

UX CASE STUDY

APP FOR EMERGENCY MEDICAL SITUATIONS



Introduction

Many lives are lost everyday due to delay in treatment. It could be not giving the right first aid, not taking the patient to the closest hospital, delay in calling the ambulance, delay in filling registration forms, etc. It is important that the delay in treatment time be reduced. Hence, we designed an app to provide basic assistance, such as show nearby hospitals, give information about immediate first aid, let you fill online Emergency Room forms and provide basic emergency numbers, during emergency situations.

Problem Statement

Find an effective and efficient way to help reduce delay in treatment in hospital Emergency Rooms (ER).

What we did

We started out by structuring our main problem statement. Once we had that ready, we created a survey form and sent it out to people to get a better understanding of their experiences in the ER. Keeping in mind the information we got from the surveys, we went to interview a few people (among which were hospital staff, patients and the relatives of the patients) to get a better understanding of the whole system and the basic complaints that they had.

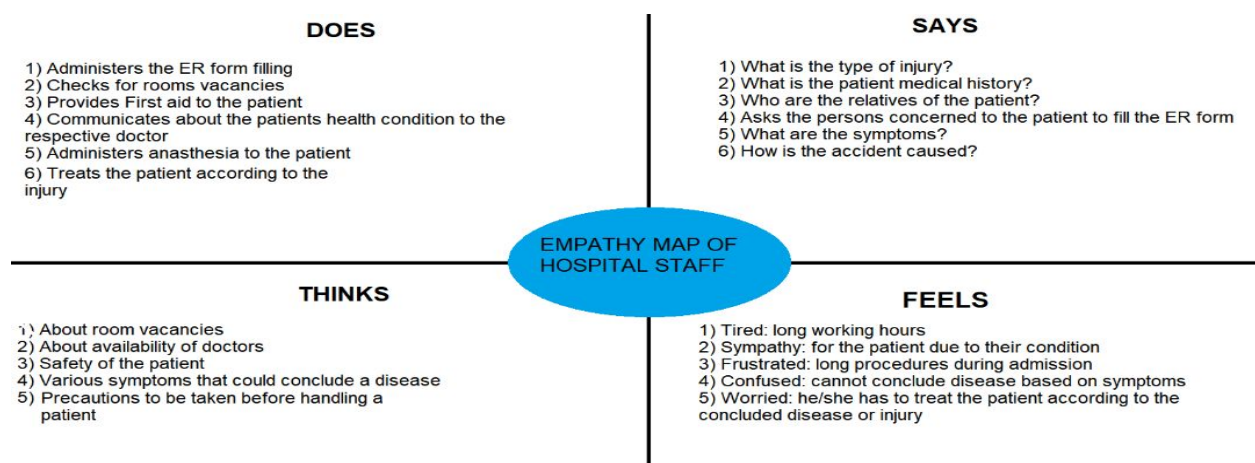
The image displays five distinct sections of a survey form, arranged in a collage. The first section, titled 'Emergency rooms(ER) in hospitals', includes an introductory paragraph about a registration app, a 'Required' label, and a question about existing applications with radio button options for 'Yes' and 'No'. The second section asks for common features of ER apps and provides a text input field. The third section asks for measures to reduce wait times and also provides a text input field. The fourth section asks if an ER app would be useful for registration forms, with radio button options for 'Yes' and 'No'. The fifth section asks if there was a delay in treatment, with radio button options for 'Yes' and 'No', followed by a question about the cause of the delay with a text input field. A 'Submit' button is located at the bottom of the fifth section.

What we found

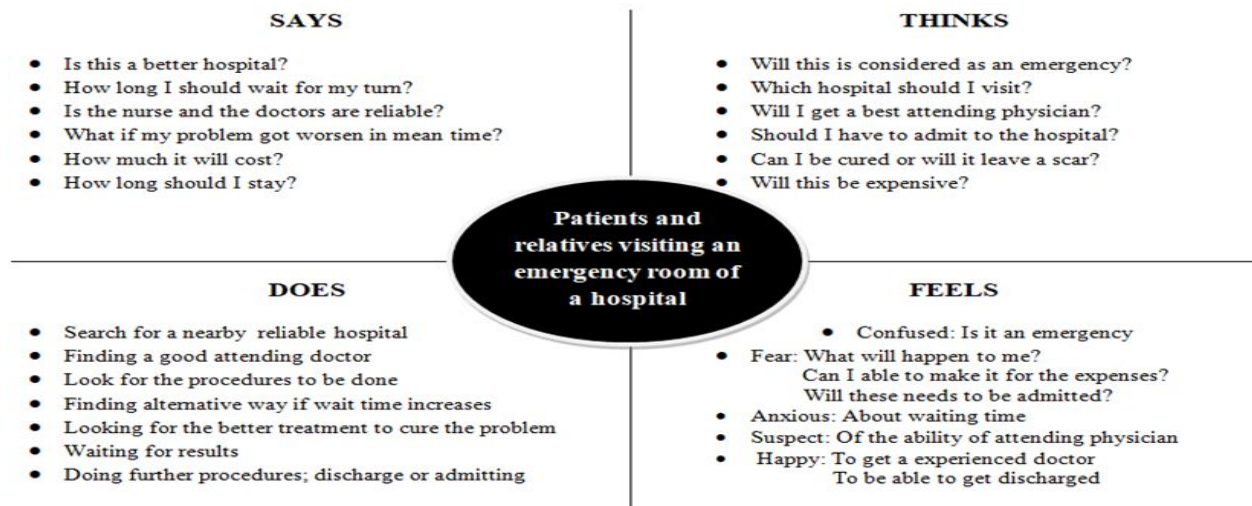
We found out that many a time, people needed help with the immediate first aid that had to be given, they wanted a clear list of hospitals nearby with their specific wait times (so that they could go to the one with lesser wait time), they wanted to have all the necessary information in one place to reduce stress during an emergency. We also found out that people usually lost time while filling forms and would find online forms more convenient. Although, online forms had one problem: many illiterate people and people from multiple linguistic backgrounds visit the hospital. They either can't fill the forms at all or can't fill english forms.

With all the information that we gathered we decided to create Empathy Maps for the main people involved in the system - the hospital staff and the patient/relative. The Empathy Maps gave us a better understanding of the emotional situation of the patient/relative, helping us choose to design an emergency app for them.

Empathy Map of hospital staff:



Empathy Map of Patient/Relative



With all the information at hand, we created three user personas to define our target users.

User 1: A young adult (age 22)

User 2: A mom with young kids (age 37)

User 3: An Elderly person (age 75) [app used by relative/caretaker]

User Persona of Young Adult:

Kabir Thappar



"You only live once but if you do it right, once is enough"

Age: 22 years

Work: Student

Family: Single

Location: India

Character: Fun-loving, active, optimistic, tech-savvy

Goals

- Travel the world
- Grow in his career
- Live life to the fullest

Frustrations

- Not being able to travel to every location that he wants
- Wasting time filling forms after going to the ER
- Going to the ER only to find that there are no vacancies

Bio

Kabir is a senior in college with a passion for travel. He loves exploring different places and cultures across the globe. His main hurdle? Asthma. Kabir has been getting Asthma attacks since he was 8 years old. With this disease always by his side, it's not easy for him to travel to certain places. Nevertheless, he tries to keep his health in check and continues to travel wherever he can!

User Persona of Mom with young kids:

Nalini Vishwakumar



"When life gives you a hundred reasons to cry, show life that you have a thousand reasons to smile!"

Age: 37 years

Work: Homemaker

Family: Married with 2 young kids

Location: India

Character: Loving, caring, active, efficient, tech-savvy

Goals

- Her family is her highest priority
- Take care of her two young kids to the best extent possible
- Wants things to be in her control, especially in panic / emergency situations

Frustrations

- Not having all the important information in one place during an emergency
- Not knowing which hospital is more available (to reduce delay in treatment)
- Not knowing what first aid to give her children in certain situations

Bio

Nalini is a homemaker and a mother of two extremely active, energetic and curious young children. She is constantly on her toes and tries to keep an eye on them most of the time if not all the time. Even then, they manage to get hurt or into some sort of trouble. This usually leads to Nalini rushing them to the hospital. She rushes to the hospital more often than she'd like to and some assistance during that time could really help her.

User Persona of Elderly person:

Venkob Rao



"The mind will not always remember what happened, but the heart will always remember the feeling"

Age: 75 years

Work: Retired

Family: Widower

Location: India

Character: Confused, quiet, keeps to himself, doesn't trust people easily

Goals

- Health is number one priority
- Take medicines on time
- Get through each day as smoothly as possible

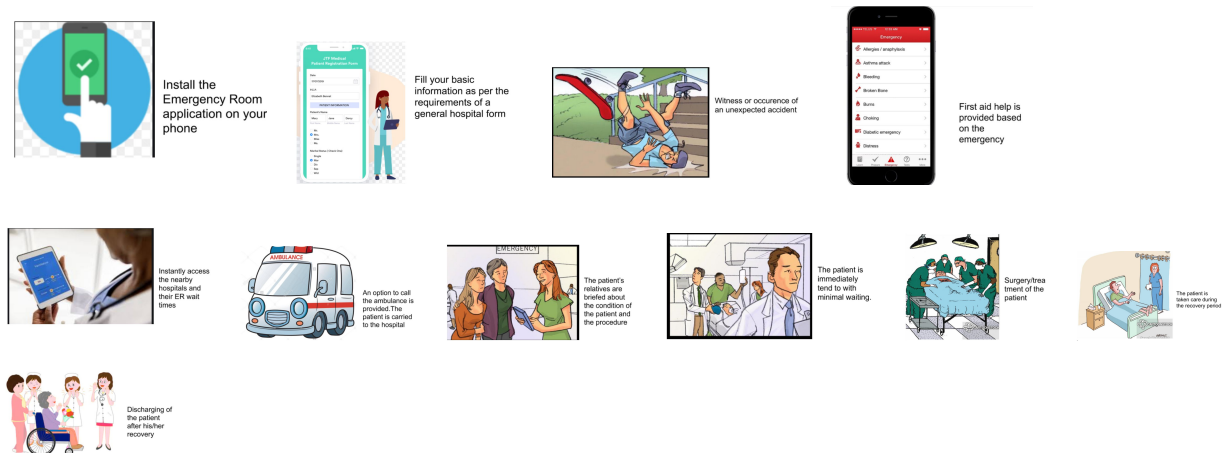
Frustrations

- Rarely remembers anything about himself
- Has multiple attacks of hallucinations
- Experiences constant struggle with his surroundings

Bio

Venkob Rao is a 75 year old Alzheimer's patient, struggling to remember who he is. His daily challenge is just being able to get through the day as peacefully as possible. He gets frequent attacks and needs to be attended to immediately. His children live in different parts of the world and post the death of his wife, they checked him into an old-age home where he is now being tended to.

With our target audience in mind, we created a storyboard to structure a basic flowchart of the functioning of our app. The storyboard helped us include the necessary features of the app, some of which weren't part of our needfinding inferences, such as emergency numbers.

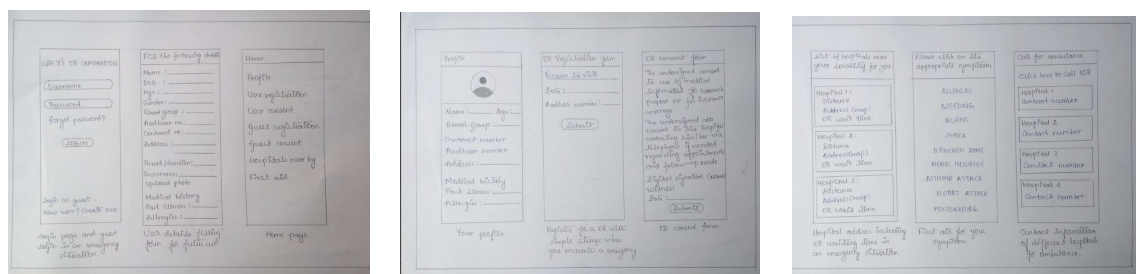


Low fidelity prototype:

We used two techniques to make our low fidelity prototypes: paper prototyping and wireframing. Using the two mentioned techniques, we created the basic outline and layout of our app and its features.

While creating it, we found that we needed to add a few more features (such as guest login) to make it more user friendly. We made the necessary changes in the prototypes until we were satisfied with the final rendition.

Paper prototype:



Wireframe:

The wireframe shows a mobile app interface with the following sections:

- GREY'S ER COMPANION**: Includes a "SIGN-UP" button and a "LOGIN" button with the text "Already have an account?" above it.
- KINDLY FILL THE FOLLOWING DETAILS**: A form with fields for NAME, DOB, AGE, GENDER, BLOOD GRP, AADHAR/SSN, CONTACT, ADDRESS, PARENT/GUARDIAN, MEDICAL HISTORY, PAST ILLNESS, and ALLERGIES.
- HOME**: A central navigation area with buttons for "HOSPITALS NEARBY", "NEED HELP WITH FIRST-AID?", "CHECK/EDIT PERSONAL DETAILS", "EMERGENCY (CLICK HERE TO CONTACT AMBULANCE!)", "NEED HELP? CONTACT US!", and "FAQs".
- Hospital List**: A section titled "Here are the list of hospitals near your locality" showing four hospital cards (HOSPITAL 1 to 4). Each card displays "DISTANCE FROM CURRENT LOCATION", "ADDRESS (CLICK HERE TO ACCESS ROUTE)", and "20 KM AWAY".
- EMERGENCY SERVICES**: A section titled "PLEASE CLICK ON THE APPROPRIATE EMERGENCY" with buttons for ALLERGIES, BLEEDING, BURNS, SHOCK, BROKEN BONE, HEAD INJURIES, ASTHMA ATTACK, HEART ATTACK, DIABETIC EMERGENCY, CHOKING, and POISONING.
- CALL THE EMERGENCY**: A section titled "CLICK HERE TO CALL 999" showing four hospital cards (HOSPITAL 1 to 4) with "EMERGENCY CONTACT NO." and "20 KM AWAY".

High fidelity prototype:

With the basic layout of our app ready, we were able to make the high fidelity prototype of our app using Adobe XD. We added all the necessary features, made the app aesthetically beautiful and made it ready for development.

