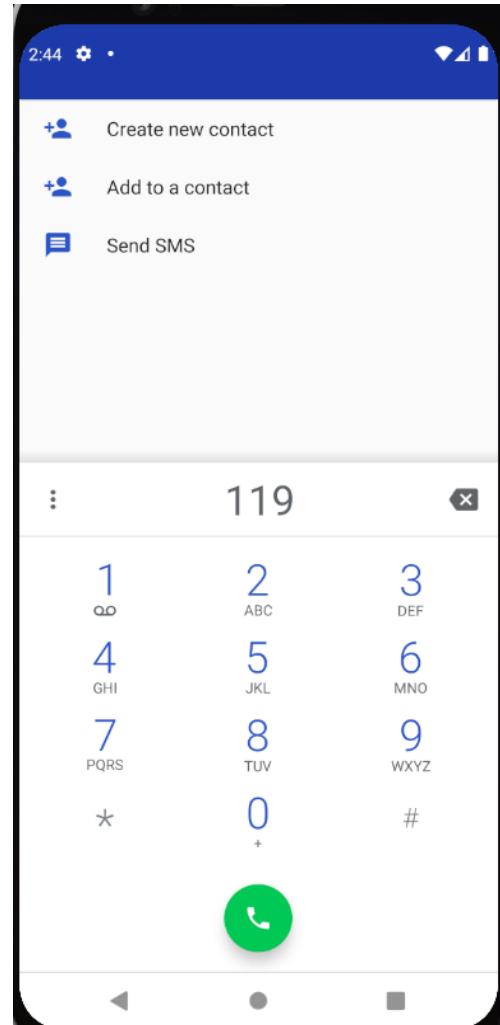


Final Report on Prototype and Research Study

I. Representative prototype screenshots:



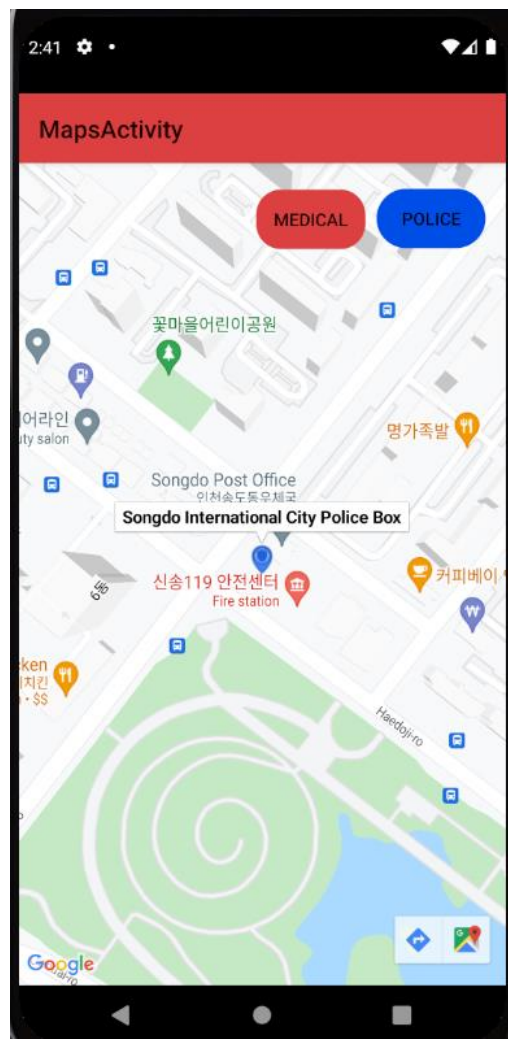
Landing screen of the application, with accessible buttons and less navigation



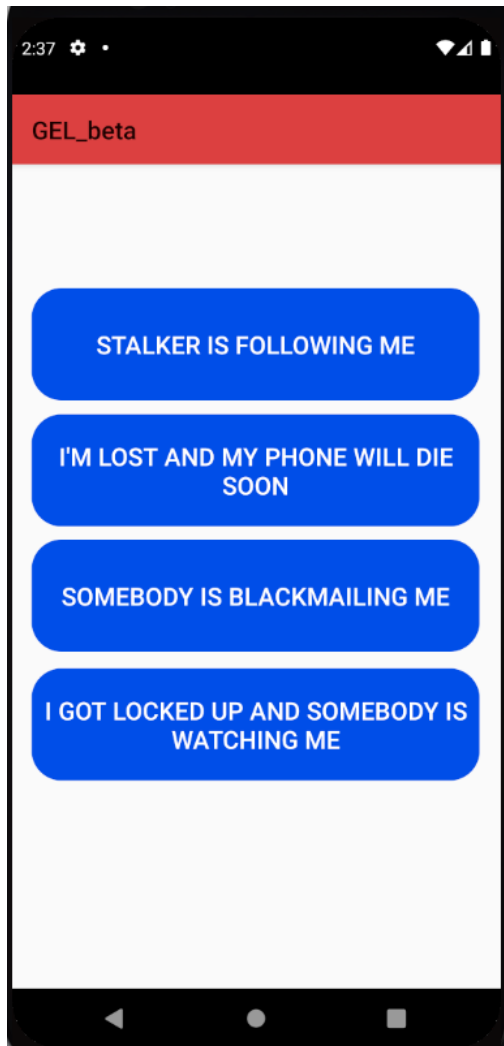
Emergency (Ambulance/Police) call directed to the helpline number



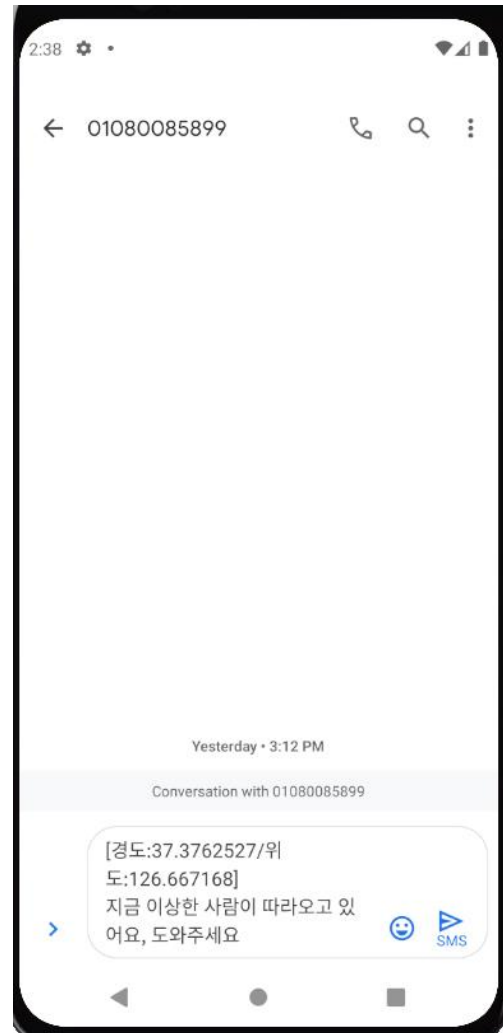
Nearby Medical centers on a map when filtered with the 'MEDICAL' button



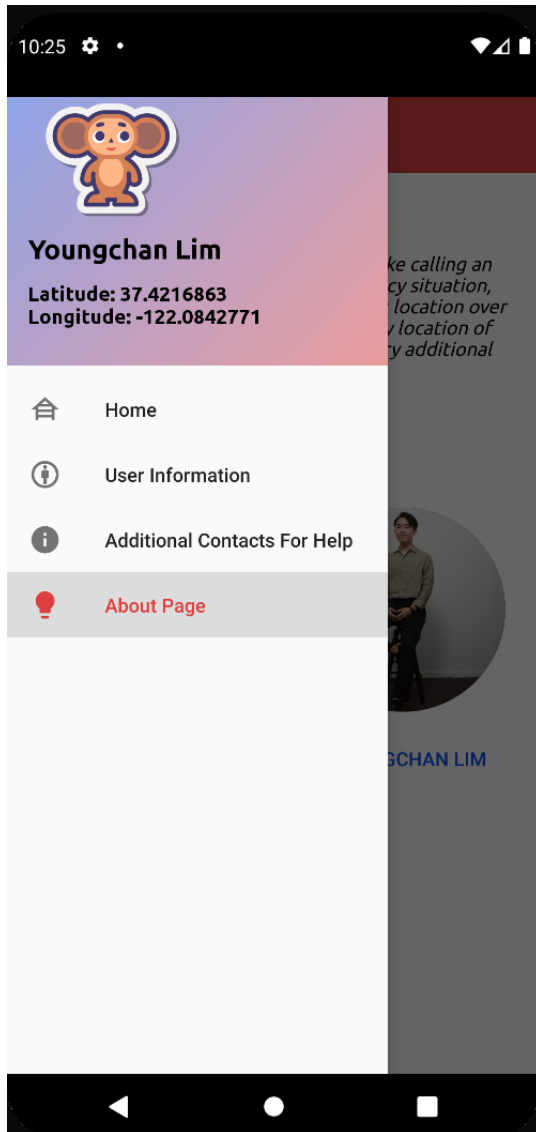
Nearby Police offices on a map when filtered with 'POLICE' button on map



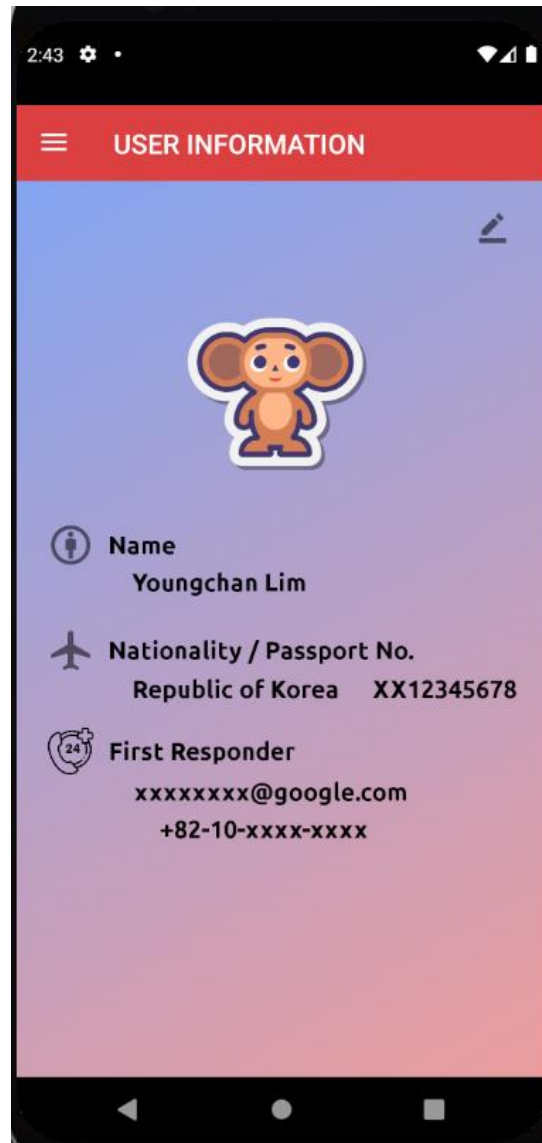
Common cases to immediately text the police for help
(accessible for specially abled people)



Text message to police with real time location of the user to get immediate help



Side bar with additional information(contact and personal)



User personal information screen

GEL_beta

Name

Nationality / Passport No.

First Responder

SAVE

Edit user's personal information to have all updated information to facilitate any help effectively

ABOUT

MOTIVATION

Our application aims to provide immediate emergency help to foreigners living in Korea with curated solutions for medical and personal security along with additional contact information at their expense. Hence, our target users are foreigners who stay in Korea, unaware of the native language and thus find it challenging to get emergency help.

INTRODUCTION

The application provides functionalities like calling an ambulance or police office in an emergency situation, medication for common ailments, sharing location over text message to the police station, nearby location of hospitals and police stations and necessary additional contacts for other purposes.

TEAM

SHUBHANGI SAILEJA
R. GARNAIK

YOUNGCHAN LIM

The About screen of the app with details about the application and developers.

II. Changes since Iterative Prototype 1:

Since prototype one many changes were incorporated based on the feedback from in class user testing activity and actual user testing. The major changes are as follows:

1. Decreased the navigation, as it is an emergency application. In such cases the user would prefer quick access to help.
2. A quick call to the emergency centers instead of hovering over the call button for three seconds to make a call.
3. For personal emergencies, instead of sending a report of the inconvenience, the application provides messaging functionality where the user's current location and a message is sent based on the type of emergency they face at that moment.
4. To access nearby police stations and hospitals, there is a single map button to provide both these functionalities instead of two separate buttons.
5. The additional contacts have been provided by clicking the hamburger icon on the top left of the screen, instead of a button on the main screen.

III. Research study Summary:

A. We have decided to investigate the following:

1. Reveal the alternate applications like Emergency Ready App that people used during an emergency, and their experience with that product. This will help them understand and provide feedbacks on what could be improved.
2. Simplicity and accessibility of our application design. Access how users use Goto Emergency land app to overcome the issues faced in the existing application for emergency.

B. The research methods you used: how users are recruited, their demographics, how your user study was structured, where you performed the tests, how long the session took, and how we analyzed the data.

1. For the research study we have used the usability testing and interview followed by a short survey:
 - a) For the usability test, we reached out to foreigners who have lived in Korea for more than a year. Their experience with emergency situations throughout the stay was very crucial for the study. We were able to meet two target users for the activity through a friend's contact.

- b) Both the participants are working professionals aged between 25 to 35 years and have stayed in Korea for a minimum of 4 years.
- 2. The usability tests were conducted online over a zoom call. The sessions lasted for 20 - 40 minutes, where the participants were introduced to the aim of the study. During the test we observed the participants interact with the existing app - Emergency Ready App, where the participants were flustered with the usability of the app as it only provided nearby locations which were not displayed effectively. Eventually, they used our application and performed a few tasks considering they were in an emergency situation. Evaluating it for various scenarios they were satisfied with the functionalities provided, but had a few inputs for improvement.
- 3. On Analyzing the data: Based on the data collected during this study, it was concluded that our application was more accessible and easier to use. The options for reaching out for help during an emergency on our app would actually encourage users to use it over the existing app which only provides information of nearby aid locations. Sharing the current location of a user with the police for getting faster help was appreciated as users would choose to text discreetly when they are being stalked instead of making a call.

C. Summarized results: describe any key findings from the user study

- 1. One user suggested updating the current location data on the go when trying to get police help during a personal emergency.
- 2. Would be great if details for how to take the medication and the number of doses a day is added to the medicine information for common disorders.
- 3. The police help could be clubbed for other emergency situations like an open fire, building collapse or any accident.

IV. Prototype Quality Arguments:

- 1. Our application was built to provide effective emergency aid to foreigners living in Korea. Before we decided to develop this application, we looked up similar existing applications. One such application is the Emergency Ready App provided by the government of Korea, however we observed that the app was not easy to use and provided emergency help like nearby institutions for help for various problems which a user might not need that frequently.
- 2. We took into account the existing issues with the application and the reviews of dissatisfied users. After brainstorming enough, we decided to provide emergency help for two main issues i.e., medical and personal safety emergency and any additional contact information

for foreigners. During an emergency it is common for people to make a call for prompt assistance, thus we started with finalizing the call functionality. Using the call button, the user can reach out for medical and personal security help with a single click. To avoid accidentally calling any emergency center, we allow the user to check and then proceed to make a call. This avoids any room for error and is not disappointing for the user to use the function.

3. The application contains a functionality to text police for help during an emergency situation. It is a function that especially abled and normal users can use for personal security, where users can send a text to the police based on a set of some common security issues faced by the local inhabitants. On clicking the police text button, a message is drafted with the user's current location i.e., longitude and latitude values and additional information, which when sent to a police officer can provide quick help. For common health disorders, our application provides medication details with the name and image of the medicine to the user so that they can purchase it from nearby pharmacists when required without having to know how to pronounce it.
4. One of the main functionalities of our application is providing nearby locations for help during an emergency via maps.



For this the application accesses the users current location and suggests close by located hospitals and police offices. Two buttons namely 'Medical' and 'Police' on the screen are provided to filter out emergency help locations based on the requirement at that point in

time. Thus, it improves the usability of the application by decreasing the number of navigations as considered during our initial prototypes and provides instant information with a single click.

5. The additional contacts are provided on the sidebar on clicking the hamburger icon on the top left of the main screen. This is because the additional contact information can be accessed when required and is not urgently required during an emergency. It contains contact information that foreigners might need during their stay like foreign tourist information, immigration contact, multicultural family support and lost and found.
6. A user can add or edit his/her details in the user information section which include the name, nationality, passport and responders' information. Having this information updated users can get immediate help when required. Lastly, the user can navigate to the home screen directly by clicking the home button on the sidebar.
7. The GEL application provides functionality that can be used by the end user to get instant help, irrespective of the language barrier or any type of disability. This makes the application more inclusive and accessible. The application is developed to be very intuitive and user friendly. It is tested for all functional buttons and icons which avoids a possibility of frustration among the users. This was a major drawback of the existing solution, the Emergency Ready App.

V. Appendix:

1. List of Interview questions: (semi-structured interview)
 - What are you thinking of as you look at the application?
 - What do you think about the product?
 - When and where do you think someone would use this application?
 - How would you go about performing the tasks in this application?
 - i. Task 1 (decided on the go)
 - ii. Task 2 (decided on the go)
 - Was anything different or did not perform as expected?
 - Was the interface easy to use and understand?
 - What motivated you to navigate that way to perform this task?

2. Notes from usability testing interview:

a. User 1

Goto Emergency land- for foreigners in Korea (Interview)
via Zoom call-online 8th June, 2022
User 1 20 minutes

Q: What are you thinking as you look at the app?
A → like aspect ratio of the application icons, color co-ordinated for high emergency. to normal scenario. green → calming effect

Q: What do you think the product does?
A → related to health & police, disastrous situation - help

Q: When and where do you think someone would use this?
A → Previous experience make it important to have this application to use when at a club, or travelling late at night, during covid pandemic.

Q: How would you go about performing the task,
1. Making a call during an Medical emergency?
A → easy to perform, icon very visible and prominent to go ahead and directly make a call.

2. Text the police for help during personal emergency.
A → took a second to find the button, prioritize call > text

Q: Was anything different or did not perform as expected?
it was all intuitive and easy to use.

Q: Was the interface easy to understand?
Yes.

Q: What motivated you to navigate that way to perform the task?
The color was a major reason for navigating that way.

modification sent to user to show current location when on the go.
discreetly, texting during a personal emergency could be very useful → hence having similar sized buttons for both call & text would be helpful.
Adjust the app for the text sent to police
The current locaⁿ of text is not enough, as user is on the go.

b. User 2

Go to Emergency And → for foreigners in Korea (Interview)		
	via Zoom Call.	40 minutes
User 2.	↓ online	10 th June, 2022
Q.	What are you thinking of as you look at the app?	
→	Possibilities of medical help & police help during an emergency scenario.	
Q.	What do you think the product does?	
→	Options for emergency cases, functions for help. very intuitive.	
Q.	When and where do you think someone would use this?	
→	When user is in a difficult situation for specific scenarios mostly related to medical & health & police.	
Q.	How would you perform the following task?	
→	1. find nearby hospitals during an medical emergency	
→	user navigated to the call (ambulance) initially, and eventually navigated to nearby location button to find nearby hospitals.	
→	2. Medications to buy from a pharmacy for a common disease	
→	user correctly navigated to the medications they need during the time of need.	
Q.	Was anything different or did not perform as expected?	
→	It performs as displayed on the app.	
Q.	Was the interface easy to understand?	
→	it was clear and easy to understand	
Q.	What motivated you to navigate that way to perform the task?	
→	the icons were informative the question was misleading for user and hence navigated to the ambulance call for nearby medical locations.	

3. Scan of survey questions:

11/06/2022, 02:47

Survey post usability testing for GEL application

Survey post usability testing for GEL application

This survey is conducted by students of SUNY Korea. It is only used for research purpose.

1. How would you describe your overall experience with the product?

2. What did you like the most about using this product?

3. What did you like the least?

4. Was there anything surprising or unexpected about this product?

5. On a scale from 1 to 5 (1=not at all likely, 5=very likely), how likely are you to recommend this product to a friend?

Mark only one oval.

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. How frequently would you use this product after what you saw today?

Mark only one oval.

- ☐ Rarely
☐ Occasionally
☐ Frequently

4. Scan of survey response after the usability test:

- a. First survey response: <Interview session 1, June 8th 2022, By Shubhangi and Youngchan Lim >

11/06/2022, 02:49

Survey post usability testing for GEL application

Survey post usability testing for GEL application

This survey is conducted by students of SUNY Korea. It is only used for research purpose.

How would you describe your overall experience with the product?

It was good.

What did you like the most about using this product?

It's designed for foreigners in Korea. Especially female users can benefit the most from it. It automatically translates my emergency text into Korean and calls for help.

What did you like the least?

The fact that the box size of police text and police call are switched. Coming from a female perspective I could be in precarious situations where I want to relay the need for help without alarming my stalker etc.

Was there anything surprising or unexpected about this product?

Medicine info having pictures. It was so helpful and makes life easier

On a scale from 1 to 5 (1=not at all likely, 5=very likely), how likely are you to recommend this product to a friend?

1



2



3



4



5



<https://docs.google.com/forms/d/1-UDeu6T4Q-qWAy41EDuA/WCnsmT8CXpB5NYnu5Ued8?response=ACYDBN5uADhv54qOCa-75kUDW6...> 1/2

11/06/2022, 02:49

Survey post usability testing for GEL application

How frequently would you use this product after what you saw today?

☐ Rarely

☐ Occasionally

☒ Frequently

This form was created inside of Stony Brook University.

Google Forms

- b. Second survey response: <Interview session 2, June 10th 2022, By Shubhangi and Youngchan Lim >

11/06/2022, 02:49

Survey post usability testing for GEL application

Survey post usability testing for GEL application

This survey is conducted by students of SUNY Korea. It is only used for research purpose.

How would you describe your overall experience with the product?

The application was quiet good.

What did you like the most about using this product?

That the icons were lucid and informative

What did you like the least?

Colors of the buttons

Was there anything surprising or unexpected about this product?

That it sufficed all that it promised.

On a scale from 1 to 5 (1=not at all likely, 5=very likely), how likely are you to recommend this product to a friend?

1 2 3 4 5

☐ ☐ ☐ ☐ ☒

<https://docs.google.com/forms/d/1-UJDeuT4Q-qWky41EDgAJWCmaImT8CXpBONfmu5U/edit#response=ACYDBNja88dL3LEZS23pC4GWFL4...> 1/2

11/06/2022, 02:49

Survey post usability testing for GEL application

How frequently would you use this product after what you saw today?

- ☐ Rarely
- ☐ Occasionally
- ☒ Frequently

This form was created inside of Stony Brook University.

Google Forms

