\* Good afternoon ladies and gentleman, my name is TN. Today I will present to you about my thesis topic name “Sports event management mobile application”.

- My presentation will be divided into 5 parts:

+ 1st, I will give you the brief introduction about my topic, problems and my solutions to resolve.

+ The 2nd is background. It includes some technologies that I apply into project.

+ Next is about system architecture.

+ My implementation and result.

+ And the last is conclusion.

\* Firstly, please look at an overview of my project:

- When generate an ideal for my project, the question is:

+ How many applications on mobile that we can find to follow medium and small sports events as we usually called “The street football”, “The street basketball”, etc.? And even when we found them, we are not sure that the applications can provide the full needed service for users.

- Here we can see the problems:

+ Bla bla…

+ And for 1 application, how to manage and update events from host/owners is really trouble.

- So, my solutions are:

+ With client side: I use real time map view and GPS, internal services of device to handle the problems of interaction. Realtime Push Notification to note users about events.

+ With server side: I develop a Web application with basic features for host/owners to manage their events.

- I can solve the problem of multi-platform. It means that I just use 1 language to develop the application instead of using specific language for each platform (Java/Kotlin for Android and Swift/Objective C for iOS).

- My project use UDF. In the opposite site of Bidirectional Data Flow, UDF helps to manage the application state and driver data become easier with complicated projects.

- Push Notification, Realtime synchronous, location and device interaction are now necessary requirements for an online mobile application, so I integrate them into my project.

- Now, we move to the language that I use to develop – React:

+ React...

+ It is a...

- Because my project focus on React Native, I will explain why we use React Native:

+ First,...

+ Second,...

+ Third,...

+ And the fourth,...

- My goal after completing the project is to know how to compile and deploy an application into native modules, also in both environments mobile and web. And then can apply Firebase – a huge set of tools was developed by Google Cloud Service.

\* Now, we move to the Background.

- First, I will talk about Flux architecture...

+ Here is the life cycle of Flux. Different with MVC pattern, Flux includes Action, Dispatcher (may or may not), Store and View.

- The next technology is Redux:

+ Redux has 3 main principles:...

- Node.js:

+ In my project, Node.js was not applied much but npm package - a built-in support tool that includes set of all needed dependencies, publicity and reusable components with

versions stored at an online repository is the main installer. I use npm to install all modules used for React project.

- Firebase is know as Backend as a service (BaaS): It is a cloud computing service model that serves as the middleware that provides developers with ways to connect their Web and mobile applications to cloud services via application programming interfaces (API) and software developers' kits (SDK).

+ For simple, we can see that Firebase includes all needed backend resources for 1 project like Manage Server, Develop APIs, Prepare datastore, etc.

+ Firebase is particularly suitable with mobile application, it has some amazing tool like:

1. Cloud Function
2. Realtime database
3. Authentication

- To compile and debug my code, I use Expo.

+ Expo makes code project easier to deploy, maintain and execute your code.

\* The third part is System architecture.

- The list of features I developed in project are:...

- With client side, I have specific use cases for each React component:...

- With server side, a web app developed by React Js has basic features like:...

- Please take a look at the class diagram and database diagram to know about the project’s detail.

\* Next, I will show you my implementation and demo. Overall, as mentioned above, I will integrate React, Firebase and Flux architecture (detail is Redux) into both mobile and web applications.

- For the mobile app, I divide components by its role and put it in “containers” folder. With “component” folder, it contains all custom/reuse component used in my application such as Camera, Avatar, etc. “functions” is a folder that contains my Js code of Cloud Function.

- For the web app, it is also divided components by specific role but more straightforward and basic.

- And here is my demo.

\* Finally, after did the project, I still have some features have not done yet. But I can say that I have enough ability to build an application base on those technologies and send it into end users, although there still many problems in my coding style.

- In addition, I have gained many valuable experiences while doing the thesis. It helps me very much in the job and also for my ultimate way.