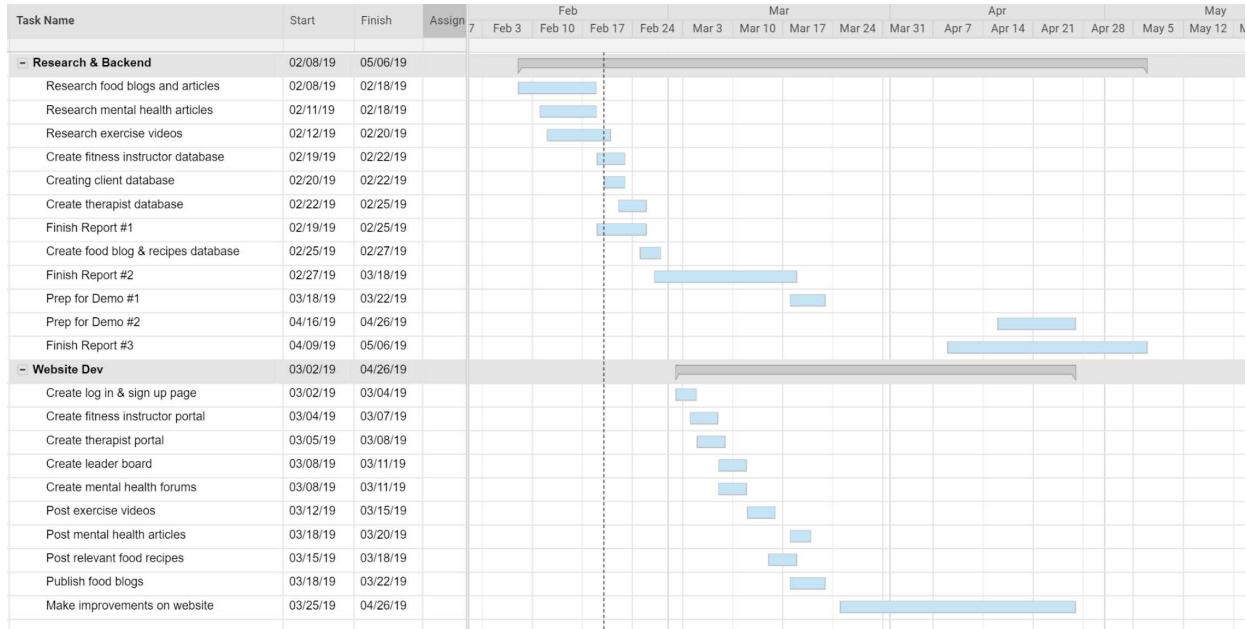
$$UCP = 86 \times 0.955 \times 1$$

$$UCP \approx 82$$

7. Plan of Work

a. Roadmap with Projected milestones and dates in Gantt view

*subject to change depending on the progress of work. This highlights our main focus for this semester with our project.



All members will be actively working and helping each other on every part. After submitting report #1 until semester ends, we will work on the three main components of our website: Nutrition, Fitness, and Mental Health. To ensure maximum efficiency, we decided to allocate responsibility of each component to each of the three subgroups and the remaining subgroups will be helping where needed.

Nutrition Related Features: Subgroup 1

- Kishan
- Arti
- Anushka

Fitness Related Features: Subgroup 2

- Niharika
- Varun B.
- Sai

Mental Health Related Features: Subgroup 3

- Eric
- Varun R.
- Jose

b. Breakdown of Responsibilities:

Functional Feature and Description	Main Subgroup Responsible
Welcome Page - Create a visually appealing and intriguing home page to attract users, reveal the site's underlying content, and provide easy navigation to access the other features.	Subgroup 1
Weight Watchers - Implement a community to maintain and reflect the progression of user goals. Top 10 people who have achieved the highest percentage of goal reached will be displayed in the group's leaderboard.	Subgroup 2
Fitness Exercises - Display exercises that will be filtered by type of training (cardio, toning, yoga, strength training) type of difficulty ranging from one to five, five being the hardest.	Subgroup 2
Mental Health Forum - Implement an online discussion topics feature where users can share and contribute their experiences. Allow users to filter by depression, anxiety, PTSD, general, men's health, women's health, LGBTQ, suicide prevention.	Subgroup 3
Nutrition Blogs/Articles - Allow users to access nutrition relevant articles filtered based on type of food(vegan, keto, kid friendly, breakfast) and dietary restrictions (dairy-free, gluten-free, vegetarian, low carb, non-gmo).	Subgroup 1
Find A Therapist - Users will be able to filter through therapists based on treatment type(therapist, psychologist, counselor, other), duration and location of treatment. Also allow user to make LGBTQ specification.	Subgroup 3
Mental Health Articles - Allow users to access mental health relevant articles filtered based on type of mental health (depression, anxiety, PTSD,	Subgroup 3

general, men's health, women's health, LGBTQ, suicide prevention)	
Nutrition Recipes - Implementing a portal of recipes for users to create an effective meal-plan based on the users' health and diet goals. Filter based on meal type (breakfast, lunch, dinner, snack, drink) and additionally cost, convenience, rating.	Subgroup 1
Create Account - Website will collect pertinent information, users will be able to create an account and are prompted to answer questions pertaining to their age, sex, gender identity, sexual orientation, race/ethnicity, weight loss goals, and personal workout goals.	Subgroup 1
Fitness Instructor Matchup - Users will be able to filter through fitness instructors based on training type(cardio, toning, yoga, strength training), trainer sex, and location.	Subgroup 2

8. Project Management

Going forth we expect to start implementing our main features after submitting report #1. We have already provided the *breakdown of contributions* from each member of the team (refer to Table of Contents).

Deadlines	Description of duties
February 24th	We will add section 5,6, and 7 for report #1. <i>Project management will be addressed with more details and with the use of Gantt Charts.</i>
February 24th	We will create a product roadmap which will aid in organizing the direction and work that is required to ensure that we meet our business objectives
February 24th	Finish Domain analysis model including the domain model, system operation contracts, as well as discuss and include the mathematical model(if necessary).

February 24th	Address and complete effort estimation through case points. Include relevant functional, nonfunctional, and environmental factors. We will also have the project duration which will be derived from Use Case Points.
March 3rd	We will finish interaction diagrams through using sequence or UML diagrams. We will also describe the design principles we plan to employ in the process of assigning responsibilities to the object.
March 10th	Complete all sub-requirements of Class diagram and Interface Specification as well as System Architecture and Design.
Marth 10th	Update Project management of report #2 by addressing what cases have been implemented so far, which one of our features is fully functional and discuss what issues we had so far and how we found/plan to find a solution.

9. References

Workout With Friends:

<https://www.ece.rutgers.edu/~marsic/books/SE/projects/HealthMonitor/2012-g1-report3.pdf>

Talking Heart:

<https://www.ece.rutgers.edu/~marsic/books/SE/projects/HealthMonitor/2012-g2-report3.pdf>

Biometric Heart Monitoring:

<https://www.ece.rutgers.edu/~marsic/books/SE/projects/HealthMonitor/2012-g3-report3.pdf>

[1] <https://www.nami.org/learn-more/mental-health-by-the-numbers>

[2] <http://www.mentalhealthamerica.net/issues/state-mental-health-america-2018>

Use Case Points:

https://en.wikipedia.org/wiki/Use_Case_Points