ALOE

Let Us Heal Together

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INLS 382 – Milestone Two

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Summary

In today's world, with constant news of tragedy and cyberbullying as visible as simple entertainment, it can be easy to feel as if there is not much good in the world. With most teens engaging with social media for hours at a time every day, especially with many spending quality years of their youth in quarantine and online classes, feelings of isolation and despair are at an all-time high. In addition to this, marginalized communities such as BIPOC and LGBTQ+ are exposed to societal traumas that impact them differently than their privileged peers; social stratification and income equality worsen this, barring the impoverished from access to aid.

Medication and/or therapy can be incredibly useful for those who have access to it, but as stated, often those who would benefit from services the most cannot afford them. For many in therapy, it can still feel isolating to only have a medical professional to talk to about one's problems. Something that can help teens, both in and out of mental health services, is a sturdy support system of friends, counselors, and plenty of resources. Every teenager deserves to have a safe space to vent, make friends, and express oneself. Every teenager deserves to live a long and healthy life.

Our solution is a disguisable app and browser where these teens can find communities and resources. Within the application, there are a number of focused discussion groups, moderated by a carefully curated and diverse staff of counselors and therapists, that the users have the option to join whenever they feel ready to discuss something they may be dealing with. In these groups, mods will be tasked with overseeing the small group, starting up conversation, and keeping courtesy. The main group will have the option to be set up as pen pals, where they would write weekly wellness checks and journal entries; they can then reply to others posts and truly feel that no matter what they are experiencing, they are never alone.

With our objectives laid out, we must define and discuss several tasks that we must complete in order to bring our project into fruition. The first task is to research our target user, collecting both qualitative and quantitative data to understand their background, motivations, and pain points. We can then compile these data into personas that will help us foster empathy with the users who will be utilizing our application. That way, we can ensure that our design process will center around our users.

The second task is to craft a work plan that will serve as a reminder of important deadlines and a tool measuring progress achieved at any given point during the project development timeline. The work plan is a table listing all the tasks needed to complete the project, an estimated timeframe to accomplish those tasks computed using the PERT formula, and the total time for project completion in weeks.

The third task is to conduct a feasibility analysis in the realms of scheduling, organization, technology, and economics. Analyzing schedule feasibility will grant us understanding on whether we have adequate temporal resource to realize our project. Analyzing organizational feasibility will grant us understanding on whether we have sufficient personnel to realize our project. Analyzing technical feasibility will grant us understanding on whether we have enough technological tools to realize our project. Analyzing economic feasibility will grant us understanding on whether we have ample funds to realize our project.

The fourth task is to list system requirements in both the functional domain and the nonfunctional domain. Understanding the functional requirements will allow us to create an application capable of achieving our objectives. These functional requirements relate to processes and data of our application. Understanding the nonfunctional requirements will allow us to tailor an application to maximize usability and performance. These nonfunctional requirements relate to qualities we want our application to possess.

The fifth task is the functional model that will walk us through various usage scenarios, which will give us insight into how we can leverage user interface design to best serve those who will interact with our application. We can also use the functional model to spot potential errors and correct them before investing heavy resources into producing our application.

The sixth and final task is the user questionnaire, which will provide us with deeper insight into our users, suggest improvements to our functional model, shed light on new requirements or prompt us to update established requirements, and urge us to reevaluate feasibility.

Personas

PERSONA ONE

Name: Lanxin Song (Lucy)

Birthday: July 17, 2006

Place of Residence: Fredericksburg, Texas

Education Level: Student

Education: Alabaster Jewel High School, 2021-Present

Honors List, GPA: 4.00

Biography: Lanxin is a first-generation Chinese immigrant who feels too disconnected from her roots to be considered Chinese but too foreign to be considered American. She is currently a sophomore attending an under-funded high school in Fredericksburg, Texas where there are no other East Asian people in sight. By day, she desperately seeks to blend in with her American classmates, but the white girls won't stop picking on her. By night, she teaches herself Chinese by writing hanzi in a yellowed journal. Her parents are often too busy running a bustling restaurant specializing in Chinese noodle dishes to pay her much mind. With a passion for theater and a hunger to reconnect with her home country, Lanxin watches Chinese dramas featuring immortal heroines combatting evil and navigating political intrigue in dangerous worlds filled with mercenaries and magic-users. It is her dream to one day become an actress, but Hollywood is known for its gatekeepers. Her white classmates laugh at her aspirations, telling her to become a mathematician instead. Consumed by loneliness, Lanxin wishes that she can meet other people from her culture to discuss Chinese actresses, cook soup noodles together, and confide in. Maybe then, Lanxin will not feel so out-of-place and unwanted.

Personality Traits: Reserved, Introspective, Meticulous, Compassionate, Steadfast, Curious

Influences: Chinese Dramas, Mean Classmates, Family Values, Hollywood

Motivations:

1) Reconnect with her roots by learning to write hanzi, watching Chinese dramas, and cooking soup noodles with her parents.

2) Become an actress to increase Chinese representation in Western media so other Chinese diaspora girls will feel less alone.

3) Graduate summa cum laude to appease her strict immigrant parents.

4) Find other Chinese girls to become friends with so she will feel less lonely.

Frustrations:

1) Her parents are too busy running the family restaurant to talk to her about Chinese culture.

2) Her classmates are mostly white and a lot of them constantly tease her homemade Chinese lunches and stereotype her as "the Asian nerd."

3) She feels invalidated every time she talks about her dream of becoming an actress to her family because her parents want her to find a stable job in either medicine or law.

4) She feels lonely being the only Chinese girl in school, and she wishes there was someone who looked like her with a name and face like hers in the area other than her parents.
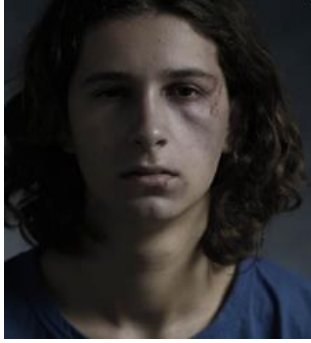
PERSONA TWO

Name: Jake Horne

Birthday: May 31, 2006

Place of Residence: St Louis, Missouri

Education Level: Student

Education: Alderglen High School, 2020-Present

Honors List, GPA: 3.600

Biography: Jake is a 16-year-old boy who is currently a junior in high school. He has always had a vast interest in the gaming community on YouTube, and has immersed himself into that hobby, as well as being on his school's soccer team. He is relatively a shy guy who keeps things to himself, so overtime, he has bottled up many of the emotions and internal battles he's been going through. On the surface, he's a very likeable guy, but underneath, he's been dealing with a persistent depressive disorder (which his parents cannot seem to understand) and severe anxiety from all the pressures of soccer, the sport he loves the most. Gaming has been his coping mechanism, but even that can only do so much and he's now in need of professional help from us.

Personality Traits: Easygoing, Athletic, Competitive, Reserved, Courteous, Avoidant

Influences: Teammates, YouTube Gaming Influencers, Video Games, Friends, Family

Motivations:

1) Playing soccer with teammates in hopes of making it to nationals before graduation.

2) Watching favorite online gamers and learning how to game better to create his own channel.

3) Family and the ride they have in him as the eldest son

4) Keeping up good grades and staying on honors list

5) Strengthening friendships despite his want to push his loved ones away

<u>Frustrations</u>:

1) Constant family praise despite feeling inadequate with himself

2) Stressed from being one of the top players and a starter on the soccer team

3) Bottled up emotions he doesn't understand so he can't explain to family and friends. He instead

internalizes everything

Work Plan

Work Tasks	Optimistically "A" in Weeks	Realistically "B" in Weeks	Pessimistically "C" in Weeks	Calculation	PERT Result on Work Task
Write out and organize features for our app	4	7	9	{1(**4**)+4(**7**)+1(**9**)}/6	6.8
Make app design mockups (wireframing and graphic designing)	3	5	8	{1(**3**)+4(**5**)+1(**8**)}/6	5.2
Have the app be coded and programmed based on our selected features	12	16	20	{1(**12**)+4(**16**)+1 (**20**)}/6	16

and design output					
Test app on iOS and Android devices	3	5	7	{1(**3**)+4(**5**)+1(**7**)}/6	5
Reach out to a diverse pallet of counselors and therapists to join our staff in mentorship	2	3	5	{1(**2**)+4(**3**)+1(**5**)}/6	3.2
Submit and publish our app on the stores	1	1	2	{1(**1**)+4(**1**)+1(**2**)}/6	1.1
Create advertisements for the app and publish them on apps/sites with	6	8	12	{1(**6**)+4(**8**)+1(**12**)}/6	8.3

high teen engagement					

Total Time for Project Completion in Weeks	**45.6**

Feasibility Analysis

Schedule Feasibility

When it comes to the creation of a high-quality, disguisable social media style application (for multiple device platforms), time and care are both extremely crucial to us. We want this to be both a usable and lovable product from launch, and with the help of our work plan and efficient progress, we hope to have a finished app in the span of approximately 10 months.

The entire process can be divided in 3 parts: The plan, the creation, and the outreach. In the early stages, also referred to as *the planning stage*, we estimate that this will take approximately 3 months. This approximation comes from a combination of the first two stages of our table above (6.8 +5.2). Within these months, the fleshed out, detailed plan for the features of the app will be constructed and written out with a diverse team. This team will consist of professionals in teen mental health, our team members (as the product owners and head of company), product managers, head(s) of the designer team, mobile app developers, etc. This will be seen as a way that all of the teams that will be involved in this app will be able to give their own ideas as well as keep our team in check with what's actually attainable. Essentially, we'll have a logical, financial, and creative outlook on the project's features in the very beginning so that we can prevent possible obstacles in development.

The second part of the development of our application, *the creation stage*, will be estimated to take approximately 5 months to finish. In the creation stage, the main focus will be the actual construction of the app, majorly on part of the user experience designers, user interface designers, graphic designers, interaction designers, application developers, and front and back-end developers. The design roles will be responsible for making app design mockups, wireframing, and essentially all of the visual design for the app while including the features that will have been finalized during the planning stage. All the while, the development heavy roles will be coding and programming the

application based on our selected features and design output and responding with improvements to the app on iOS and Android devices. The UX designers will also be working with developers on usability tests towards specific users of the app, this case being teens (ages 13-19) in need of professional help.

The very last part of our work plan is *the outreach stage!* This stage will be filled with constant outreach to other companies, professionals, publishers, etc. for when the app is ready to be shared on a public domain/the application store. This stage will consist of reaching out to a diverse pallet of counselors and therapists to join our staff in mentorship, submitting and publishing our app on the stores, and, finally, creating advertisements for the app and publishing them on apps/sites with high teen engagement. In total, this stage will take approximately 3 months to finalize and execute, according to our work plan.

Of course, there will always be obstacles and occurrences that might disturb any piece of our 3-staged work plan that we cannot possibly foresee, but we are hoping that in the end of all of this, we will be able to have a finished product in approximately 10 months. There are children and adolescents out there waiting for a platform like this to help them feel heard and to contribute to their own mental, physical, and emotional health and safety. This isn't just a Flappy Bird game we want to share to the app store for a quick coin; this is an app that can possibly save lives. For that very reason, we hope to release **Aloe** as soon as we possibly can.

Organizational Feasibility

Staff hired for the creations and coding of the application should all be familiar with any Application Programming Interfaces (APIs) that may be required. Those hired for the moderation, management, and educational aspects of the application and/or programs should be licensed professionals (or those with adequate educational certificates) proving their qualification(s) for the position; graduate students with enough experience would be able to apply for positions in chat moderation, application

programming and/or maintenance, or administration, and no other positions as their lack of formal education could be a liability.

Further, chat moderators and group session leaders should be trained on how to use the application itself once complete; these staff members would also be a vital resource during the testing of the application, as their feedback would be paramount to the application's success. All staff throughout the creation and maintenance of this project should be made familiar with internal communication software (ex. Google Suite, GroupMe, Outlook, etc.).

All staff hired throughout the duration of the project should also be given diversity and inclusion training, interpersonal skills and communications training, and similar information and resources during the onboarding process. This application will be moderated by a staff of licensed therapists from diverse backgrounds and with a variety of specialties so that most users should be able to find at least one staff member who they can relate to; there should also be a variety of care and treatment types, such as traditional talk therapy, art therapy, Cognitive Behavioral Therapy (CBT), Dialectical Behavioral Therapy (DBT), and more.

Considering the nature of medical legislation, particularly in regards to the treatment of mental health and the treatment of minors, it is incredibly significant that the project follows national and state policy to ensure legality and correct care by region; it should also be noted that this project will not hire any staff able to prescribe medication (such as licensed psychiatrists or nurse practitioners). As the intended age range, being 13–19-year-old, includes legal adults, they can be a source of minor financing; they may also make appointments with the licensed therapists on staff for sessions or referrals (by region). By adhering as closely as possible to regional licensing policy (in addition to designing the application to filter and group users and therapists by location), and by providing the proper training, this project is organizationally feasible.

Technical Feasibility

In terms of technical feasibility, we must have access to a variety of software that will satisfy our objectives in design, user experience, and web development. Firstly, we must download a Text Editor that will allow us to write code. Visual Studio Code (VSCode) is free to download and comes with a variety of features such as a programming language library, backup options via GitHub, and customizable themes. In terms of interface design, Figma is excellent for collaboration and the creation of wireframes and prototypes. For UI and graphic design; Adobe Creative Suite offers everything we need to craft buttons, create animations, and style aesthetics-driven web pages. As for the creation of the website itself, we will utilize HTML to construct the skeleton of our website. For mobile optimization, we want to add a responsive viewport tag that will allow the website to adjust itself for mobile devices. We will utilize CSS to implement UI and graphic design elements as well as coordinate color palettes and fonts. To breathe life into our website; we will utilize JavaScript for a variety of reasons such as transitions between pages, email obfuscation of counselors to deter spam bots, and chat box pop-ups. As with any application, we will need to tap into the power of APIs. For our chatroom-centric project, it is best to use WebSocket API that renders a two-way interactive communication between a user's browser and a server possible. Of course, we will also need access to a browser like Chrome to test our website during development.

Economic Feasibility

As we all know, behind every creation, there is a cost. While we may have the inspiration and dedication to create our application, all in all, we have to factor in costs and organize it in a way where finance will never be an issue or struggle for us, especially as a non-profit business. Because we want our application to work much like a social network between professionals and adolescents (who will be connecting with both the professionals and one another), we did much of our financial estimates based

on social apps such as Instagram which would be something around $236k. Then we'd include $35k for visual design ($5k), UX design ($20k), icon branding ($5k), and copywriting ($5k). As for the salaries of all of the team members combined, that'd honestly vary. These are rough estimates, but the breakdown for the main team members would look something like this:

- Mobile developers (x4): 120k → 480k

- Backend developers (x2): 115k → 230k

- UI/UX designers (x2): 109k

- Graphic designers (x3): 73k → 219k

- QA engineers (x2): 96k → 192k

- Project manager (x1): 111k

- Business analyst (x1): 87k

- Solution architect (x1): 120k

- DevOps (Development & Operations) (x2): 90k → 180k

    - Total: 480000 + 230000 + 109000 + 219000 + 192000 + 111000 + 87000 + 120000 + 180000 = **$1,728,000**

So for the team, we'd at least have to raise about **1.7 million** just for salary (of course this can be reduced by how financial advisors would adjust the salaries, but this is based on averages for app developments specifically).

So in total, we would say 1.7 million would be for the team, but when we include the therapists and their work, they will most likely be volunteering for their service on the app, but may be paid through courteous donations towards the organization (as in, we'd set up a sector for donations towards all of

the professionals specifically working on this app and distribute that evenly at a monthly *or* weekly rate).

So, $1.7m for the team, $400k for development costs, that would be around **2.100.00 million** needed to be raised/donated at least to cover those costs.

For this money, the main way we'll be able to save this much up is by:

- Business grants

- Investors

- Angel investors

- Public donations

- Working under another company for the project and being a product under them. This will lead to being funded under that company, but may lead to less business control/creative freedom

- Business loans

Requirement Definition

Functional Requirements

- User creates an account using a sign-up form asking them to select a username, a password, and a profile picture. The system then generates an account for the user.

- User is led to another form to set up their personal profile with the opportunity to add a bio, a profile picture, location and time zone filters, pronouns, select a preferred language (mandatory), and a mandatory preference field of what the user is seeking whether that is either a listener or a guided group session or a therapist. The user can skip the profile set up and return to it at a later time, but the user cannot advance to the application without selecting an option under the mandatory preference field and a preferred language.

- User is led to the final set-up page where they will be asked to pick two security questions to protect their account and privacy from intruders.

- If the user has a registered account but has forgotten their password, a reset password button is available at their convenience to send a password reset message to the email associated with their account. When clicked, this message will launch a page that would prompt the users for the answers to one of their security questions. If answered correctly, the user can reset their password. If the user fails to answer correctly after three tries, the account becomes locked.

- A fixed navigation bar at the top of the page showcases a bell icon for Notifications that alerts users to new newsletters, new guided exercise packages, chat room statuses, promotional material, system updates, new themes, and suspicious account activities

- A page allowing users to access current and archived Newsletters with a comment section moderated by counselors

- A page leading users to packages of Guided Exercises with most packages being free of charge and some being accessible only to premium members

- A page connecting users to Chatrooms with a private listener, a moderated group session, or a licensed therapist

- A page advertising Membership Plans with a chart contrasting the benefits of Premium Plan with the drawbacks of Free Plan

- A page that allows Transactions to happen should the user choose to upgrade their membership

- Ability to block other users

- Ability to report other users for harassment and threats

- A Settings page allowing users to update their personal profiles, customize their interface with themes, update their security questions and preferred languages, update location and time zone, manage memberships and guided exercises packages, block other users, and delete their account

- Ability to delete account should the need arise


Nonfunctional Requirements

- Ability to customize interface via prepackaged Themes

- Ability to enlarge text and change font as a way to enhance the chat experience for those with low vision or dyslexia

- Ability to offer feedback in the form of satisfaction surveys to counselors

- Ability to generate a shareable link that users can send to friends as a way to promote the site

- Ability to toggle between light mode and dark mode

Functional Model

Now that we've got the functional requirements for Aloe, we need to design a functional model in order to flesh out these ideas and visualize the flow of the app through imagery. Our functionality diagram is divided into six main functions: Create account, login, navigation, chatrooms, guided exercises, and settings. Each category is branched out into all of the smaller steps/features (listed in the function requirements section). Each of those functions are split into two groups: functions that need/allow user choice and are "optional", in a sense that users have options and can change these functions, and then functions that aren't "optional" and that come as permanent functions within the model flow.

The protected backend is connected to both the create account function and the settings function due to the need for backup saving within the app. The flow of the app is meant to follow the feeling of a multipurpose application. So, a combination of common social media features, medical app features, and subscription-based app features were mixed within the model flow and the required features list. With this model, our hope is that our users will be able to navigate Aloe with little to no issues and that the developers and designers of Aloe also have a better understanding of the application's features and its flow.
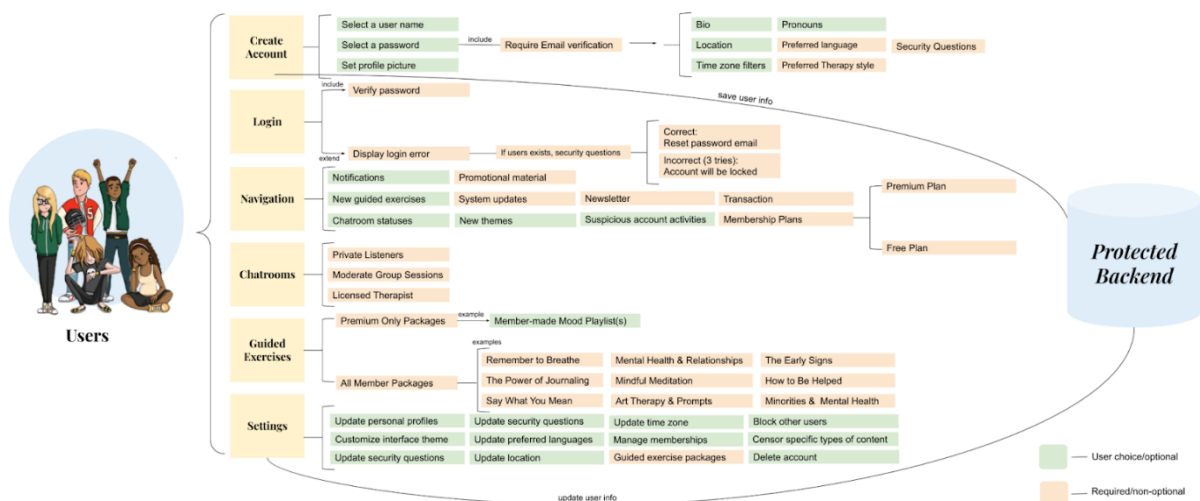
Full Resolution Version: https://s3.us-west-2.amazonaws.com/secure.notion-static.com/b6aac1d3-3571-4802-8f15-51ed14f30a37/functional_model.png?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Content-Sha256=UNSIGNED-PAYLOAD&X-Amz-Credential=AKIAT73L2G45EIPT3X45%2F20221013%2Fus-west-2%2Fs3%2Faws4_request&X-Amz-Date=20221013T172915Z&X-Amz-Expires=86400&X-Amz-Signature=972099985347365ff9c9a7c922ad09762f124426ebde8def89a2c43a064d464e&X-Amz-SignedHeaders=host&response-content-disposition=filename%20%3D%22functional_model.png%22&x-id=GetObject

User Questionnaire

- Do mental health issues exist and have real impacts on people, regardless of age?

    o Yes

    o No

    o I'm not sure

- Please describe your current perception of mental health struggles and related treatment (talk therapy, medication, etc.)

- What issues do you think might cause mental health issues for teenagers in the United States today? Please select all that apply:

    o Pressure from school/work/family

    o Identity based marginalization (racial, LGBTQ+, disability, etc.)

    o Socioeconomic struggles

    o Food insecurity

    o Housing insecurity

    o Abusive households

    o Unsafe school or work environments

    o Struggles with physical wellness

    o Traumatic events

    o Self-image

- What do you think would be helpful for teenagers who may be unable to access professional mental health care? Please select all that apply.

    o Online community

    o Resources for techniques often used in therapy

    o Journalling

    o Self-expression through a variety of artistic means

    o Group talk sessions

    o Other (please describe)

- If there were a mobile application aimed to help teenagers with their mental health problems while providing them with a community and resources, would you be interested in using it?

Conclusion & Next Steps

At this stage in the project's timeline, there is still much to be done. First, research on our intended user base (teenagers between the ages of 13-19), relevant social, political, and economic issues, mental health, and relevant legislation needs to be conducted in a timely, yet thorough manner. After this, designs for the application's rudimentary functioning can be drawn. Another step that needs to be taken is fully securing the finances required for this project. Throughout as much of the design process as is feasible, questionnaires for user base expectations should be sampled to keep the application close to what users would want; similarly, the features of the application should be reviewed frequently by licensed therapists to confirm that Aloe is able to provide users with a helpful experience. Continuing the process comes a series of prototypes and application testing. The application will have future updates with new features and patches as it expands and continues to be used. Aloe has plans to partner with likeminded organizations to assist with fundraising and connecting users in marginalized communities with the resources they need. This project also intends to connect with regional mutual aid and sheltering organizations for teenagers who may have unreliable access to food or may be in unstable/unsafe homes. With the right funding and a dedicated team, this project could expand to work across multiple countries. Care is needed no matter where or when, and Aloe could provide a lot of teenagers with community in ways they might not otherwise be able to find.