Systems Requirements Specification (SRS)

Team Meeting Minutes

Team ID: OJ Capri Sun

Date: 3/2, 1-2pm

Team Members (Name)-Role

1.Feiyue (Curtis) Zhang -Participant

2.Mia Vu-Recorder

3.Sazeda Sultana-Participant

4.Tong Ge-Participant

5.Tyler Mun-Facilitator

Agenda for this meeting:

List of agenda items **Outcomes**

1. Ask some more elicitation questions-Achieved
2. Work on homework 6-Achieved

Problems encountered **Resolution**

1. Unclear on some aspects of functions-Clarified

Plans for next meeting: **Responsibility**

Activity

1. Work on homework 6 and finish the final touches

Team ID: OJ Capri Sun

Date: 3/4,2-4pm

Team Members (Name)-Role

1.Feiyue (Curtis) Zhang -Participant

2.Mia Vu-Recorder

3.Sazeda Sultana-Participant

4.Tong Ge-Participant

5.Tyler Mun-Facilitator

Agenda for this meeting:

List of agenda items **Outcomes**

1. Delegate content for HW 6-Achieved
2. Work on HW 6 - Achieved
3. Delegate the remaining work for HW 6 - Achieved

Problems encountered **Resolution**

1. Conflicts in assigning roles and filling in templates -- sat down and redistributed workload

Plans for next meeting: **Responsibility**

Activity

1. Work on homework 6 and finish the final touches

Field Notes

Requirement Elicitation

1. Have you ever used any mental health applications?
    a. No prior experience with mental health applications
2. How do you feel about meeting with a specialist physically for mental health assistance?

    a. An important option to have and make available.
3. What steps would you take to make an appointment with a specialist?
    a. Scroll through the list of doctors with their profile show on the left and all of their available times that week on the right.
    b. Can filter through specialization or date
    c. Click on available date and time to schedule the appointment
    d. Similar to ZocDoc
    e. includes doctor profile, contact info, ratings, reviews, availability
    f. A map that shows users the nearest places to get help if needed
4. What kind of appointments will users be able to schedule?
    a. Physical/in-person appointments, online individual appointments, online group therapy appointments
5. In what kinds of situations are you most likely to be stressed or anxious?
    a. During times with lots of assignments due or during midterms + finals periods. Periods of financial stress also cause stress.
6. What features within the app can suggest activities to relieve stress?
    a. Things like breathing exercises, exercise suggestions, stress relief activities, books, or small games (from outside/3rd party sources)
7. What features within the app should avoid in order to get relief from mental distress?
    a. Language, especially in advice or suggestions, should not be vague
8. What kind of advice would you prefer to see from experts?
    a. Professional therapist sessions and stress/anxiety relief tips, calming exercises, tips on how to better relax/concentrate/organize yourself
9. How do you feel about taking assessments to see how you are doing mentally?
    a. Assessments can be helpful in understanding what students may currently be stressed about or suffering from
10. How will mental health assessments be performed?
    a. Administered online, with results being manually reviewed by a mental health professional. No automated mental health assessments will be available
11. What would be the most convenient way for users to contact someone for mental health assistance?
    a. Push of a button, messaging, or call
12. What kind of information would you want a specialist to know about you?
    a. Basic demographic information (ex: name, age, gender) mental health record, and journal. If asked specific questions, user can always decline to share information
13. How much information will administrators/professionals be able to see regarding a patient’s mental health history?
    a. Anything that exists on a student's health records, including current diagnoses and prescriptions. The mental health journal featured on this app should also be available for professionals and administrators to view

14. How do you feel about having the function that keeps a record of mental health like a journal?
    a. Can help both user and a mental health professional track a student's moods
15. What kind of physical/emotional features do you see a user wanting to track?
    a. Tracked daily (or as often as a user wants to fill in their journal): mood, stress level, work level, financial stress level, sleep quantity/quality, and any thoughts they had during the day
16. How do you feel about being in group chats with others who are also experiencing mental health problems?
    a. It is a good idea that gives users an opportunity to share their feelings and connect/support/get support from others
17. How do you feel about being able to post discussion boards?
    a. Discussion boards should be places where students can ask for and offer advice. Anonymity is optional, posts are sorted by (preset) topics, and no system for ranking (up/down voting) will exist. Replies to posts are allowed.
18. In what ways would you like our application to use your personal information?
    a. Only medical professionals and administrators can view medical record
19. Is the system available to students no matter where they live?
    a. Available to both on campus and off campus students
20. Does this app require pre-existing health insurance coverage?
    a. Since health insurance is required for all UCI students, it is required. Health insurance does not have to be the UCI-specific insurance plan
21. Why should user anonymity be/not be a concern?
    a. Students may not feel comfortable sharing their thoughts in places like public discussion forums, so anonymity may make it easier for them to consider asking for help or advice. The same is true for one-on-one and group counseling sessions, where their name/face may remain anonymous, but the relevant health professional will still have access to their health records in order to better help them. Anonymity in all these situations will be optional, with the student ultimately allowed to decide if they want to turn the option on or off
22. How often do you see users interacting with and using the system and its services?
    a. Hopefully daily, once a day for journaling purposes. For things such as mental health check-ups and appointments, a regular schedule ranging from weekly to bi-monthly as the student sees fit is ideal
23. What kind of notifications and pop-ups will the system provide to users?
    a. To-do lost notifications (customized by user and/or doctors), stress relief advice or suggestions, reminders concerning scheduled or to-be-scheduled appointments
24. How much control will users have over the types of notifications they receive?
    a. Users can turn off or ignore notifications and input their schedule so the system knows "free times" for when notifications are ideal

25. How will preset reminders, advice, and recommendations be created?
    a. They will be uniquely tailored to the student based on any pre-existing mental health conditions and the results of a general assessment (mostly focusing on personal interest areas)
26. How many levels of admin access do you imagine there being?
    a. System administrators will help manage system and have access to all information from students and app staff. Mental health professionals and counselors work for the app and UCI counseling division and have access to all students mental health records and journals
27. How many steps would exist between a user and a professional therapist in the case of emergency situations?
    a. There should be an option to instantly speak to a counselor in cases of emergency. If the counselor deems the situation critical enough, they can connect the student to a more especially trained professional.
28. Who will have access to the system and how will they sign up?
    a. All UCI students, staff, and faculty will have access. They will sign up using their UCInet ID and password.
29. How this app can have features like plans, reminders, recommendations, etc?
    a. There will be a calendar section that will include user's plans and reminders of events and goals
    b. Recommendation
30. What features in the app should capture the user behavior of the system?
    a. We want to keep track of how often a user logs in, interacts with functions like the journal, forum, or personal feed, and how often they schedule appointments or participate in group therapy sessions
31. How the app can contain features to protect the privacy issues of the users?
    a. Require UCInetID to login
    b. Only allow medical professionals and administrators to access student information
    c. Users can be anonymous by choice
32. What action should the system do if the messaging feature fails?
    a. All messaging services should be put on hold until system tech support can address the issue. Support should be as immediate as possible.
33. Who will learn about the results of someone using features of the app improperly?
    a. Features like the public discussion board are to be moderated both automatically and manually. Flagged keywords or phrases will be brought automatically to system administrator attention, and they will also have the option to manually sort through posts. Journals are also viewable by both administrators and professionals
34. How do users connect with therapists and counselors?

    a. Through online messaging (in text, audio, and audio+video form) or by scheduling an in-person appointment
35. What kinds of mental issues can users seek to resolve by using it?
    a. The system will mainly resolve anxiety, stress, and depression.
36. What appears on the user's feed?
    a. Upcoming events and advice videos related to a user's personal interests
37. How should the user's feed be constructed?
    a. Artifacts on the feed are determined by a user's personal interests as determined by an initial personal assessment and matched up by topic (every feed post will have a topic, as determined by the UCI Wellness Center, who is in charge of posting)
38. What can users do with the messaging feature?
    a. Connect with therapists and counselors for advice as well as join in group therapy sessions
39. Is there any other way for users to interact with the community?
    a. Public discussion forum with posts sorted by topic and chronologically, featuring comments.
    b. Online group therapy/support sessions during scheduled times, of max 9 people, Similar to Alcoholics Anonymous in structure.
    c. Users can like and bookmark posts in their feed.
40. How can users and mental health therapists communicate with each other other than private messages?
    a. Audio and audio+video messaging, group therapy sessions, or scheduled in-person appointments
41. What kind of mental health information can users get from it?
    a. UCI organization events concerning mental health
    b. General automated advice to better their mental health condition
    c. Professional mental health treatments from medical professionals
42. What kind of user data is needed to learn user's behavior?
    a. How do users know more about the therapists?
    b. When do users need to have periodical mental health assessments?
    c. How is the health assessment constructed?

Jan 29

43. Should specific am/pm times be taken into consideration for calendar plans and reminders?
    a. Calendar reminders should use information taken from evaluations and activity logs to better create a custom plan for users by designating specific am/pm times.
44. Should there be a diet recommendation function?

    a. It should be administered by the student wellness center.
    b. Professionals should also have access to patient information to recommend specific diets to their patients or to all users.

45. Should the information from surveys only be used for computer generated custom planning?
    a. Patients should be able to give access to their survey/evaluation information to their professionals/therapists/doctors.
    b. The administrators of the app should have access to the information but make sure to keep it anonymous by wiping the associated name and id with the information.

AntMentalHealth System Requirements

Sazeda Sultana

Tyler Tajun Mun

Feiyue Zhang

Tong Ge

Mia Linh Vu

Table of Contents

1. Introduction

1.1 Purpose

Mental health is quickly becoming a worldwide epidemic. In particular, with depression and anxiety affecting millions of people in the U.S. People who are affected by these can suffer greatly mentally which may result in functioning poorly at work, at school and in the family. Mental health issue can even lead to suicide! To promote mental health amongst UCI students, faculty, and staff, AntMentalHealth serves as a technology-based approach to address these mental health needs. In the future, we hope to pave the way for other schools to use or adapt AntMentlaHealth to help meet the health needs of university populations everywhere.

1.2 Scope

AntMentalHealth is a mental health and wellness app that aims to improve and encourage good mental health habits among students, faculty, and staff at UCI.

By offering ways to seek mental health assistance and creating public spaces meant for community-based discussion of mental health issues, we aim to destigmatize the existing apprehension people have about seeking mental health assistance. This app will be used to increase ease of finding and receiving mental health assistance and provide means to help ease students who find themselves feeling depressed, anxious, or otherwise unwell.

Provided features will include the ability to book therapy with a mental health professional, join group therapy sessions, keep track of a mental health journal, and seek immediate emergency help. There will be a forum open to all users to encourage a sense of community and help others seek advice, and a personalized dashboard will exist for each user, filled with relevant tips, advice, and recommendations relevant to their mental health concerns.

We hope to reduce the percentage of people who feel like they are being negatively affected by their mental health issues and promote good mental health habits and practices.

1.3 Definition, acronyms, and abbreviation

UCI	University of California, Irvine.
OIT	Office of Information Technology
UI/UX	User interface/ user experience.

IT	Information Technology
ID	Identity
CSWHP	UCI Center of Students Wellness and Health Promotion
SHC	UCI Student Health Center
PhD	Doctoral Degree

1.4 References

- OIT (https://www.oit.uci.edu/)
- CSWHP (https://studentwellness.uci.edu/)
- Google Docs(https://www.google.com/docs/about/)
- UCI SHC (https://shc.uci.edu/)
- UCI Counseling Center(https://counseling.uci.edu/)

2. General Description

2.1 Product Perspective

The Anteater Mental Health application involves working with UCI affiliates to better their mental health. To do so it is important that OIT is utilized to ensure that proper account verification is implemented. CSWHP and SHC are to be used for their information and ability to connect users to appropriate personnel such as mental health professionals. A cloud database system is also planned to be used to manage, store, and secure the applications information. It is also important that the application is connected to the mental health medical field and their available professionals such as access to therapists' availability times. It is planned that the application is to be usable both on mobile and non mobile platforms.

2.2 Product Functions

- Scheduling Appointments
- Joining Group Therapy Session

- Provide Personalized Feed Relevant to User's Mental Health Concerns
- Participate in an Anonymous Forum-based Discussion Space
- Provide Access to Immediate Mental Health Assistance
- Contact Medical professional
- Assess user's mental health status and concerns
- Maintain mental health journal
- Display events, tasks, and appointments via calendar

2.3 User Characteristics

Users are expected to all be UCI affiliates. UCI affiliates are generally categorized as students, faculty, alumni, Mental Health Professionals, etc. Students are to have attained a high school diploma, expected to be aged 18 to 20s and be pursuing a degree, have low to medium work experience, may have disabilities, and be moderately well versed in technical expertise. Faculty are to be similar, except older in age, have more work experience, and professors will have a higher educational level. Overall the majority of users should be expected to be able to navigate a mobile and non mobile application, be able to read and write, have some technical experience, and have a moderate educational level such as a high school diploma, bachelor degree, masters degree, PhD, and so on.

2.4 General Constraints

The following is a list of constraints of Anteater Mental Health Application.

1. The system will be available through a specific browser on all devices such as computer, iPad or mobile devices.
    a. Chrome
    b. Safari
    c. Firefox
    d. Internet Explorer
    e. Microsoft Edge
2. The language or words that are in this application, especially in advice or suggestions, are never vague.
3. Must follow online security and U.S. department of health laws and regulations
4. The application must support English
5. Cannot infringe upon doctor-patient confidentiality

2.5 Assumptions and Dependencies

a. Assumptions

1. The application can be able to handle high traffic periods.

2. The system will be updated regularly with suggested stress relieving activities to prevent mental health problems.
3. User's have adequate internet connection
4. The system will support WebAuth via logins that will be consistent with users' current UCI accounts.
5. User has access to a compatible device
6. User has health insurance

b. Dependencies

1. Depend on OIT to manage login
2. Depend on Cloud to store records
3. Depend on CSWHP to populate the feed
4. Depend on SHC to connect users to mental health professionals.

2.6 Apportioning of Requirements

- Task/To-Do List
  - Allow user to create and populate a To-Do List that connects to their Calendar and will send out notifications as appropriate
- Multiple Language Support
  - Add other languages common amongst UCI affiliates to be used by the app.
- Legacy Accounts
  - After graduation/retirement/otherwise departing from UCI, users have the option to re-register their accounts under a new non-UCI affiliated account in order to hold onto their information. They will not be able to access any features and will only have read/view-only permissions for their past journals, records, and personal information.
- Support all UC Affiliates
  - Allow not just UCI affiliates, but rather UC affiliates to use the app.
- Custom Color Palettes
  - Users will be able to customize the main interface colors of their app. (The current default color scheme is blue and gold, like the UC colors.

3. Specific Requirements

3.1 Essential Requirements:

3.1.1 Functional Requirements

3.1.1.1 **User Interactions**

ID: FR1
TITLE: **System shall allow users to sign up for online group sessions.**
DESCRIPTION: An alternative way to improve mental health status in the process of the treatment.
EVENT/USE CASES: **A.1.4.2.6**
SOURCES: Elicitation Question #38, 39, 40
PRIORITY: Low
STABILITY: Medium
INPUT(S): Sign in with UCNetID
OUTPUT(S): Confirmation to online group session

ID: FR2
TITLE: **The system should let user browse in public forum**
DESCRIPTION: Users can share their student life and talk about mental health issues within this exclusive UCI community.
EVENT/USE CASES: **A.1.4.2.5**
SOURCES: Elicitation Question #39
PRIORITY: Medium
STABILITY: Medium
INPUT(S): Sign in with UCNetID
OUTPUT(S): Access to public forum threads and posts.

ID: FR3
TITLE: **The system should allow users to reply other posts**
DESCRIPTION: Users can reply under their own posts or posts from other users for communication purposes.
EVENT/USE CASES:**A.1.2.5**
SOURCES: Elicitation Question #38, 39
PRIORITY: Low
STABILITY: Medium
INPUT(S): Sign in with UCNetID
OUTPUT(S): Confirmation of successful reply

3.1.1.2 **Mental Health Journals**

ID: FR4

TITLE: **The system shall allow users to create Mental Health Journal entries.**
DESCRIPTION: Users can create personal journal entries in the app as often as they prefer, with each new entry being automatically dated and timestamped. They can record things such as mood, stress level, work level, financial stress level, and sleep quantity/quality on a scale provided by the app, as well as any written thoughts they had during the day.
EVENT/USE CASES:**A.1.4.2.1**
SOURCES: Elicitation Questions #14, 15, and 22
PRIORITY: High
STABILITY: Medium
INPUT(S): Sign in with UCNetID, journal text, time, mental health information.
OUTPUT(S): Mental health state and other information is recorded in a mental health journal.

ID: FR5
TITLE: **The system shall allow users to view past entries in Mental Health Journal**
DESCRIPTION: Users can view all past journal entries saved to the app. Journal entries can be searched by date/time and require internet access to be able to look back through.
EVENT/USE CASES:**A.1.4.2.2**
SOURCES: Elicitation Questions #4, 15, and 22
PRIORITY: High
STABILITY: High
INPUT(S): Sign in with UCNetID
OUTPUT(S): Permission to view past entries in a mental health journal. Output organized and neat entries of past records.

ID: FR6
TITLE: **The system shall track user's mental health status**
DESCRIPTION: The system can regarding usage of the app, results of evaluations by both quizzes, surveys, and comments by mental health professionals, write automated entries in user's mental health journals.
EVENT/USE CASES:**A.1.4.2.8**
SOURCES: Elicitation Questions #14, 15, and 22
PRIORITY: High
STABILITY: Medium
INPUT(S): Sign in with UCNetID. User entries evaluation, quizzes, appointment results, and past mental health records.
OUTPUT(S): User mental health records will be recorded in mental health journals.

3.1.1.3 **Real-time Mental Health Assistance**

ID:FR7
TITLE: **System shall allow users to request Emergency Help**
DESCRIPTION: This use case allows users to get immediate access to assistance with a

trained professional in emergency situations.
EVENT/USE CASES: **A.1.4.2.3**
SOURCES: Elicitation Question #27
PRIORITY: High
STABILITY: Medium
INPUT(S): Request of emergency help(button)
OUTPUT(S): Connection to a call to campus police

ID: FR8
TITLE: **System shall allow users to schedule appointments with mental health professionals**
DESCRIPTION: This use case is for users to schedule physical/in-person appointments, online individual appointments, and online group therapy appointments.
EVENT/USE CASES:**A.1.4.2.4**
SOURCES: Elicitation Questions #3, 4, 34, and 40
PRIORITY: High
STABILITY: Low
INPUT(S): Sign in with UCNetID. Users account profiles, user mental health professional available times, user patient chosen time, type of appointment(online, location, etc), length of meeting, permission for mental health professional to view patient's records.
OUTPUT(S): Acceptance by mental health professional, and confirmation by user patient for the meeting.

ID: FR9
TITLE: **The system shall enable user to view Stress Prevention Activities**
DESCRIPTION: As a preventive method, users will view all stress preventing activities on a regular basis.
EVENT/USE CASES:**A.1.4.2.7**
SOURCES: Elicitation Questions #6 and 23
PRIORITY: Very high
STABILITY: High
INPUT(S): Access stress prevention page
OUTPUT(S): Stress prevention activities

3.1.1.4 **User Information Protection**

ID: FR9
TITLE: **The system shall secure user login**
DESCRIPTION: Login authentication is administered by OIT.
EVENT/USE CASES:**A.1.4.2.9**
SOURCES: Elicitation Question #31
PRIORITY: High
STABILITY: High
INPUT(S): Username and password

OUTPUT(S): Access to user UCI profile and permission to use the rest of the app's functions.

ID: FR10
TITLE: **The system shall allow users to be anonymous**
DESCRIPTION: Users when using the public help groups or forums should be given the option to maintain an anonymous profile so as to not be recognized and judged by peers. Anonymous users are given a random public profile name as a result.
EVENT/USE CASES: **A.1.2.1.11**
SOURCES: Elicitation Question #17, 21
PRIORITY: Medium
STABILITY: Low
INPUT(S): Enter UCNetID, choose to turn on anonymity setting
OUTPUT(S): Randomly generated public name to be used by account while interacting with

ID:FR11
TITLE: **The system shall protect user's private information**
DESCRIPTION: Users should be given power over the privacy of their information, this includes who can view it and use it. For mental health professionals to view user patients mental health records, permission must be given by said user patient.
EVENT/USE CASES: **A.1.4.2.11**
SOURCES: Elicitation Question #31
PRIORITY: High
STABILITY: Medium
INPUT(S): Permission for mental health professionals to view user mental health records.
OUTPUT(S): Mental health professionals can view user patient's mental health records.

3.1.1.5. Personalization and Mental Health Assessments

ID:FR13
TITLE: **The system shall provide evaluation for user's mental health status via automated online assessment**
DESCRIPTION: Some simple quiz questions will be given to users to get a result of their mental health status. The system will evaluate the result and offer customized solutions to users accordingly.
EVENT/USE CASES: **A.1.3.5**
SOURCES: Elicitation Question #9, 10
PRIORITY: High
STABILITY: Medium
INPUT(S): User input on mental health quiz questions
OUTPUT(S): A medical result of user's mental health status

ID:FR14
TITLE: **The system shall customize a user's personal reminders and advice alerts**

DESCRIPTION: According to a user's results on the personalization assessment, the system will create advice alerts or personal reminders that cater to and address the mental health concerns that the user is most interested in.
EVENT/USE CASES: **A.1.2.2.3**
SOURCES: Elicitation Question #23
PRIORITY: Medium
STABILITY: Low
INPUT(S): User's preference of reminders and alerts
OUTPUT(S): A confirmation of change in settings

ID:FR15
TITLE: **The system shall customize a user's personal newsfeed**
DESCRIPTION: According to a user's results on the personalization assessment, thet system will populate the user's newsfeed with posts (as created by the CSWHP), suggestions, and events that are relevant to the user's mental health concerns.
EVENT/USE CASES: **A.1.3.1**
SOURCES: Elicitation Question #36, 37
PRIORITY: Medium
STABILITY: Medium
INPUT(S): User's preference of newsfeed
OUTPUT(S): A confirmation of change in settings

ID:FR16
TITLE: **The system will allow a user to manually input information about their preferences/mental health concerns**
DESCRIPTION: Regardless of whether or not the user has taken their personalization assessment, allow the user to manually express areas or topics they are concerned about and want to see relevant events and information for.
EVENT/USE CASES: A.1.2.2.5
SOURCES: Goal Analysis Model: Tailor app to each user
PRIORITY: Low
STABILITY: Medium
INPUT(S): Manually inputted user information
OUTPUT(S): Confirmation of a change in settings

ID: FR17
TITLE: **The system shall allow user to retake personalization assessment**
DESCRIPTION: In the case that a user wants to retake their personalization assessment, the system will allow the user to retake the assessment and restructure their preferences as necessary.
EVENT/USE CASES: **A.1.2.4.7**
SOURCES: Elicitation Question #9, 10, 25, 42
PRIORITY: Low
STABILITY: Medium
INPUT(S): User input on mental health quiz questions

OUTPUT(S): A medical result of user's mental health status

3.1.1.6. Calendar and Newsfeed

ID: FR 18
TITLE: **The system should automatically add user's planned events/appointments to the calendar**
DESCRIPTION: Once users choose some events/appointments that they'd like to attend, the event will be automatically created and added to the user's calendar.
EVENT/USE CASES: **A.1.2.2.6**
SOURCES: Elicitation Question #29, 43
PRIORITY: Medium
STABILITY: High
INPUT(S): Chosen events to be added
OUTPUT(S): Events added to user's calendar

ID: FR 19
TITLE: **The system shall automatically add user's new mental health journal entries to calendar**
DESCRIPTION: Once a user saves their mental health journal entry, the system will automatically add it to their calendar on the date on which it was saved.
EVENT/USE CASES: **A.1.2.2.3**
SOURCES: Elicitation Question #29, 43
PRIORITY: Medium
STABILITY: High
INPUT(S): Mental Health Journal entry
OUTPUT(S): New input in calendar

ID: FR 20
TITLE: **The system should allow user to search events, entries, and notifications by date**
DESCRIPTION: Users are free to search any added events in their calendars by date.
EVENT/USE CASES: **A.1.4.2.2**
SOURCES: Elicitation Question #29, 43
PRIORITY: Medium
STABILITY: Medium
INPUT(S): Sorting method
OUTPUT(S): Result in specified order

ID: FR 21
TITLE: **Allow user to manually add events or notifications to calendar**
DESCRIPTION: User can select dates in their calendar and add notifications for events/appointments, personal tasks, or create a mental health journal from the calendar page.

EVENT/USE CASES: **A.1.2.2.3**
SOURCES: Elicitation Question #29
PRIORITY: Medium
STABILITY: High
INPUT(S): Event/journal entry user wants to input into
OUTPUT(S): New calendar entry

ID: FR 22
TITLE: Allow user to bookmark/save posts seen on their newsfeed
DESCRIPTION: User has the ability to save posts that they see on their newsfeed and view them at a later date
EVENT/USE CASES: **A.1.2.2.6**
SOURCES: Elicitation Question #39
PRIORITY: Medium
STABILITY: High
INPUT(S): Post that user wants to bookmark
OUTPUT(S): Post is added to collection of user's bookmarks

3.1.2. Non-functional Requirements

3.1.2.1. Portability

ID: NFR 1
TITLE: System can be used on a mobile device
SOURCE: Case Study, paragraph 4
PRIORITY: High
STABILITY: High

ID: NFR 2
TITLE: System can be used on a web browser
SOURCE: Case Study, paragraph 4
PRIORITY: High
STABILITY: High

3.1.2.2. Usability

ID: NFR 3
TITLE: System is easy to use and follows standard web design conventions
SOURCE: **A.1.2.3.6, A.1.2.3.7, A.1.2.3.8**
PRIORITY: Medium
STABILITY: High

ID: NFR 4
TITLE: Actions should be easily reversible within system
SOURCE: **A.1.2.3.10, A.1.2.3.11**
PRIORITY: High
STABILITY: High

ID: NFR 5
TITLE: Errors are prevented whenever possible
SOURCE: **A.1.2.3.17, A.1.2.3.18**
PRIORITY: High
STABILITY: High

ID: NFR 6
TITLE: Help and Documentation is readily available for the system
SOURCE: **A.1.2.3.20, A.1.2.3.21**
PRIORITY: Medium
STABILITY: High

3.1.2.3. Security

ID: NFR 7
TITLE: Only users with a UCINetID can have accounts and use the system
SOURCE: **A.1.2.3.6, A.1.2.3.7, A.1.2.3.8**
PRIORITY: High
STABILITY: High

ID: NFR 8
TITLE: User account information is secured and encrypted on a cloud database
SOURCE: **A.1.2.1.2, A.1.2.1.3, A.1.2.1.4**
PRIORITY: High
STABILITY: Medium

ID: NFR 9
TITLE: Information is stored on one main cloud database
SOURCE: **A.1.2.1.3**
PRIORITY: High
STABILITY: Medium

ID: NFR 10
TITLE: User's personal health information and records are available to user and mental health professional only
SOURCE: **A.1.2.1.6, A1.2.1.7**
PRIORITY: High
STABILITY: High

ID: NFR 11
TITLE: Doctor-Patient confidentiality is maintained (only the doctor and patient are able to view information from appointments)
SOURCE: **A.1.2.3.3**
PRIORITY: High
STABILITY: High

3.1.3.4. Reliability

ID: NFR 12
TITLE: System performs tasks consistently each time
SOURCE:A.1.2.3.1
PRIORITY: High
STABILITY: High

ID: NFR 13
TITLE: System clearly displays current status (shows the app when functioning or relevant unavailability messages when crashed/in maintenance)
SOURCE:A.1.2.3.3
PRIORITY: High
STABILITY: High

3.1.3.External Interface Requirements

User Interfaces

In this section, there will be several high fidelity mockups of AntMentalHealth. Only the mobile version's mockup is shown, but AntMentalHealth is accessible from mobile devices as well as via web applications for non-mobile devices to maximize usage. The non-mobile version will be extremely similar to the mobile version presented but fit to the size of the screen for different devices.

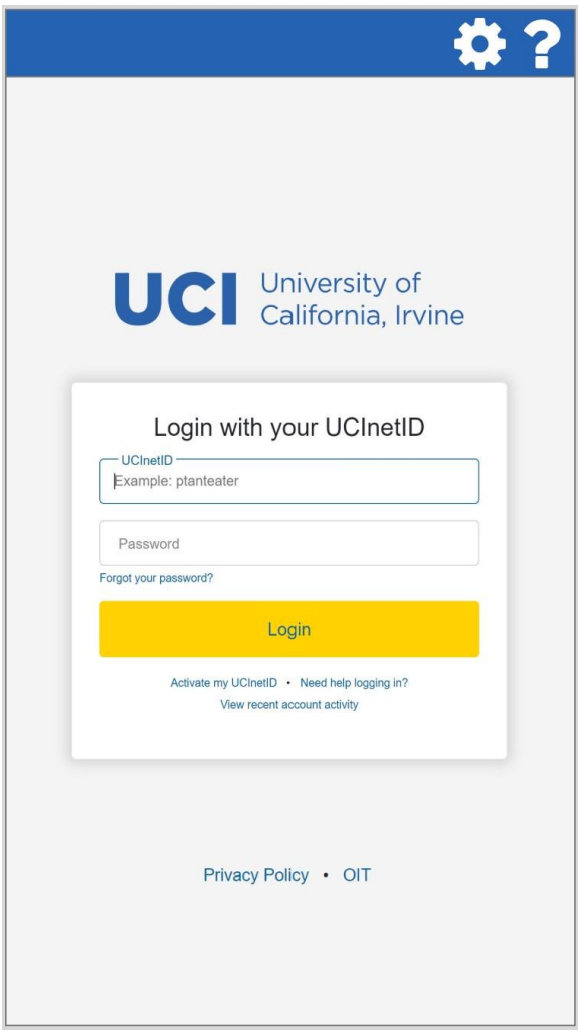


Figure 1

Figure 1 is a mockup of the login page for AntMentalHealth. To maximize security and make sure those who use AntMentalHealth are UCI affiliates, we have implemented the UCINetID login. The format and layout are directly taken from the UCI OIT login portal so UCI affiliates will inherently know what to do on this page. Users will need to login in order to use the application. At the top right of the page are the “settings” and “help” function for any users that may need adjustments or assistance.

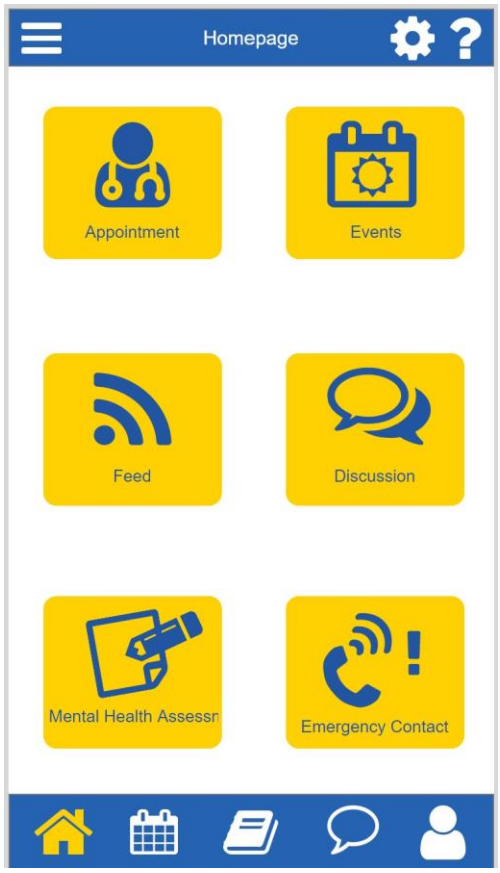


Figure 2

Figure 2 is a mockup of the AntMentalHealth Homepage. On the Homepage, users can easily access frequently used functions. Each function shown on the Homepage is represented by a commonly used and easily understandable icon along with a word description of the icon. This way, no confusion about what each icon represents will arise. The Homepage is designed very minimalistically so users will not be overloaded with information. On the bottom bar are tabs available within the application. They are "Homepage", "Calendar", "Journal", "Contact", and "My page" respectively. These are presently by extremely common icons that most platforms use so even without labels, most users will know what each tab represents. The position of each button is designed with consideration. For example, the "Emergency Contact" button is placed in a spot where users can access it the fastest since we want to give users real-time emergency assistance. Notice the "Homepage" icon is gold. This represents that the user is currently on the "Homepage" tab. It also states this on the top blue bar. By doing so, the interface informs the user that they are currently on a specific tab and can switch to other tabs. At the top right of the page are the "settings" and "help" function for any users that may need adjustments or assistance. More less frequently used functions can be found within the hamburger menu on the top left of the screen.

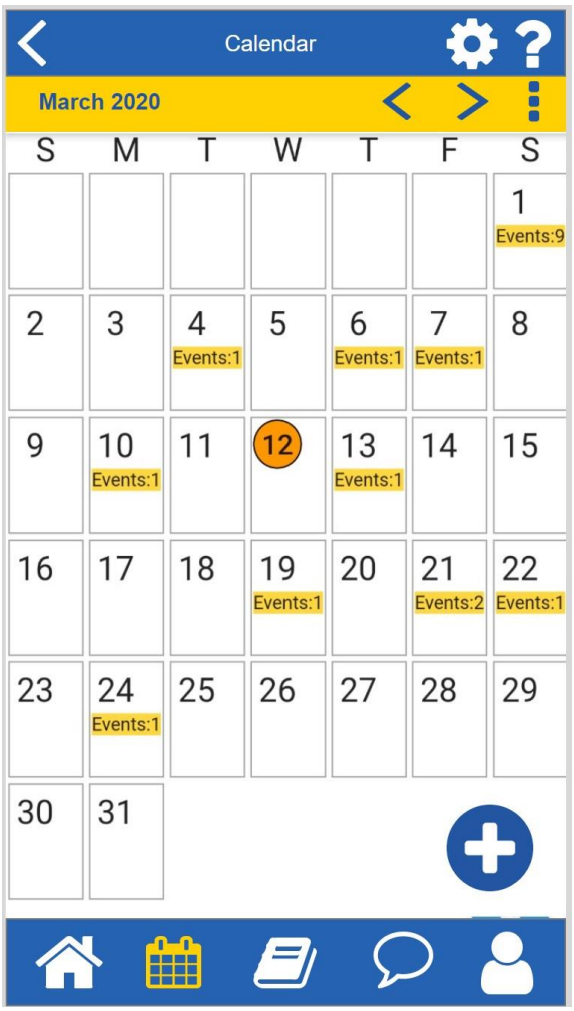


Figure 3

Figure 3 is a mockup of the AntMentalHealth Calendar tab. This tab presents the calendar one month at a time. Users can use the icons at the right of the gold bar to change the month shown. Events are shown on each day and are highlighted in gold. Users can tap on each day to see more details. Appointments are represented by a circle, so looking at Figure 3, an appointment is made on the 12th. Individuals can easily add things to the calendar by tapping the blue circle with a plus on it at the bottom right corner. Again, the "Calendar" icon is gold representing that the user is currently on the "Calendar" tab. It also states this on the top blue bar. A back button can be seen at the top left so it allows users to easily reverse their actions. At the top right of the page are the "settings" and "help" function for any users that may need adjustments or assistance.

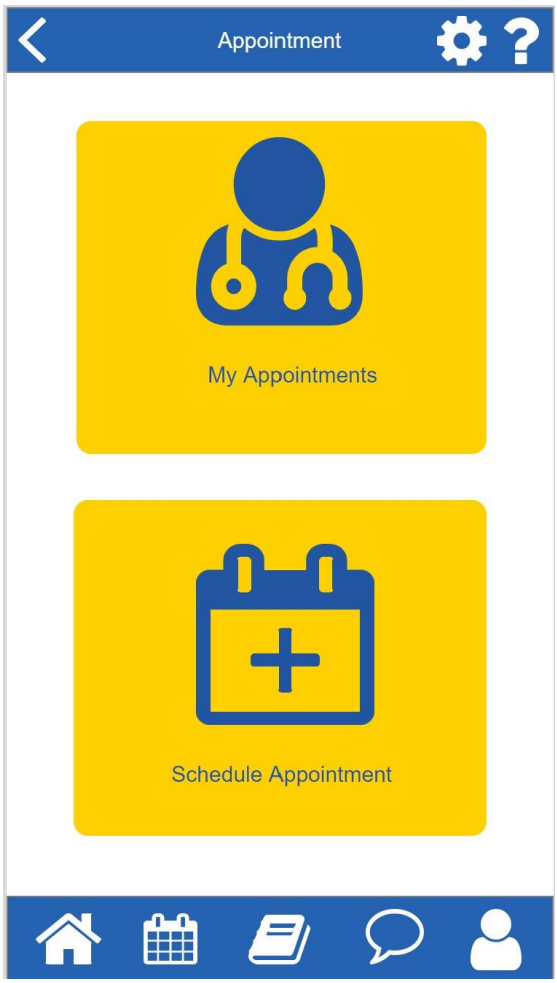


Figure 4

Figure 4 is a mockup of the AntMentalHealth Appointment page. Users can get to this page by tapping on the “Appointment” button on the Homepage in Figure 2. This page has a very simplistic design with just two buttons: one at the top for looking at appointments already scheduled and one at the bottom for scheduling an appointment. Notice none of the icons are gold. This is because this function is not under any of the tabs shown below. Since the interface states this is the “Appointment” page on the top bar, users will still be informed about where they are in the application. A back button can be seen at the top left so it allows users to easily reverse their actions. At the top right of the page are the “settings” and “help” function for any users that may need adjustments or assistance.

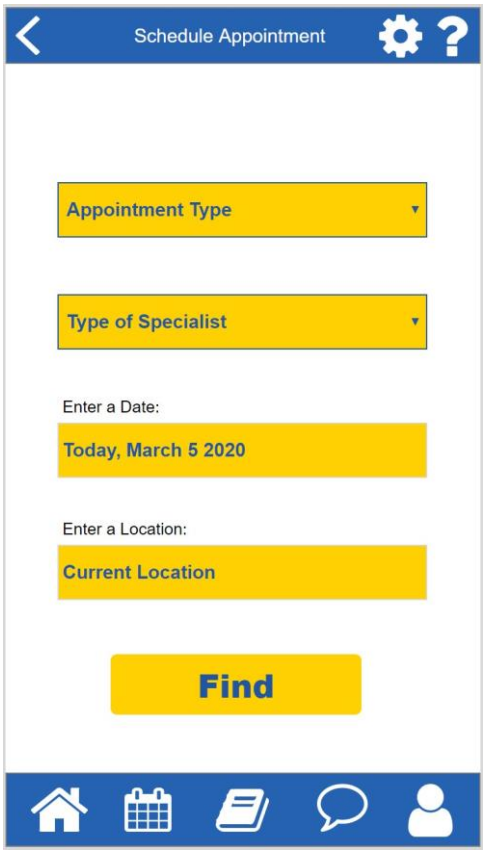


Figure 5

Figure 5 is a mockup of the AntMentalHealth Schedule Appointment page. Users can get to this page by tapping on the “Schedule Appointment” button on the Appointment page in Figure 4. This page utilizes a minimalistic design where users only need to fill in a few important information to see what appointments are available. The top two entries are drop down menus while the bottom two are user input text boxes. Drop down menus are clearly labeled and the text boxes have defaults filled in that are used very frequently. Notice none of the icons are gold. This is because this function is not under any of the tabs shown below. Since the interface states this is the “Schedule Appointment” page on the top bar, users will still be informed about where they are in the application. A back button can be seen at the top left so it allows users to easily reverse their actions. At the top right of the page are the “settings” and “help” function for any users that may need adjustments or assistance.

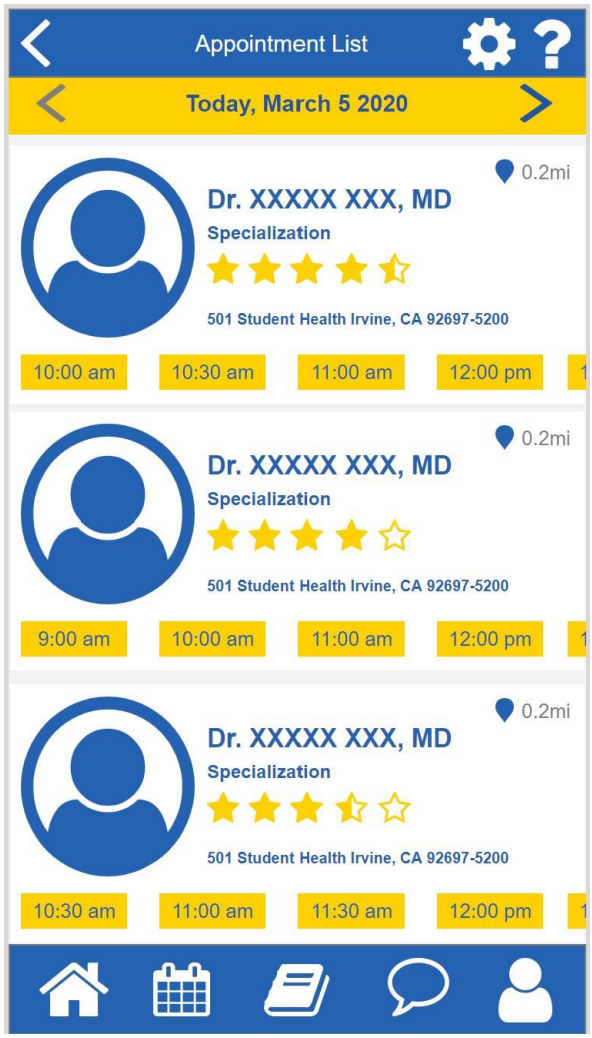


Figure 6

Figure 6 is a mockup of the AntMentalHealth Appointments List page. Users can get to this page by filling out requirements and tapping on the “Find” button on the Schedule Appointment page in Figure 5. The gold bar shows the date users would like to schedule for an appointment. Users can manipulate the date by using the arrows on the left or right of the gold bar. Appointments available will be shown to the user sectioned by a specialist. Individuals can see what times they can make an appointment with a specialist along the specialist’s picture, name, specialication, rating, address, and distance from them. To see more times available, users can scroll to the left on the time section. To see more specialists available, users can scroll up on the screen. Notice none of the icons are gold. This is because this function is not under any of the tabs shown below. Since the interface states this is the “Appointment List” page on the top bar, users will still be informed about where they are in the application. A back button can be seen at the top left so it allows users to easily reverse their actions. At the top right of the page are the “settings” and “help” function for any users that may need adjustments or assistance.

Hardware Interfaces

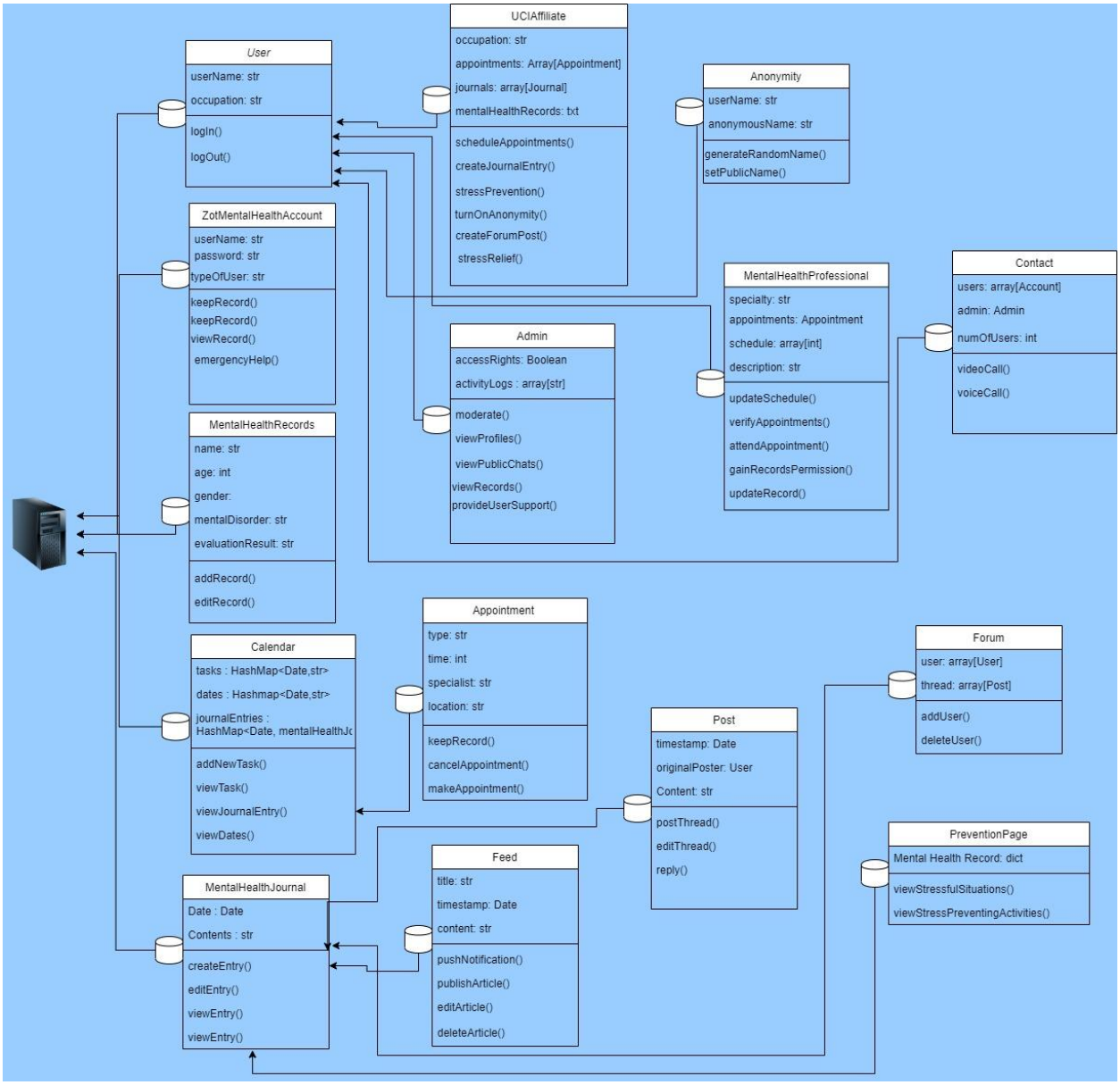
The Anteater Mental Health Application is designed in such a way that it works in any web browser and web-enabled mobile devices such as mobile phone, notebooks, tablet, desktops, etc. Therefore, the system does not require any hardware.

Software Interfaces

Following are the softwares that interact with the system:

Software	Description
Web Browser: Chrome, Firefox, Safari, Internet Explorer, Microsoft Edge	These are the most popular browser that are widely used all over the world.
Database	To save all user information, we will use MySQL database.
HTML, CSS, React, Redux	These are the modern web development languages that will help to create the best user interface of the system.
C#.net	We have chosen C#.net as a framework. This framework is an integral component of Windows that includes a virtual execution system called the common language runtime (CLR) and a unified set of class libraries. We believe this framework will provide a robust and secure system.

3.1.4. Logical Data Model



Description of the Logical Data Model

The database does the following:

- **UCI Affiliate:** UCI users of the system will have an occupation, appointments, journals, and their mental health records.

- **Users:** The database will store profile of users which consists a name, UCInetID, account type, occupation, and password. Students and faculty are the possible account types for this system. Those classes have their attributes listed.

- **Mental Health Professionals:** Each mental health professionals will have their specialty, appointments, and schedule.

- **Appointments:** This database stores an array of appointments associated with student or faculty's UCInetID, and counselor's UCInetID.

- **Admin:** Administrators will access user's account for accessing rights and activity logs.

- **Post:** Each post by a user will contain a timestamp, an original poster of the user, and content of the post.

- **Forum:** Forum consists of array of users and array of posts.
- **Mental Health Record:** Each of the users mental health record will contain name, age, gender, mental disorders, and evaluation result by medical professional.

- **Calendar:** Calendar has hashmaps of tasks, dates, journal entries of each user.

- **Feed:** Feed contains a title, a timestamp and content of the feed.

- **Contact:** The database will store contact information with an array of user account, admin, and number of users of the system.

- **Anonymity:** If a user wants to access the system as anonymous identity, the database will save their information with a random username and set an anonymous public name.

- **Mental Health Journal:** Journal consists of date and contents of the journal.

- **Prevention Page:** The database will store mental health records of each user of the system.

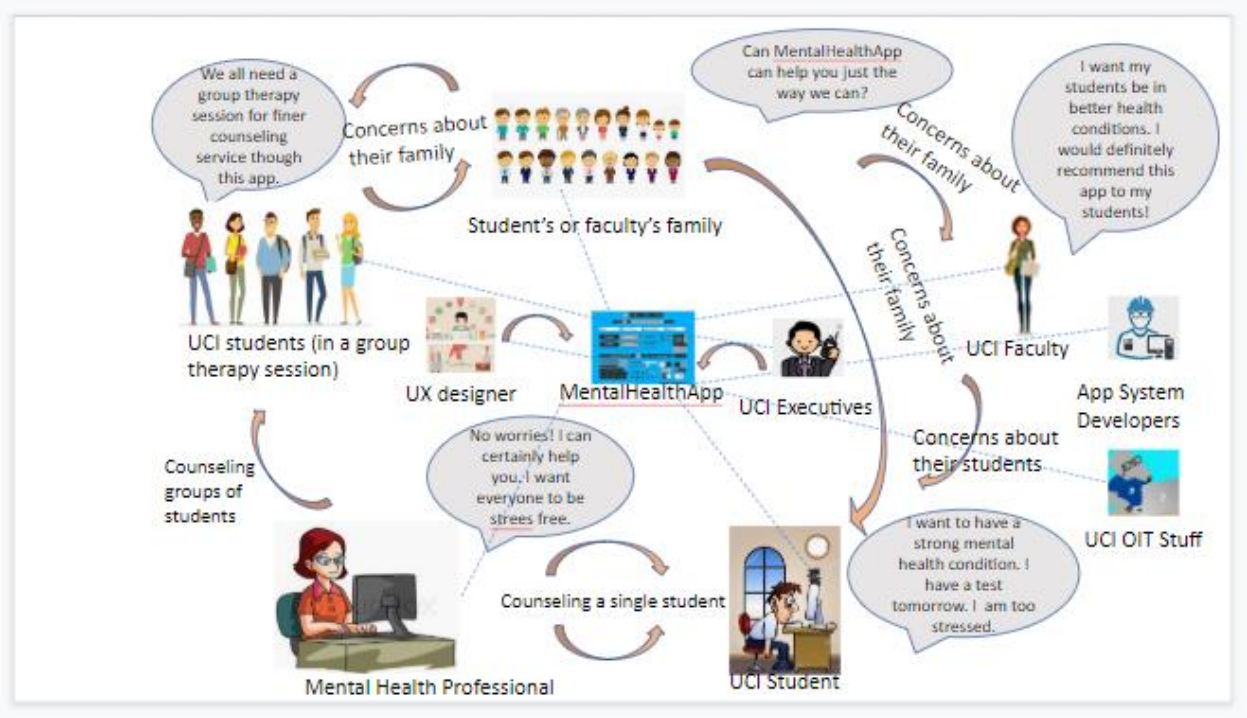
Appendix

A.1. Analysis Models

A.1.1

Stakeholder Model

Rich Picture



Textual Stakeholder Analysis

A.1.1.1

- **UCI Executives**
    - Priority: High
        - The executives receive the highest priority and are directly in control of the entire project, making decisions about software requirements because they are the main funders of AnteaterMentalHealth.
    - Relation to other stakeholders:

        - Giving related requirements for the whole project, such as estimated project budget, necessary functionality, and phase deadlines.
        - Working with App System Developers to discuss how the application can be implemented and what features it will have.
        - Collecting requirements from UCI Students & Faculty since they are the major users of the app.
    - Area of expertise/knowledge level of expertise in that area:
        - Expert in college operation and finance.
        - Know little about professional mental health knowledge.
    - Primary concerns (as related to system):
        - The executives have concerns for the overall cost (software engineering and operation/maintenance) of the project.
        - The executives are concerned with user's satisfaction and engagement.

A.1.1.2

- **UCI OIT Staff**
    - Priority: Low
        - OIT staff have lower priority since they do not directly participate in the software engineering process and are only responsible for users and technical support issues when the application is put in use.
    - Relation to other stakeholders:
        - Working together with App System Developers to develop the application because OIT staff will be responsible for software logistics and maintenance.
        - Helping UCI Students & Faculty to use the app after AnteaterMentalHealth is released.
    - Area of expertise/knowledge level of expertise in that area:
        - Know techniques in website and application maintenance.
        - Good at network problem shooting.
    - Primary concerns (as related to system):
        - OIT staff want to know the estimated number of active users since they will be managing the server and providing support for users.

A.1.1.3

- **App System Developers**
    - Priority: Medium
        - Though app system developers are not using the system directly, they create and may update features of the system on a regular basis.
    - Relation to other stakeholders:

        - Working with UCI OIT Staff to develop application with focus on UCINetID, server operation, and cyber security.
        - Implementing requirements from both UCI Executives and Mental Health Professionals.
    - Area of expertise/knowledge level of expertise in that area:
        - Expert in software engineering.
        - Knowledgeable in software architecture, data structure, and computer network.
    - Primary concerns (as related to system):
        - App developers have to ensure the application meet client's (UCI) requirements.
        - App developers have to ensure the application is delivered on time.
        - App developers have to do a lot of testing before the application release.

A.1.1.4

- **UCI Students**
    - Priority: High
        - UCI students make up a large majority of the main user base for this system.
    - Relation to other stakeholders:
        - Giving demands, feedback, and advice about AnteaterMentalHealth to UCI Executives.
        - They will receive assistance from mental health professionals
    - Area of expertise/knowledge level of expertise in that area:
        - Most only have basic mental health knowledge, at most.
    - Primary concerns (as related to system):
        - Students are doubtful about this unconventional style of mental health counseling.
        - Students are worried about the online community environment because it is semi-public, so some students can potentially post harassment or malicious information.
        - Students are concerned with the cost of the service and how to correctly apply their health insurance because mental health services can be very costly without insurance.

A.1.1.5

- **UCI Faculty**
    - Priority: High

        - Like UC students, UC faculty have high priority regarding the use of the system as they will also be using the system to get relief from their mental distress.
    - Relation to other stakeholders:
        - They will receive therapy from mental health professionals.
        - They will encourage students to use the app when feeling mentally overwhelmed.
    - Area of expertise/knowledge level of expertise in that area:
        - Have a decent understanding of mental health.
        - Know student's needs well.
    - Primary concerns (as related to system):
        - UCI Faculty has the responsibility to promote and recommend AnteaterMentalHealth, so they are concerned with how this app can be helpful for both themselves and UCI students.

A.1.1.6

- **Mental Health Professionals**
    - Priority: High
        - Mental health professionals are considered high priority stakeholders of the system. They are the people who will provide counseling or therapy to students and faculty in need through the system.
    - Relation to other stakeholders:
        - Providing mental help for major users such as UCI students and faculty.
        - Coordinating with app developers by giving guidance and instruction on certain features and what kind of steps or feedback system should include for those features.
    - Area of expertise/knowledge level of expertise in that area:
        - Professional in mental health related topics. They will be giving principles and suggestions for the mental health environment of the application.
        - Expert in mental health counseling, so users will have real counselors to meditate their mental issues.
    - Primary concerns (as related to system):
        - Mental health professionals have concerns about the effectiveness of online counseling because they are determinant in designing counseling process.
        - Mental health professionals want to know what kind of technology can be applied, such as online chat and video sharing. They can give instructions on how to best structure the counseling environment depending on the different technologies used in the application.

A.1.1.7

- **Student's Family**
    - Priority: Low
        - Student's family will have no direct interaction with the app, but are still concerned with the general success and effectiveness of the system.
    - Relation to other stakeholders:
        - They will be communicating with their family members who are UCI students/faculty and primary stakeholders of the system.
    - Area of expertise/knowledge level of expertise in that area:
        - Most only have about basic mental health knowledge, at most.
    - Primary concerns (as related to system):
        - Because most students' parents are unfamiliar with online counseling and its potential impact on their children, they want to know if this is a legitimate way to have mental health counseling.

A.1.1.8

- **UCI Students (in a group therapy session)**
    - Priority: High
        - In a group therapy session, students in a group will get immediate help on their mental health issues with companions and mental health professionals.
    - Relation to other stakeholders:
        - They will communicate with mental health professionals and other UC students in their therapy sessions.
    - Area of expertise/knowledge level of expertise in that area:
        - Students have sufficient knowledge about their expectations from the system, such as how the system can best benefit them.
    - Primary concerns (as related to system):
        - Students in a group therapy session might expect better counseling services and results than from an individual session, since there will be more chances to collaborate and share experiences.

A.1.1.9

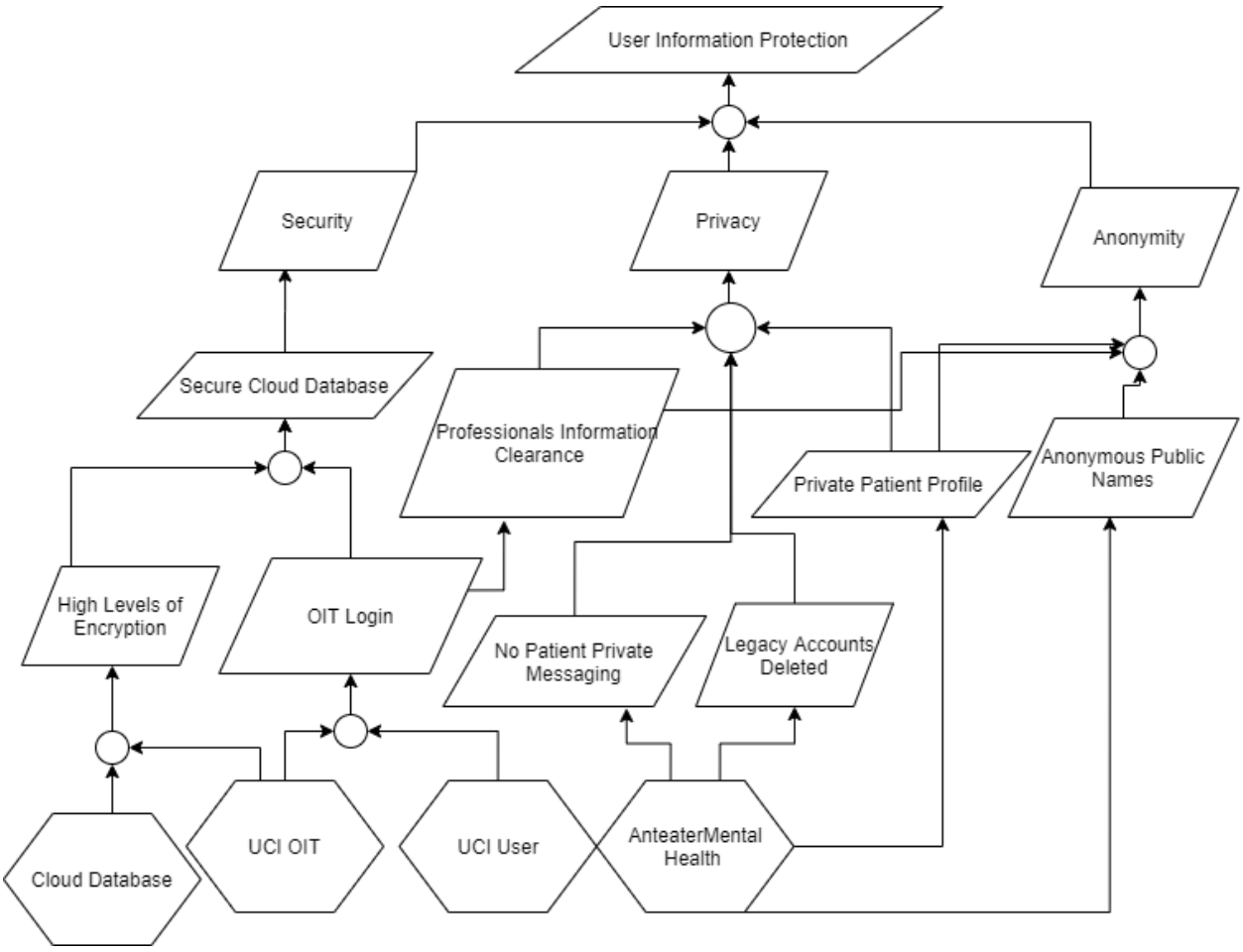
- **UX Designers**
    - Priority: Medium
        - A UX designer’s priority is lower than the original software developer’s, as UXs designer need to create a pleasant and intuitive user experience for current and future users of the app.
    - Relation to other stakeholders:

        - They work with software developers of the app directly. UX designers provide potential user flows of the current system to the app developers, so that the design of the system addresses all steps in certain processes and becomes practical and intuitive to use.
    - Area of expertise/knowledge level of expertise in that area:
        - UX designers have sufficient knowledge regarding the intended audience, elicitation documents and UI/UX, which are useful skills in creating desirable user interfaces.
    - Primary concerns (as related to system):
        - UX/UI designers are primarily concerned with the usability of the system to ensure users get the best experience while using it, including maintaining standard design guidelines for the user interface.

A.1.2

Goal Models

A.1.2.1



A.1.2.1.1

Name: User Information Protection

- **Definition:** Protect user information including the security, privacy, and anonymity of their information.
- **Type:** Behavioral(Maintain)
- **Source:** 1/15,2-4pm agenda item 3
- **Priority:** High

A.1.2.1.2

Name: Security

- **Definition:** Ensure that user information is kept inaccessible by hackers.
- **Type:** Behavioral(Maintain)
- **Source:** 1/15,2-4pm agenda 3

  Priority: High

A.1.2.1.3

Name: Secure Cloud Database

- **Definition:** Users may only access a users profile and information if by logging with OIT, and this is protected by high levels of encryption.
- **Type:** Behavioral(Maintain)
- **Source:** 1/15,2-4pm agenda item 3
- **Priority:** High

A.1.2.1.4

Name: High Levels of Encryption

- **Definition:** Ensure that serious measures are taken to protect the security of user information.
- **Type:** Soft Goal
- **Source:** 1/15,2-4pm agenda 3

  Priority: High

A.1.2.1.5

Name: OIT Login

- **Definition:** Login authorization administered by OIT is used to authenticate users to match to their correct profiles.
- **Type:** Behavioral(Achieve)
- **Source:** Question 31a, page 12

  Priority: Low

A.1.2.1.6

Name: Professionals Information Clearance

- **Definition:** Professionals can gain access to users if users give such clearance to them, such as when scheduling a counselling session or seeking medical help, and are able to share their profile information with others.
- **Type:** Behavioral(Achieve)
- **Source:** Question 10a, 13a, 14a, 18a, 21a,31b

  Priority: Medium

A.1.2.1.7

Name: Privacy

- **Definition:** User information is hidden/inaccessible from other users, save for professionals with clearance.
- **Type:** Soft Goal
- **Source:** Question 31a,b,c

  Priority: Medium

A.1.2.1.8

Name: No Patient Private Messaging

- **Definition:** Patients can never message another patient user privately.
- **Type:** Behavioral(Avoid)
- **Source:** 1/22,2-4pm Agenda item 4.

  Priority: Low

A.1.2.1.9

Name: Legacy Accounts Deleted

- **Definition:** Delete accounts of alumnus or faculty leaving the institution along with their association information in order to maintain user information private.
- **Type:** Behavioral(Maintain)
- **Source:**1/22,2-4pm Question Problem 4.

  Priority: Medium

A.1.2.1.10

Name: Private Patient Profile

- **Definition:**Patient profiles are hidden/inaccessible from other patients and professionals without clearance, or if a user opts out of anonymity.
- **Type:** Behavioral(Maintain)
- **Source:** Questions 17a, 21a, 31c

  Priority: Medium

A.1.2.1.11

Name: Anonymity

- **Definition:** User identity is protected and hidden from others at user discretion.

- **Type:** Behavioral(Maintain)
- **Source:** Questions 17a.,21a,31c

  Priority: High

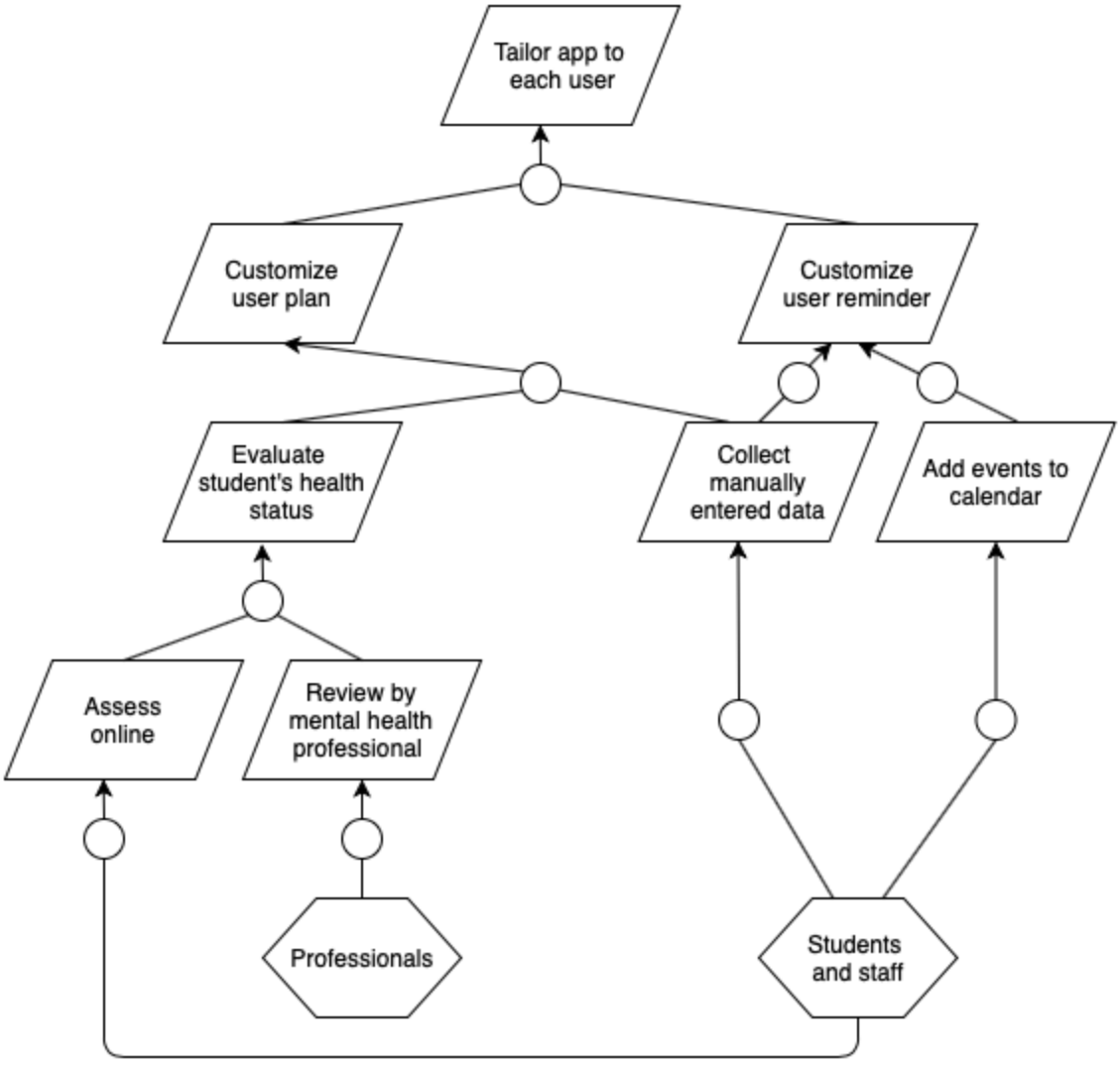
A.1.2.1.12

Name: Anonymous Public Names

- **Definition:** Patient users can be given anonymous and random names to hide their real identity from other users.
- **Type:** Behavioral(Maintain)
- **Source:** Questions 17a,21a,31c

  Priority: Medium

A.1.2.2



A.1.2.2.1

Name: Tailor app to each user

- **Definition:** Customize user experience according to personal information, data, and preferences to meet their expectations.
- **Type:** Achieve
- **Source:** Elicitation problem #29
- **Priority:** High

A.1.2.2.2

Name: Customize user plan

- **Definition:** Provide users with a complete personalized medical plan to improve mental health based on users data.
- **Type: Achieve**
- **Source:** Elicitation problem #25, 29
- **Priority:** High

A.1.2.2.3

Name: Customize user reminder

- **Definition:** Automate users' calendar by user input.
- **Type:** Achieve
- **Source:** Elicitation problem #25, 29
- **Priority:** Medium

A.1.2.2.4

Name: Evaluate student's health status

- **Definition:** Evaluate student's mental health status to determine treatment and establish personalized plan.
- **Type:** Achieve
- **Source:** Elicitation problem #9, 10, 42
- **Priority:** High

A.1.2.2.5

Name: Collect manually collected data

- **Definition:** Users enter their self-generated reminders to help carry out their plans.
- **Type:** Achieve
- **Source:** Elicitation problem #29
- **Priority:** Medium

A.1.2.2.6

Name: Add events to calendar

- **Definition:** Users add their interested events and programs from the feed.
- **Type:** Achieve
- **Source:** Elicitation problem #29
- **Priority:** Low

A.1.2.2.7

Name: Assess online

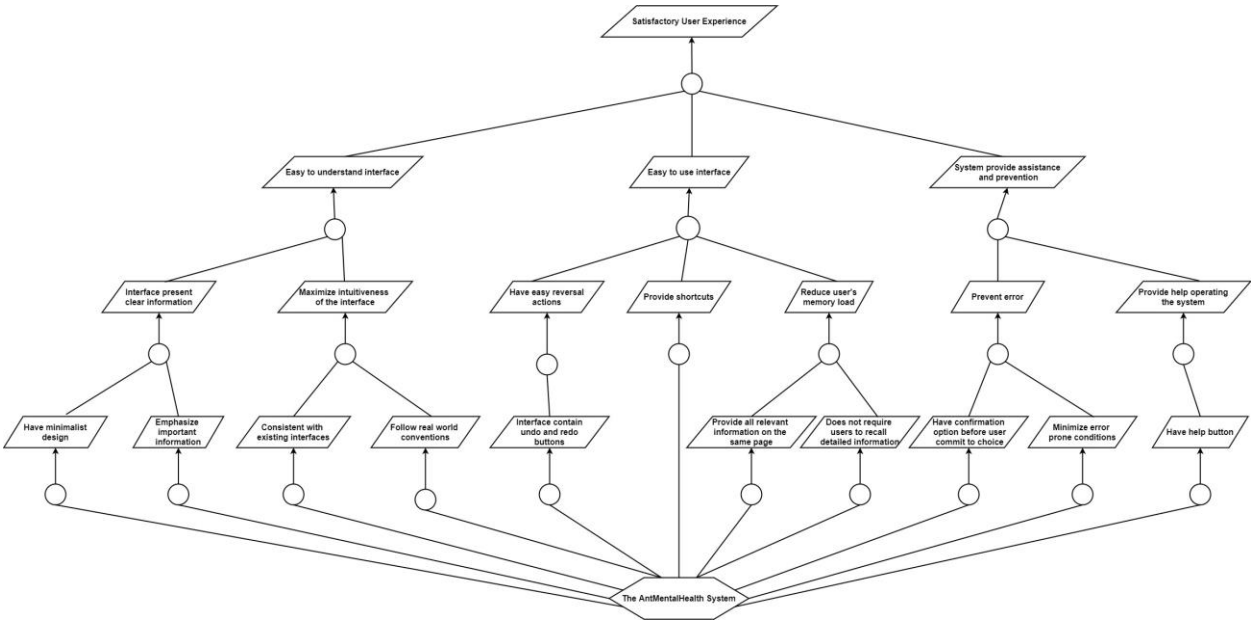
- **Definition:** Users complete their assessment via online quizzes.
- **Type:** Achieve
- **Source:** Elicitation problem #10, 37, 42
- **Priority:** High

A.1.2.2.8

Name: Review by mental health professional

- **Definition:** The results of online assessments reviewed by mental health professionals to give diagnosis.
- **Type:** Achieve
- **Source:** Elicitation problem #26, 34, 41
- **Priority:** High

A.1.2.3



A.1.2.3.1

Name: Satisfactory User Experience

- **Definition:** The system shall provide the user with a satisfactory experience while interacting with the interface.
- **Type:** Soft
- **Source:** Elicitation problem #35

A.1.2.3.2

Name: Easy to understand interface

- **Definition:** Information provided on the system's interface can be easily understood by the user in a timely manner.
- **Type:** Achieve
- **Source:** Elicitation problem #36 and #37

A.1.2.3.3

Name: Interface present clear information

- **Definition:** The system's interface shows information in a non-vague and confusing way that can be easily and quickly interpreted.
- **Type:** Achieve
- **Source:** Elicitation problem #36 and #37

A.1.2.3.4

Name: Have minimalist design

- **Definition:** The design of the system's interface is simple and objective without any complex elements.
- **Type:** Achieve
- **Source:** Elicitation problem #36 and #37

A.1.2.3.5

Name: Emphasize important information

- **Definition:** Important information and functions shall be emphasized on the system's interface by making it large in size, brighter in color, more centered on the page, etc.
- **Type:** Achieve
- **Source:** Elicitation problem #22

A.1.2.3.6

Name: Maximize intuitiveness of the interface

- **Definition:** Maximize the intuitiveness of the interface so users will know how to use the system naturally without previous experience.
- **Type:** Soft
- **Source:** Elicitation problem #3

A.1.2.3.7

Name: Consistent with existing interfaces

- **Definition:** The system's interface shall be consistent with pre-existing interfaces so users would inherently know how to use things through past experience.
- **Type:** Achieve
- **Source:** Elicitation problem #3

A.1.2.3.8

Name: Follow real world conventions

- **Definition:** The system's interface will present information in a natural and logical way complying with real-world conventions rather than in a system-oriented style.
- **Type:** Achieve

- **Source:** Elicitation problem #3

A.1.2.3.9

Name: Easy to use interface

- **Definition:** Users shall be able to operate any functions available on the system's interface without any difficulty.
- **Type:** Achieve
- **Source:** Elicitation problem #35

A.1.2.3.10

Name: Have easy reversal actions

- **Definition:** The system's interface shall allow the user to reverse their actions if they have the need to.
- **Type:** Achieve
- **Source:** Elicitation problem #35

A.1.2.3.11

Name: Interface contain undo and redo buttons

- **Definition:** The system's interface allows users to go back to their previous step and go forward in time to before they undid an action.
- **Type:** Achieve
- **Source:**Elicitation problem #35

A.1.2.3.12

Name: Provide shortcuts

- **Definition:** The system provides the user with a shorter alternative route to carry out functions.
- **Type:** Achieve
- **Source:**Elicitation problem #35

A.1.2.3.13

Name: Reduce user's memory load

- **Definition:** The system should avoid activities that require users to recall previous information that they are not super familiar with.
- **Type:** Avoid
- **Source:** Elicitation problem #14 and #15

A.1.2.3.14

Name: Provide all relevant information on the same page

- **Definition:** The system's interface should avoid requiring users to recall information from a different page to carry out an action on the current page.
- **Type:** Avoid
- **Source:** Elicitation problem #14 and #15

A.1.2.3.15

Name: Does not require users to recall detailed information

- **Definition:** The system should not require users to remember any detailed, non-intuitive information in order to carry out an action.
- **Type:** Avoid
- **Source:** Elicitation problem #14 and #15

A.1.2.3.16

Name: System provides assistance and prevention

- **Definition:** The system provides users assistance when operating issues come up and have ways to prevent users from making mistakes.
- **Type:** Achieve
- **Source:** Elicitation problem #32 and #23

A.1.2.3.17

Name: Prevent error

- **Definition:** The system avoids situations that may result in problems.
- **Type:** Avoid
- **Source:** Elicitation problem #23

A.1.2.3.18

Name: Have confirmation option before user commit to choice

- **Definition:** The system will have a pop-up that lets the user confirm their choice before carrying out the action. Example: Are you sure you want to make an appointment? Yes No
- **Type:** Achieve

- **Source:** Elicitation problem #23

A.1.2.3.19

Name: Minimize error prone conditions

- **Definition:** Minimizes the number of complex or vague conditions that may result in an issue or problem.
- **Type:** Soft
- **Source:** Elicitation problem #23

A.1.2.3.20

Name: Provide help operating the system

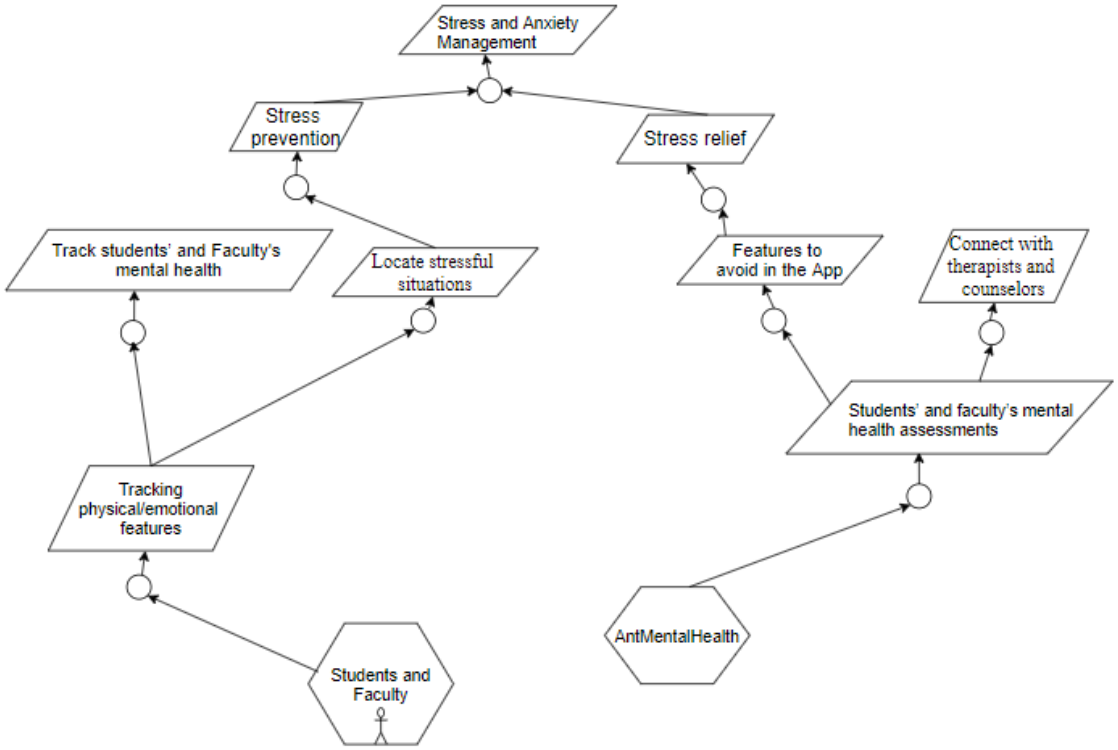
- **Definition:** The system shall provide users with assistance if any operating issues come up.
- **Type:** Achieve
- **Source:** Elicitation problem #32

A.1.2.3.21

Name: Have help button

- **Definition:** The system's interface has a help button that users can click on to ask for assistance when they run into any operating problems.
- **Type:** Achieve
- **Source:** Elicitation problem #32

A.1.2.4



A.1.2.4.1

Name: Stress and Anxiety Management

- **Definition:** MentalHealthApp intends to manage UCI students' and faculty's stress and anxiety.
- **Type:** Achieve
- **Source:** Question 5, 6, and 7 from elicitation
- **Priority:** High

A.1.2.4.2

Name: Stress prevention

- **Definitio**n: In order to efficiently take care of students' and faculty's mental health, MentalHealthApp intends to prevent any stress-producing situations for them.
- **Type**: Achieve
- Source: Questions 7 from elicitation
- Priority: Very High

A.1.2.4.3

Name: Stress relief

- **Definition:** If students and faculty have already in a stressful situation, the app will help to overcome the situations with things like breathing exercises, exercise suggestions, stress relief activities, books, or small games (from outside/3rd party sources) with to-do lost notifications (customized by user and/or doctors), stress relief advice or suggestions, reminders concerning scheduled or to-be-scheduled appointments)
- **Type**: Achieve
- **Source:** Questions 6 and 23 from elicitation
- **Priority:** Very High

A.1.2.4.4

Name: Features to avoid in the App

- **Definition:** Features within the app should avoid in order to get relief from mental distress such as Language, especially in advice or suggestions, should not be vague
- **Type:** Avoid

- **Source:** Questions 7 from elicitation
- **Priority:** Medium

A.1.2.4.5

Name: Locate stressful situations

- **Definition:** kinds of situations are you most likely to be stressed or anxious
- **Type:** Maintain
- **Source:** Question 5 from elicitation
- **Priority:** High

A.1.2.4.6

Name: Track students' mental health

- **Definition:** Assessments can be helpful in understanding what students may currently be stressed about or suffering from.
- **Type:** Achieve
- **Source:** Question 9 from elicitation
- **Priority:** High

A.1.2.4.7

Name: Students' and faculty's mental health assessments

- **Definition:** Administered online, with results being manually reviewed by a mental health professional. No automated mental health assessments will be available
- **Type:** Achieve
- **Source**: Question 10
- **Priority:** High

A.1.2.4.8

Name: Physical/emotional features do you see a user wanting to track

- **Definition:** Tracked daily (or as often as a user wants to fill in their journal): mood, stress level, work level, financial stress level, sleep quantity/quality
- **Type:** Soft
- **Source:** Question 15 from elicitation
- **Priority:** High

A.1.2.4.9

Name: UCI students and faculty seek to resolve mental issues

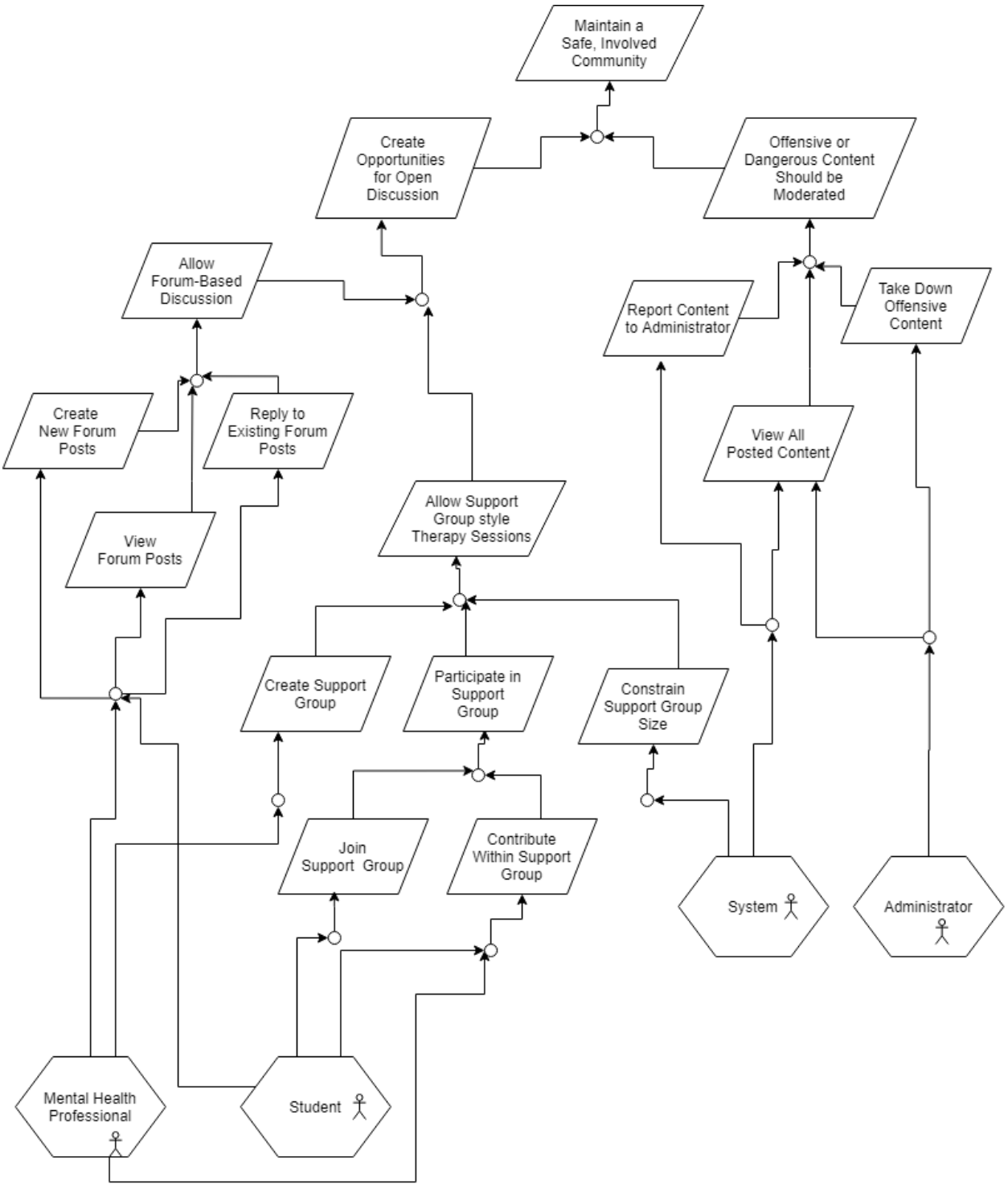
- **Definition:** The system will mainly resolve anxiety, stress, and depression.
- **Type:** Achieve
- **Source:** Question 35 from elicitation
- **Priority:** Very High

A.1.2.4.10

Name: Connect with therapists and counselors

- **Definition:** Through online messaging (in text, audio, and audio+video form) or by scheduling an in-person appointment
- **Type:** Achieve
- **Source:** Question 34 from elicitation
- **Priority:** Very high

A.1.2.5



A.1.2.5.1

Name: Maintain a Safe, Involved Community

- **Type:** Behavioural, Maintain
- **Definition:** Create an online community that is both safe and easy for students to get involved in
- **Source:** Elicitation questions 16, 17, and 39
- **Priority:** Highest

A.1.2.5.2

Name: Create Opportunities for Open Discussion

- **Type:** Behavioural, Achieve
- **Definition:** Allow students to easily communicate with each other and relevant mental health professionals
- **Source:** Elicitation questions 16, 17, and 39
- **Priority:** Highest

A.1.2.5.3

Name: Offensive/Dangerous Content Should be Moderated

- **Type:** Soft
- **Definition:** Any posted content that raises red flags concerning an individual student's or other students' wellbeing should be directly handled
- **Source:** Elicitation question 33
- **Priority:** Highest

A.1.2.5.4

Name: Allow Forum-based Discussions

- **Type:** Behavioural, Achieve
- **Definition:** Create a discussion forum for students to publicly discuss issues or ask for advice
- **Source:** Elicitation questions 17,21,33,39
- **Priority:** High

A.1.2.5.5

Name: Allow Support-Group style Therapy Sessions

- **Type:** Behavioural, Achieve
- **Definition:** Support Group style therapy sessions are headed by mental health professionals for students to discuss topical mental health issues
- **Source:** Elicitation questions 16, 21,39
- **Priority:** High

A.1.2.5.6

Name: Create Forum New Posts

- **Type:** Behavioural, Achieve
- **Definition:** Create posts within the discussion forum, all organized by pre-existing topic
- **Source:** Elicitation questions 17,21,33,39
- **Priority:** High

A.1.2.5.7

Name: Reply to Existing Forum Posts

- **Type:** Behavioural, Achieve

- **Definition:** Reply to forum posts and replies that already exist
- **Source:** Elicitation questions 17,21,33,39
- **Priority:** High

A.1.2.5.8

Name: View Forum Posts

- **Type:** Behavioural, Achieve
- **Definition:** View all posts and replies in forum, sorted by pre-existing topic
- **Source:** Elicitation questions 17,21,33,39
- **Priority:** High

A.1.2.5.9

Name: View All Posted Content (Forums & Journals)

- **Type:** Behavioural, Achieve
- **Definition:** View all content posted by all users, including forum posts and personal journals
- **Source:** Elicitation questions 14, 15, 17,21,33,39
- **Priority:** High

A.1.2.5.10

Name: Report Content to Administrator

- **Type:** Behavioural, Achieve
- **Definition:** Automatically mark any content flagged as potentially concerning for manual reviewing by an administrator
- **Source:** Elicitation question 33

- **Priority:** Medium

A.1.2.5.11

Name: Take Down Offensive Content

- **Type:** Behavioural, Achieve
- **Definition**: Permanently remove any potentially harmful or offensive content
- **Source:** Elicitation question 33
- **Priority:** High

A.1.2.5.12

Name: Create Support Group

- **Type:** Behavioural, Achieve
- **Definition**: Start a support group therapy session, topic decided by leading mental health professional
- **Source:** Elicitation questions 16, 21,39
- **Priority:** High

A.1.2.5.13

Name: Participate in Support Group

- **Type:** Behavioural, Achieve
- **Definition:** Participate in support group style therapy session
- **Source:** Elicitation questions 16, 21,39
- **Priority:** High

A.1.2.5.14

Name: Join Support Group

- **Type:** Behavioural, Achieve
- **Definition:** Join an existing, currently open support group session
- **Source:** Elicitation questions 16, 21,39
- **Priority:** High

A.1.2.5.15

Name: Contribute/Ask Questions Within Support Group

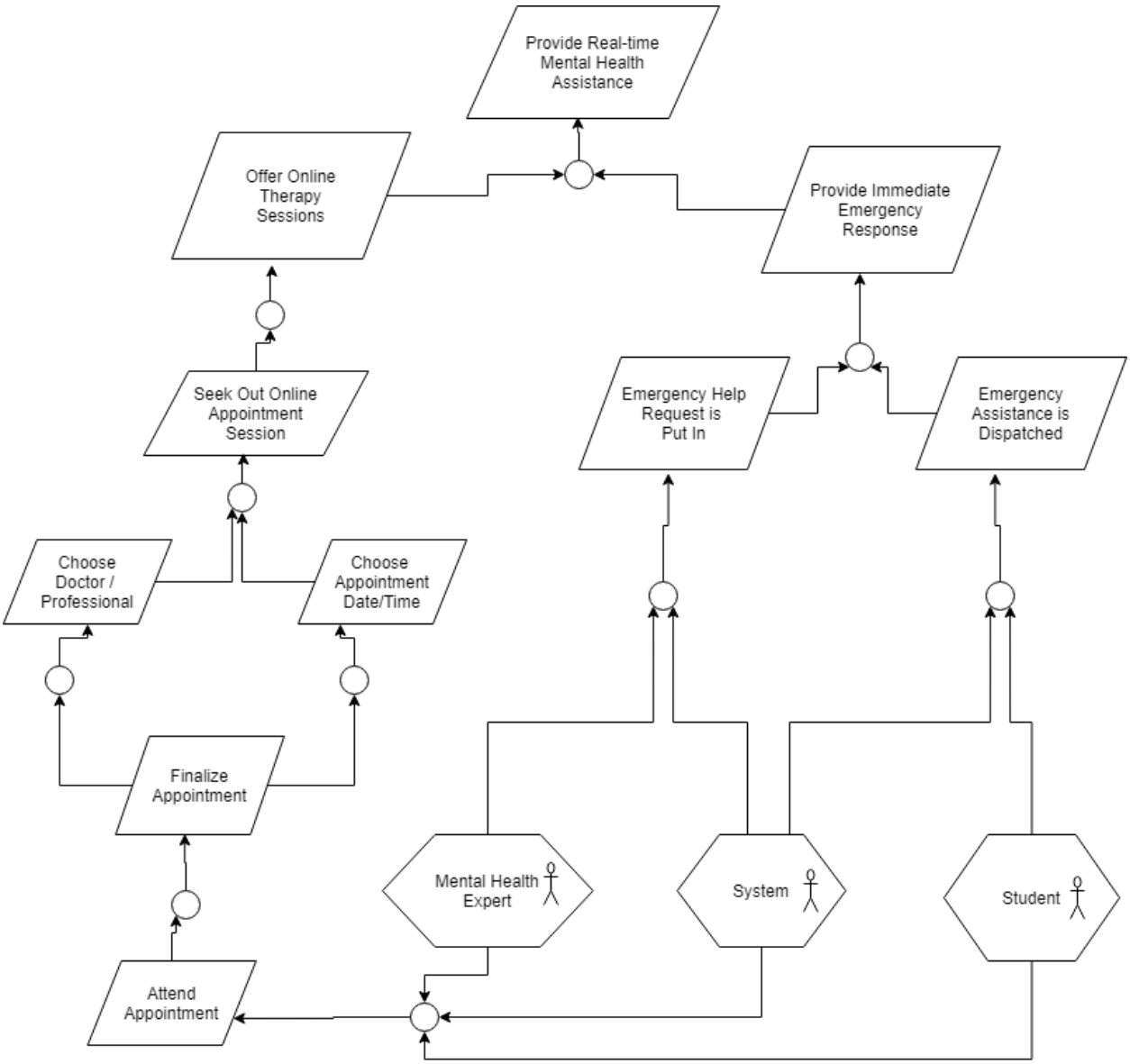
- **Type:** Behavioural, Achieve
- **Definition:** Contribute, either through text or audio, to the conversation within a support group
- **Source:** Elicitation questions 16, 21,39
- **Priority:** High

A.1.2.5.16

Name: Constrain Support Group Size

- **Type:** Behavioural, Maintain
- **Definition:** Prevent support group sizes from getting to large, with the maximum number of members being 10, including the leading mental health professional
- **Source:** Elicitation questions 39
- **Priority:** Medium

A.1.2.6



A.1.2.6.1

Name: Provide Real-time Mental Health Assistance

- **Type:** Behavioural, Achieve
- **Definition:** Users should have access to mental health assistance in real time through the app, at nearly any given time
- **Source:** Elicitation question 27

- **Priority:** Highest

A.1.2.6.2

Name: Offer Online Therapy Sessions

- **Type:** Behavioural, Achieve
- **Definition:** Users can receive therapy sessions or similar sessions with their chosen therapist through the system
- **Source:** Elicitation question 4
- **Priority:** High

A.1.2.6.3

Name: Provide Immediate Emergency Response

- **Type:** Behavioural, Achieve
- **Definition:** Users can immediately get access to an audience with an trained professional in emergency situations
- **Source:** Elicitation question 27
- **Priority:** High

A.1.2.6.4

Name: Seek Out Online Appointment Session

- **Type:** Behavioural, Achieve
- **Definition:** User decides to seek out a potential online therapy session
- Source: Elicitation question 4
- **Priority:** High

A.1.2.6.5

Name: Choose Doctor/Professional

- **Type:** Behavioural, Achieve
- **Definition:** User chooses a mental health professional/therapist that best addresses their worries from a list of provided professional profiles
- **Source:** Elicitation questions 3, 4
- **Priority:** High

A.1.2.6.6

Name: Choose Appointment Date/Time

- **Type:** Behavioural, Achieve
- **Definition:** User chooses a date and time for the appointment that works within the chosen doctor's free times and their own schedule
- **Source:** Elicitation question 3, 4
- **Priority:** High

A.1.2.6.7

Name: Finalize Appointment

- **Type:** Behavioural, Achieve
- **Definition:** User and professional both finalize appointment time and date
- **Source:** Elicitation question 3
- **Priority:** High

A.1.2.6.8

Name: Attend Appointment

- **Type:** Behavioural, Achieve
- **Definition:** User and professional log in at the same time and are able to host the therapy session through the system
- **Source:** Elicitation question 4
- **Priority**: High

A.1.2.6.9

Name: Emergency Help Request is Put In

- **Type:** Behavioural, Maintain
- **Definition:** User puts in a request for immediate emergency help, which is automatically prioritized by the system
- **Source:** Elicitation question 27
- **Priority:** High

A.1.2.6.10

Name: Emergency Assistance is Dispatched

- **Type:** Behavioural, Achieve
- **Definition:** A mental health professional, on call for all hours in case of emergency, is alerted to go in and meet the request for assistance
- **Source:** Elicitation question 27
- **Priority:** High

A.1.3

SCENARIOS

A.1.3.1

Scenario 1: Interacting within AntMentalHealth community

- By Feiyue Zhang
- Field Notes/Goal Model: Elicitation Question #39
- Scenario:
    - Mike is unsure about his mental health situation. He doesn't want to seek help from counselors because of social stigma, but he is bothered by something that happened to him recently. Mike feels scared and uncertain, so he is trying to find people like him to talk about it. Mike opens AntMentalHealth on his phone and browses the public forum, he finds out there are a lot of people from UCI talking about mental issues. Mike realizes there exist some people who have a similar syndrome as he does. As Mike reads more posts, he starts to feel a sense of community and inclusivity. Mike joins the discussion and shares his own feeling and then makes an appointment for an online group session. Mike also notices there are relevant posts about mental health from his feed, which cover mental health events at UCI and useful tips about balancing college life and mental health status.
- Assumptions:
    - There is an available group session at the moment.
    - The public forum is active.
- Further Questions/Gaps:
    - Can users be anonymous in group sessions? Can users reach out to other anonymous users (e.g. private message)?

A.1.3.2

Scenario 2: Stress and Anxiety Relief and Prevention through AntMentalHealth

- By Sazeda Sultana
- Field Notes/Goal Model: Elicitation Question #5,6,7, and 23
    - Scenario - Stress Relief: During his school life, Sam has never got a "B" in his classes. He is a straight "A" student. He believes "B" stands for a bad grade, and he does not want that. He always tries his best to get the highest grade in a class. However, whenever test time appears, he grows an obsessive-compulsive disorder of not getting the perfect score on a test. Though he is over-prepared for tests, his

anxiety makes him face a severe mental health issue. To get immediate help on this debilitating situation, his family recommends him using the AntMentalHealth app. By his UCINetID and password, he logs in to the app and asks for counseling therapy from medical health professionals. After talking to therapists, his stress and anxiety become under control.

    - Scenario - Stress Prevention: Sam discussed this issue with one of his professors Dr. Nancy Edel who is a UCI faculty. Nancy felt that Sam needed some support, not only in stress occurring situations but also to prevent the stress or anxiety ahead of time. She suggests Sam use AntMentalHealth regularly and follow the stress prevention activities that the app suggests. Following his professor's suggestion, Sam uses the AntMentalHealth every day to be stress-free.

- Assumptions:
    - The app will monitor the mental health status of users. By knowing the users' mental health situation, the app will offer stress prevention activities to stay calm.

- Further Questions/Gaps:
    - Is it guaranteed that there will be plentiful mental health professionals available for students during a typical test time such as midterm or final?

A.1.3.3

Scenarios 3:Provide Real-time Mental Health Assistance

- By Tong Ge
- Field Notes/Goal Model: Elicitation Question #27.
    - How many steps would exist between a user and a professional therapist in the case of emergency situations?
        - There should be an option to instantly speak to a counselor in cases of emergency. If the counselor deems the situation critical enough, they can connect the student to a more especially trained professional.
- Scenario:
    - Allison is currently a freshman at UCI majoring in mechanical Engineering. For the past two weeks, Allison has been stressing about her 2 physics midterms tomorrow that are back to back. She tends to be extremely anxious, so she has not been getting proper sleep because of the fear of failing her classes. Last night, She and her roommate had an argument that resulted in them ignoring each other. Allison cannot keep her mind off of her argument with her roommate and is also extremely stressed and anxious about her upcoming midterms. While trying to focus on studying, Allison felt herself break and suddenly start crying. Her body

starts shaking involuntarily and she has no idea what to do. She suddenly remembers she has the AntMentalHealth application downloaded on her phone. Allison reaches for her phone and opens AntMentalHealth. She then taps the emergency contact button on the front page. After a few minutes, a mental health expert was able to speak with her. They talk about what issues she has been having and what things may be able to help her situation. The mental health expert also sets up an appointment to counsel her in person. Allison feels slightly better after speaking with a professional and follows suggestions that the expert gave. She was able to calm her condition and feel better about herself after.

- Assumptions:
    - Experts will be able to respond in a timely manner to emergency contacts
    - Students will know where to find the emergency contact button
    - Students will have the patience to wait for a response from an expert
    - Students will listen to medical professional's advice over the phone
    - Experts will be able to identify the student's issues and provide adequate help immediately
- Further Questions/Gaps:
    - What times are medical professionals available to assist students in need?

A.1.3.4

Scenario 4: Keep a Daily Mental Health Journal

- By Mia Vu
- Field Notes/Goal Model: Elicitation Questions 14, 15, and 22
- Scenario:
    - Virginia, a Computer Engineering student, has recently been feeling extremely overwhelmed by her day-to-day life. Because of her exhaustion, she very easily becomes unmotivated and has trouble keeping track of all of her tasks and upcoming due dates. Her life and thoughts have become very unorganized when she is introduced to ZotMentalHealth, which has a journal function.
    - Virginia familiarizes herself with the app, learning more about the journaling function that is available to her. It is simple and unstressful for her to fill in, and she begins ending each of her nights by reviewing everything she felt or accomplished during the day.
    - With all these past records of actions that previously led to her having extremely stressful days, Virginia is able to start actively changing the way she approaches her tasks and using her journal to think about how she imagines her next day going.
    - As a result, Virginia starts to become more organized and aware of her habits, being able to fix ones that lead to poor mental health situations and to continue

planning forward and sticking to behaviors that make her life more organized and stress-free.

- Assumptions:
    - Users are familiar with and uses the ZotMentalHealth app on a regular basis.
    - The ZotMentalHealth journal function is easy to use, providing little to no frustration for the user.
    - User honestly records thoughts, feelings, actions, etc. into the journal
- Further Questions/Gaps:
    - Are there any features that remind the user to do a daily journal entry? Should there be?

A.1.3.5

Scenarios 5: User Information Protection

- By Tyler Mun
- Field Notes/Goal Model: Elicitation Questions 17,21,31,39,45
- Scenario:
    - John Smith is a 2nd-year student at UCI that has been feeling stressed and unmotivated the past few weeks resulting in a drop in his grades and social life. Unsure of how to deal with this problem, he tries the AntMental Health App to help him get back on track. Logging into the app using his UCI login credentials which are then verified by OIT, John is welcomed into the app and has his own personal account. This account is linked to his UCI account and as such has access to John's records. John first decides to fill in some evaluation questions such as how stressed on a scale 1-10 he is feeling, what foods has he been craving lately, etc. This information is then logged into his account info and is safely secured in a cloud database.
    - John then chooses to seek some public help groups as he is still feeling too nervous to have a one on one session just yet. John is then given an anonymous profile name(Antler01) and joins a public group that is running in 10 minutes. When the meeting starts, John joins a chat room in the app that has several other anonymous users along with one mental health professional overseeing the group. An anonymous user talks about their personal problems free of any worries of being recognized such as their drinking problems or recent violent outbreaks. John also begins to tell others of his recent concerns and begins his process of venting about the overwhelming stresses of his current workload as well as his current motivation problem.
    - John realizes that he did feel better these past few days and took up some of the advice he got from the chat room such as going to sleep earlier, but is still feeling down, so he schedules an online appointment with a mental health professional. After selecting Dr. Hopkin, one of UCI affiliated therapists, John signs one of her

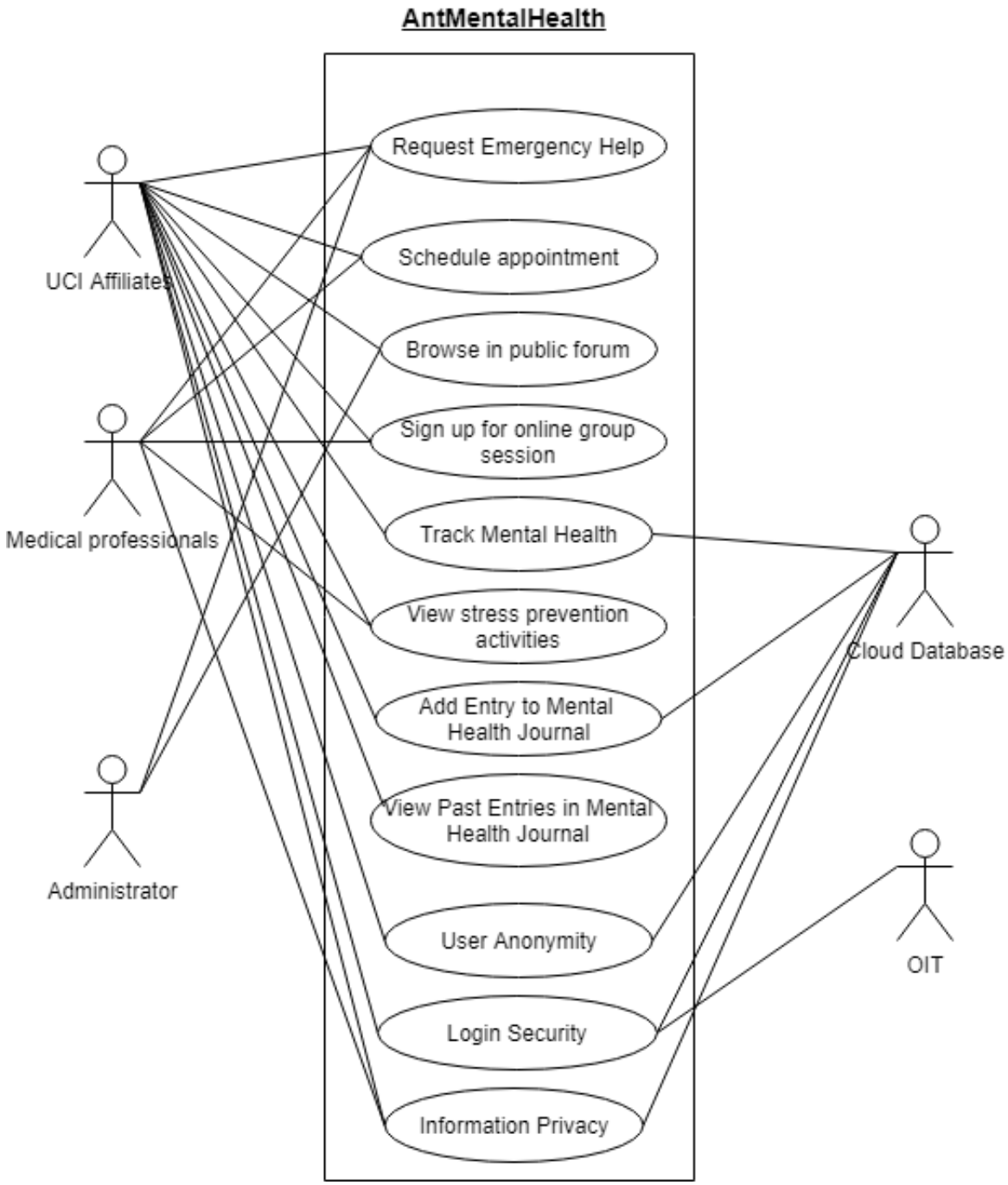
available meeting hours which is to be the next day at 5pm as he is a part of the UCI insurance plan that covers medical counseling. At 5pm, John is on the app and has chosen to converse with the therapist over text chat. Entering the chat room with Dr.Hopkin, John proceeds to explain his current concerns and Dr.Hopkins both listens and asks questions here and there, while examining the evaluation results affiliated with John's account after being given permission to access his records to respect Johns right of privacy. Dr. Hopkins then works with John to produce a more healthy lifestyle for his mind, advising him to lessen his current workload, take some time every day to do some yoga or relaxing activity, maintain a regular and consistent sleep schedule, etc.

- Assumptions
    - Details regarding how to join public help groups are ambiguous. One can join by schedule, but if one can join an upcoming or live one on short notice are vague.
    - How mental evaluations are administered, how they are formatted, what kinds of questions, can the user decide what subject of questions to ignore or focus on are currently all assumptions.
    - Assumed that options like 1-10 scales are available answers to questions.
    - Assumptions included that diet and sleep are factors to improving mental health, and that public help groups can give helpful advice to patients.
- Further Questions/Gaps:
    - Because we have not interviewed mental health professionals, we are unsure of the actual words of advice they may give and the possible plans or methods they may use to aid patients.

A.1.4

USE CASE DIAGRAM

A.1.4.1


AntMentalHealth
Request Emergency Help
Schedule appointment
Browse in public forum
Sign up for online group session
Track Mental Health
View stress prevention activities
Add Entry to Mental Health Journal
View Past Entries in Mental Health Journal
User Anonymity
Login Security
Information Privacy
UCI Affiliates
Medical professionals
Administrator
Cloud Database
OIT

A.1.4.2.1

USE CASE DESCRIPTIONS

Use Case Name	**Create an Entry in Mental Health Journal**
Author	Mia Vu
Priority	High
Source	The use case is derived from information in elicitation questions 14, 15, and 22.
Short Description	Users can create personal journal entries in the app as often as they prefer, with each new entry being automatically dated and timestamped. They can record things such as mood, stress level, work level, financial stress level, and sleep quantity/quality on a scale provided by the app, as well as any written thoughts they had during the day.
Goal(s)	To help the user better manage their stress level and thoughts during the day and better organize themselves and their emotions.
Primary Actor	User
Secondary Actors	None
Preconditions	● User must have an AntMentalHealth account ● User is logged into their AntMentalHealth account ● User has internet connection
Success End Condition	The user has added another entry to their journal, as detailed as they want it to be.
Failed End Condition	The journal entry is not added to the user's journal in its entirety. Part or all of it may be missing.
Trigger	The user opens up the Journal tab in their app and clicks on a button that allows them to begin writing a new entry.
Basic Flow	● User clicks on a button that opens up a blank journal entry template ● User fills in whatever journal fields they want to, including mood, stress level, work level, financial stress level, and sleep quality/quantity. ● User adds any written notes or thoughts they had during the day that they want to record. ● User saves the entry to the app.

Alternative Flows	● User clicks on a button that opens up a blank journal entry template ● User fills in whatever fields they want to, including the ones previously listed in the Basic Flow ● User adds any written notes or thoughts they had during the day ● User attempts to save the entry to the journal, but has no internet connection ● The app saves the drafted journal entry to be saved to the user's journal history once they have internet connection
Exception Flows	● User clicks on a button that opens up a blank journal entry template ● The user's log-in session has timed out, and the app redirects to a log-in page, prompting the user to sign in again ● Once the user signs in, they have returned to step 2 of the Basic Flow.
Relationship to other use cases	This use case is required in order for the use case "View Past Entries in Mental Health Journal" to exist.
Supplementary Information	None.
Open Issues	None.

A.1.4.2.2

Use Case Name	**View Past Entries in Mental Health Journal**
Author	Mia Vu
Priority	High
Source	The use case is derived from information in elicitation questions 14, 15, and 22.
Short Description	Users can view all past journal entries saved to the app. Journal entries can be searched by date/time and require internet access to be able to look back through.
Goal(s)	To allow the user to look back at previous journal entries and review changes in their mood, quality of life, and other related and recorded topics.
Primary Actor	User

Secondary Actors	None
Preconditions	● User has an AntMentalHealth Account ● User is logged into their AntMentalHealth account ● User has internet connection
Success End Condition	User is able to view the past journal entry of their choosing
Failed End Condition	● User is unable to load the past journal entry of their choosing and cannot view its contents. ● User is unable to find the past journal entry of their choosing
Trigger	User selects the tab that opens up their collection of past journal entries and chooses the one they want to view
Basic Flow	● User opens up the tab that holds their collection of past journal entries ● User scrolls back in time to find the entry they want to view ● User clicks on the journal entry and reads back its contents
Alternative Flows	● User opens up the tab that holds their collection of past journal entries ● User uses the limited search function to look for a certain date/range of dates from when they want to view entries ● User clicks on the journal entry and reads back its contents
Exception Flows	● User attempts to open up the tab that holds the collection of past journal entries ● The app is unable to load the journal entries due to lack of internet connection ● The app waits until the user has internet connection again, and then is able to display the user's collection of past journal entries. ● The user is directed back to step 2 of the Basic Flow
Relationship to other use cases	This use case required the use case "Create an Entry in Mental Health Journal" to be completed at least once in order for there to be previous journal entries that the user can view
Supplementary Information	None.
Open Issues	None.

A.1.4.2.3

Use Case Name	**Request Emergency Help**
Author	Tong Ge
Priority	High
Source	The use case is derived from information in elicitation question #27.
Short Description	This use case allows users to get immediate access to assistance with a trained professional in emergency situations.
Goal(s)	This use case helps satisfy our goal of providing the user with real-time mental health assistance because it makes help accessible to users right away upon contact.
Primary Actor	UCI affiliates and medical professionals
Secondary Actors	Administrators and other UCI affiliates
Preconditions	● User has AntMentalHealth downloaded ● User is logged in ● User has adequate internet connection
Success End Condition	The user is in contact with a medical professional in a timely manner.
Failed End Condition	The system fails to connect to medical professionals.
Trigger	The user selects the Emergency contact button on the front page.
Basic Flow	1. Opens AntMentalHealth 2. enters the UCInetID and password 3. Tap on “Emergency Contact” button on the front page 4. Wait for response from medical professionals 5. Speak to a medical professional
Alternative Flows	1. Opens AntMentalHealth 2. User is already logged on 3. Tap on “Emergency Contact” button on the front page 4. Wait for response from medical professionals 5. Speak to a medical professional
Exception Flows	1. Opens AntMentalHealth 2. User is already logged on 3. Tap on “Emergency Contact” button on the front page 4. Wait for response from medical professionals a. System fails to connect to medical professionals

	b. No medical professional is available to answer
Relationship to other use cases	None
Supplementary Information	None
Open Issues	None

A.1.4.2.4

Use Case Name	**Schedule appointment**
Author	Tong Ge
Priority	High
Source	The use case is derived from information in elicitation question #3, 4, 34, and 40.
Short Description	This use case is for users to schedule physical/in-person appointments, online individual appointments, and online group therapy appointments.
Goal(s)	This use case helps satisfy our goal of stress and anxiety management by connecting them with medical professionals for mental health assistance through appointments. It also helps satisfy our goal of providing the user with real-time mental health assistance because it allows users to seek out meetings with professionals at their own availability and need.
Primary Actor	UCI affiliates, administrators, and medical professionals
Secondary Actors	and other UCI affiliates
Preconditions	● User has AntMentalHealth downloaded ● User is logged in ● User has adequate internet connection
Success End Condition	A confirmation message is sent to the user with the scheduled time, place, and with which medical professional.
Failed End Condition	The system fails to process the schedule request.
Trigger	The user selects the Schedule Appointment button on the front page.
Basic Flow	1. Tap on the “Schedule Appointment” button on the front page

	2. Select the “In-person Appointment” option 3. Choose a date 4. View medical professionals’ profile with things like their contact info, ratings, reviews, availability, location, etc. 5. Choose a specialist 6. Choose a time from the list of times available next to the specialist’s profile 7. Confirm the date, time, and specialist of the appointment. 8. Receive a confirmation message with the scheduled time, place, and specialist’s name.
Alternative Flows	1. Tap on the “Schedule Appointment” button on the front page 2. Select the “In-person Appointment” option a. Select the “Online Group Session” option b. Select the “Online Individual Appointment” option 3. Choose a date a. Choose a specialization 4. View medical professionals’ profile with things like their contact info, ratings, reviews, availability, location, etc. 5. Choose a specialist 6. Choose a date and time from the list of times available next to the specialist’s profile. 7. Confirm the date, time, and specialist of the appointment. 8. Receive a confirmation message with the scheduled time, place, and specialist’s name.
Exception Flows	1. Tap on the “Schedule Appointment” button on the front page 2. Choose a date 3. View medical professionals’ profile with things like their contact info, ratings, reviews, availability, location, etc. 4. Choose a specialist 5. Choose a time from the list of times available next to the specialist’s profile 6. Confirm the date, time, and specialist of the appointment. 7. System fails to process the schedule request. An error message is sent to the user.
Relationship to other use cases	The Sign up for online group session use case utilizes this use case to schedule for the online group session.
Supplementary Information	When a user chooses a date, availability for schedule time two days before and after are also shown.
Open Issues	None

A.1.4.2.5

Use Case Name	**Browse in public forum**
Author	Feiyue Zhang
Priority	Medium
Source	Elicitation Question #39
Short Description	Users can share their student life and talk about mental health issues within this exclusive UCI community.
Goal(s)	This use case will help users to communicate with other AntMentalHealth users.
Primary Actor	UCI students and staff
Secondary Actors	None
Preconditions	Users must have an active account. The forum is normally operated (not under maintenance).
Success End Condition	Users will be able to view and DM other users.
Failed End Condition	Users will be blocked from accessing the forum.
Trigger	Clicking on the “Public Forum” button in the AntrMentalHealth home page.
Basic Flow	1. The user clicks on the “Public Forum” button. 2. Public forum home page pops up to the user. 3. The user is free to browse all the posts. 4. The user can DM other users if they wish.
Alternative Flows	1. The user clicks on the “Public Forum” button. 2. The app asks the user to log in first. 3. The user inputs correct username and password. 4. Public forum home page pops up to the user. 5. The user is free to browse all the posts. 6. The user can DM other users if they wish.
Exception Flows	1. The user clicks on the “Public Forum” button. 2. The maintenance info popped up to the user. 3. The user clicks on “OK”. 4. The user is directed to the previous page.
Relationship to other use cases	None

Supplementary Information	None
Open Issues	None

A.1.4.2.6

Use Case Name	**Sign up for online group session**
Author	Feiyue Zhang
Priority	Low
Source	Elicitation Question #38, 39, 40
Short Description	An alternative way to improve mental health status in the process of the treatment.
Goal(s)	This use case is to let users correctly sign up for the session they want to attend.
Primary Actor	UCI students and staff
Secondary Actors	None
Preconditions	Users must have an active account. There are available online group sessions.
Success End Condition	Users successfully reserve an online group session and get a confirmation email.
Failed End Condition	Users cannot get to the step of viewing the session time table and then will be directed back to the previous page.
Trigger	Clicking on the “Schedule Appointment” tab in the AntrMentalHealth home page.
Basic Flow	1. The user navigates through the “Schedule Appointment” tab. 2. The user clicks on the “Online group session” option. 3. The user chooses an available section they wish to attend. 4. The user receives a confirmation email after the system has gone through the user's request.
Alternative Flows	1. The user is recommended by a counselor to attend online group sessions. 2. The user is given a link in the chat with the counselor. 3. The user clicks on the link and is directed to the sign up page.

	4. The user chooses an available section they wish to attend. 5. The user receives a confirmation message after the system has gone through the user's request.
Exception Flows	1. The user navigates through the “Schedule Appointment” tab. 2. The user clicks on the “Online group session” option. 3. There is no more available section at the moment. 4. The user clicks on “Go back”. 5. The user is directed to the previous page.
Relationship to other use cases	This use case uses the schedule appointment use case to operate.
Supplementary Information	None
Open Issues	None

A.1.4.2.7

Use Case Name	**View Stress Prevention Activities**
Author	Sazeda
Priority	Very High
Source	Questions 6 and 23 from elicitation
Short Description	As a preventive method, users will view all stress preventing activities in a regular basis.
Goal(s)	Prevent any stressful situations.
Primary Actor	UCI student, faculty
Secondary Actors	Mental Health professionals
Preconditions	Students and faculty must have their active account to log in to AntMentalHealth app.
Success End Condition	Students and students will be successfully live their life without any stress occurring symptoms.
Failed End Condition	None

Trigger	Clicking on the “calming activities to do” button in the AntMentalHealth home page.
Basic Flow	1. Students or faculty will log into their account. 2. They will manually view any calming activities that the app offers.
Alternative Flows	1. Students or faculty will set notification regarding activities in the app. 2. Then, students or faculty will log into their account. 3. They will view the new calming activities that the app is offering.
Exception Flows	None
Relationship to other use cases	Users can track mental health, and following the record they can the appropriate stress prevention activities.
Supplementary Information	Activities suggested to prevent stress or anxiety is never intended for stress relief which means a stressful situation has already occurred and therefore a relief through mental health professional is suggested.
Open Issues	None

A.1.4.2.8

Use Case Name	**Track Mental Health**
Author	Sazeda
Priority	High
Source	Question 9 and 15 from elicitation
Short Description	Students and faculty will track daily (or as often as a user wants to fill in their journal): mood, stress level, work level, financial stress level, sleep quantity/quality.
Goal(s)	User will be able to know physical/emotional features that causes stress and anxiety.
Primary Actor	UCI student and faculty

Secondary Actors	None
Preconditions	Students and faculty must have their active account to log in to AntMentalHealth app.
Success End Condition	Users will be able to prevent stress occurring situations to happen.
Failed End Condition	None
Trigger	Clicking on the “Track Your Mental Health” button in the AntMentalHealth home page.
Basic Flow	1. Students or faculty will log into their account. 2. They will manually view their mental health record.
Alternative Flows	1. Students or faculty will log into their account. 2. They will access their Mental Health Journal.
Exception Flows	None
Relationship to other use cases	As an alternative option to track mental health record, users will maintain Mental Health Journal and get access to it.
Supplementary Information	None
Open Issues	None

A.1.4.2.9

Use Case Name	**Login Security**
Author	Tyler Mun
Priority	High
Source	Elicitation Question 31
Short Description	Login authentication is administered by OIT.
Goal(s)	Users should be ensured that their account and information are secure and protected from others.
Primary Actor	User-UCI Affiliates

Secondary Actors	OIT, Cloud Database
Preconditions	● User has AntMentalHealth downloaded ● User has a UCI login ● User is logged in ● User has adequate internet connection
Success End Condition	User accounts can be safely logged in, and information is protected from invaders.
Failed End Condition	Hackers gain access to user information.
Trigger	Login page of the application.
Basic Flow	Users will login in the app, which will then be verified by OIT.
Alternative Flows	Users save their login ID and password and quickly login to the app through OIT.
Exception Flows	User logins in the app through OIT but inputs wrong ID or password, is redirected to login page.
Relationship to other use cases	Login verification is the beginning to using the app, and is critical to enable users to seek the proper care they need.
Supplementary Information	None
Open Issues	None

A.1.4.2.10

Use Case Name	**User Anonymity**
Author	Tyler Mun
Priority	Medium
Source	Elicitation Question 17,21
Short Description	Users when using the public help groups or forums should be given the option to maintain an anonymous profile so as to not be recognized and judged by peers. Anonymous users are given a random public profile name as a result.
Goal(s)	Users should be able to maintain anonymity at their own discretion and

	be unrecognizable by other users.
Primary Actor	Users/UCI Affiliate
Secondary Actors	Other UCI Affiliates/Users, Cloud Database
Preconditions	● User has AntMentalHealth downloaded ● User has a UCI login ● User is logged in ● User has adequate internet connection ● User Wishes to be Anonymous
Success End Condition	Other users are unable to associate an anonymous user with their real identity.
Failed End Condition	A user is able to identify an anonymous user's real identity.
Trigger	User clicks on the option to remain anonymous.
Basic Flow	User decides to interact publicly, and chooses to do so anonymously by adjusting their profile settings and show a random public profile name while anonymous.
Alternative Flows	User interacts publicly then wants to be anonymous and turns on anonymity after already having public interaction in which case all future messages or posts are under a new pseudonym.
Exception Flows	User does not wish to be anonymous, and turns off the anonymity settings.
Relationship to other use cases	When users are interacting publicly(public help groups, public forums) anonymity can be intertwined with user experience.
Supplementary Information	Anonymous name generation must be carefully crafted so as to give safe, random, and neutral names to users.
Open Issues	None.

A.1.4.2.11

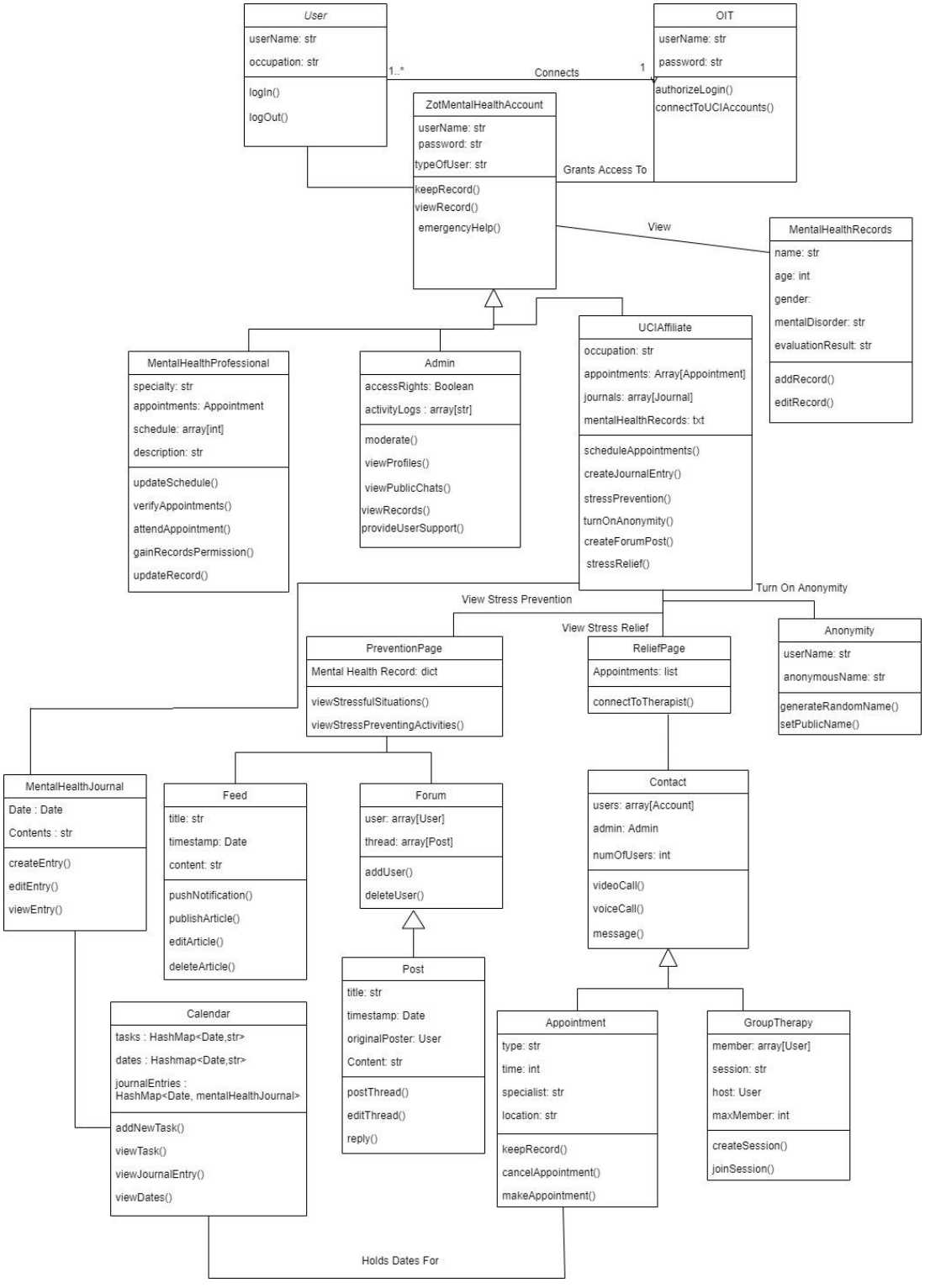
Use Case Name	**User Information Privacy**
Author	Tyler Mun
Priority	High

Source	Elicitation Question 31.
Short Description	Users should be given power over the privacy of their information, this includes who can view it and use it.
Goal(s)	Mental health professionals must be given permission to access user patient information.
Primary Actor	User-UCI Affiliates/Patients
Secondary Actors	User-UCI Affiliates/Professionals, CloudDatabase.
Preconditions	● User has AntMentalHealth downloaded ● User has a UCI login ● User is logged in ● User has adequate internet connection ● User uses the app to interact with mental health professionals
Success End Condition	Users are given a choice over which professionals can view their information.
Failed End Condition	Any professional or a non professional can view a patient's information.
Trigger	When scheduling a meeting/appointment with professional, user is then given a choice over the privacy of their information.
Basic Flow	User logins to the application, wishes to schedule a meeting with a therapist, and sets the setting of how much the therapist can see of user's profile information'].
Alternative Flows	User logins to the applications, schedules a meeting with a therapist, and sets it so that the therapist can only see their name, but decides later to set it so that they can see their medical records as well.
Exception Flows	User logins to the applications, schedules a meeting, but gives the professional too much information and wishes to retract their profile permission. As such the professional will no longer have access to the excess information, but may have already read it.
Relationship to other use cases	Interacting with mental health professionals involves information regarding the patient and in this way, the user has some control over the flow of the information which can be a key factor in user interactions and experience regarding contact with professionals.
Supplementary Information	None

Open Issues	If a patient gives too much information permission in the beginning to a professional, after changing the settings the professional will no longer have access to the excess information, but may have already read it.

A.1.5

Class Diagram Model



A.1.5.1

Classes

User
- The person using AntMentalHealth. Is connected to an account by OIT

OIT
- Office of Information Technology affiliate. Connects a User to an Account

ZotMentalHealthAccount
- AntMentalHealth account. Has one User.

UCIAffiliate
- A type of ZotMentalHealthAccount. Emcompasses all students, faculty, and staff that may use the app.

Admin
- A type of ZotMentalHealthAccount. Has the ability to view and moderate all content within the system. Cannot edit Mental Health Records.

MentalHealthProfessional
- A type of ZotMentalHealthAccount. Can view all content within the system and only edit Mental Health Records

Anonymity
- Ensures that UCI Affiliates can contribute to public discussion areas (like Group Therapy or the Forum) anonymously.

MentalHealthRecords
- This class creates a complete mental health status of any UCI student or faulty. It creates the record through collecting users' name, age, gender, and mental health information. It saves the record and updates the records whenever there is a change in user's personal information. This class allows to view the record with permission.

PreventionPage
- This class represents how AntMentalHealth prevents any stress-producing situations for students' and faculty's mental health.

ReliefPage
- This class represents that if students and faculty are already in a stressful situation, then how the AntMentalHealth can help to overcome the situations.

Contact

- This class represents the different ways in which UCI affiliates are able to communicate with medical professionals/Administrators through AntMentalHealth. Contact keeps track of who is communicating with each other and enables them to choose different methods of contact.

Appointment

- This class represents appointments UCI Affiliate users can make. It is a way of contacting Mental Health Professionals to gain assistance. Appointments are available in several different types from online to in-person. Each appointment will contain information like the type, time, place of it as well as which specialist will be assisting the primary user.

Calendar

- A collection of tasks, dates, and Mental Health Journal entries, all mapped to specific dates. Every UCI Affiliate has their own calendar, populated by whatever they choose to add.

MentalHealthJournal

- A collection of textual journal entries, organized by date. All UCI Affiliates have the ability to keep a Mental Health Journal, and the content can only be viewed by the owner (UCI Affiliate) of the journal, an Admin, or a Mental Health Professional.

Feed

- This class represents the daily feed function in the homepage of AntMentalHealth, where articles published by Admin can be seen by users.

Forum

- This class refers to the function allowing users to post threads and communicate with each other. Forum is consisted of User and Post.

Post

- Derived from Forum, each post must have a title, an automatically-generated timestamp, an original poster, and its content where students share their feelings.

GroupTherapy

- This class refers to the event that multiple UCI Affiliates can sign up for and a host (Mental Health Professional) will be there to guide the session.

A.2. Traceability

ID: FR1

TITLE: **System shall allow users to sign up for online group sessions.**
EVENT/USE CASES: **A.1.4.2.6**
SOURCES: Elicitation Question #38, 39, 40
SUPPORTING MATERIAL: A.1.4 Use Case Diagram
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR2
TITLE: **View Past Entries in Mental Health Journal**
EVENT/USE CASES:**A.1.4.2.5**
SOURCES: Elicitation Question #39
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR3
TITLE: The system shall allow students to edit their personally
EVENT/USE CASES: **A.1.2.5**
SOURCES:Elicitation Question #38, 39
SUPPORTING MATERIAL: A.1.2.5 Goal Models
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR4
TITLE: **The system shall allow users to create Mental Health Journal entries.**
EVENT/USE CASES:**A.1.4.2.1**
SOURCES: Elicitation Questions #14, 15, and 22
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR5
TITLE: **The system shall allow users to view past entries in Mental Health Journal**
EVENT/USE CASES:**A.1.4.2.2**
SOURCES: Elicitation Questions #4, 15, and 22
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR6
TITLE: **The system shall track user's mental health status**
EVENT/USE CASES: **A.1.4.2.8**
SOURCES: Elicitation Questions #14, 15, and 22
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY: Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR7
TITLE: **System shall allow users to request Emergency Help**

EVENT/USE CASES: **A.1.4.2.3**
SOURCES: Elicitation Question #27
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR8
TITLE: **System shall allow users to schedule appointments with mental health professionals**
EVENT/USE CASES:**A.1.4.2.4**
SOURCES: Elicitation Questions #3, 4, 34, and 40
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR9
TITLE:**The system shall secure user login**
EVENT/USE CASES:**A.1.4.2.9**
SOURCES: Elicitation Question #31
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR10
TITLE:**The system shall allow users to be anonymous**
EVENT/USE CASES:**A.1.2.1.11**
SOURCES: Elicitation Question #17, 21
SUPPORTING MATERIAL: A.1.2.1 Goal Models
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR11
TITLE:**The system shall protect user's private information**
EVENT/USE CASES**A.1.4.2.11**
SOURCES: Elicitation Questions #31
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR12
TITLE:**The system shall enable user to view Stress Prevention Activities**
EVENT/USE CASES**A.1.4.2.7**
SOURCES: Elicitation Questions #6 and 23
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR13
TITLE:**The system shall provide evaluation for user's mental health status via automated online assessmen**

EVENT/USE CASES **A.1.3.5**
SOURCES: Elicitation Question #9, 10

SUPPORTING MATERIAL: A.1.3.5 Scenarios
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR14
TITLE:**The system shall customize a user's personal reminders and advice alerts**
EVENT/USE CASES:**A.1.2.2.3**
SOURCES: Elicitation Questions #23
SUPPORTING MATERIAL: A.1.2.2 Goal Models
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR15
TITLE:**The system shall customize a user's personal newsfeed**
EVENT/USE CASES: **A.1.3.1**
SOURCES: Elicitation Questions #36, 37
SUPPORTING MATERIAL: A.1.3.1 Scenarios
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR16
TITLE:**The system will allow a user to manually input information about their preferences/mental health c**
EVENT/USE CASES: **A.1.2.2.5**
SOURCES: Elicitation Questions #36, 37
SUPPORTING MATERIAL: A.1.2.2 Goal Models
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR17
TITLE:**The system shall allow user to retake personalization assessment**
EVENT/USE CASES**A.1.2.4.7**
SOURCES: Elicitation Question #9, 10, 25, 42
SUPPORTING MATERIAL: A.1.2.4 Goal Models
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR18
TITLE:**The system should automatically add user's planned events/appointments to the calendar**
EVENT/USE CASES**: A.1.2.2.6**
SOURCES:Elicitation Question #29, 43
SUPPORTING MATERIAL: A.1.2.2 Goal Model
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR19
TITLE:**The system shall automatically add user's new mental health journal entries to calendar**
EVENT/USE CASES**: A.1.2.2.3**
SOURCES:Elicitation Question #29, 43
SUPPORTING MATERIAL: A.1.2.2 Goal Model
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR20
TITLE:**The system should allow user to search events, entries, and notifications by date**
EVENT/USE CASES**:** **A.1.4.2.2**
SOURCES:Elicitation Question #29, 43
SUPPORTING MATERIAL: A.1.4.2 Use Case Diagram
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR21
TITLE:**The system should allow user to search events, entries, and notifications by date**
EVENT/USE CASES**:** **A.1.2.2.3**
SOURCES:Elicitation Question #29
SUPPORTING MATERIAL: A.1.2.2 Goal Model
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session

ID: FR22
TITLE:**The system should allow user to search events, entries, and notifications by date**
EVENT/USE CASES**:** **A.1.2.2.6**
SOURCES:Elicitation Question #39
SUPPORTING MATERIAL: A.1.2.2 Goal Model
HISTORY:Raised by Team Anteater Physical Health, January 15, 2020: Elicitation Session