RMIT UNIVERSITY

Assignment 1 (30%)

COSC2659 - iOS Development

Lecturer name: Tom Huynh

Subject code: COSC2659

Campus: Saigon South

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Student name: Do Quang Thang

ID: (S3891873)

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I. Introduction

The college entrance exam is always a hot topic of discussion among high school students, as well as their parents, every year. In recent years, fields related to information technology have attracted a lot of attention and interest from young people. Understanding that mentality, I developed an app that allows users to review and research for different universities that have a reputation for training excellent programmers. As a result, students and parents can consider and make the most appropriate decision for the place to nurture their dreams.

As a student of information technology, I realize that many young people are confused and disoriented when they have to choose a school that is suitable for their abilities and circumstances. Therefore, this application describes the most prestigious universities and their basic information, helping young people save time and effort for researching. Currently, the application only provides a few simple functions such as browse, search, filter, and so on for certain universities. However, I believe that if this application is developed comprehensively, it can bring a lot of benefits.

II. Project Description

The application is simply an information search tool, in which the database only includes information about a few IT training universities. Specifically, each university includes information about my name, image, description, address, phone number, website, fanpage, email, google map coordinates, and my personal preferences. That information is presented throughout the application through 3 main views: welcome view, university list view, and university details view. The user interface is designed to be very simple, so as soon as the user looks at it, they can know how to use it immediately.

In order to use this application, users need to have Xcode installed first. Then the user needs to unzip the project folder and open it in Xcode. In other cases, you can go to my Github and launch the project on Xcode via this link:

https://github.com/doquangthang-zet/Dream-University

Regarding the user interface, the application consists of 3 views as mentioned above. Users will start from Welcome View, then they can choose “Start” button to move to the University List View, and finally users can click on any university to see detailed information about it. If you want to see a detailed description of your application's UX/UI, review the Implementation part.

Through this project, I myself have learned a lot of useful and interesting knowledge. Specifically, I was exposed to the Swift programming language and practiced a real-world application. Although it is just basic knowledge, I consider this a fairly easy language to learn for newbies. In addition, I had the opportunity to work on a macbook computer, a device that I had almost never had access to before. Within a few weeks I had adapted to that macbook. Besides, I also gained some UX/UI design knowledge, especially for ios mobile apps. Those knowledges will definitely be useful to me in the future. In the end, I had a lot of fun while learning and discovering Swift and SwiftUI. I have really enjoyed this project and am looking forward to the upcoming projects.

III. Implementation Details

1. Technical Details

This section describes the design of the application in detail. There are 3 main views in the Dream Universities app. In the welcome view, the components are arranged vertically from top to bottom in order including: RMIT logo, application logo, main topic that application discusses, application slogan, button to go to university list view, and a bell icon to show information. The popup message contains student information and introduce the app.

After pressing the "Start" button, the application will move to the universities list view. In which, the upper right corner is the moon icon to switch between light and dark mode. Then, there is the title of the list. Below that is a search bar that allows you to search for universities in the app by their name. Below that is the filter bar to filter the best colleges based on my opinion. Next is the list of universities in the database. Each record is represented by an image, name and an icon describing the favorite.

Once the user clicks on a record, the application will display the university card view. In that view, at the top there is a button to go back to the list view. Below that is the map view, which shows the exact location of that university on the map. Between the map view and the rest is an image illustration of that university. Next is the field name and favorite icon. Below is the detailed address. The next element is a short description of the school. The last part is contact information like phone, email and links to social platforms like webpage, facebook.

2. Features

a. Main Features

- Here is the app icon:

Figure 1. App Icon

Figure 2. How the app icon looks like on an Iphone

I came across this image online, found it appropriate, so I resized it and set it as the icon for Dream Universities.

- Here is how the welcome view looks like:

Figure 3. Welcome View

Figure 4. Information popup message

This is the structure of the Welcome View, where all components are placed in VStack and styled. On the right is the content of the information message - what appears when the user clicks on the bell icon in the lower right corner of the screen. The appearance of this view is managed by a State variable that allows the user to jump to the UniList View when the "Start" button is clicked.

- Here is the Universities List View:

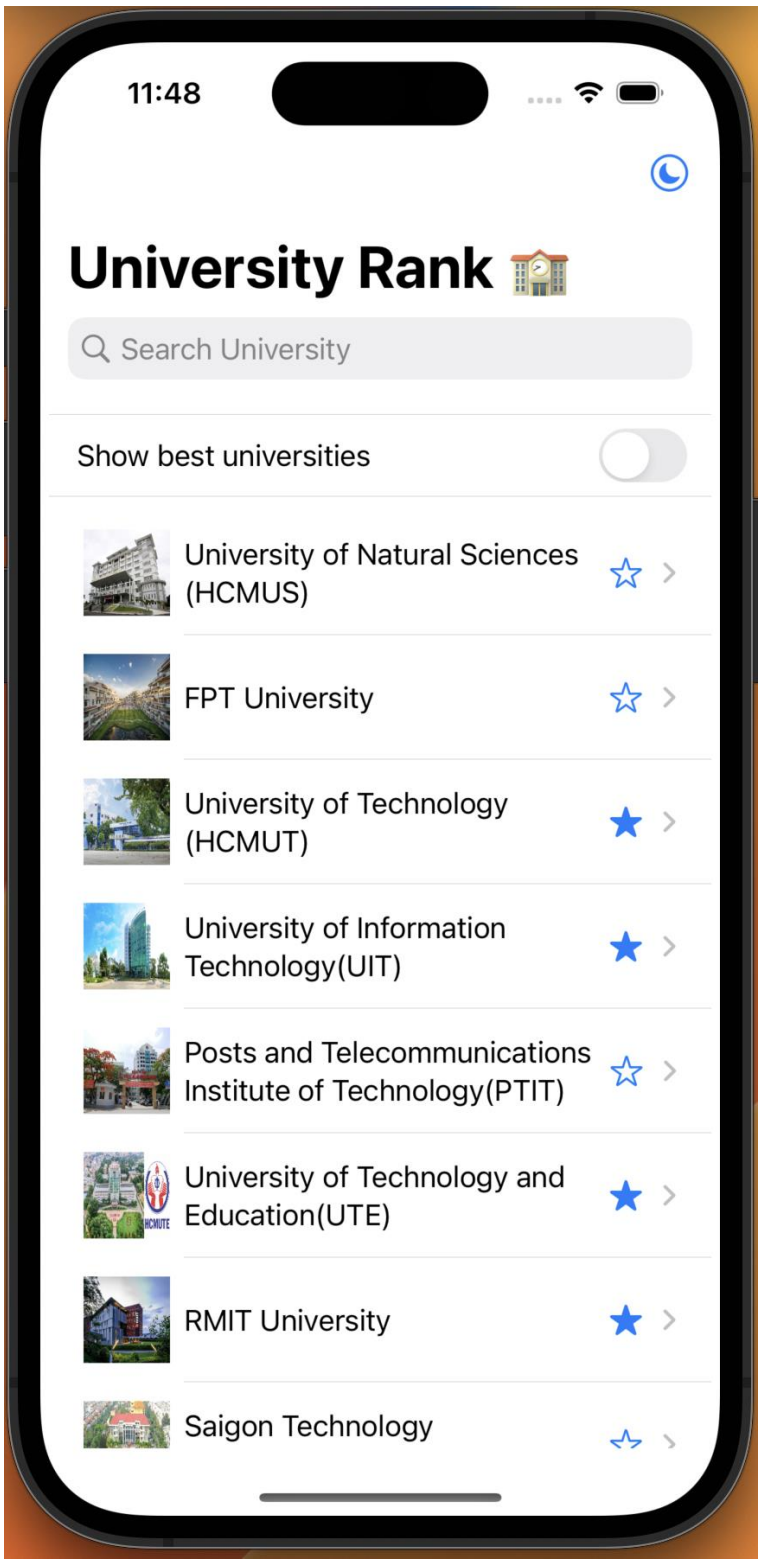

Figure 5. UniList View

This list is designed using Navigation View and List. In it, the application will read an array of universities and display them according to each university label view. When a label is clicked, the application will navigate the user to the university card view.

- Here is the university card view:

Figure 6. UniCard View - Top

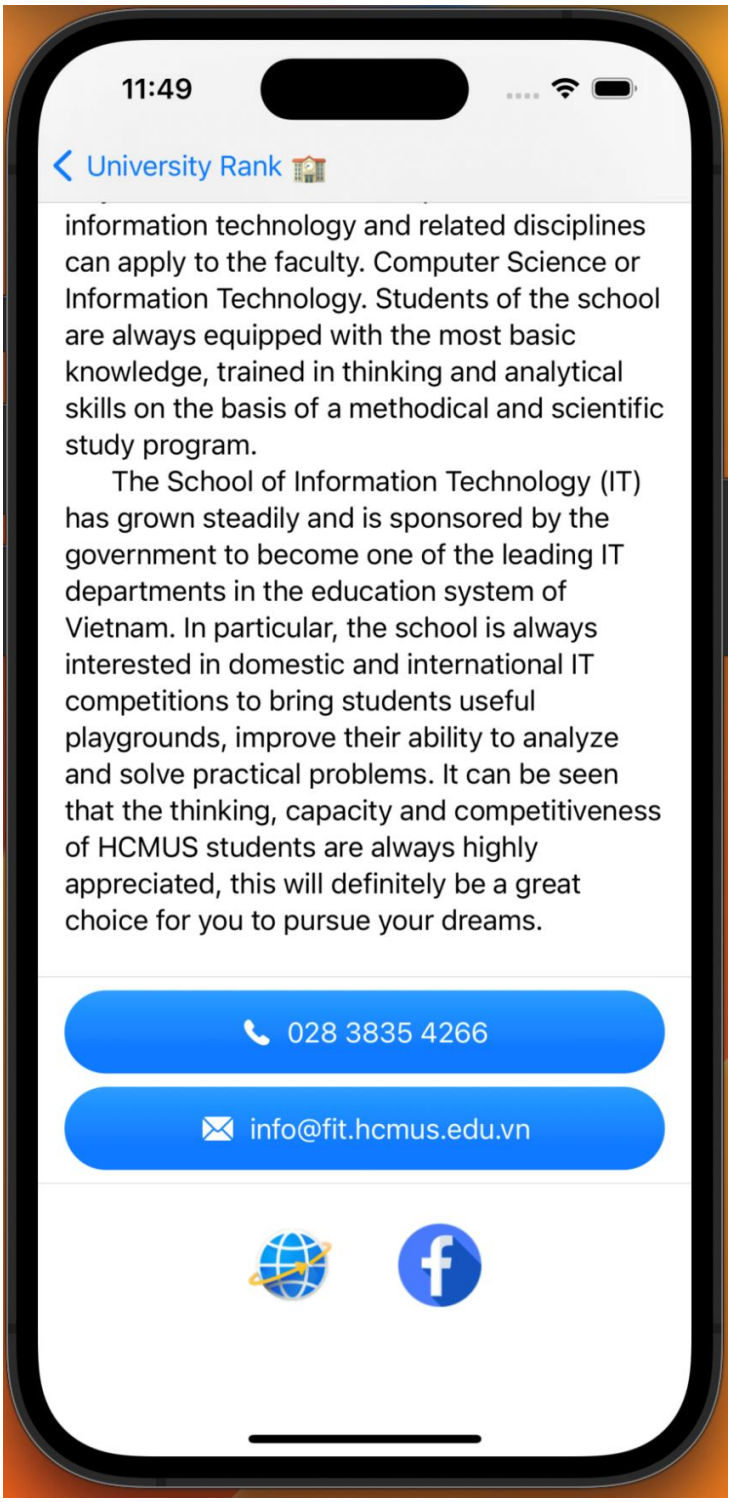

Figure 7. UniCard View - Bottom

This view includes almost all the information about a university that the application reads from the database. In order, this view consists of a map view, an image view, some static information, two information views, and two social icon views. In it, two social icon views can navigate users to the web or facebook address of that university.

b. Advanced Features

- This is the light mode/ dark mode feature

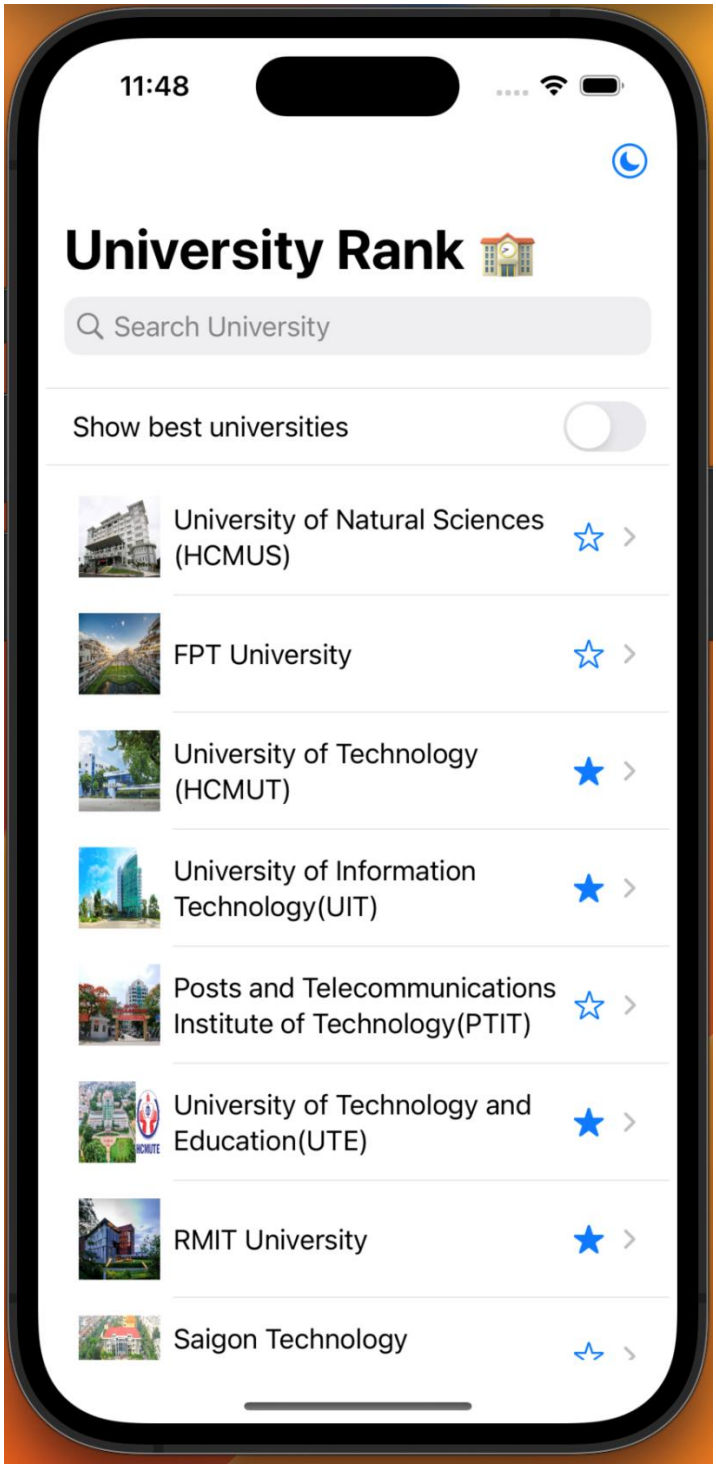

Figure 8. Light mode

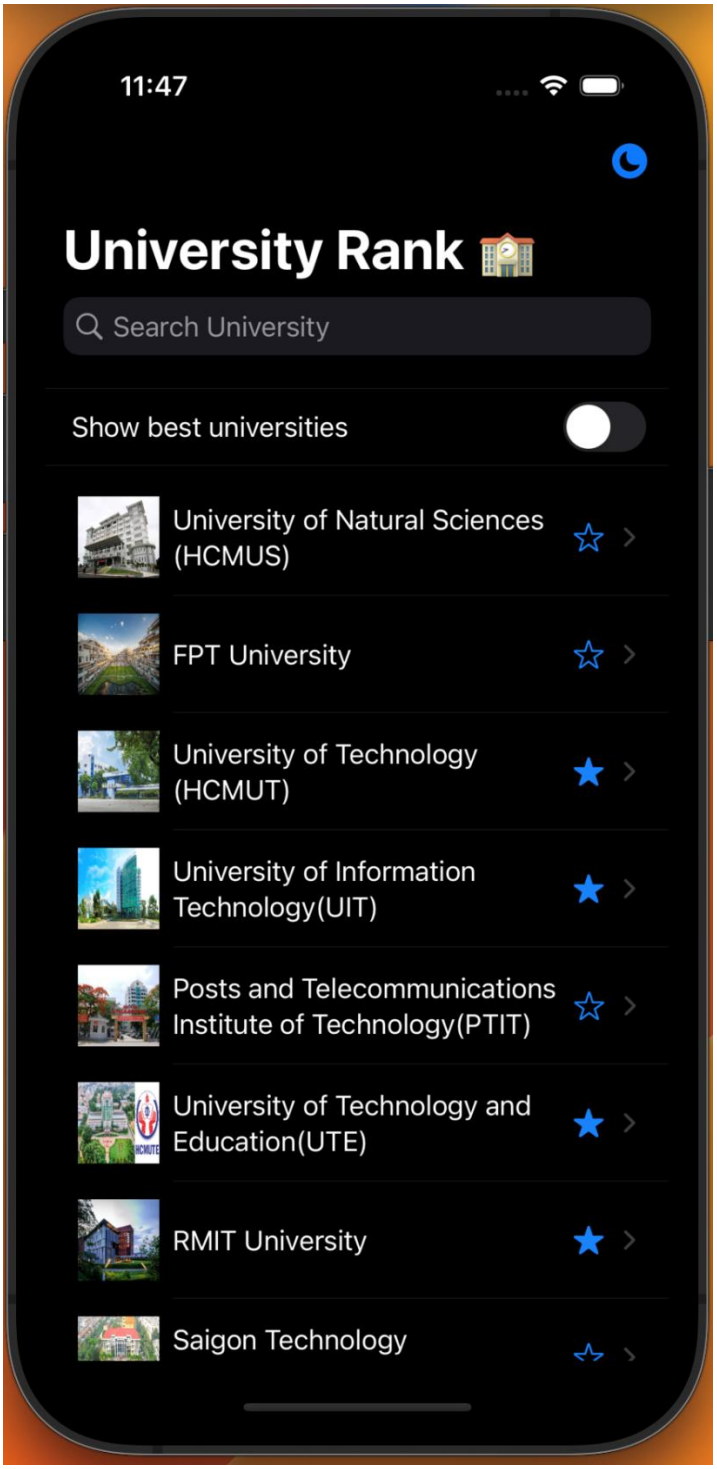

Figure 9. Dark mode

- Here is the search function:

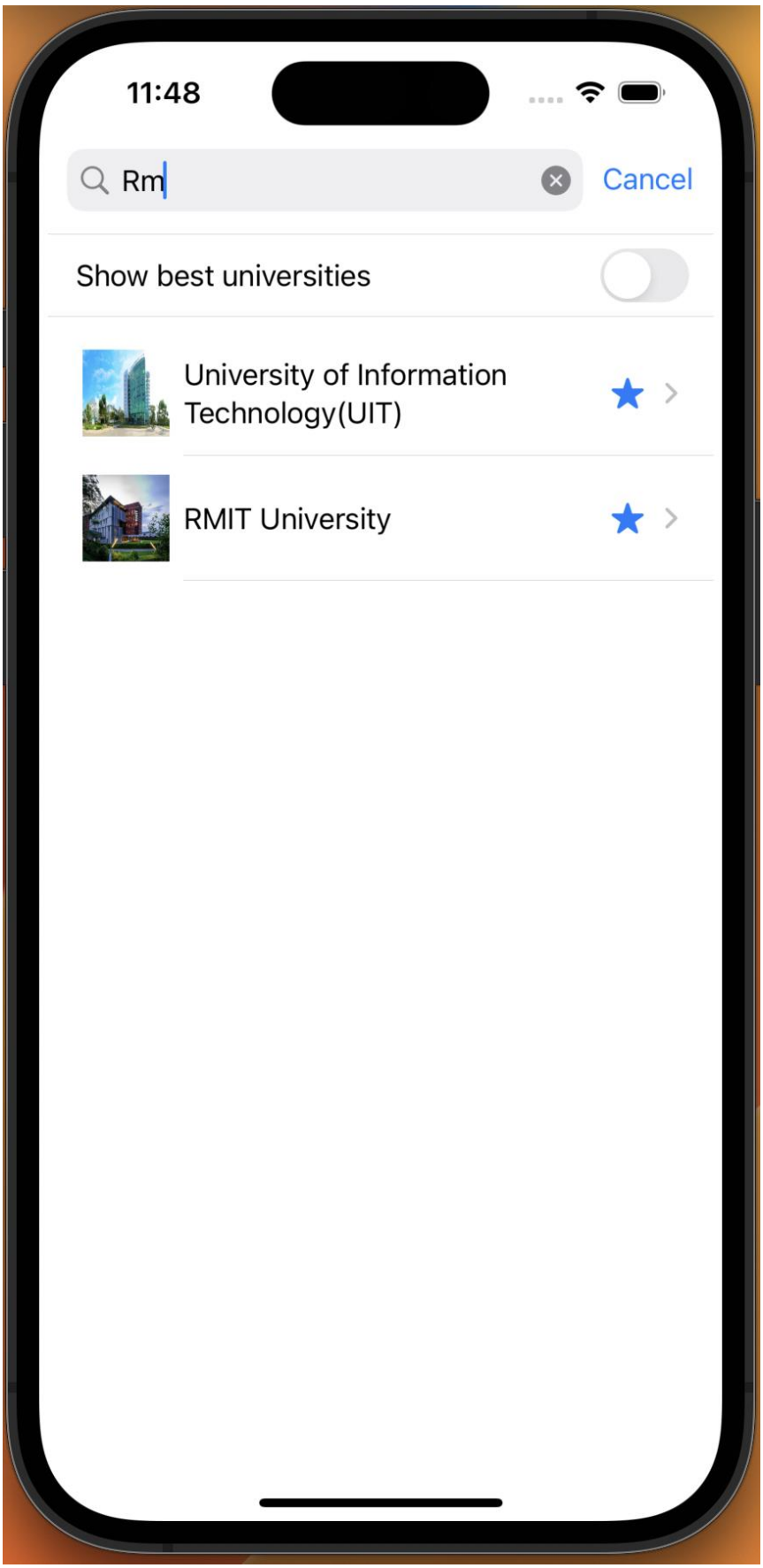

Figure 10. Search function

- Here is the filter function:

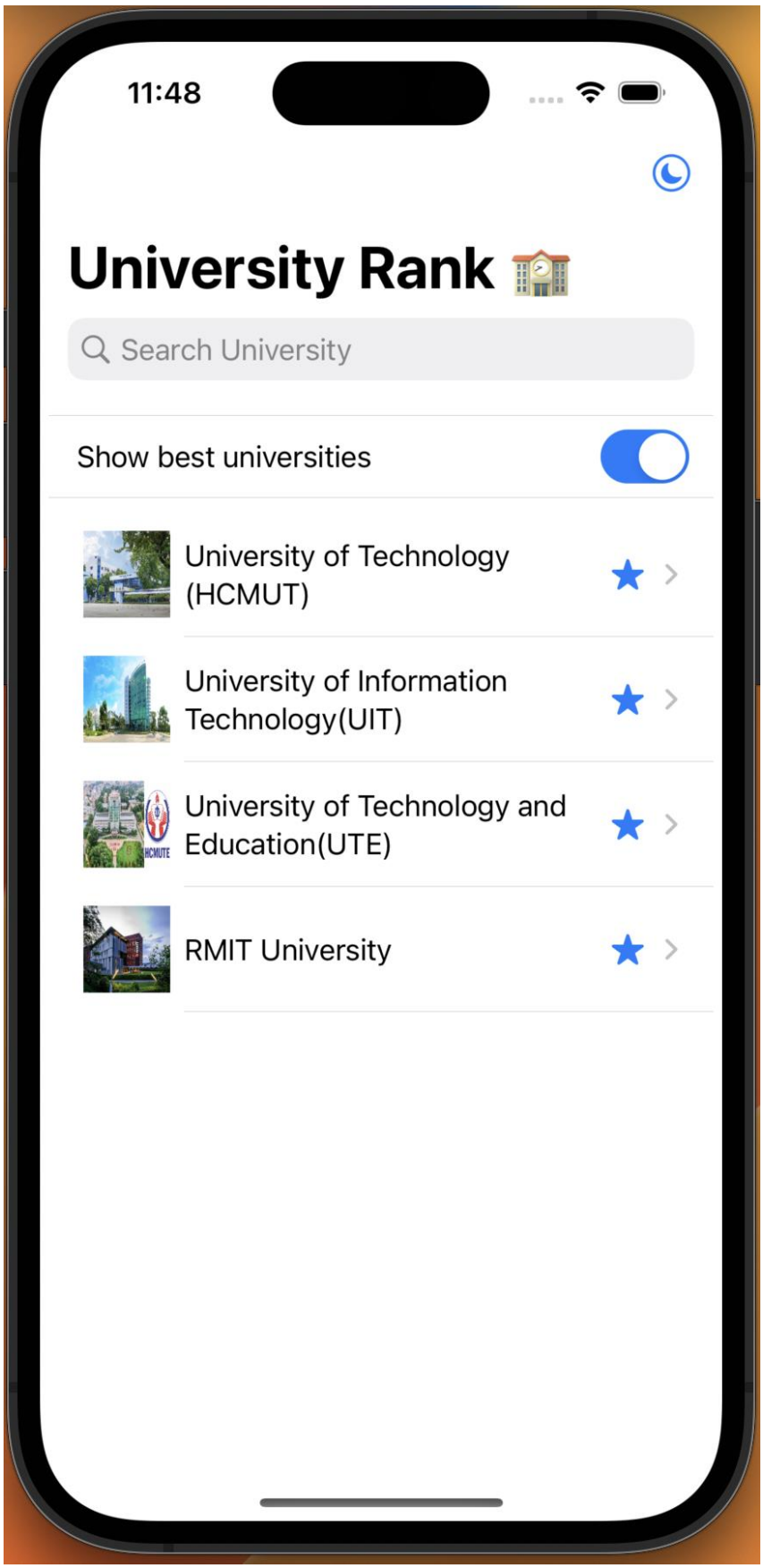

Figure 11. Filter function

- Here is the map with marker:

Figure 12. Map with marker

*Note: For the advanced features, you can refer to the video link below for a better illustration.

3. **Link to video demonstration**

   Video Link to show the general workflow of my app:
   https://youtube.com/shorts/M6WagF-j3uo?feature=share
   or https://drive.google.com/file/d/14xDJyU-ltS4iNXeLp5GKE94FYLCl4-kW/view?usp=drive_link

4. **Known Bugs/Problems**

   Currently, according to the most recent testing, I do not find any major bugs or problems. During the implementation of this project, I encountered a few bugs. However, they can be fixed easily after a few minutes of research.

IV. Conclusion

Currently, the application is just a simple version that allows users to read information and a few other functions. However, in the future, if this idea is further developed, it can support many different functions such as:

- Commenting: In each UniCard view, there will be a section for netizens to write reviews and rate the university. Thus, users will have a more objective view of a particular university.
- The database can be extended to all universities in Vietnam and there will be a function to filter schools by major fields.
- Sorting: Users can sort all universities by a certain criterion such as tuition, rating, location, or facilities.
- Admin dashboard: Application admins can create an admin view with a GUI that allows them to modify the application using functions such as CRUD instead of modifying directly on the database and server.

V. References

Vu Viet *Top 10 best IT training universities in Ho Chi Minh City*, toplist website, accessed 28 August 2023.
https://toplist-vn.translate.goog/top-list/truong-dai-hoc-dao-tao-ve-cong-nghe-thong-tin-tot-nhat-tphcm-13692.htm?_x_tr_sl=vi&_x_tr_tl=en&_x_tr_hl=vi&_x_tr_pto=wapp