

AUGUST 2018



PHASE 3 – IDEATING, PROTOTYPING AND TESTING

Design Methods

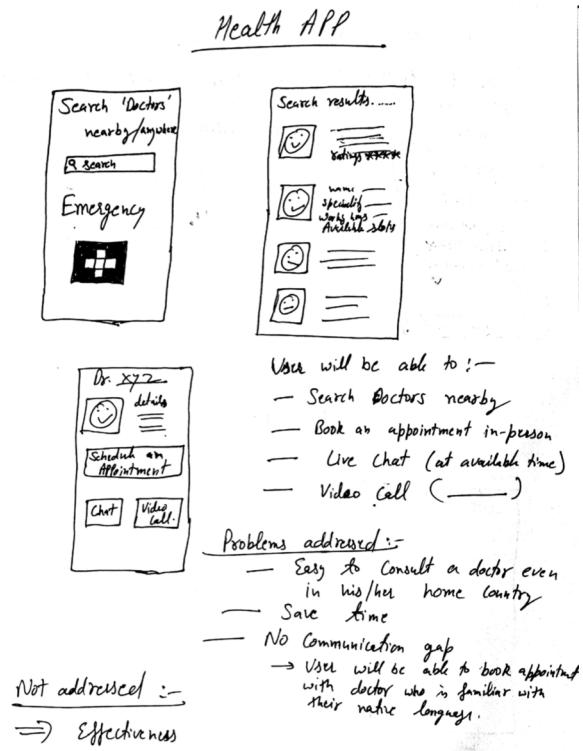
Challenge Statement

How might we develop a cost effective remote service solution for international students who just moved in the States pursuing an intensive and stressful curriculum and lack information about local healthcare, to make it easy for them to get health care services equivalent to what they had in their countries in regards to the communication, effectiveness and familiarity level?

Challenge Statement

INSIGHTS	THEMES	FEATURES
<p>Low Cost Remote Stressful routine Lack of information Local healthcare Personalization Communication Effectiveness Familiarization</p>	<p>Insecurity Accessibility Efficiency</p>	<p>Mobile App Machine learning Personal Account Emergency button Doctor – patient chat room Appointment scheduling Real time translator Equivalent medicine Links to online stores Doctors' ratings Online forum Cost comparison</p>

Rapid Prototyping

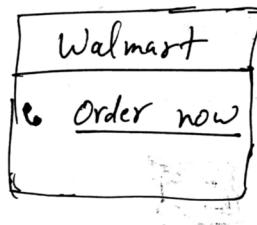
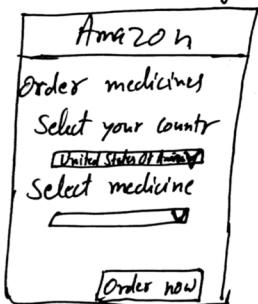


Our first prototype was related to a mobile application that would allow for users to connect with doctors and schedule appointments online. Providing them with easy access to healthcare and multiple options based on which they would satisfy their personal needs.

Rapid Prototyping

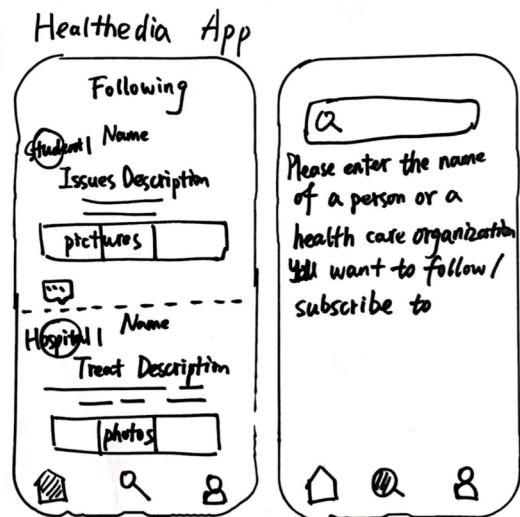
Medicine Delivery Service :-

Additional feature in online shopping websites like Amazon or stores like Walmart where users can order medicines from their home countries.



The second prototype was revolved around the availability of medicine and was a platform providing with medicine available in the States as well as equivalent medicine from the users' country of origin. This way we would assist users be more familiar with the provided solutions and guide them to more efficient medicine based on past their experiences.

Rapid Prototyping

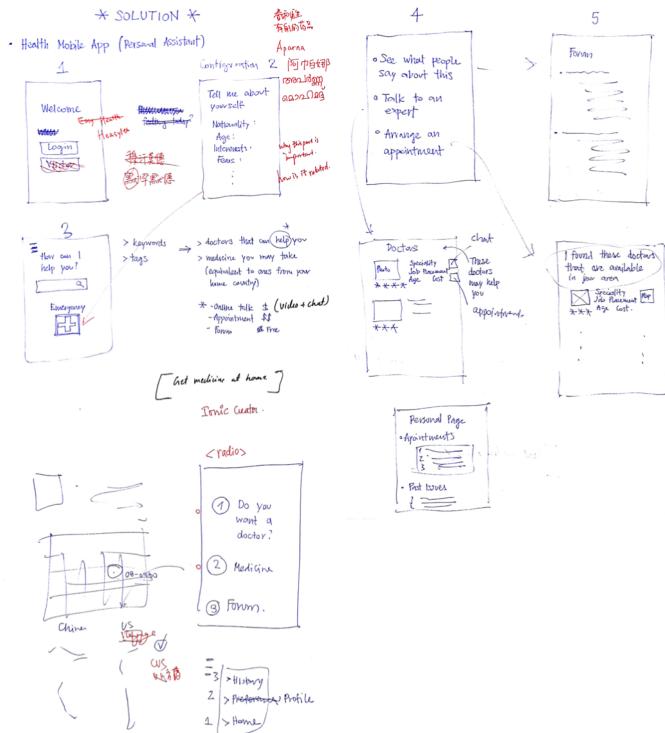


In this app, our target audience can follow other people who share the same health issues or subscribe to some well-known hospitals or authorities.

The former function helps them feel engaged and not alone. The latter one helps them get access to latest and basic medical information.

The third prototype was revolved around the information sharing and awareness, providing an online forum for discussion and exchange of information among users. That way users feel part of a group and can communicate with people facing similar problems and may even provide with guidance and useful advice.

Rapid Prototyping



Based on these prototypes and after testing them and revising them, we came up with a complete solution, incorporating multiple features, ensuring for users to connect with doctors and schedule appointments online. Providing them with easy access to healthcare and multiple options based on which they would satisfy their personal needs. The app was rapidly designed in regards to the features that we wanted it to have and tested once more, in two different test users who helped us refine it and specialize it even more.

Testing

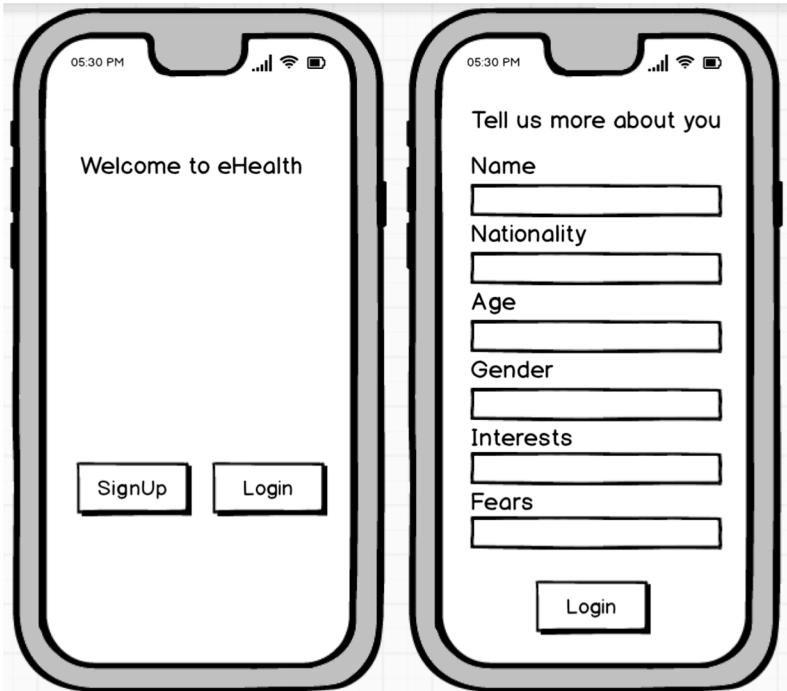
App Features

- Login Function
- ~~Enter as a visitor (removed after testing)~~
- Emergency button
- **Personal settings** (modified based on testing)
- Chat room
- **Real time translator** (added after testing)
- Scheduling appointments
- Doctors' ratings and cost
- Personal page
- Link to online medicine stores

During the testing phase, while the flow of operations and the over all appearance of the application were modified and shaped in line with the received feedback, while there were also specific features that were added or removed and helped us better understand use of the application and the way that it may tap the interests and needs of our target group.

The Application

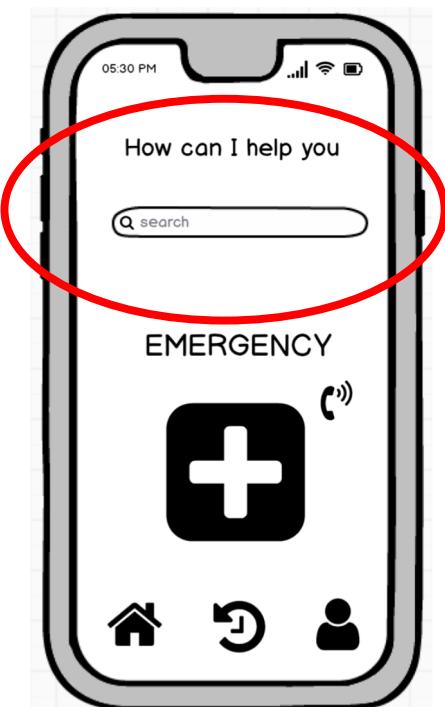
Welcome and login page



eHealth, which means easy, efficient and electronic health, was designed in order to provide with a mobile personalized health solution to international students. The first part of the app is the **login page** that is designed in order to **make your experience more personal based on your needs and interests, while also protecting your personal information** and requesting for a password in order to access your account.

The Application

Home screen



The home screen is the first page that our users enter after logging in and has two main functions. The first function allows for access to the provided services and based on the provided request, the user would be redirected to the respective doctor or product or online discussion that may help him. **While the provision of health care services would be simple and accessible on the click of a button, the service itself would be personalized using machine learning and optimizing results using previous searches.**

The Application

Home screen



On the other hand there will be available a configurable emergency button that would be set to call a specific contact in case of an emergency in order to minimize risk and **help users have a sense of empowerment and security.**

The Application

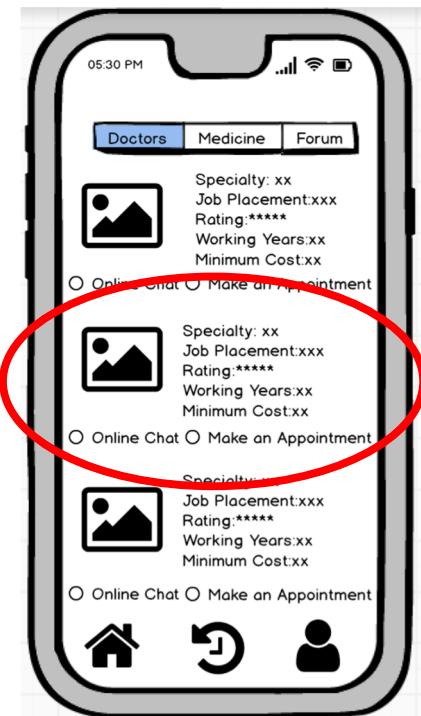
Health services



Upon entering a request, the user is provided with information in regards to the issue at hand, and may choose on the next step that he wants to take, either talking to an expert, looking for medicine or reading relevant live discussions from other users.

The Application

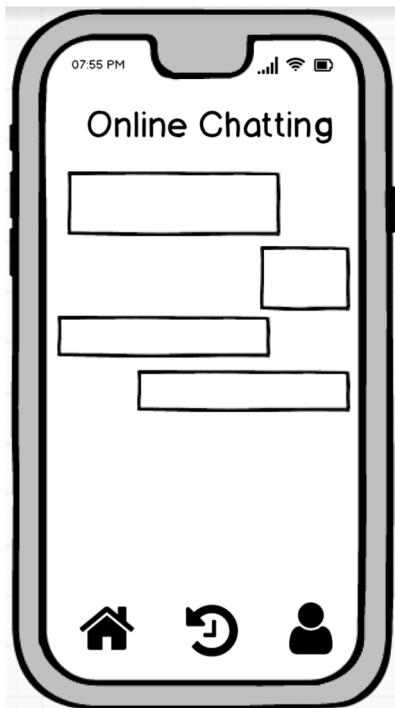
Health services - Doctors



Doctors available on the screen, would be provided in order of preference, based on the user's special needs, taking into account ratings, native language of the doctor, availability and location, past user experience, etc. As a result, the provided **solutions would be optimized and in line with the individual requirements of the user.** Upon choosing the expert, the user will also have the choice of either chatting online / making a video call or arranging an appointment, all at a different cost **in order to adhere to the seriousness of the problem and the efficiency of the service provided.**

The Application

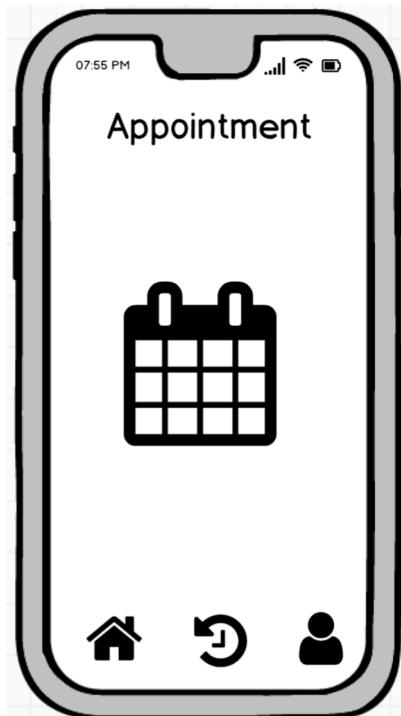
Online chat with doctors



The online chatting tool, would be available to users that come in contact with doctors for advice and health instructions. Users may feel more **comfortable** communicating via written well thought messages rather than speaking, while they would be able to **understand their instructions** more and also more easily **reflect on them in the future** saving the conversation, all at a **minimum cost**. At the same time the doctors would be given the opportunity to have multiple discussions at the same time from anywhere they are and as a result the users would benefit with **increased availability and interaction** at a wide range of hours.

The Application

Scheduling an appointment



After selecting a doctor for an appointment, users would be able to make an appointment directly through the application and save the date to their device's calendar. This highly integrated solution, would allow for ease of use for both the doctors and the patients and also simplify the management and coordination part of the appointments, being part of the device's calendar and also allowing for cancellation. At the same time the scheduled appointments would be listed in the history page as an additional reference. **All the above would result in increased efficiency and personalization of health care.**

The Application

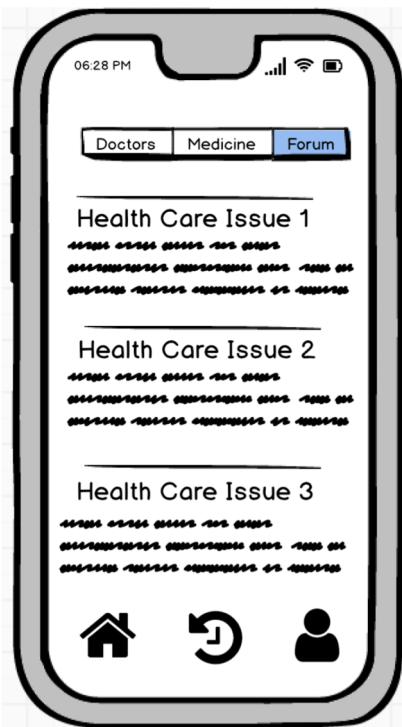
Health services - Medicine



In regards to the medicine choices, the users would be presented with two lists of drugs they are able to buy without prescription. The two lists would have medication provided in the users country of origin and the equivalent one provided locally (modified based on location), while based on the selected medicine, there will be a link to an online store to buy the product itself. The language that the lists are presented would be also changed based on user preference. **This feature would allow the users to become more aware of the provided medication and also familiar with the products that are more suitable for them comparing them with medication they have used in the past.**

The Application

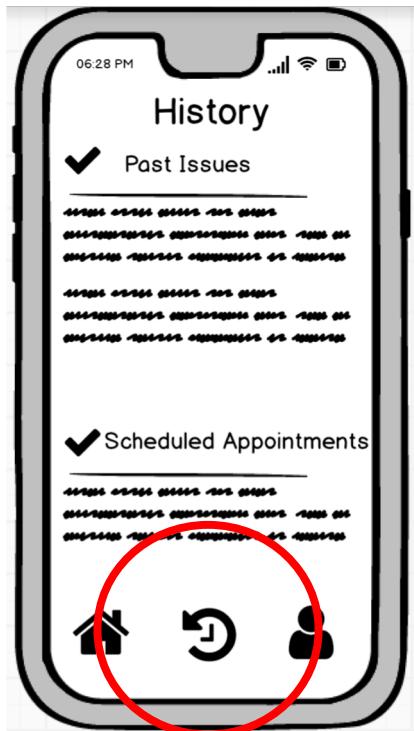
Health services - Forum



Last health service solution, would be the free online users' forum, where one could have a conversation with other users, or simply gather information based on past discussions. This service would be designed, in order to give a solution to people that have a health issue but don't necessarily want to take action and want to research it first, without spending money and possibly want to communicate with people facing similar problems. **Through communication, users would feel as part of a community and would have access to information from the experiences of others, identifying the scale of the problem and being provided with suggested actions they make take.**

The Application

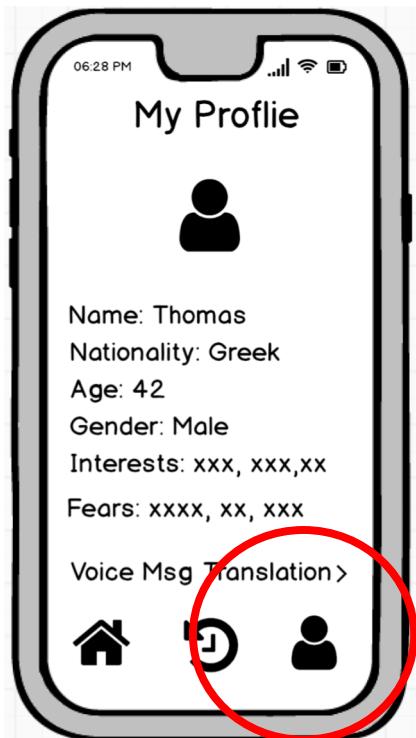
History



The history page would give access to the user's past issues and scheduled appointments. The issues of the past would be populated based on the past searches discussions with experts, while there will be user interaction, allowing for modification of the list and creation of groups, in order to make its use more easy and practical. The appointments history would reflect upcoming and past appointments, in chronological order, assisting the user to manage his health provision services and reflect on past experiences he had (e.g. easy access to a doctor he had used in the past). **As a result, the user would have a continuously improving experience based on a more rich medical history that would also assist the software personalize more the search engine and suggested solutions.**

The Application

Personal Profile



The profile page, would give access to the user's originally provided information and settings, allowing for modification and change among multiple options, while also it would give direct access to the real-time translator tool. Personal data would be taken into consideration by the machine learning algorithm to personalize the application experience for each user, while also they would allow for a stronger **connection to the app**, increasing **user friendliness**. The independent translator tool, while available also in the chat, it would allow for its use separately during an appointment or in any other instance, helping once more with regards to **communication**.

The Application

Real-time Translator



The translator tool, would be designed in order to understand and translate both messages recorded in the chat and also input provided real-time by either the user or the expert during an appointment. This tool is very important for users that sometimes feel a **communication gap** and want to express themselves more efficiently, as well as users that are not familiar with special medical terms, since **understanding and implementing doctors' instructions** is of vital importance. Finally, this tool may assist users that have difficulty typing (e.g. users with a disability) making the application more **versatile and user friendly**.

The Application

Overall aesthetics

The goal of the application would be to create a solution that would be available at any time of the day, by people with special needs and difficult access to quality information, while at the same time providing a platform for health experts and patients to interact and benefit each other efficiently and effectively in a user friendly environment. As a result, the UI would be **simplified and modular** in regards to the profile and the history as well as the overall appearance with light and dark color schemes, helping use of the application in multiple situations. Finally there would be language and characteristics that are related to **personal assistant** software, enhancing the personalization and connection factors.

Reflection

Concerns and learnings from the project

- As a team we were concerned with the rapid development of the project from the research part to the ideating and prototyping. Nonetheless, based on our deep and **thorough research on understanding** our personas and their needs and interests, we had a lot of material to work on and came up with a solid targeted solution and **converging fast** into the features that we would like it to have.
- An additional concern was the separation testing of our solution, developing a tool for the presentation while also not strictly defining it in order to allow for valuable and honest **user feedback**. In order to achieve that, we developed **handwritten prototypes**, on which the test users could make suggestions and notes, making them interact and **inviting their opinions and criticism**.