



Midterm Project CS426

Mobile Device Application Development

Members:

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NOTE: This app requires device with API 26+

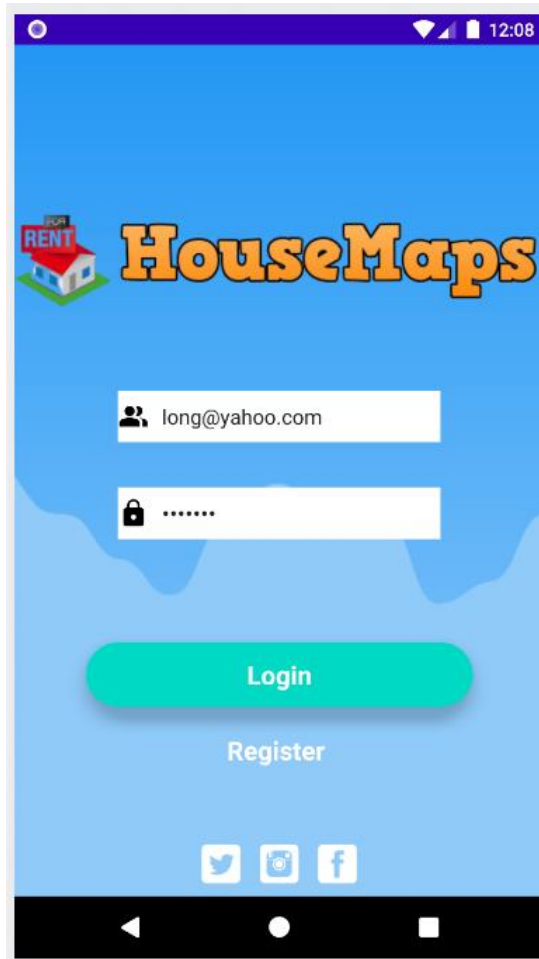
1. Target:

Currently, the number of hostels is skyrocketing due to the higher demand for rent because many people cannot afford to buy a house. In addition, the number of students and employees in big cities such as Ho Chi Minh City and Hanoi has become high. However, choosing a home that is affordable, close to where to go to school or work and avoiding being fooled is very difficult for newcomers to live in big cities. Therefore, our team created a mobile application to connect homeowners and renters, thereby helping people take advantage of unused homes and rooms to generate additional income. At the same time, it also helps newcomers to big cities find suitable houses quickly, assess the situation of the house, and contact the landlord before renting.

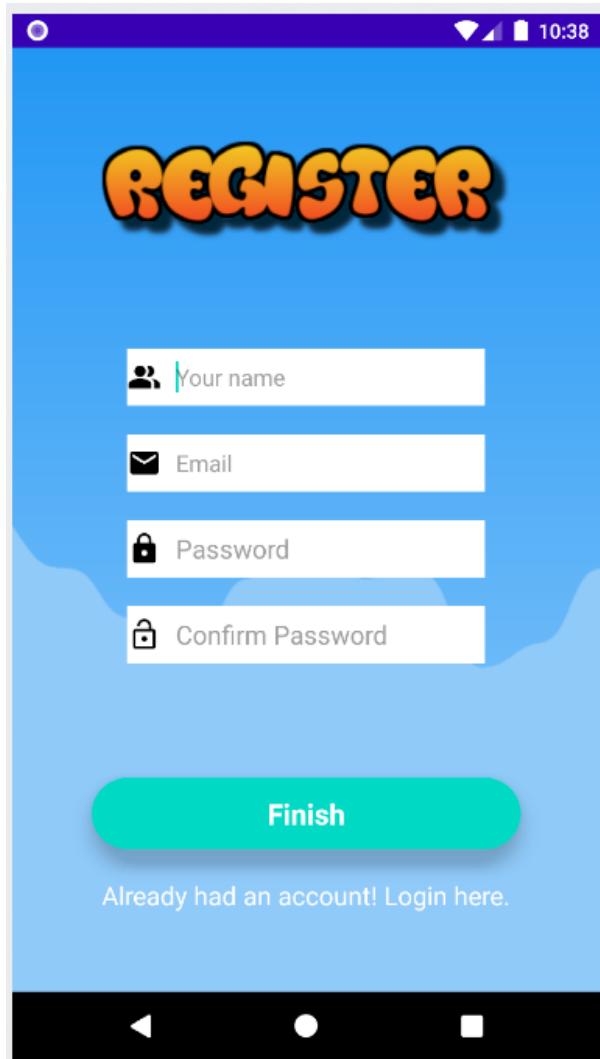


2. Main function and description

- **Log in:** If the user already has an account, just log in. Otherwise, they have to register first. The username is the email that they have already registered. And the password is just the password in the register screen. We designed a login to control all users and we can ban a short time or remove users that have some destructive activities such as spam, fake information, cheating, etc...



- **Register:** The user has to register before login. With this one, we can have information about users for further use. Email in the register has to be in format. We don't check email whether valid or not, we just check its format. Besides, two passwords have to be the same. If violating these restrictions, the system will notify errors.

A mobile application registration screen with a blue background. At the top, a purple status bar shows a white circle icon, signal strength, battery level, and the time 10:38. The word "REGISTER" is displayed in a large, stylized, orange-to-yellow gradient font with a black outline. Below it are four white input fields with icons on the left: a person icon for "Your name", an envelope icon for "Email", a padlock icon for "Password", and an open padlock icon for "Confirm Password". A large, rounded, teal button with the word "Finish" in white text is positioned below the fields. Underneath the button, the text "Already had an account! Login here." is displayed in a smaller, grey font. At the bottom, a black navigation bar contains three white icons: a back arrow, a circle, and a square.

- **Create rental location:** Users can create many landmarks. The request must include the description of the house, phone number, type of house, location and images of the house.

10:51

Add a house

Title

Phone number

Price

Location

☐

Choose current location

Description

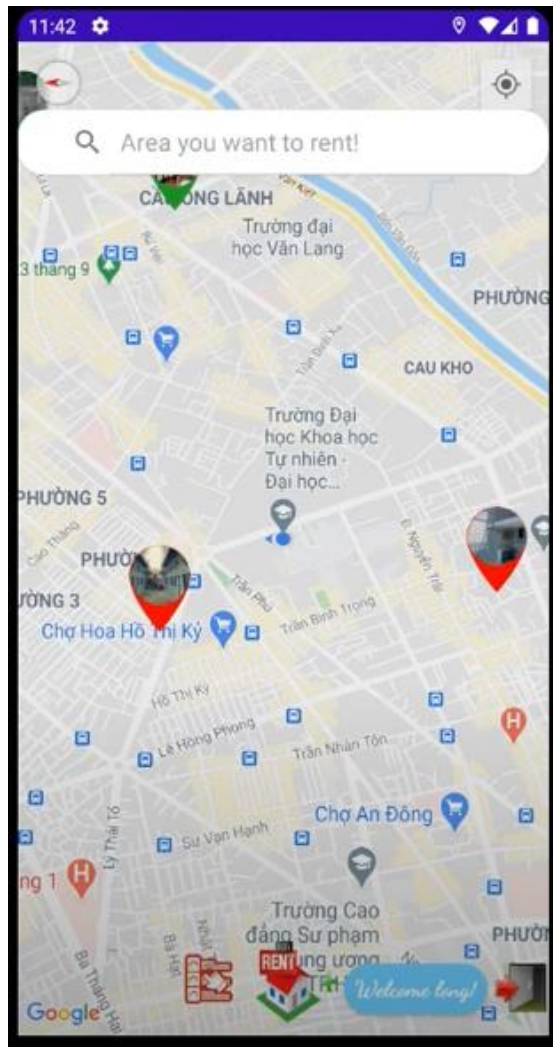
Category

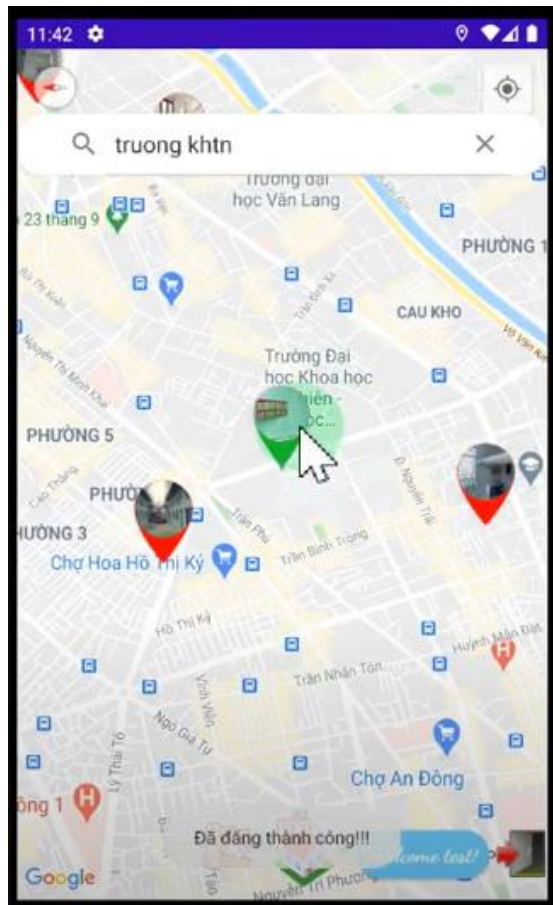
Whole house

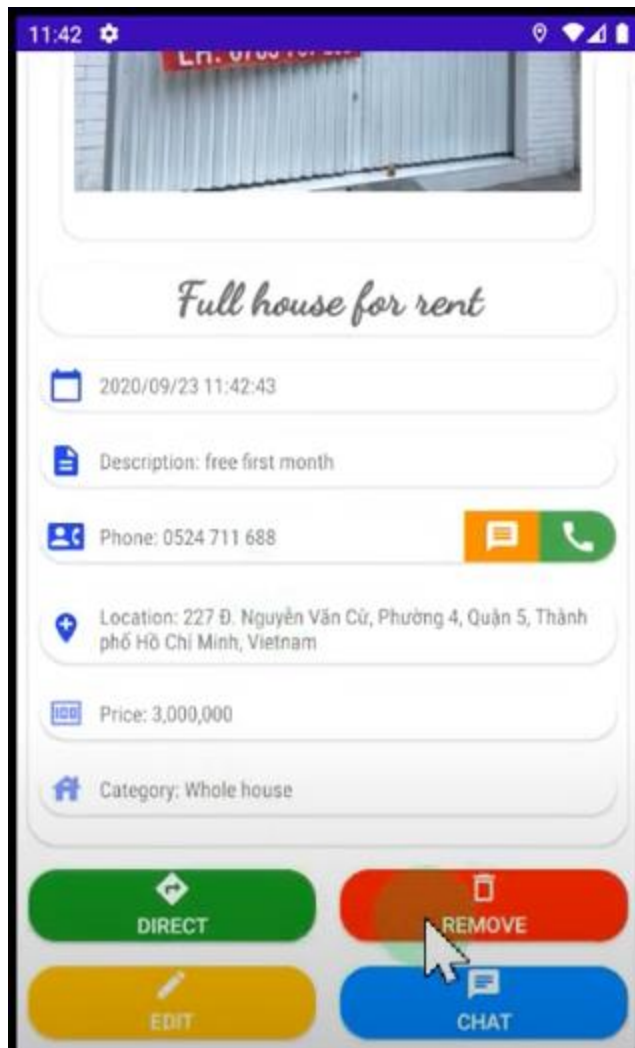
Choose image from:

Preview

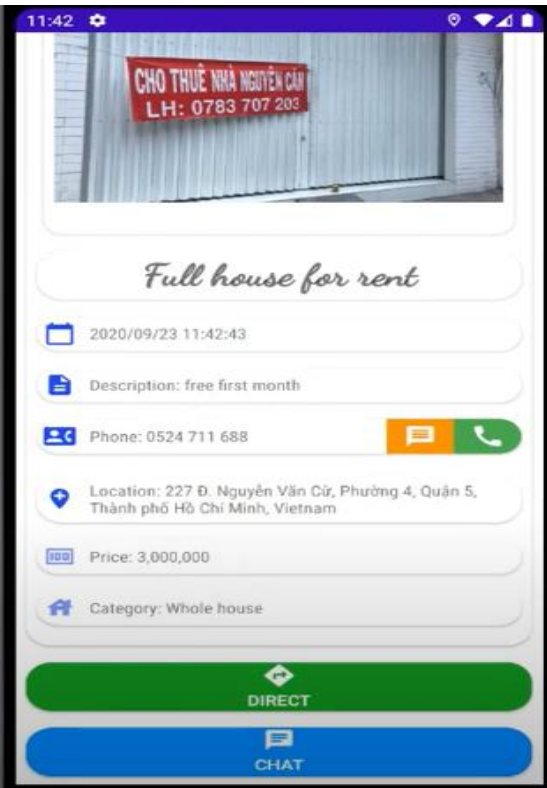
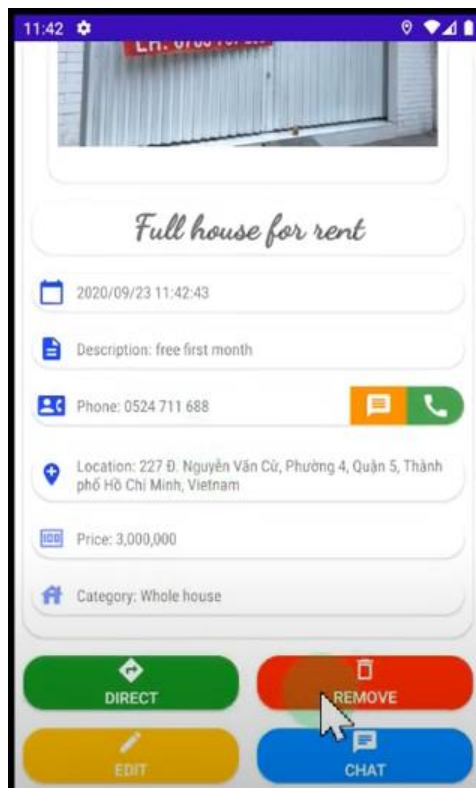
- **View alternative houses for renting:** The user can see that the houses for renting shown on the map is a houses' image icon (marker) colored based on who placed that marker. If the current user places marker, the marker will be green, otherwise, if the other user places the marker, the marker will be red. When clicking on each marker, users can see detailed location information, image, description, contact information and a number of other functions built into each marker.

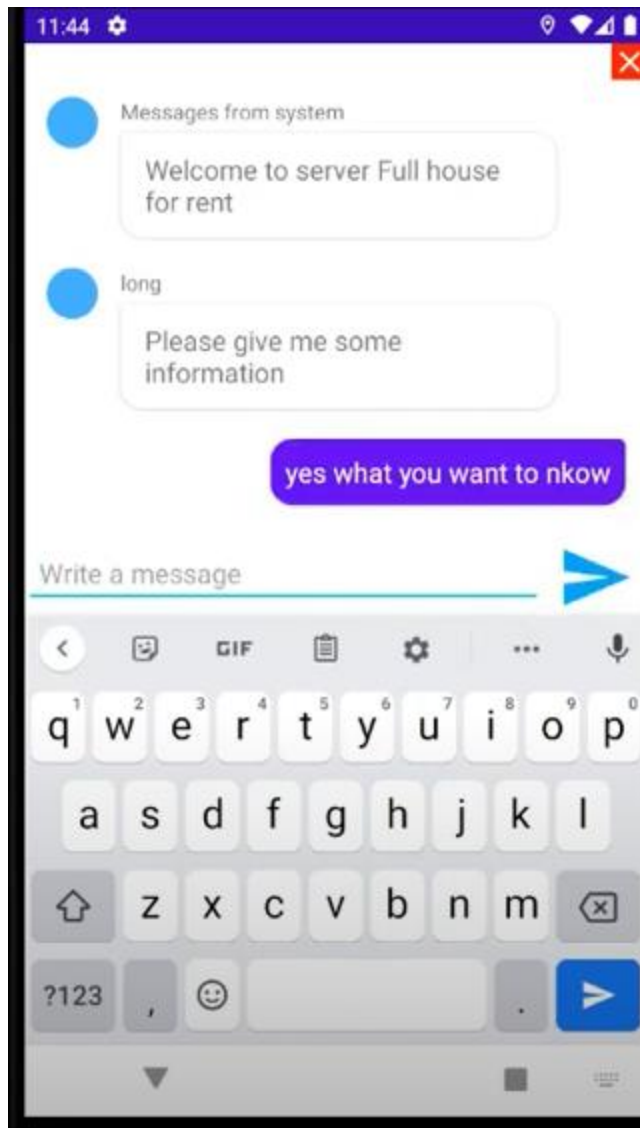






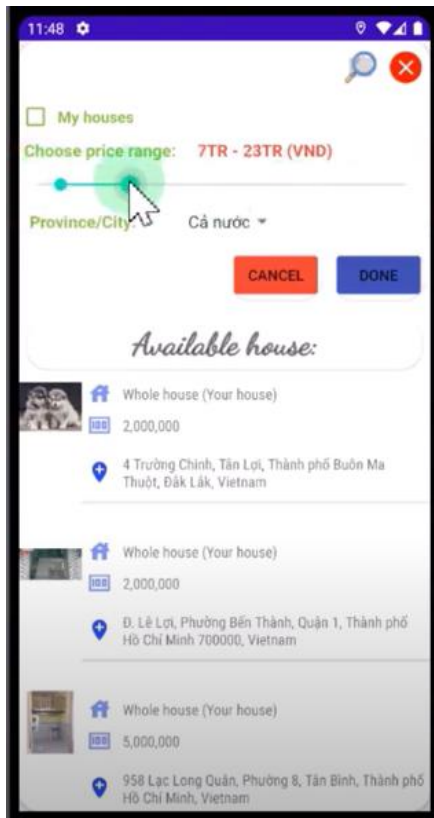
And the important thing is that only the marker can edit or delete the marker. However, if the marker is culturally offending or has complaints of phishing, the app's admin can also delete it



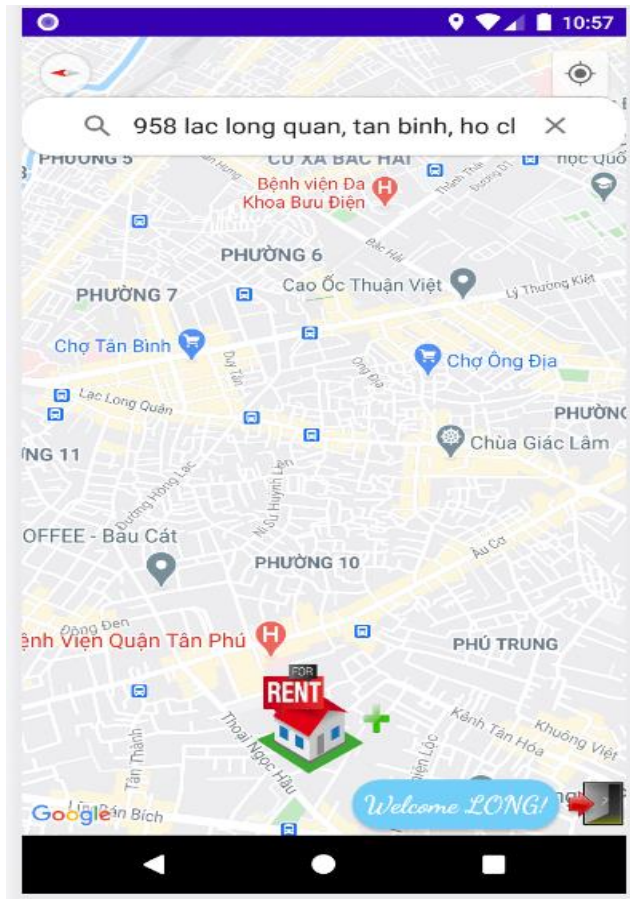


We also created a talking environment where people wishing to rent a home talk to each other to compete on price to create a miniature marketplace within our app.

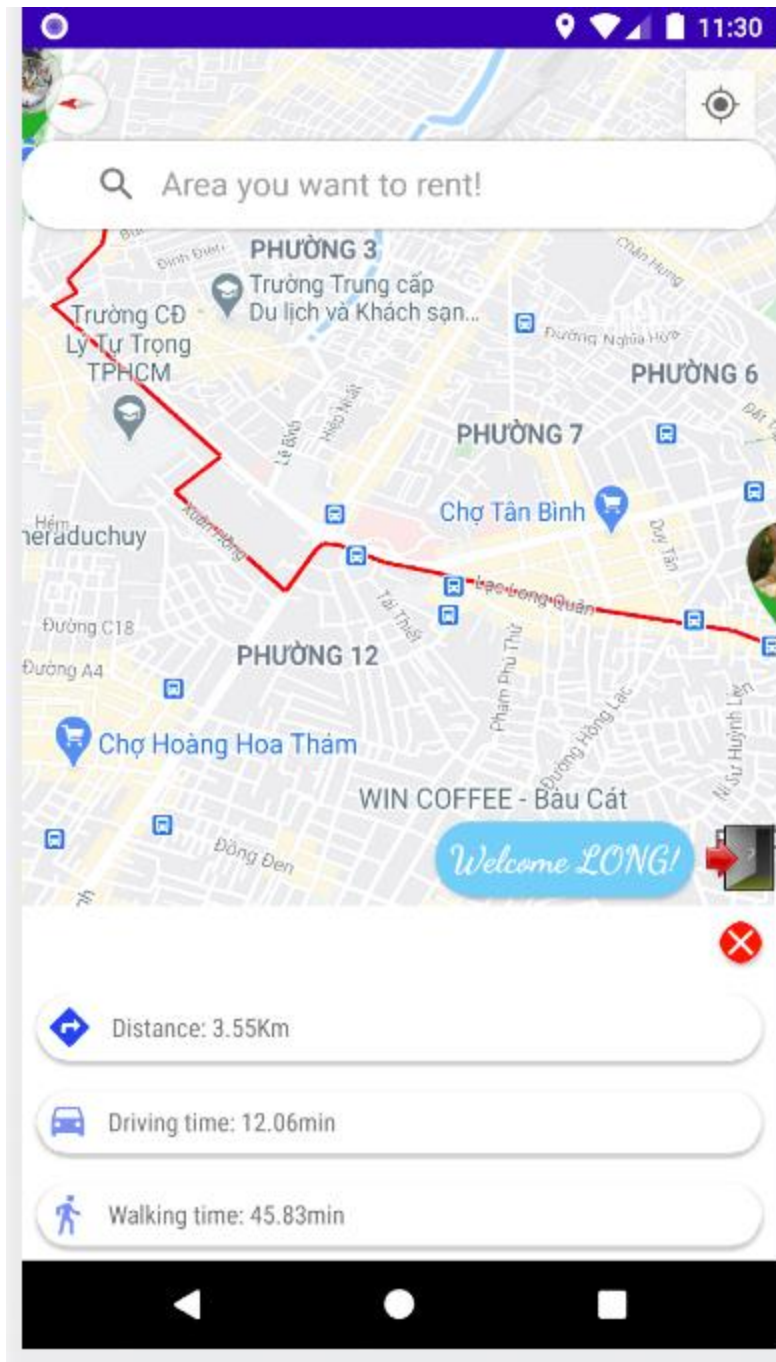
- **See list of apartments being rented:** We display the list of properties currently available on the app, and also create filters on prices and locations, which is very convenient for finding when there are too many houses.



- **Find houses based on location:** When there are too many houses existed, finding the right request to help will be very difficult, so we integrate a marker search function based on location. In addition, when the result is returned, rotate the camera on the map to immediately the marker returned so that the user can communicate with the owners more easily.

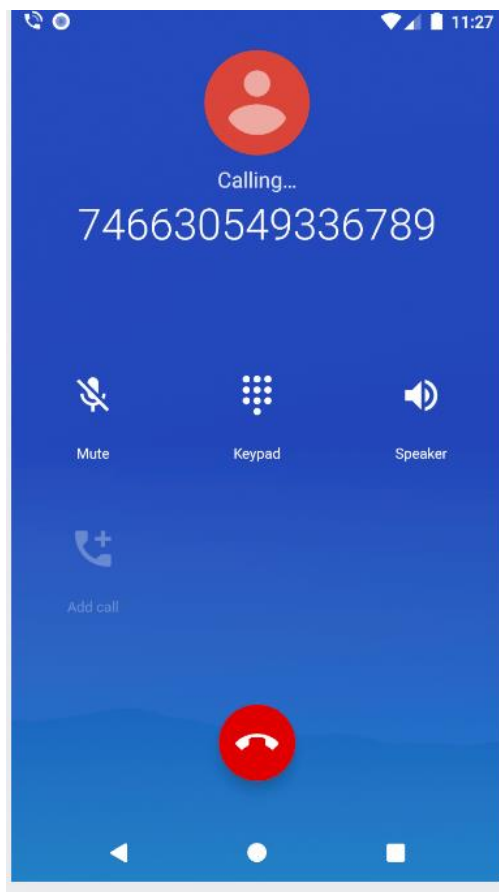
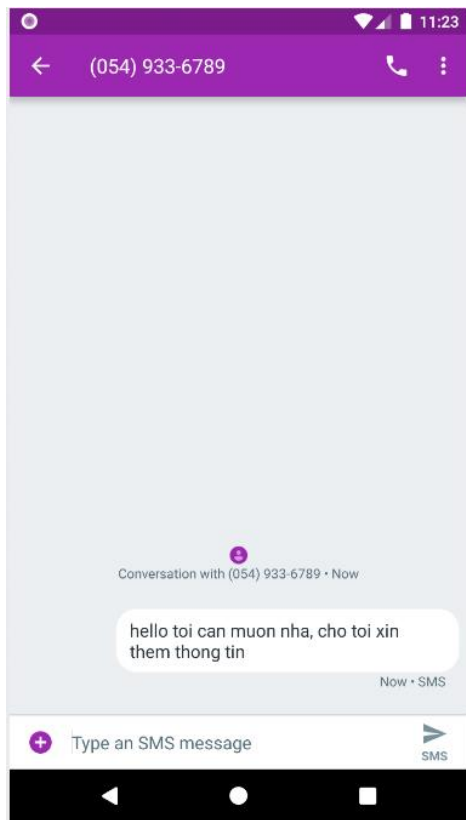


- **Get direction:** When selecting a marker, the user can select Direction so that they can see the path from the current position to the marker placement. This function makes helping a lot more convenient, especially in places with complicated roads like Ho Chi Minh City and Hanoi.



Besides, we also calculate the distance and time for users to estimate more conveniently

- **Phone call/SMS:** This is also a function when pressing the marker similar to the directions function, when pressing the call or sms function, the user can call or text the owners to get more information.



- **Update request real time:** Since we use the database to store markers as well as accounts, everything can be said to be updated fast in real time.

3. Technology

- **Database:** We use the database(firebase) to store accounts as well as user requests (markers) to update information in real time. All images about houses are saved in Fire Store Cloud
- **Google Map API:** We use the google map API to place markers, get directions and generate camera zoom effects against markers. Besides, using google maps to search based on address is very effective and accurate. And what's special about it is that it updates from time to time.
- **UI design:** Full featured, user-friendly, easy to use
- **Chat Box:** We create an environment where people can talk more easily, exchange, negotiate and compete on prices to create a price that works for the market and for tenants.

4. Demo(Video):

<https://www.youtube.com/watch?v=ByhBgVIXct8&feature=youtu.be&fbclid=IwAR04hBITTVKAMuKzT6xzIbCjOGAZsDDBXhJn0cm5FmRfK9qcBC3rjZwF9Uc>