

Youth for Youth Health: Healthcare Education Using Interactive Mobile Apps

By

Sophia Azula, Caleb Henry, Katelyn Wyandt

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Approved:



José M. Vidal, Pd.D
Director of Thesis

Steve Lynn, Dean
For South Carolina Honors College

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1. Summary

Youth for Youth (YFY) Health is a mobile app aimed at increasing health literacy in K-12 schools by providing an all-encompassing educational tool to enhance in-class instruction in various health topics. This app integrates many technologies to create an interactive experience for users with unique features that target health-related questions, facilitate exploration of various health topics, and assist in locating health facilities nearest to them. This app has been conditionally approved for supplemental course credit in three K-12 educational districts in South Carolina for completion of full course content.

YFY Health was built as a part of a year-long Capstone senior design course at the University of South Carolina, and it was commissioned by a statewide charitable organization for health literacy, Youth for Youth Health. This app will be accessible on the app store for Android and iOS mobile devices, and the open-source code is available [here](#).

2. Description of Problem

Personal health literacy is defined as “the degree to which individuals can find, understand, and use information and services to inform health-related decisions and actions for themselves and others,” by the U.S. Government’s Health People 2030 initiative (Healthy People 2030). This initiative identifies the elimination of health disparities, achievement of health equity, and attainment of health literacy as goals for the improvement of health and well-being for all. According to the South Carolina Hospital Association (ASHA), as of 2020, only 12% of adults in the US have proficient health literacy skills, and South Carolina had ranked as the 13th highest functional illiteracy rate in the US (South Carolina Hospital Association). While health initiatives such as ASHA have identified this need for improved healthcare and worked to increase the accessibility of healthcare programs, with an emphasis on rural areas in South Carolina, technological innovations have been slow to be implemented in these programs.

In our local community, providing access to reliable, easy-to-understand health-related information is an important step toward increasing personal health literacy for students to teach awareness about their health from an early age and increase preparedness to face health-related situations, such as mental health challenges, healthy living, and navigating healthcare systems. This project aims to address this need to create a technology that is both educational and easy to use for increasing personal health literacy for students to be deployed in public county schools in the upstate of South Carolina.

3. Solution

To fill this technological gap, we created a mobile app that could be accessible on a variety of devices and incorporates easy-to-digest content for the improvement of health literacy. The primary goal is to increase the accessibility of health literacy information through this app by working closely alongside Youth for Youth Health to deliver a product that is both functional and engaging. This solution focuses on utilizing the current technology students have access to, based on school-reported technology usage in upstate South Carolina K-12 public schools. Additionally, it accounts for multiple barriers that may prevent students from successfully engaging with the platform in the past such as internet access, privacy worries, and reliability of information.

3.1 Internet Access

After the user’s initial download and log-in, the app is fully functional offline and users can still access course content, save the progression of lessons, and view a map of health resources in the surrounding area.

3.2 Privacy Concerns

No personal information about the user is saved within the app, aside from an individual's course progression and personal preferences, such as a personalized username, map, and notes. The course progression is required to report course progress to teachers, and will only be used if schools opt-in allowing for school health course credit. Additionally, rather than logging into the app, users can access a limited-functionality guest account which signs a user in anonymously on their device with access provided to course content, resources, and a list of health resources near their selected location.

4. Developing

4.1 Development Process

We developed this app as a part of the University of South Carolina's College of Engineering and Computing capstone project. This is a two-semester class taught by Dr. José Vidal, focusing on teaching students the project development life cycle from planning to testing. The first class, CSCE 490, is focused on the planning of the app, developing a design, and requirements for the completed app concept. The second semester's class, CSCE 492, is primarily the application's development and testing. While the large project milestones are set by Dr. Vidal, incremental phases and deadlines for the project's development are set by the team based on their separate capabilities for meeting these deadlines.

4.1.1 Planning

The development phase began with defining our user demographic by brainstorming user stories and personas as a group. We created six sample users for whom we developed needs, wants, values, and fears which helped us to determine what features were important to the app (See section 7.1). These samples represented a diverse set of users, which helped guide us in the other phases of planning by helping us visualize the end goal and impact of the platform.

Using the insight of the six sample users, we began our initial app-design phases to envision how these users would interact with the platform, and what the app features would look like. This design was further developed and refined as we received feedback from our professor and enhanced the app with additional features, but this mockup served as a basis for the logistical planning of our app. We chose to use a user interface (UI) design app called Figma for its free and collaborative wireframing features to develop the low-fidelity and high-fidelity prototypes of this app. While we were doing this initial app planning phase, we also researched the current market of health literacy apps to gain insights into the needs of the market. We also tested and developed small projects using our desired app framework to give us an insight into any technological limitations that might hinder app development. After determining the technology needed for the app's potential design, the next stage was to define the app requirements.

4.1.2 Requirements

During the requirements phase, we explicitly established what the completed version of the app would be capable of. First, we broke down the main features of the app into sections based on functionality (i.e. Navigation, Courses, Resources). Then, we wrote out a description of each feature. This step was crucial to the project because it set out a list of tasks that we would work to implement, and required us to re-evaluate some of our initial designs to incorporate more user-friendly functionality. For example, we initially thought that all users would be able to navigate from the home page of the app. However, via the requirements process, we decided to add a navigation bar at the bottom of the UI instead to make the app's navigation more clear. We also evaluated each requirement as a team and decided whether it was a need, a desire, or an aspiration for our team to complete in the given timeline.

Once we had these requirements in place, we were able to reevaluate the technologies we had researched and establish an architecture for the app, giving forethought to how data would be structured, what components of our chosen framework we would need for each page, and what APIs, libraries, and services would be integrated to make the app functional. These technology decisions are documented in section 4.3, and the database model is found in section 7.2.

Finally, the team identified the ethical, legal, and security considerations needed for this app to be safe for users and protect their privacy and data. Given our positioning as a health literacy app for a young demographic, it is important to address these concerns and ensure that this app cannot be used to cause harm, put users at risk for privacy leakage, or contain misleading or harmful information. In terms of ethical concerns, all information in the app is deidentified when the user creates the account, and no personal information such as location, search history, or other identifiable information is stored by the app. Additionally, all content included in the app has a citation to provide users with the origin of the information, and the content was developed by a diverse team of medical professionals. Legally, there are no constraints on this content as it is being developed by Youth for Youth Health and provided to us as the developers. There is no method for users to post content to the app, meaning there are also no potential copyright / harmful content issues our users could encounter on our app. We use industry-standard authentication services, Firebase Authorization and Authentication, to handle secure information, meaning the app has a high level of security in place, ensuring the protection of privacy for all users. Furthermore, if users wish to additionally protect their information, they may use a guest account with anonymous sign-in.

4.1.3 Implementation

The implementation process was broken down into four major milestones: the Proof of Concept (POC) release, the beta release, the release candidate, and the 1.0 release. Each of these milestones required an increased level of development and complexity of the app, resulting in a fully developed, complete product in the 1.0 release. To further manage the task of implementing

all of the requirements determined in the previous planning phase, we used SCRUM sprints, an industry standard for effective software development. In a self-determined time frame, the team determined what tasks we planned to complete over the time period and divided tasks based on each person's skill set. The goal of these sprints is to make steady progress towards the completion of the project each week and equally divide work within the team. Our team met twice a week during the development phase. Tuesday was our sprint review, where we shared our progress for the week and assigned the next week's tasks, and Friday was our stand-up meeting where we discussed any roadblocks to the completion of our tasks and asked the team for help if required.

Our app POC included the implementation of all basic features, including basic applications of all of the technologies we planned to use for the final launch, showing that they could work together for our app's goal. This was due at the end of the first semester; at this time we were also responsible for creating a demonstration video showcasing this work. The second semester was focused on building out all of the features of the app from the POC and making the app cohesive throughout. The beta release milestone was where we delivered the minimum viable product of all of our features being implemented, and the release candidate included a full implementation of our app's initial design, including enhancements for interactivity beyond our initial design. The 1.0 release was the final product after we handled any bugs identified in user testing feedback (QA).

4.1.3 Testing

After the completion of our release candidate and the implementation of all features, we had a third-party quality assurance session where another team of students who had not previously interacted with the app worked together to find bugs in our application, providing unbiased insight for further improvement of the app. Additionally, we ran both unit testing and behavior testing on our app after the completion of the release candidate product as an additional method of finding any underlying issues in the app before the 1.0 release.

4.2 Features

4.2.1 Dynamic Home Page

The first thing a user sees when they open the app is the home screen, so it needs to be both visually appealing and attention-grabbing. We decided to do this by having the home page be composed of several dynamic widgets, each of which would be connected to an important part of our app. The first widget contains a rotating set of engaging fun facts, which provides movement to the page and allows the user to press on it to travel to the courses page. The second widget provides an overview of the user's current progress through the courses using a progress bar, which links to the courses page. The third and largest widget fills the bottom half of the screen

and contains a list of the various areas of the app a user might want to go to, including the FAQ section, the map, and the chatbot.

4.2.2 Courses

The Courses area contains all of the educational content in the app and takes users through a curated selection of topics to deepen their understanding of health literacy. The initial courses page contains a list of the overarching course topics. Each topic has a progress bar indicating how far the user has progressed in that particular course. Within each course is a page showing a list of the subtopics, referred to as lessons, for that course. A course also contains a list of sources that link to their respective web pages. Each lesson contains two to three pages of text and video-based content, including interactable drop-downs to make them feel more dynamic. The user can take notes on a lesson, which will then be available to them in the quiz. After completing a lesson, the user takes a quiz on that lesson which is composed of three to four questions based on the lesson content, formatted as either fill-in-the-blank, multiple choice, or matching. With this structure, users can choose which specific topics they are interested in learning about and have their mastery of them tested. The use of progress tracking allows a user to identify how far they have made it and motivates them to push further into the app.

4.2.3 FAQ

The frequently asked questions (FAQs) section of the app exists for two primary reasons. It ensures that users looking for a single, specific piece of information don't need to sort through all of the lesson's information to find an answer. Instead, they can simply browse the FAQ section first to see if it is located there. Furthermore, it allows us a way to communicate our mission and any important information regarding the app to the users directly. Coupled with the FAQ submission tool at the bottom of the app, if there are common questions about how to use a specific feature, we can simply go back and clarify that feature in the FAQs without being forced to redesign it.

4.2.4 Resources

While we would like this app to be an informative hub of health literacy resources for students, we also understand the limitations of both the amount of information our app can contain and the depth we can go into on that information. To mitigate this, our resources section contains a searchable database of health resources on various topics that will link users out of the app and to the web pages that contain this information. This approach allows us to keep our courses narrow in scope while still providing students who desire more information with the means to get it.

4.2.5 Chatbot

If a user can't find the information they want from the resources section, or if they want specific advice regarding their situation, we wanted them to have a tool to ask for further elaboration. To achieve this, we created an in-app chatbot that utilizes the OpenAI ChatGPT API to generate

responses. It was specifically prompted only to deliver health-related and appropriate responses, and it was rigorously tested to ensure it met those standards.

4.2.6 Map

Another priority of this app was ensuring users were aware of the resources available in their area. This was achieved through the use of a custom map that contains all relevant health resources in the area the app is designed to be used. When a user selects their county, the map automatically moves the view to display that zip code area and all relevant facilities, which are marked on the map. The user can either click on a marker to see information about the facility or scroll through a list of the facilities at the bottom of the screen. This approach allows users to quickly find resources that are both nearby and relevant to what they need. In addition, to prevent taking location from guest accounts, when a user logs in as a guest, the map is not present and is instead replaced by a simple list of all resources in the county.

4.2.7 Settings

The settings page gives the user the option of either a light or dark theme to ensure that the application meets their aesthetic preferences. It also allows users to enable push notifications that will remind them when their streak will expire, in addition to reminders to complete content. Finally, it provides the user with necessary access to a password reset function and the app's privacy policy.

4.2.8 Personalized Account

To provide users with an incentive to continue making progress in the app, we created a progression system for user accounts. When a user meets certain requirements in the app, a badge is unlocked on their account, which they can then equip as a profile image. The number of consecutive days a user has logged in is called a streak, and their current streak is displayed on their profile. These badges are earned either through course progression, exploring the platform, or reaching a certain streak. The user can also customize their display name, providing an additional method of personalization.

4.3 Technical Specifications

4.3.1 Firebase Authentication

Firebase Authentication is a service provided by Firebase, which is Google's application development platform. Firebase Authentication is used to control user access to the app and to ensure that every account has a valid email and password, enforcing security. This technology was chosen because it is secure, scalable, and works across device platforms ("Firebase Realtime Database"). Additionally, it was easier to integrate into the app than a stand-alone service, since we built other functionality using Firebase.

4.3.2 Cloud Firestore

Cloud Firestore is another service provided by Firebase. We chose this as our storage solution because it is a NoSQL database, meaning that our data didn't have to be structured in a typical relational database. This gave us the flexibility to model our data on the fly, rather than having to spend a large amount of time up-front on designing a SQL database schema.

We also initially chose Firestore because it offers offline support and can function as an offline operational database, on a small scale.

4.3.3 React Native

React Native is a cross-platform development framework, used to build mobile applications for both Android and iOS platforms on one code base. This was ideal considering the use case of the mobile application— we'd like for every student with an iOS or Android mobile device to be able to download and use our app, and we did not have the resources to develop two separate, native applications.

React Native also leverages the user interface capabilities of React, which is a similar but separate technology that many of the team members had prior experience with. This reduced the training time needed to work with the technology.

4.3.4 Google Map API

The Google Maps API is a collection of APIs and services provided by Google for incorporating maps and location-based services into websites and applications. This API was used to develop the Map feature of our app. In addition to being one of the highest-quality geolocation APIs, in terms of coverage and accuracy, Google also provides extensive documentation on this service, making it more accessible than other alternative location services. Lastly, it has been “designed for people familiar with JavaScript programming and object-oriented programming concepts” (“Maps JavaScript API”) which was a perfect fit for the background and education of our programming team.

4.3.5 OpenAI API

An OpenAI API was used to build the chatbot. It is a direct implementation of the same language model used to service the popular chatbot web application, Chat-GPT. The model is capable of understanding and generating human-like text based on the text input it receives from users (“ChatGPT Can Now See, Hear, and Speak”).

This technology was chosen because it is state-of-the-art in the field of commercial artificial intelligence conversation generation. It also allows for fine-tuning, meaning that during development, the text prompt sent to the service can be engineered, resulting in customizable conversational responses. In our case, the model was fine-tuned to be low in variance (i.e. reduce

the unpredictability of responses, chosen as a safety constraint), limit response length, and take on the role of “a helpful, friendly chatbot who works for the health literacy organization called Youth for Youth (YFY)”.

It should be noted that as of date, OpenAI does not comply with HIPPA data privacy law and that this feature will be modified or removed in the future releases of our app, where user privacy will be an utmost priority.

4.3.6 Expo, Expo Go, and Expo SDKs

Expo is a platform that is used to build native apps for Android and iOS mobile devices. Expo is used in tandem with React Native and offers a variety of products/services that can significantly reduce development time. Of these, our team utilized Expo Go, Expo SDKs (Software Development Kits), and EAS (Expo Application Services).

Expo Go is a mobile app sandbox. This enables users to develop and test changes to our codebase without having to compile time-consuming builds after every modification.

Expo SDKs are a set of libraries and tools that handle common native device functionality, such as notifications.

Lastly, EAS build is a suite of cloud services for building and submitting native apps to the Apple App Store and Google Play Store, making the otherwise complicated process efficiently streamlined.

5. Use of Feedback

Throughout the development process of the mobile app, we received and integrated feedback from multiple sources. Feedback from the founder of YFY was received on a monthly basis, which largely shaped the content of the lessons feature of the app.

Additionally, we met with the instructor twice throughout the course of this project to receive feedback and review evaluation expectations. One of the key outcomes of these discussions was the decision to incorporate a chatbot feature into the app. This decision was based on the need to enhance user engagement, making the app not only informative but also more interactive and user-friendly.

Several other interactive elements were developed to boost user engagement. This includes the development of multiple quiz question styles (multiple choice, matching, short answer), which are intended to address and cater to various learning styles. We also introduced an aspect of gamification with the development of our badge feature. This feature was aimed at increasing user motivation and providing a sense of achievement as users progressed through the app.

Lastly, the zip code filter on the map allows for customization and personalization of the map’s

resource content based on the user's location, therefore making the app more relevant and useful to users.

Finally, we incorporated feedback from our peers through a week-long testing period, where we had another team download our app and test every feature, making note of any unexpected behavior (or "bug") along the way. Some particular changes that were brought to our attention were: fixing password resetting, implementing offline map resources, and updating our navigational system to include the chatbot feature. This testing phase ensures that our product was implemented correctly and meets market standards.

6. Implications and Future Direction

6.1 Implications

YFY Health is designed to personalize and standardize health education for K-12 students. Right now, health education in the state of South Carolina is fragmented, under-regulated, and deeply flawed. By deploying this app in the classroom, we can ensure that students across the state receive a quality and consistent education in health literacy. The course-based format makes it easy for teachers to assign specific parts of the app as assignments, and the quizzes act as natural comprehension checks that ensure students are properly reviewing the content. Additionally, finding reliable health information and healthcare locations can be challenging, especially in the age of social media. By making the app customizable and encouraging, we hope to provide young people with the resources they need even when they are outside of school.

6.2 Future Development

The first part of development we hope to continue with in the future is geographical expansion. Right now, the resources map is entirely contained within three counties in South Carolina. If the pilot test in classrooms is successful, the next logical step would be expanding the app to span the state. This would take a significant amount of work to compile and sort the relevant information, but we made the app's infrastructure scalable so that it can handle such expansion. If this were to occur, it would no doubt be necessary for the state to review our application, and changes would likely have to be made. We are prepared for that possibility in the future.

Another likely step is expanding the scope of the content to new topics. Health literacy is a wide and varied field, and we couldn't include all the necessary and relevant information in our initial release. Once we receive feedback from educators, we can refine the current content and add information to the areas they find lacking.

Beyond content expansion, it is also important to make our app more flexible for its users. One feature we are considering is adding a bookmark feature, so users can have quick access to specific pieces of content and health resources. It also would be beneficial to add more variety to the quizzes and make the lessons more dynamic and interactive.

7. Appendix A: Diagrams

7.1 Personas

Sarah Turner (she/her)

Age: 17
Residence: Clifton, SC
Education: Sophomore, Broome HS
Occupation: Student
Marital status: Single
Income: \$10 a week



"Nothing is more rewarding than finishing a good book!"

Bio
Sarah lives in a modest home in the rural town of Clifton with her mother, father, and two younger brothers. She spends her free time taking care of her younger siblings and reading at the local library. She's particularly interested in books about health and biology and dreams of going to medical school and becoming a doctor.

Comfort With Technology

INTERNET	█
SOFTWARE	█
MOBILE APPS	█
SOCIAL NETWORK	█

Criteria For Success:
Sarah wants a reliable way to access trustworthy information, so she can learn confidently, at any time. It's important that the information is accessible and evidence-based.

Goal:
Sarah wants to have all of the health information she needs in a centralized place, so she uses our app to look up her health questions.

Needs	Wants
<ul style="list-style-type: none"> • Needs offline educational material • Needs user-friendly technology • Needs cost-conscious advice 	<ul style="list-style-type: none"> • Wants health book recommendations • Wants local health care providers / emergency contacts
Values	Fears
<ul style="list-style-type: none"> • Values spending time with family • Values quality education • Values empathy 	<ul style="list-style-type: none"> • Fears misinformation • Fears missing out on opportunities • Fears social isolation

Trevor King (he/him)

Age: 18
Residence: Simpsonville, SC
Education: Senior, Hillcrest High School
Occupation: Student, Part-time at Sonic
Marital status: Single
Income: \$150 a week



"Move Around enough and it's hard to convince yourself anywhere is home"

Bio
Trevor has spent his life in and out of various foster homes up until about halfway through high school when he ended up adopted by a new family with two children. While he enjoys being around his new family, he has developed a fierce sense of independence and spends as much time out of the house as possible, including at his part-time job. He makes passing grades, but a lack of stable home life has made school more challenging for him.

Comfort With Technology

INTERNET	█
SOFTWARE	█
MOBILE APPS	█
SOCIAL NETWORK	█

Criteria For Success:
Trevor feels successful when he has answers to the hard questions, including those about health. Unfortunately, without a chance to learn many of these things as a child, he feels behind and doesn't know how to catch up. He has bad experiences with teachers when he was younger, and needs somehow to find the facts without asking others.

Goal:
Trevor wants to ask questions about health without interacting with an authority figure or a person who might judge him, so he uses our app to look for basic health knowledge.

Needs	Wants
<ul style="list-style-type: none"> • Needs a simple and robust interface • Needs a well-rounded set of information to help him catch up • Needs a way to get answers without judgment 	<ul style="list-style-type: none"> • Wants an interface that allows for finding things fast in his limited time • Wants a way to encourage himself to stick with learning
Values	Fears
<ul style="list-style-type: none"> • Values his privacy • Values doing things without assistance from others • Values dependability 	<ul style="list-style-type: none"> • Fears others judging him for his questions • Fears losing his currently stable home • Fears not knowing his options

Roger Anders (he/they)

Age: 17
Residence: Spartanburg, SC
Education: Senior, Spartanburg High School
Occupation: Student
Marital status: Dating
Income: \$0 a week



"Being black and queer in a rural high school in SC is never easy"

Bio

Roger is a straight-A student who has lived in Spartanburg his whole life. Their favorite subject is English and he hopes one day to be able to study classics in college. Although they took health class freshman year, the teacher was unmotivated and gave every student an A without teaching them anything. Additionally, Roger's parents are highly religious and never broached topics of sex and sexuality beyond 'abstinence'. Roger has a good relationship with both of his parents but doesn't feel like he can ask them for advice. He has been dating his current boyfriend, Kevin, for 4 months and also does not know how to approach this topic with him.

Comfort With Technology



Goal:

Roger wants both to protect their privacy and to get accurate in-depth answers to questions about sexual health, so he uses our app to take courses in that specific area.

Needs

- Needs a safe space where they can ask questions about reproductive health
- Needs a source of information that won't treat health literacy as taboo
- Needs to know local health resources

Values

- Values their privacy
- Values the trustworthiness of others
- Values curiosity and learning

Criteria For Success:

For Roger to feel successful they need to feel like they have a full understanding of health literacy and be able to feel comfortable asking additional questions when they come up. Additionally, success for Roger is being comfortable talking to trusted adults about struggles with mental health and sexuality and learning where and how to use health resources in his area.

Wants

- Wants to learn at their own pace and access any content when they're curious
- Wants to learn in private rather than a classroom setting, his own preference
- Wants to feel less isolated from peers

Fears

- Fears people bullying him for using the app
- Fears being rejected from their family if they come out to them
- Fears never coming out to his family

James Lake (he/him)

Age: 17
Residence: Greer, SC
Education: Junior, Greer High School
Occupation: Student
Marital status: Single
Income: \$20 a week



"I don't let my worries distract me from doing what I love"

Bio

James is a high school student with a lifelong passion for art and music. However, he also suffers from a severe immune disorder that puts him constantly at risk. His parents do their best to help, but they spend most of their time working and he finds the medical world hard to navigate on his own. After senior year, he plans to go off to college, but he is concerned about approaching these issues in a new environment without his parents.

Comfort With Technology



Goal:

James wants readily accessible information about local medical resources, including how to properly navigate the medical system, so he uses the local resources page of our app to find local clinics.

Needs

- Needs readily accessible information on medical resources in the area
- Needs confidence in his ability to make choices about his health

Values

- Values preparation and planning
- Values making the best use of time
- Values family

Criteria For Success:

In order for him to feel successful, he needs to feel like he is ready for anything. That means college, his potential future career as a music teacher, and especially any future health emergencies. He prefers to keep it in the back of his mind, but he will feel significantly better knowing the resources he can access and how to respond if things go wrong.

Wants

- Wants more time to focus on pursuing his passions
- Wants to avoid putting stress on friends and family
- Wants to spend more time traveling

Fears

- Fears making the wrong choices when health issues emerge
- Fears how difficult life away from home might be

Sadie Wallace (she/her)

Age: 16
Residence: Orangeburg, SC
Education: Junior, Branchville High School
Occupation: Part-time at tropical smoothie
Marital status: Single
Income: \$130 a week

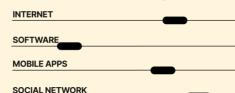


"Surviving high school until I don't have to anymore"

Bio

She spends most of her days doodling and doing art whenever she can. Although she passes all of her classes, she doesn't have any interest in the subjects and has no desire to do more than the minimum schoolwork. After high school and college, her dream is to travel. She's on social media, and has a lot of friends who have similar interests as her. She lives in a single-parent home with her mom who has a middle-income job.

Comfort With Technology



Goal:

Sadie wants to be extrinsically motivated to learn, which would help her overcome her disinterest and motivation issues. She uses the progress tracking and reminder notification features of our app to do this.

Needs

- Needs engaging material for learning
- Needs social motivator for continuing through all the modules of the app
- Needs sufficient reasoning for the importance of her learning

Values

- Values people's opinions of her artwork
- Values her mom and their relationship

Criteria For Success:

In order for Sadie to be successful in learning health literacy she needs to feel like there is a sufficient reason to engage with the app and complete the courses. Additionally, due to her disinterest in most school courses, her success may be defined by tangible results, such as a course credit or applicability to everyday life. Most likely, she does not expect to use the app or the app materials beyond a measured 'sufficient' engagement.

Wants

- Wants something time efficient
- Wants something that won't make her sit through a boring lecture or video
- Wants to work on her next art piece rather than spend time on school

Fears

- Fears disappointing her mom
- Fears living in one place the rest of her life
- Fears not being good enough for anyone

Joan Perez (she/they)

Age: 26
Residence: Charlotte, NC
Education: Bachelor's Degree
Occupation: Teacher
Marital status: Married | 1 Child
Income: \$41,000 a year

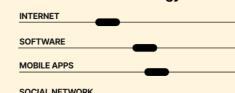


"My students come first in everything I do."

Bio

Joan has been teaching for several years now. Over the course of their tenure, they have grown accustomed to the school district and the students with it. They want to see their students grow in and out of the classroom. They want their district to be as comparably funded to more surrounding urban districts.

Comfort With Technology



Goal:

Joan wants a pre-vetted and structured curriculum to use in her classroom to teach basic health information, so she uses our app to offer extra credit incentives for student completion of courses.

Needs

- Needs to devote more time to teaching rather than classroom management
- Needs to improve attendance
- Needs whatever she does to align with school curricula

Values

- Values spending less time outside of class managing content
- Values having meaningful discussions
- Values student's well-being

Criteria For Success:

To improve the district so that when her child is going through school, she will have made a lasting impact. This extends to her students, she wants to see them achieve a stable, independent, and happy life outside of high school graduation. Eventually creating a community of learners that uplifts younger generations.

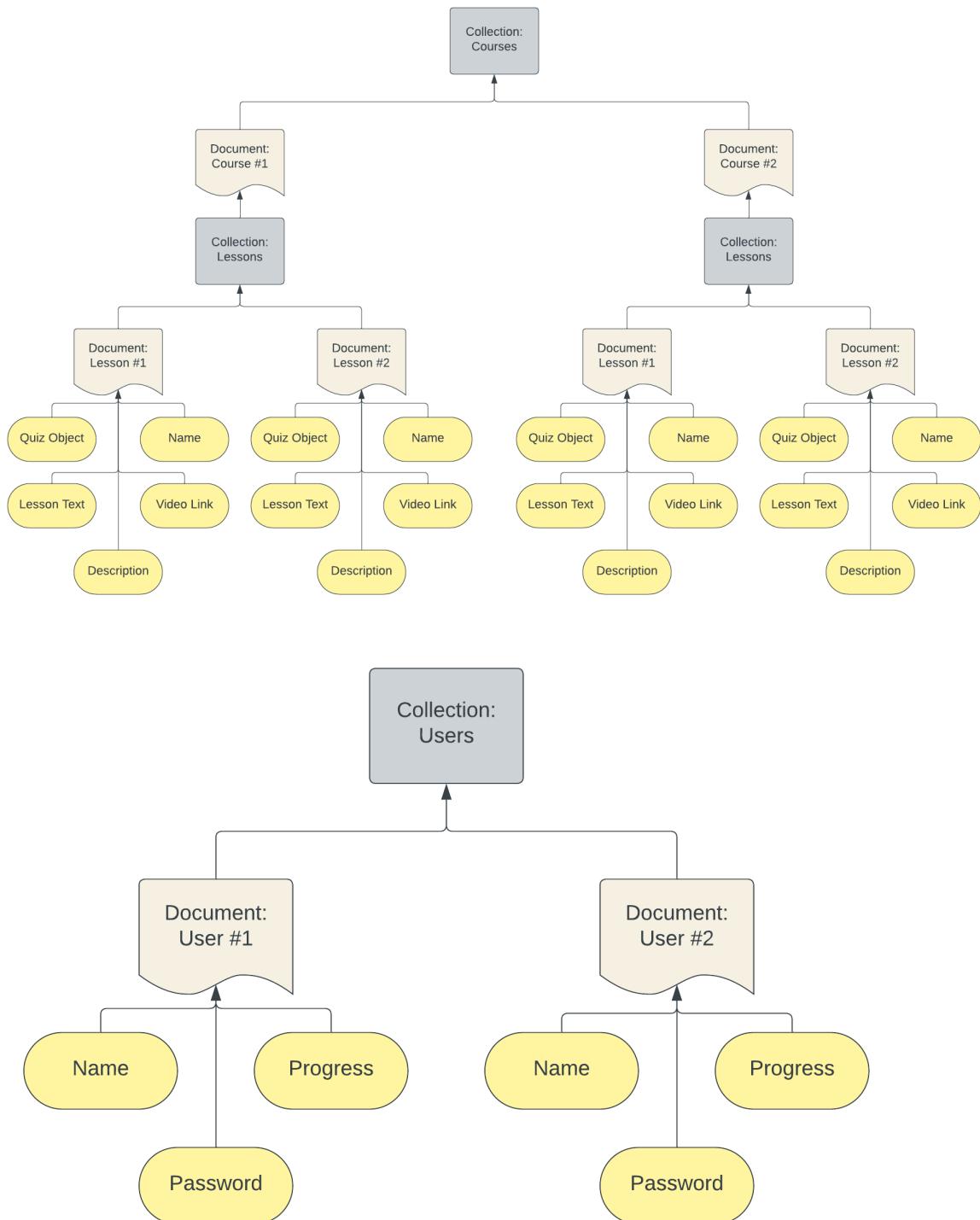
Wants

- Wants to make sure students have safe access to factual information
- Wants to make sure students have a secure home life

Fears

- Fears not creating a sustainable, safe school environment for her kids
- Fears teaching something that doesn't align with local parent beliefs or law

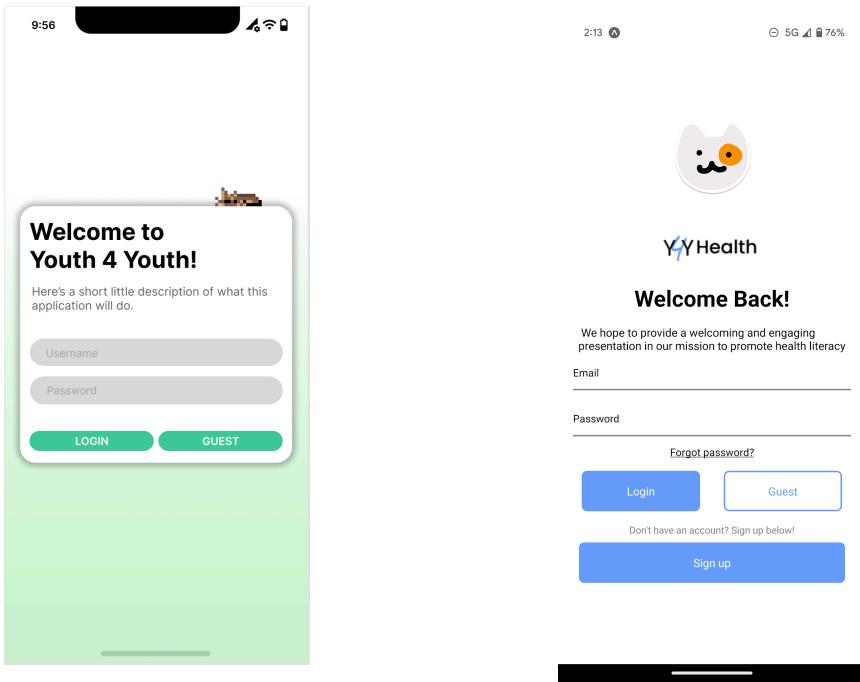
7.2 Database Model



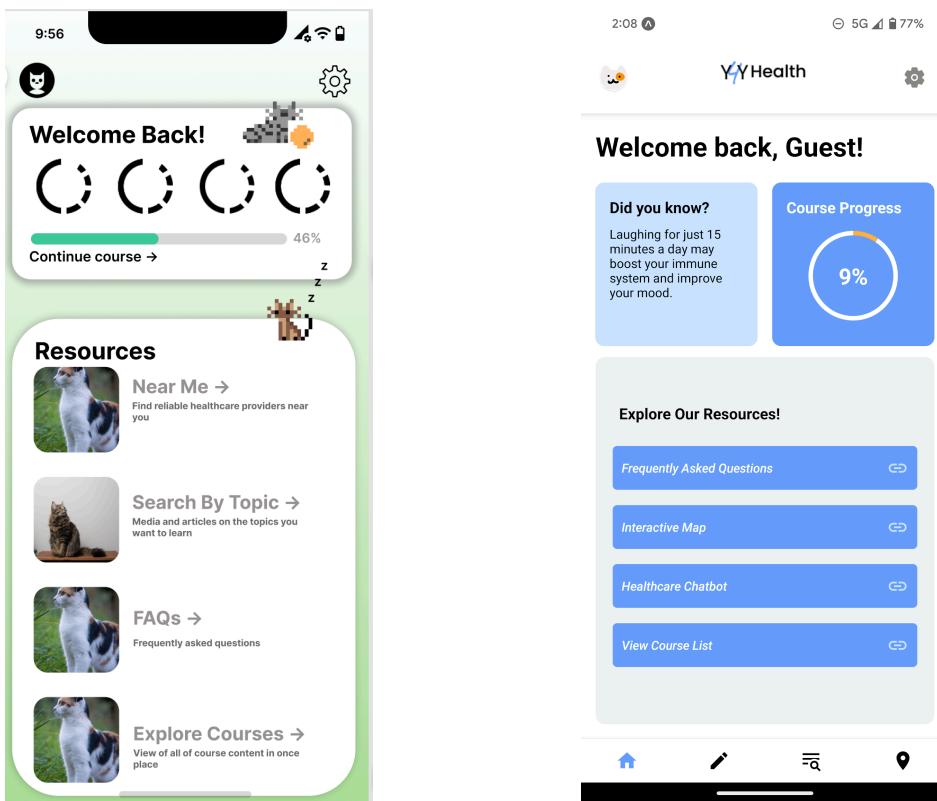
8. Appendix B: Wireframes and Final Designs

The original app's design is shown on the left, and the app's final implementation is shown on the right.

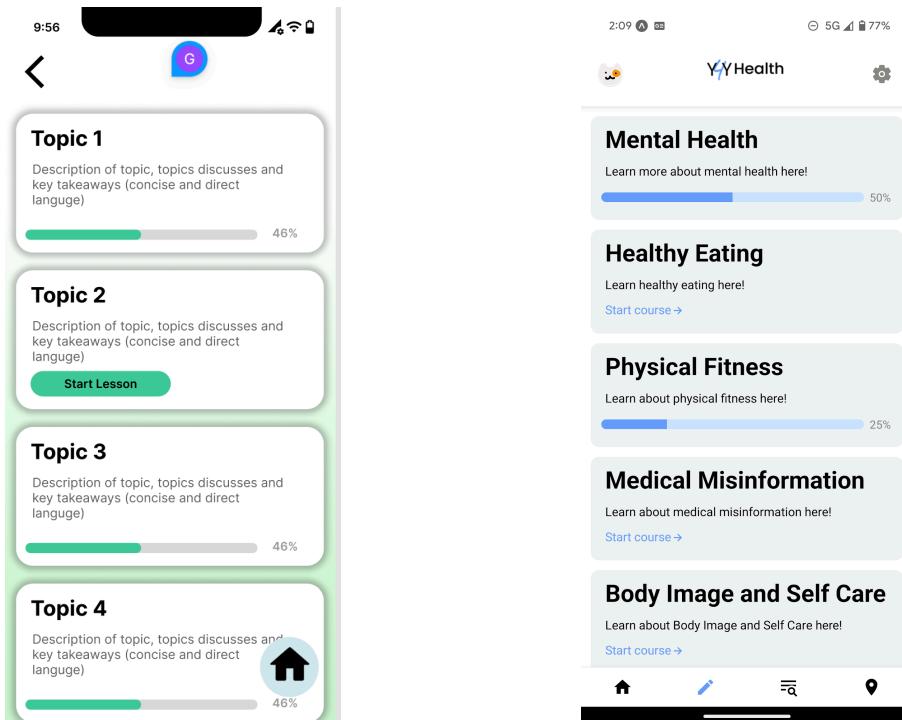
8.1 Login



8.2 Home



8.3 Courses



Course Lessons

The image displays two side-by-side screenshots of a mobile application interface.

Screenshot 1 (Left): Shows a section titled "Active Topic" with a thumbnail image of a dog. Below it is a "Content Header" section with a plus sign icon, followed by a "Content Header" title and a bulleted list of instructions. At the bottom is a "Explore (optional)" section with a "Quiz" button and a house icon.

Screenshot 2 (Right): Shows a video player interface for a lesson titled "Introduction to Substance A...". The video thumbnail features a woman with glasses. The video progress bar shows 0:21 / 11:54. Below the video are sections titled "Understanding Substance Abuse" and "Substance Abuse Hotline", each with a brief description and a "Continue" button at the bottom.

8.4 Quiz

The image displays two side-by-side screenshots of a mobile application interface for a quiz.

Screenshot 1 (Left): Shows a question titled "Question 4" with the sub-question "What are words?". It lists four answer options, all preceded by a circled letter "A":

- This is a very good answer
- This is the second answer, I've made this answer longer so we can see what it looks like
- This is the third answer, we could ask people about the video or maybe we could ask people about each individual thing in the active topic section.
- This is the fourth and final answer to the quiz section.

A plus sign icon followed by "Need a hint? The answer is A." is also present. At the bottom is a "Next Question" button.

Screenshot 2 (Right): Shows a question titled "What is the primary definition of medical misinformation?". Below it is a list of four options in blue boxes:

- Accurate health information
- Misleading health-related information
- Credible health advice
- Scientifically proven health practices

Resources

Common Topics

#description #description #description

Frequently Asked Questions

- Super Helpful info
- Super Helpful info
- Where should I go for help?

If you need help with a specific request that is not immediate, you can reach out to us at the email email@email.com.
For immediate assistance, call this number: 555-555-5555

YFY Health

Search

Mental Health Healthy Eating Physical Fitness

COVID-19 misinformation

Definition of substance abuse

Substance Use Disorder

FAQs

What is YFY?

Who is YFY?

How does YFY protect my information?

Emergency Resources

Medical Emergency

8.5 Map

Facilities Near You

26.7 Miles Health Facility 1

26.7 Miles Health Facility 1

YFY Health

Orangeburg Spartanburg Florence

University of South Carolina Upstate Milliken Arboretum WHITNEY

7 Moon Asian Supermarket Pizza Inn Wade's Cleveland Park Wofford College

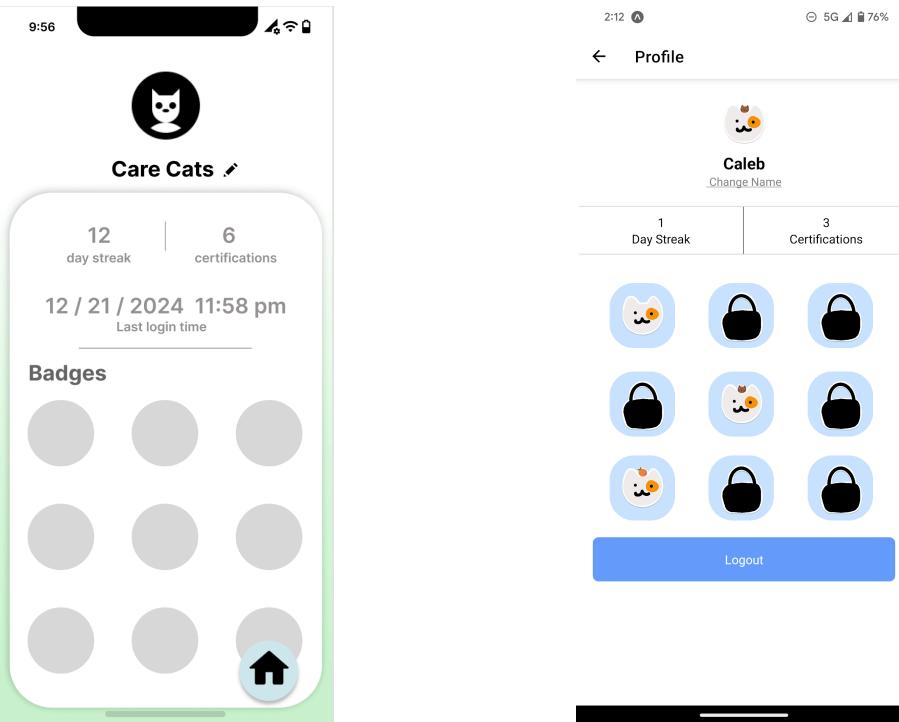
SMC - Center for Pediatrics Pediatric Specialist

864-560-6287

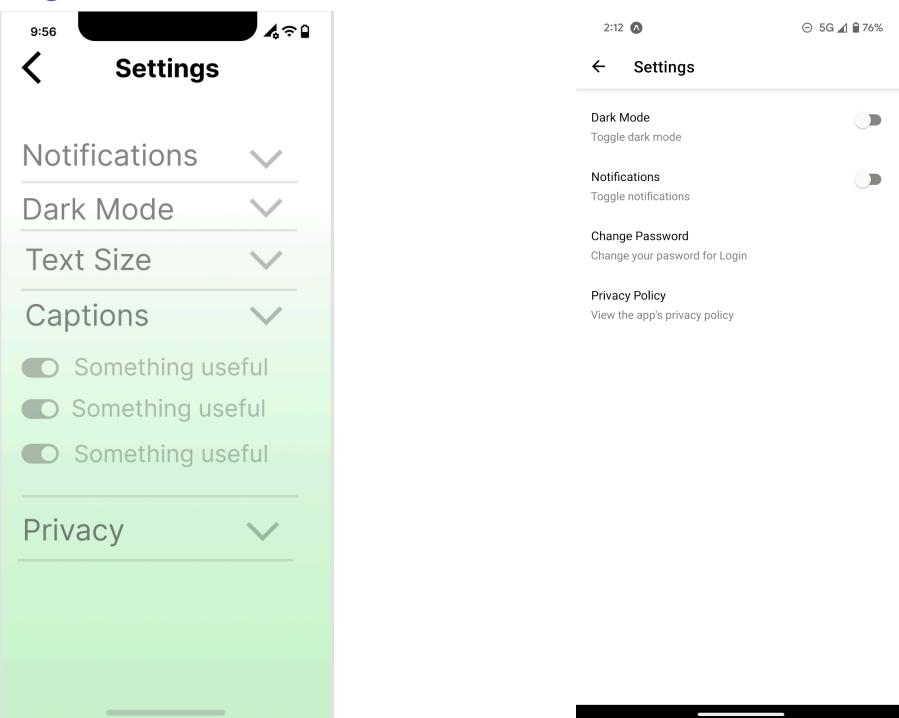
Open in maps

Woodland HIGHLAND CON' HILL SC Voca Disability

Profile



8.6 Settings



9. Works Cited

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