Module of Culture and Events for LAISuRe Mobile Application

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Abstract. LAISuRe is an existing mobile application focused in Johor that offers public transit information including Iskandar Malaysia Buses and taxi. LAISuRe help users to get routing, transit, and fare information for public transportation in Johor. In addition to find out the famous places in Johor, users can view it by using the Point of Interest (POI) in the mobile application. The problem is this mobile application still lack one feature which is Culture and Event. Culture and Event is the feature where users can find upcoming or ongoing events in Johor. This mobile application is developed using Android Studio. Therefore, for this project, the technology used are Android Studio, Eventbrite API, and Google Map API. As for database, this project used JSON-Server with the current database that are developed by previous developers. The methodology for this project is Extreme Programming (XP) which is intended to improve software quality and responsiveness to changing customer requirements.

Keywords: LAISuRe, mobile application, Culture and Events.

1.0   Introduction

The existing LAISuRe mobile application is has no information about culture and events that occurred in Johor. For now, LAISuRe only provided users routing to famous places and the information for public transportation in Johor. The information of culture and events are needed because it help people especially tourist from other state to know what kind of events that are currently happen in Johor.

This project will consist of listing the events that occurred in Johor. It mainly focus on displaying the details about the events which include the name of the event, venue of the event, date of the event, and the description of the event. This project also included map navigation to the event's location. This map navigation feature will automatically detect the current user's location and calculate the total distance from the places that they choose. Apart from that, this this project also included sharing and save to calendar features.

2.0   Literature Review

Analysis on the current mobile application, LAISuRe has been made in order to gather as much as possible information from the application. The result from analysis shows that current LAISuRe need a lot of improvement in term of design, functionality, and usability of the mobile application itself. It is because that this application is last updated on February 2015. Since then, there is no maintenance or improvement have been made for the application.

LAISuRe is not the only existing mobile application that provide location-based information system. LAISuRe is compared between Eventbrite, Peatix, Nearify, All Events in City, Hubba. The technologies used for this project are Android Studio, Eventbrite API, Google Maps API, Visual Studio Code, JSON-Server, and Advance Rest Client.

3.0   Methodology

The methodology used is Agile Software Development (AGD). In the software development, ASD is a methodology for the creative process that anticipates the need for flexibility and applies a level of pragmatism into the delivering finished product. There are few of methods that using ASD concept which are Scrum, Lean and Kanban Software development, Extreme Programming (XP), Crystal, Dynamic Systems Development Method, and Features-Driven Development. The method that will be focused on for this project is XP.

4.0   Result

Table 1 below describe the main use case while Figure 1 shows the use case diagram fort his project. There are seven use cases with only one actor involved in this project. The actor is application user while the use cases are View List Events, Vew Events Details, Share Event, Save Event, Navigate Event, View Map, and Search Event.

Table 3 Use Case Description

| Use Case	Description
View List Events	This use case enables app users to view the list of available events in Johor. App users able to select cities they preferred to view list of events.
View Events Details	This use case enable app users to view the details of the selected events from the list of the events.
Share Event	This use case enable app users to share their interested events to their friends through various social media platform.
Save Event	This use case enable app users to save their interested events directly to their phone's calendar and can synchronize with Google Calendar.
Navigate Event	This use case enable app users to navigate directly to the venue of the events they interested in.
View Map	This use case enable app users to view the location of the event occurred in map
Search Events	This use case enable users to search available events in Johor by its name, categories, cities and also the distance within the searched place.

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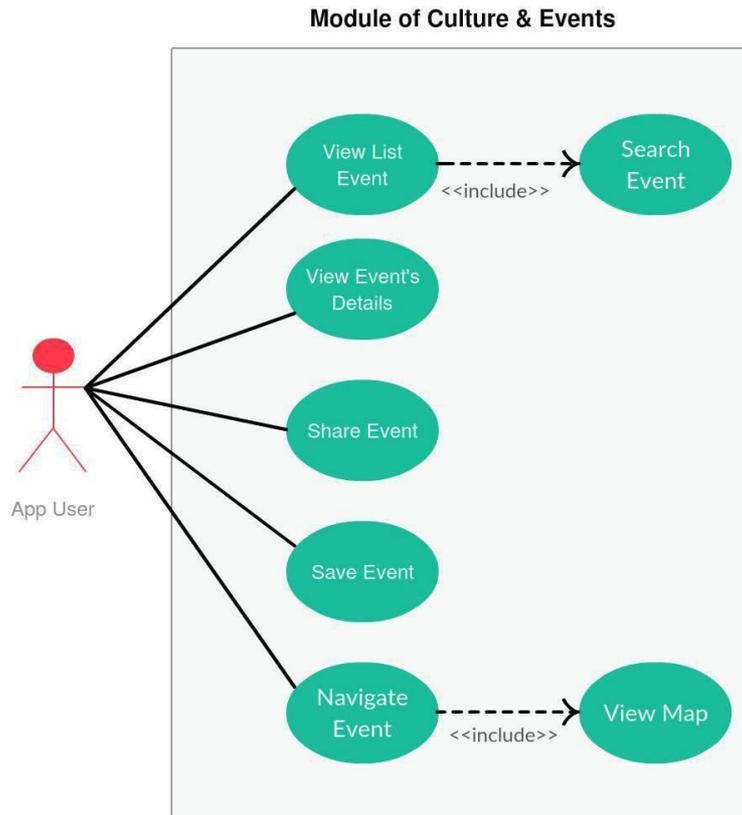
FIGURE 6 Use Case Diagram

4.1   Benifits of Model View Presenter (MVP)

MVP is perfectly fit for developing android native application. The usage of MVP improves the testability of the code because it can test all the logic and function without executing the UI first thus increase development time of the project. Figure 2 shows the MVP architecture.
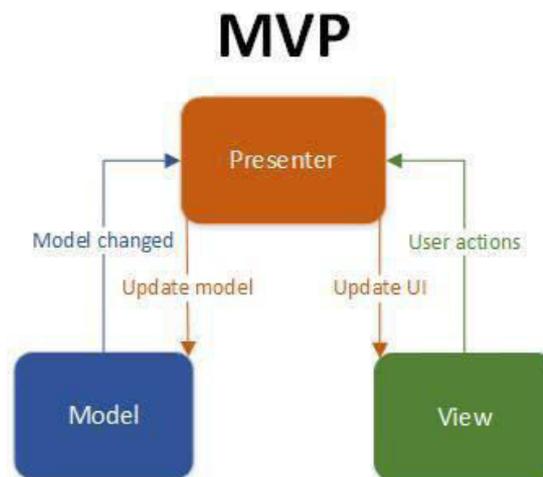

FIGURE 7 Model View Presenter

Figure 2 shows the basic interaction between Model, View, and Presenter in MVP architecture. First, the View will interact with the Presenter based on the user actions. Then, the Presenter will request data change from Model and update accordingly the View and Model itself.

5.0   Implementation and Testing

The application is developed using Android Studio as IDE, Eventbrite API to get events data in Johor, Google Maps API as map integration tools, JSON-Server as REST API simulator, and Advance Rest Client as an API testing tools.

Table 2 shows an example of test case for view events list test case. This test case only has one input from user which is Tap on the "Culture and Events" menu. This test case is tested for three times with different kind of input scenario. There are three expected result for each type of input scenario. The actual result must be the same with expected result in order the test case is pass. For this test case shown, all of the test is passed

Table 4 View Events List Test Case

Test Case ID	TCA01	TCA02	TCA03
Input/Action/Condition			
Tap on "Culture and Events"	X		X
Expected Result			
List of events available is not shown		.X	
List of events available is shown.	X		
Message "No event available" is shown			X
Actual Result			
List of events available is not shown		X	
List of events available is shown.	X		
Message "No event available" is shown			X
Result	**PASS**	**PASS**	**PASS**
Reason if **FAIL**			

6.0   Conclusion

As for conclusion, all of the objectives of this project has been achieved. This new Culture and Events module that have been implemented in existing LAISuRe mobile application gives a good impact for communities as it allows them to find available events in Johor. Not just that, it helps them to save the events automatically into their phone calendar, and share the events through social media.

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