Report

<19125087 – 19125091>

App Structure

The app is a single-activity map that displays the location and information of 25 universities in Ho Chi Minh City. Users can perform operations such as searching for a university and navigate to it using Google Maps or viewing its information and official website. The information provided is the university name, address, logo, and official website.

The main activity MapsActivity handles all interactions with the app, including UI setup, university information objects creation, map task setup, adapters setup, markers creation bases on the created university objects, searching and navigating operations definition, and other supplementary functions.

The app comes with the mapInfo package, which contains two Java classes: UniInfo and CustomInfoWindowAdapter. The UniInfo class stores universities' names, addresses, logos, and official websites. The CustomInfoWindowAdapter class implements the InfoWindowAdapter, the purpose of which is to customizes the content of the info window, providing a view that contains the university's logo, name, and address.

The main UI of the app is divided into three parts: the top row, the map fragment, and the bottom row.

- The top row includes the dropdown menu containing the list of defined universities and a search button. The user can select a university by choosing from the list or utilizing the typing suggestion feature in the menu. If a university is selected, clicking on the search button will move the map view display to the appropriate location and show the info window of the selected university.
- The bottom row contains the navigate and locate button. The navigate button requires the user to select a university in the dropdown menu, if a university is selected, the app will direct the user to Google Maps, along with the navigation information (destination university, current location), for better usability. The locate button, which requires the user's permission to access their current location, will move the map view to their position on the map, a marker will be put down to mark such location.
- The map fragment displays the map on which users interact.

Major functions

Display the location of 25 universities in Ho Chi Minh City.

Find the user's current location.

Direct to Google Maps for better navigation to the selected university.

Custom InfoWindow displays extra information when clicking on markers.

Custom InfoWindow directs to the selected university's official website when clicked.

Choose the university from the menu, or use typing suggestions to select a university.


In-app functions:

- PrepareDropdownMenu(): Setup the dropdown menu of AutoCompleteTextView view, including the names of universities in the city for the user to choose.
- OnInfoWindowClick(Marker marker): Clicking on the info window of the university will open the web browser and visit the university's main website.
- findCurrentLocation(): Update and zoom the camera to the current location of the user.
- findUniLocation(): Update and zoom the camera to the university location chosen in the AutoCompleteTextview.
- navigation(): Open Google Maps and navigate the way from the current location to the chosen university. If Google Maps is not enabled on the device, the app will open Google Maps on Google Play for the user to enable it.
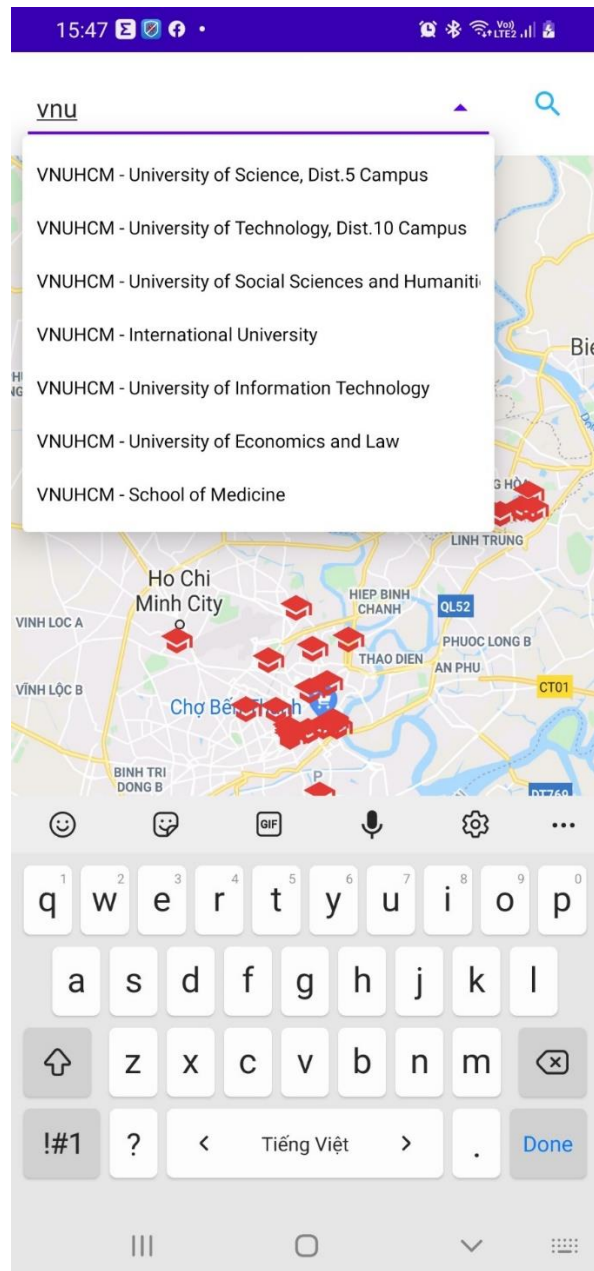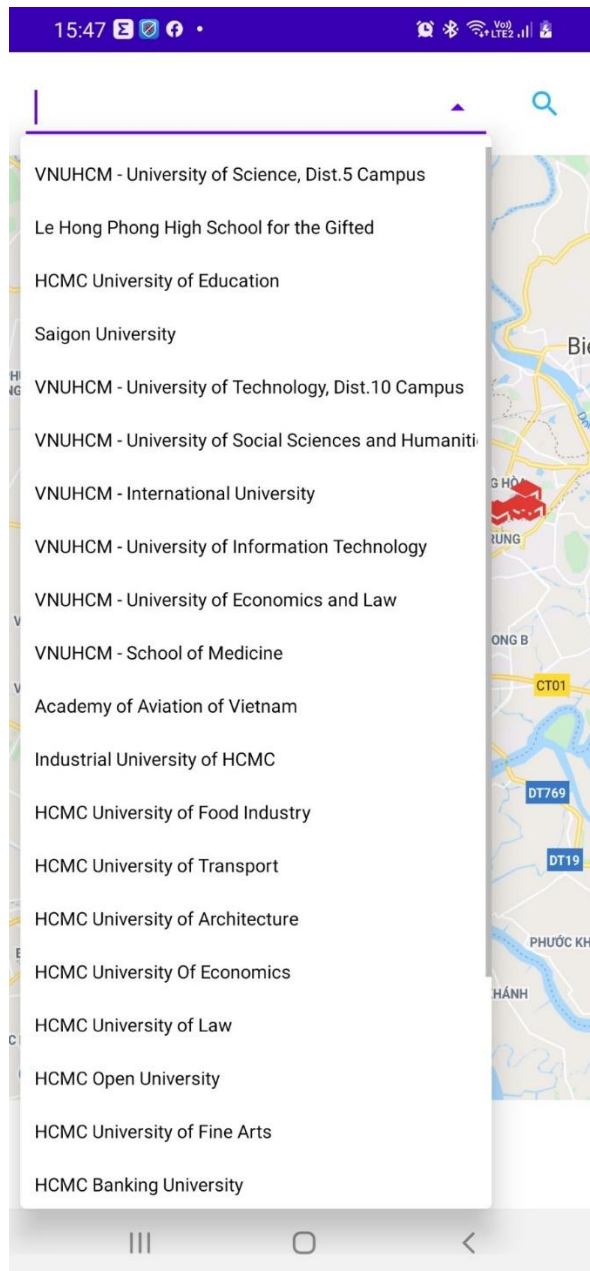- AddUniInfo(): Create a list of universities in the city including names, addresses, URLs, logos.

Demo screenshots
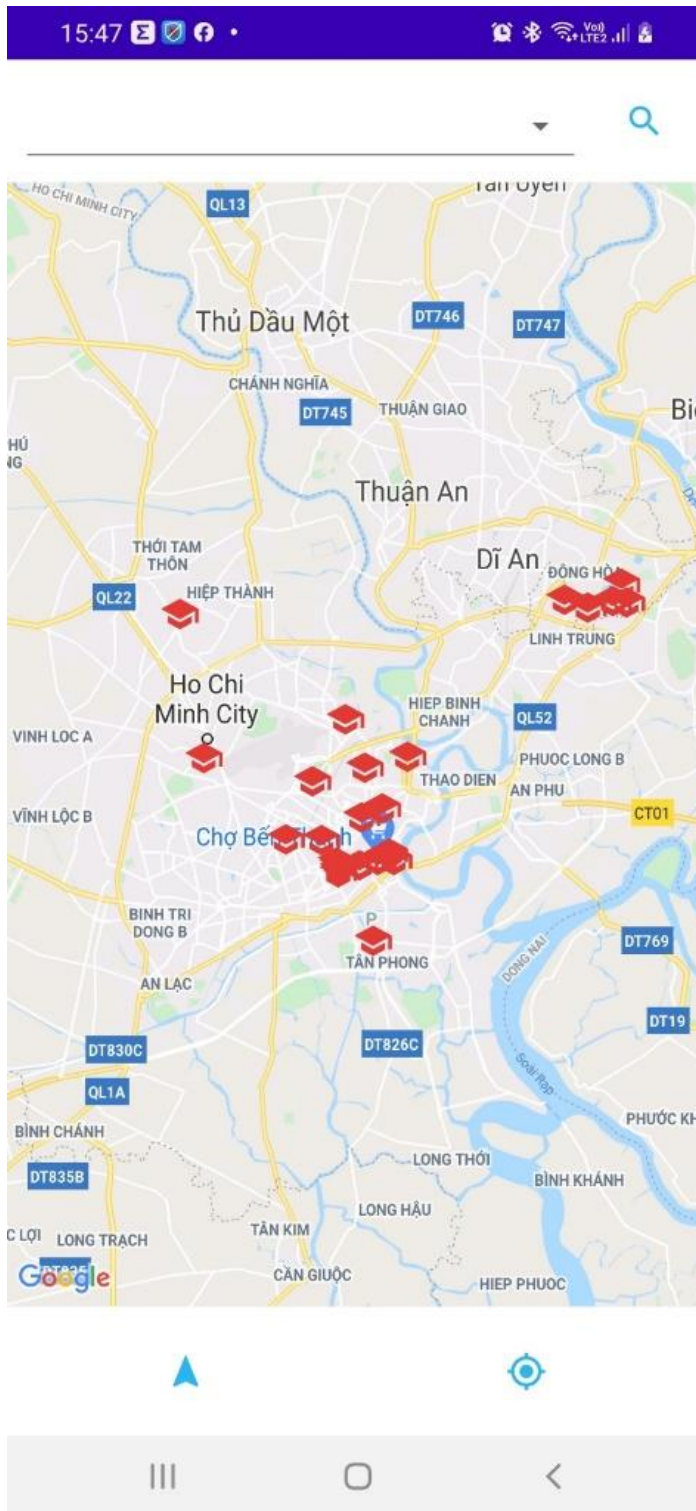
The main UI of the application.

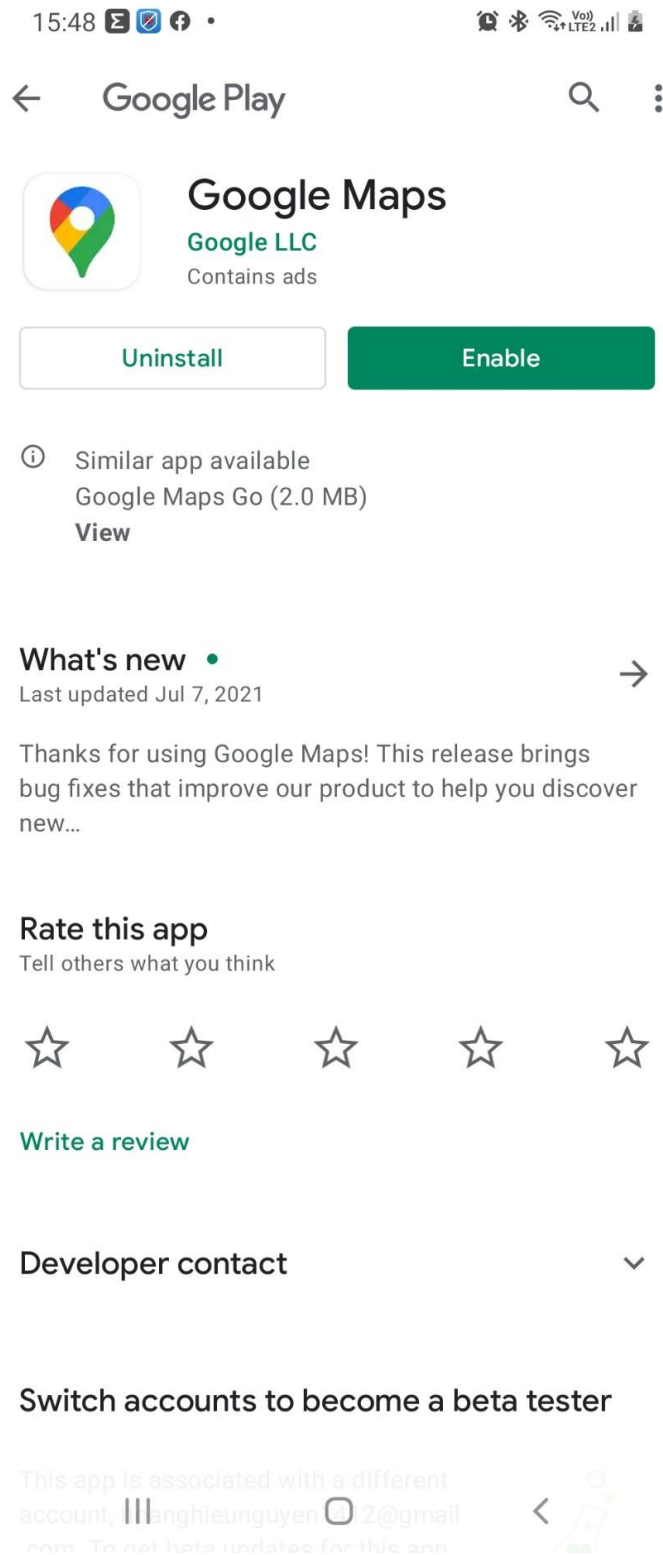*The dropdown menu including names of universities.*
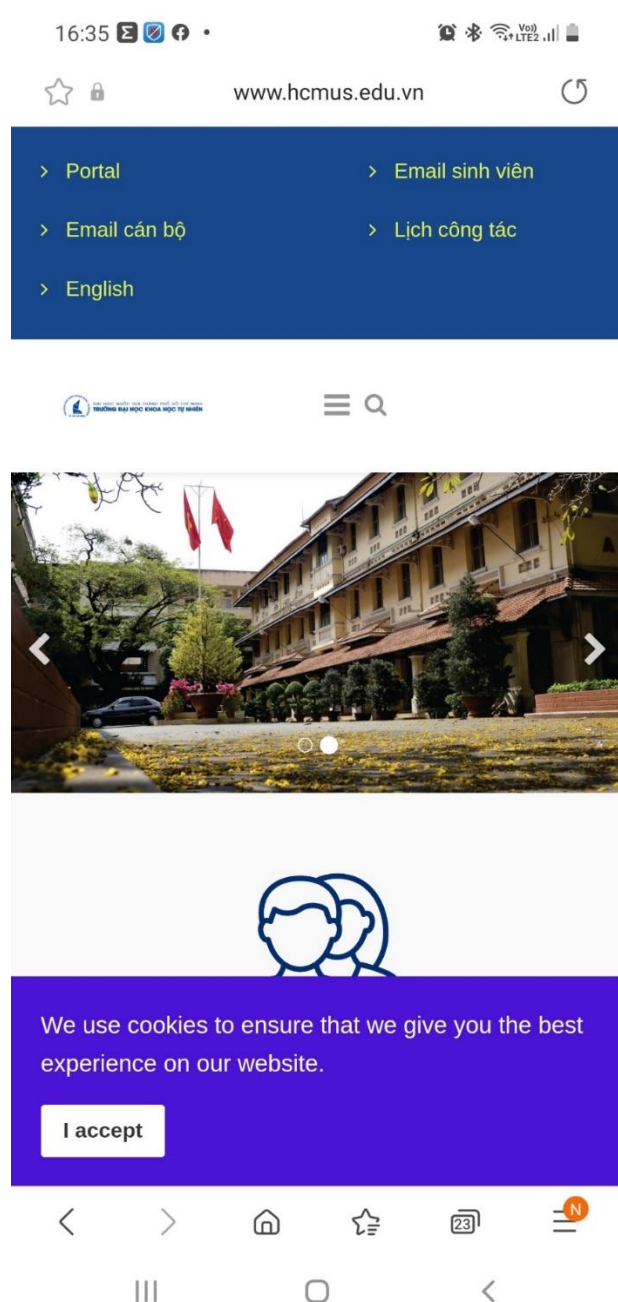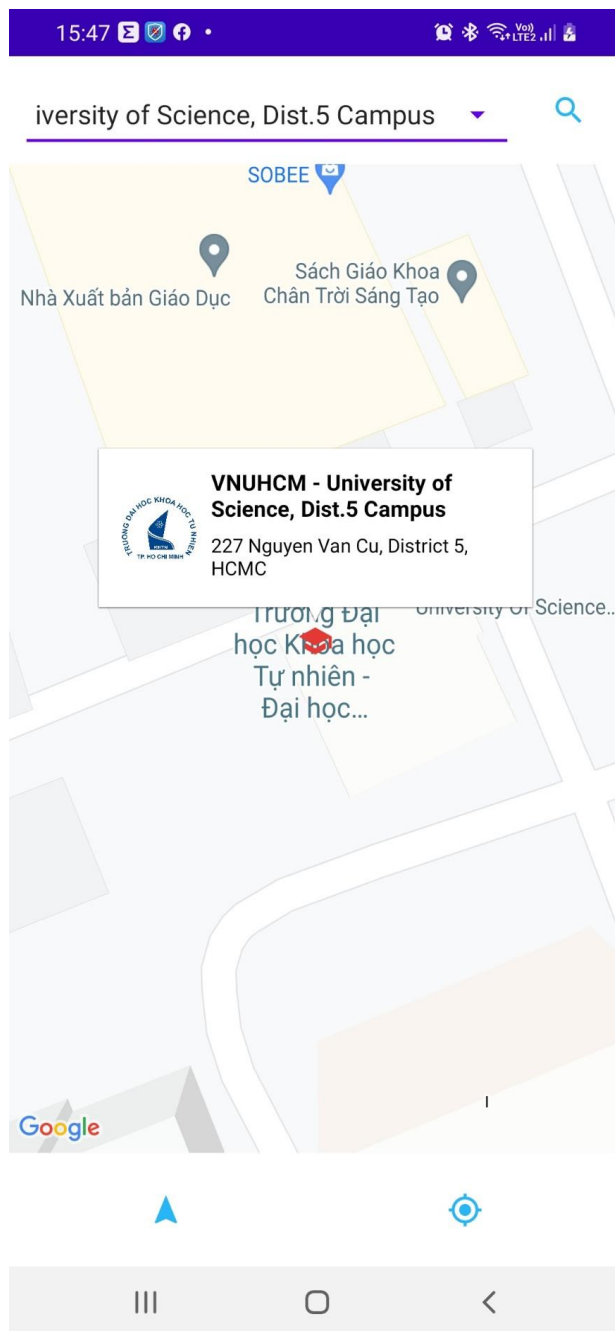
Locating the university position and opens the university website when clicked on InfoWindow.
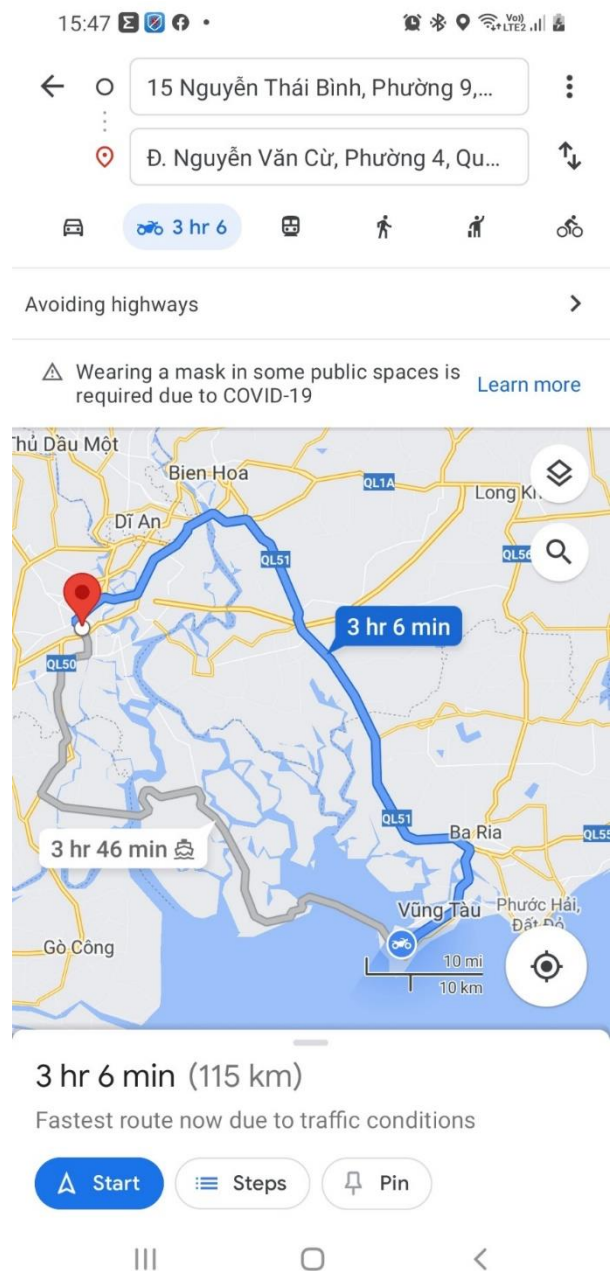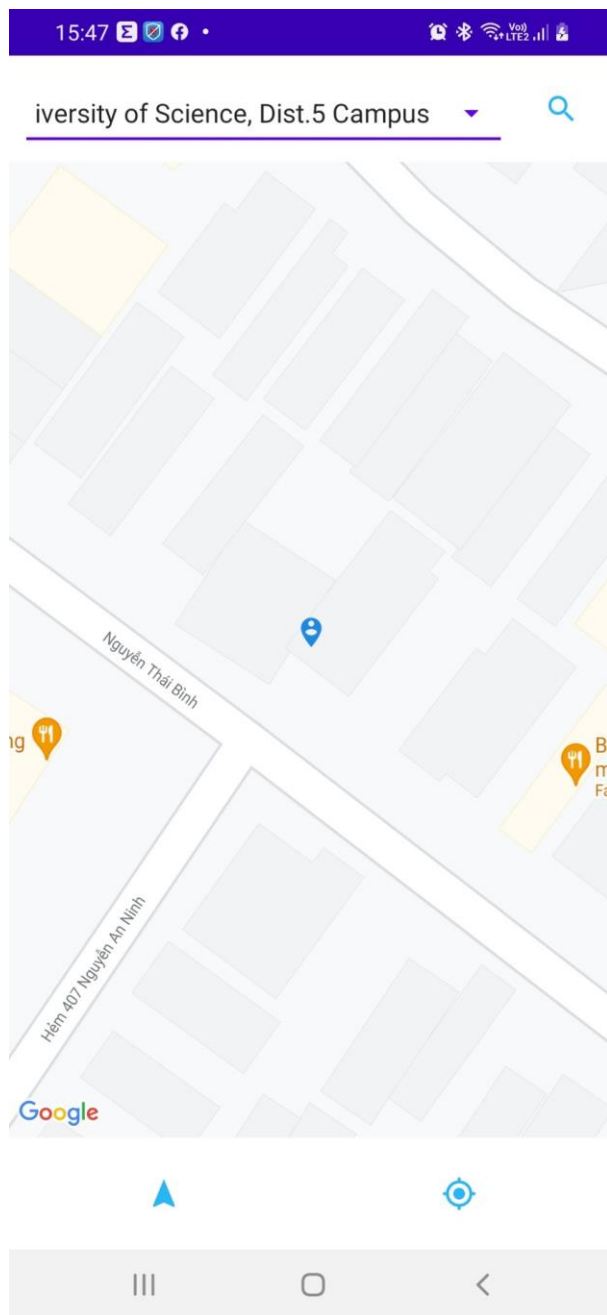
Current location and navigate from current location to the chosen university.

If Google Maps is not available on the device, the app with direct to the Google Play page for quick installation.