Personal Project Report
## - Mobile Application Lab 2023 -

Application Name
Movies

Application Explanation
- What is your application? - App usage scenario
My application is a movie-introducing application using the TMDB API. If you have an account in TMDB and have an API key, you can use this application to search for movie information and manage your favorite list and rating lists using the session ID. If you don't have one, still you can see the trends in movies and search for movie information Since the API key is mine, it is for me. By using this application, I can manage my list of movies using my TMDB account. I can also search for movies in theaters and top-rated movies. I can also get a requestToken and sessionID by clicking only one 'LOGIN' button.

Activity Explanation
- What activities is in your application? - Role of each activity - Design of each activity in aspect of UI/UX

MainActivity

This is the main page of my application. There is a big image in the top center which is just for design. There are 4 image buttons, red is for everyone, including users that are not logged in. I used image fonts for trend and search buttons, making the search a little bit smaller to maximize the margin space and let the application look minimal. Login and my page are also some images that match the things they do. You can access the pages by clicking the button. If you are not logged in and click the mypage button, you will receive a toast message that says to log in first.
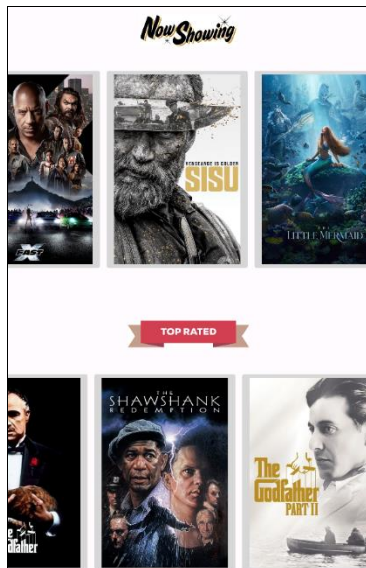
Trend Activity

This is the activity that you can see when you click the trend button on the main homepage. There are two images that introduce what kind of movies are in the horizontal scroll view. The view at the top displays movies that are now shown in the theaters The view at the bottom displays movies that are top-rated, which means that they are historical movies. In both views, if you click the poster image of the movie, you move to MovieActivity and see the details of the movie.
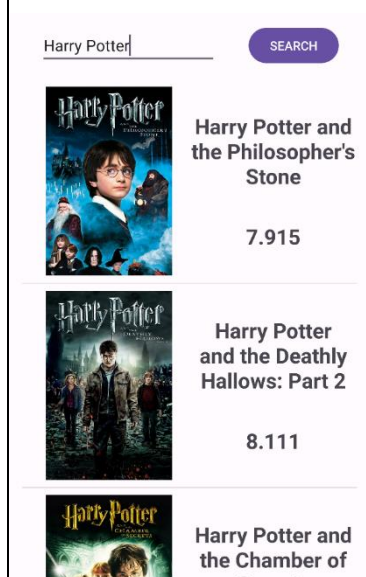
Search Activity

This is the activity that you can see when you click the trend button on the main homepage. There is an editText that gets a query and if you click the search button, it will show the results as a listview. The listview contains the image of the movie which is a poster image or backdrop image. If there is no image, I used a no-poster sign instead of the image. On the right side, we can see the title and the rating of the users. If you click the image or the title, you will get a MovieActivity that shows the details of the movie.
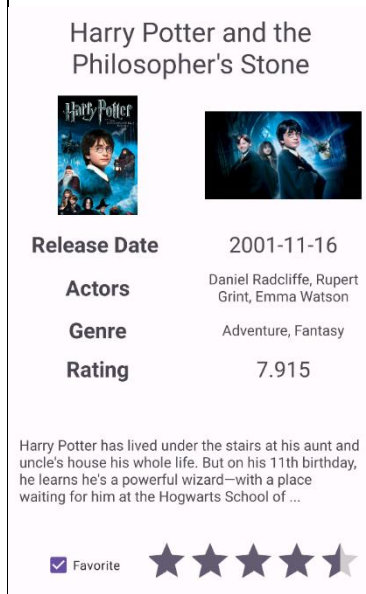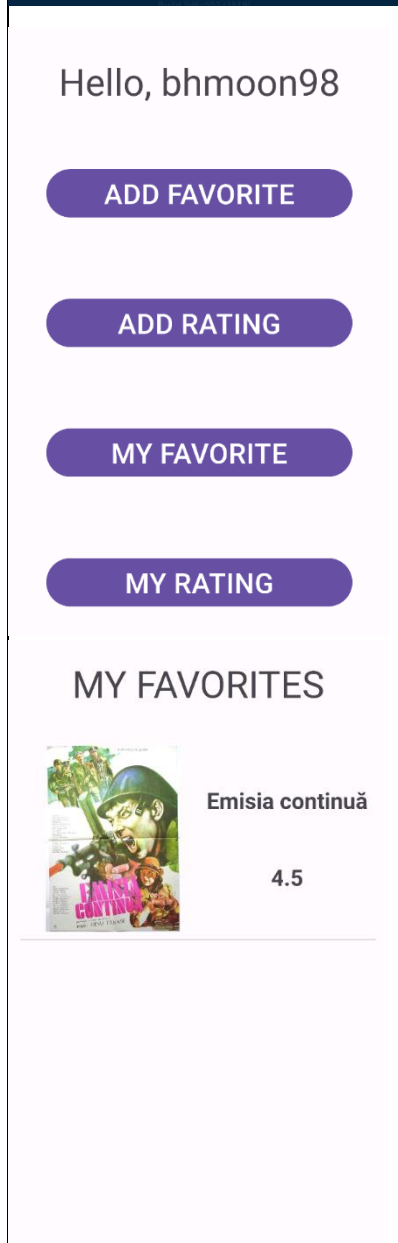
Movie Activity

This is the activity that you can see when you click any movie image from other activities in this app. I got the title, poster image, backdrop image, release date, actors, genre, rating, and overview from the API and printed it on the screen. I also made a checkbox and rating bar at the bottom, so that I can modify my list and ratings while I am logged in. I also checked the favorite list and rating list if I am logged in. In the video, some works on the checkbox and rating bar are undone, for example deleting if the checkbox is unclicked, or changing the rating list if I press the rating bar. It will be done before my demo. There could be some UI/UX that could be changed for better design.
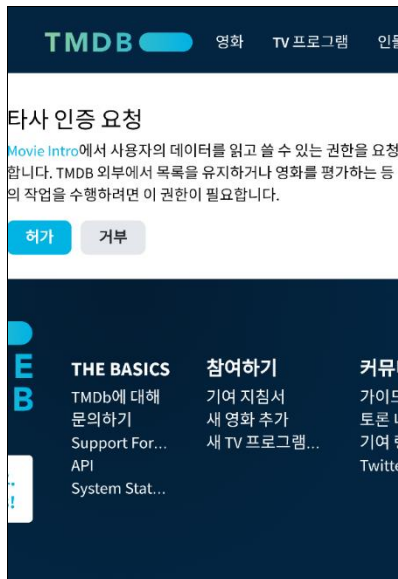
When you press the LOGIN Button

This is not an activity in the application, but it is the process of getting the approval of the request token. Through this process, I can get a session ID in the future. If you press the approval button, it will redirect to the main page. If you didn't login to TMDB in advance, a login might be needed before this.

MyActivity

This is my personal page when I click the mypage button on my homepage. This is allowed when I get a sessionID by clicking the mypage button. I can add my favorite movies and add ratings on movies. I can also check them by pressing my favorite and my rating. Currently, when I press the add buttons, it moves to the search activity to find the movie. There could be some changes in UI/UX and I am also planning to add some shortcut add-favorite/ratings in the blank space if you know the id of the movie.

FavoriteActivity & RatingActivity

These are activities that show the list of my favorites and my ratings. The difference is that the rating shown in favorites are users' ratings and in ratings it is my rating. Of course, if you click the image of a button, you can go to the MovieActivity. Some modifications have to be done on implementing the insertion and deletion of the lists. It will be done on demo. There will be more items inserted to show that the list is scrollable. There could be also changes in UI/UX for better design.

Overall, for further work, there could be some maps used to find the theaters for the movies that are now played. In that case I could use google map API.

API Usage
- From which point your application connect with Open API(or your own server)?
- Why you used it?

Since it is a movie application, I used TMDB API which has a bunch of data about movies. I used the get and post method to retrieve data from the server and post new data to the server. I also used the connection to get authentication to make a session in TMDB API. The application is connected to the OpenAPI when it is first getting movie information or login.

Implementation Challenge
- From where you took time while implementing your application?
- What is your special-care-point?
  (code optimization, user-friendly UI, … / specify code file&line or activity name)

I took time on making the session of the TMDB API, so I could manage my personal data in my application. In the MainActivity, there are two buttons at the bottom, which are login and mypage. Only by logging in, which means that a sessionID has been generated, can let us go to mypage.

The login button is a preparation to make a session ID. The whole session generation has three steps according to https://developer.themoviedb.org/reference/authentication-how-do-i-generate-a-session-id. The first and second steps are implemented here. I got a request token and used it to get authentication. The second step is getting the request token approved and redirecting to the main homepage of my application.

The mypage button is the last step of making a session ID. By preserving the request token as the global variable, we can use the approved request token to get a sessionID. Using the sessionID, if you have an account in TMDB, you can log in and manage your data.

This total process can be done by pressing three buttons. The login button, the approving button in web intent, and the mypage button if you are logged in advanced.

Application Design
- Overall design of your android application
- It can be design pattern, code separation, or so on.

Overall, I tried to make my application simple and easy for people who are using by application for the first time. I think I made the activity moves reasonable and predictable. What's missing is that I could have shortened my code by making some functions.

I referred to some network codes on the TMDB website.

https://developer.themoviedb.org/reference/intro/getting-started

Server Design (Optional)
- (Write only you used your own server like AWS) Overall design of your server
- It can be design pattern, code separation, or so on.

- You can freely add the row in the table above.