

**WeChat Mini Program Development for Travel Guide Services and User Statistical
Analysis for Kampar Tourism**

BY

Lye Kean Ping

A REPORT

SUBMITTED TO

Universiti Tunku Abdul Rahman

in partial fulfilment of the requirements

for the degree of

BACHELOR OF COMPUTER SCIENCE (HONS)

Faculty of Information and Communication Technology

(Kampar Campus)

MAY 2019

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Title: WeChat Mini Program Development for Travel Guide
Services and User Statistical Analysis for Kampar Tourism

Academic Session: May 2019

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(Supervisor's signature)

Address:

E304, Lorong 25,
Taman Sejati Indah, 08000,
Sungai Petani, Kedah.

TS DR LIEW SOUNG YUE

Supervisor's name

Date: 22 August 2019

Date: _____

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DECLARATION OF ORIGINATION

I declare that this report entitled “**WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for Kampar Tourism**” is my own work except as cited in the references. The report has not been accepted for any degree and is not being submitted concurrently in candidature for any degree or other award.

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ABSTRACT

This paper reports about how the WeChat Mini Program is built with the purpose of promoting the Tourism in Kampar, Malaysia. Many of the attractions in Kampar have not been discovered by the tourist, this mini program is aimed to improve the tourism in Kampar which will benefits to the local. The mini program can only be accessed in the WeChat app, however it requires no download. In addition the mini program will include tourism information for example attraction and food. Except from tourism information, special features will also be part of the mini program for example WeChat Pay, navigation and more. The mini program is testing phase, it has been deployed for the public use now. The public user is able to access the mini program. The target user of this mini program is Chinese from China, therefore the language will be in Chinese.

On the other hand, in order to provide value-added service, user's data will also be collected and analysed. From the analysed data, three topics will be discussed to improve the mini program which will benefits to the public.

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LIST OF ABBREVIATIONS

Abbreviations	Description
APP	Application
UTAR	Universiti Tunku Abdul Rahman
TARUC	Tunku Abdul Rahman University College
GK	Grand Kampar
WCMP	WeChat Mini Program
WXML	WeiXin Mark Language
WXSS	WeiXin Style Sheet
JS	JavaScript
API	Application Program Interface
SDN. BHD.	Sendirian Berhad
MYR	Malaysia Ringgit
RMB	Renminbi or Chinese Yuan
FYP	Final Year Project

Chapter 1: Introduction

1.1 Problem Statement

In Malaysia, the travel industry is one of the important sources of income created by outside trade inflows. Malaysia is additionally notable for its halal culture and is the focal point of non-local tourists for the most part, West Asia, the Middle East and Southeast Asia. The excellence of the all-encompassing perspective with green mountains and the birds regularly make tourists result in these present circumstances nation. Tourism, Arts and Culture Minister Datuk Mohammadin Ketapi (2018) said there were 8.47 million global landings in the primary quarter of the year, with a stamped increment in guests from China (37.2 percent), India (21.2 percent), South Korea (26.5 percent), Canada (28 percent) and the United States (23 percent). The problem of rotating in the mind is the thing that accomplishments can be taken to improve the travel industry in Malaysia. On the other hand, Kampar town, in the state of Perak, Malaysia, was established in 1887 and being a piece of the Kinta Valley, flourished amid the prime of the tin mining industry. Notwithstanding, with the decrease of tin as a product, Kampar lost its spotlight towards the finish of the twentieth century. Quick forward to the 21st century, Kampar motivated the driving force to recapture its past greatness, this happened mainly because of the Universities and the attractions were slowly being introduced. Kampar gradually becoming a town with tourism potential but not yet been discover by the tourists. To promote the Kampar's tourism, digital aspect is one of the important factors not to be missed. A mobile application gathered with all the potential attractions, foods, accommodations and with specialized unique functionalities or games can encourage more tourists to come sightseeing. The mobile application is not only a bridge to provide Kampar's tourism information, but also a platform to capture the tourist's particulars and travelling behaviour. After obtaining these data, value-added service can be made out from it. For example, we can analyse or study these data. Hope that pattern or behaviour can be found which will further helps the development plans and decisions related to Kampar.

1.2 Background and motivation

WeChat is a social platform also a social application derived from instant messaging tools. Presently, with the exception of the initial communication function, it has grown more functions, for example, payment, games, news and more (Ma & Wang & Jiang 2018). With enrichment in terms of functionality, WeChat has turned into a prevalent social application which bring big impact to the society.

Taking the consideration of more and more mobile APPs cause the lacking disk space in a smart phone. WeChat has invented the new technology - WeChat mini program, on January of 2017 (Ma & Wang & Jiang 2018). Except WeChat, users do not need to download any other APPs to use other APPs. Any other APPs can be built and used within the WeChat itself. This concept is similar to the usage of Styrofoam, achieved the idea of throwing after used but it is a more environmental caring solution.

The WeChat mini program have to be developed in a specific language. A JavaScript framework developed by Tencent. Instead of writing the traditional HTML and CSS, WXML and WXSS will be written as the development language. The business needs and effective user interface are the considerations of a developer might need to take into account, this is to improve the user acceptance.

On the other hand, Kampar is small town located in Perak, Malaysia, is located near the Kinta River. The area was rich in tin mines, and Kampar was one of the biggest tin mine in Malaysia. Now the tin mining holes are becoming beautiful and attracting lakes. The man-made lakes and natural mountains attracted variety of animals to become theirs habitats.

Furthermore, in order not to forget the ancestral mining spirit, the local has built a tin mining museum for the public to visit, as well as the tin mining machine, TT5 Tin Dredge. In terms of education, UTAR and TARUC have also boost Kampar in economical and development aspects.

In conclusion, Kampar is a beautiful and relaxing town, suitable for family and friends to visit. Not only food but also natural, historical and educational will be the tourism domain fields if they are promoted as a tourism factor in the future.

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This project is expected to benefit the travellers when they are traveling in Kampar District. The travellers will not only get the latest traveling information, but will also receive wide variety of free services and promotion throughout this mini program. Example for free services are navigation and leisure types of services.

This project will also benefits the tourists from China from the aspect of travelling. Instead of looking for tourist information, in the case of searching a needle in an ocean, they can use the mini program to directly lighten their research afford and travel efficiently by using the platform most of them is familiar.

This project also aims to improve the Kampar's economy and discover business opportunity. By improving the tourism businesses in the Kampar District, the flow of income made by tourism can be very valuable to the host state and the local citizen. Tourism-generated incomes can be used in the construction, education, charity and to advance develop the industry. In other words, benefits to the people from the aspect of life and economy, especially for the local citizen. This is because as the tourism growth, other business opportunities might be promoted which will directly improve the economy of the area.

1.3 Objectives

This project targets to develop a WeChat mini program which is capable of promoting Kampar tourism by providing absolute free services to the target users. This development will provides all the gathered tourism information and intergraded as one

At the later stage, this project aims to capture and analyse the data retrieved from the WeChat mini program. Analyse the data for business decision support. Analyse the data information enable the clarification of the advantages and disadvantages of the business decision.

1.4 Proposed approach

This project delivers a WeChat mini program (similar to mobile application) which will offer a wide variety of services to the users, which include information provider service, leisure service, review and complaint services, etc. WeChat mini program is selected because the main target user is tourists from China. They are more familiar to the WeChat platform rather than the Google platform, since Google is banned by the Chinese Great Firewall. In other words, they might not be able to access the abundant resources from Google.

This project involves with data collection and statistic study. Statistic of user particulars, for example name, gender and nationality and the behaviours while using the WeChat mini program will be involved.

1.5 Highlight of what have been achieved

This project has achieved several stages of achievement. The first achievement was the successful development of the WeChat Mini Program. The front end of the Wechat Mini Program has the relevant materials for displaying Kampar's travel information, including information and locations for each of the top ten hotels, tourist attractions and food. Besides it has two special features. The first special feature is random food function, which will show a random food information for the user after the user shake their phone at the random food function page. The second special feature is the upload photo function, which user can upload their travelling photo to the server, and the concept here is that there may be a self-printing printer which will print a postcard to the tourist as souvenir. Lastly, there are also some simple features such as login, calendar, authorization settings and phone's details.

The second achievement is the collection of data. The first data is user data, such as name, sex, region and type of phones. The second data is behaviour analysis and page analysis. These data described the cumulative number of visitors, mini program opening times, visit times and number of visitors of a specific page, average time of duration, and per capita duration. The third data is the in-app collection data, including the normal rating by user for all three attraction, food and hotel and user preference for the food. There are two situation for food rating, before visiting the restaurant and after visiting the restaurant. In this case, normal rating is considered as after visiting,

whereas user preference rating is considered as before visiting the restaurant which will be collected when user use the random food feature. Two ratings will be collected at different page.

The third achievement is the statistical analysis, analysis is performed from all sources data collected. In this project, conclusions will be made based on a few topics which related to both business sector and development sector.

1.6 Report organization

The report starts with Chapter 1, which described the problem statement, background and motivation of this project and what to be achieved at the project. This chapter also describes the approach used and the achievement in general.

The Chapter 2 consisted ten literature reviews from different sources of mobile application and website related to tourism. For example Grand Kampar Hotel website and benefits among WeChat Mini Program, Android and iOS.

In Chapter 3, the architecture of the software explained in detail. It explained the process of developing the mini program and the designed architecture for the software, for example architecture for the server, introduction of the development tools, use-case diagram, and the operation of the programming languages.

In Chapter 4, the interface of the WCMP will be shown and discuss their functionality one after another. This chapter also discuss the data in the server and example of interface in the server. These are considered to be the first stage of achievement.

In Chapter 5, the collected data were explained in detail. Three groups of data were explained in detail including their source and attributes. These are considered to be the second stage of achievement.

In Chapter 6, statistical analysis were made based on three topics and the collected data, the topic includes direct marketing, maintenance and usage of rating data. These are considered to be the third stage of achievement.

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Lastly, the Chapter 7 drawn the conclusion of this project. The summary of of the project will be in the chapter.

Chapter 2: Literature Review

2.1 Grand Kampar Hotel Official Website

Whenever considering and planning a trip, the aspect tourist will look at is accommodation. Accommodation is a general need for everyone, whether it is a long-term or short-term, stay or travel. In common sense, this is because tourist need a place to rest and clean themselves after travelling. From another perspective, tourist will have a negative impact not just on hotel, but the whole area, just because of the accommodation is not satisfying the tourist's requirements.

Many of the hotels now has their own website for reviewing and booking. By reviewing the Grand Kampar Hotel official website, they provided many details about the hotel. For instance, GK café and restaurant, swimming pool, sporting facilities and most importantly the hotel rooms' specification and price. Checking availability and booking services are also available on the website with simple and attractive user interface. To improve the user experience, the website provides images of different type of rooms for the customer to decide through graphics. Figure 2.1 shows the interface of the hotel rooms.

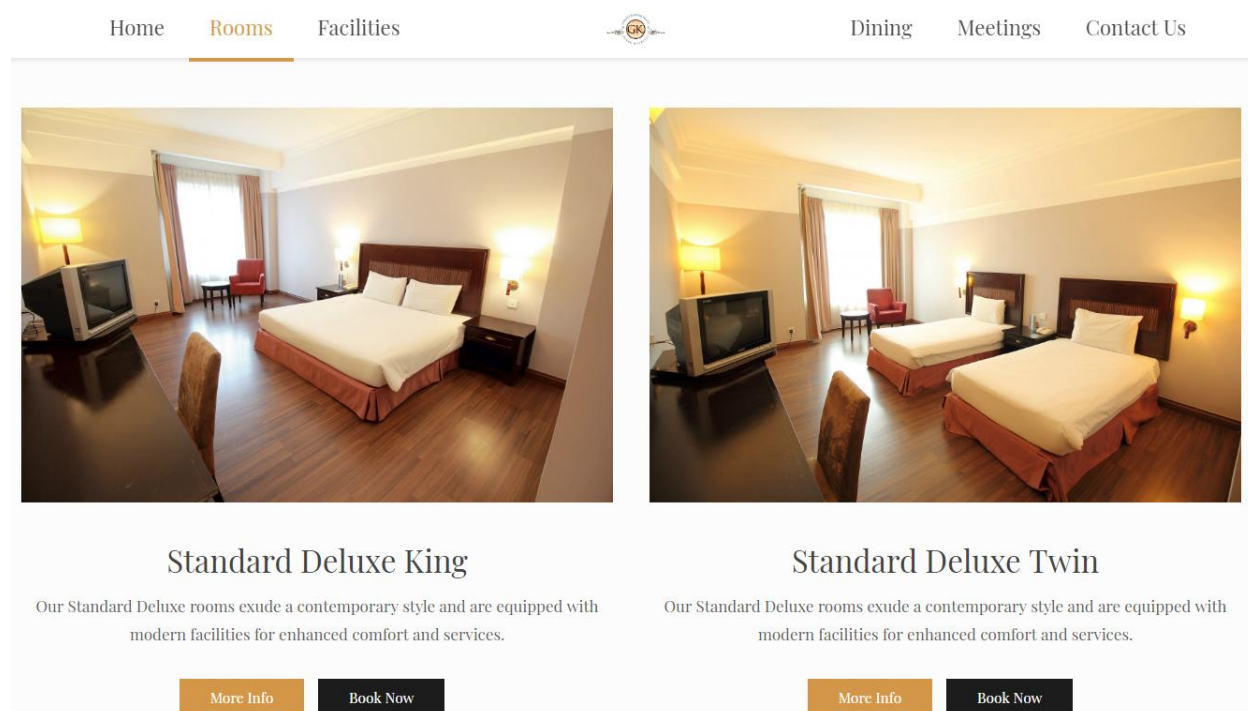


Figure 2.1: Grand Kampar Hotel's - Hotel Room Interface (Grand Kampar Hotel 2019)

However, the website only focuses on GK hotel. In Kampar, there are at least 30 to 40 hotels available now. This make user difficult to compare the quality, quantity and pricing, if they only browse on a website which consist of only one hotel. The ideal platform is where a user can access all the hotels in Kampar, filter and compare through different aspects of user's requirements. For instance, Johnson might want to have a 5 stars hotel with a higher standard of hotel services, but Chris might want to travel with family which a homestay will be suitable for his requirements.

Besides, the reviews and ratings in the website might give user a mind set in terms of the credibility and accuracy. The hotel themselves might have bias towards their review or rating to protect their reputation from being damaged. In addition, images could be a deception. Images can sometime be more exaggerated than it should be. For instance a picture of swimming pool, capturing the swimming pool at the sunset will makes the swimming pool to look extraordinarily beautiful but actually it looks just normal. Same applies to other type of images. This is so called the marketing strategy apply throughout the world. This might bring a misconception in the user and cause a bad reputation after all.

In summary, similar websites like GK Hotel provides a more specific information of the hotel only. The ideal case is to compare all the hotels available and then look into the specification of the hotel. Because the credibility of the review and rating information might be bias towards themselves. In addition, different tourist might have different requirements towards the hotel. Checking the pros and cons of all the available hotels, is considering the most insured practice.

2.2 TripAdvisor

After decided the accommodation, the particularity of tourist attractions might be the second considerations the tourist might want to take into account. The entire thought of planning a trip is to invest in an unforgettable memory, appreciate the fun and unwind, rather than spending the whole occasion to stress over. Tourist attractions can include nature, historical, adventure and even food may become one of the attractions.

As a tourist, it is better to research on attractions on a particular state or town before travelling. With the development of times and technology, the Internet has become a search tool for modern people. TripAdvisor is one of the tourism research tool which benefits to the users, by providing

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the relevant tourism information about a particular district or area. TripAdvisor provides free services to the user, who provide content from hotel booking facility and advertising business model (TripAdvisor LLC 2009). For example they provide information for restaurants, sites or landmarks and hotels. For each of the locations, they also provide ratings, reviews, details and photos. The advantage of using TripAdvisor is, all the reviews and ratings are all user-generated. The information is more reliable and trustworthy because this provides no bias towards the certain location. For instance, a website of a hotel might remove all the negative ratings and reviews to ensure their own reputation. They also provide very detail information, for example, opening and closing time, hand phone number, location on map, address and more.

However, although they provide very detail information about a certain location, but the number of locations they provided for Kampar District are much lesser. As compare to city, for example Ipoh or Kuala Lumpur, the information they provided are many and more detail. As the review going on, they only provide five attractions and five hotel from Kampar, the other are actually from Ipoh or other nearby area. Same situation happened for food, some of the new-born famous food are not being listed in the APP. Figure 2.2 shows the results for attraction and hotel in TripAdvisor APP after searching Kampar.

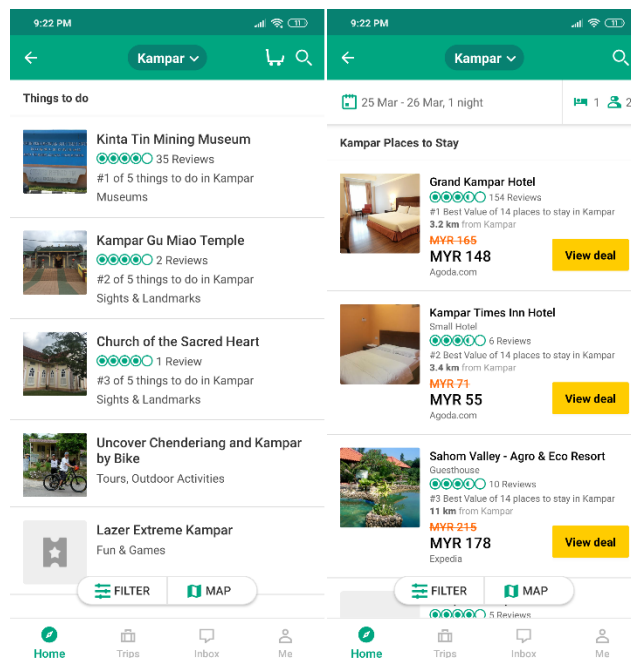


Figure 2.2: TripAdvisor - Attraction and Hotel in Kampar (TripAdvisor 2019)

In conclusion, TripAdvisor provides very detail information and is also very convenient or practical to use for big city. But it focuses and provides lesser detail information for small town like Kampar.

2.3 Google

Google is known as the most useful and convenient search tool of this era. It contains all aspects of travel information and photos, from tourist attractions to food, from accommodation to prices and reviews. Google also has a map and navigation system, whether it is driving or riding a bicycle, Google has set a dedicated navigation route, which is very convenient and simple for users to use. Google also has the ability of plans travel, whether it is custom or their own defined setup itinerary can be found in Google.

First declare that our target users are tourists from China. They don't have a sense of familiarity with Google because they do not use Google in China. The Chinese government has promoted the Great Firewall, which prohibits the use of Google in mainland China except Hong Kong and Macau. However, they are more familiar with WeChat or Baidu. Therefore, Google is not suitable for them to use in terms of familiarity and device compatibility. From a perspective of a tourist, they might not want to install Google in their device just for a couple of days.

2.4 Sekinchan Travel App

Sekinchan Travel App is an APP listed on Google Play Store. It consists travel tips for everything surrounding Sekinchan. A brief introduction to Sekinchan, it is a small town located in the northern part of Selangor, Malaysia. The endless rice fields, attractive beach and the fishing village become the main tourist attractions now. The APP contains the listing of restaurant, café, hotel, homestay, products and attractions free to the public. For every item of listing in the APP, information includes photo, name, address, contact and a Google Map API are shown in the APP.

However, this APP is mainly for Sekinchan traveling purposes. In other words, the APP is not suitable for Kampar Tourism, but an APP with improvement and more functionality will be the targeted development concept of WCMP. Besides, the information in the APP shows that there is

no update, and the latest information is not displayed in the APP. The APP also has a very bad review in the Google Play Store on maintenance issues. Furthermore as mentioned in 2.3, our targeted user are tourist from China, the Google Map API requires pre-download of Google Map in order to be functional, which is not applicable in the WCMP. The left of Figure 2.3 shows the main page and on the right shows the detail of hotel page with Google Map API.

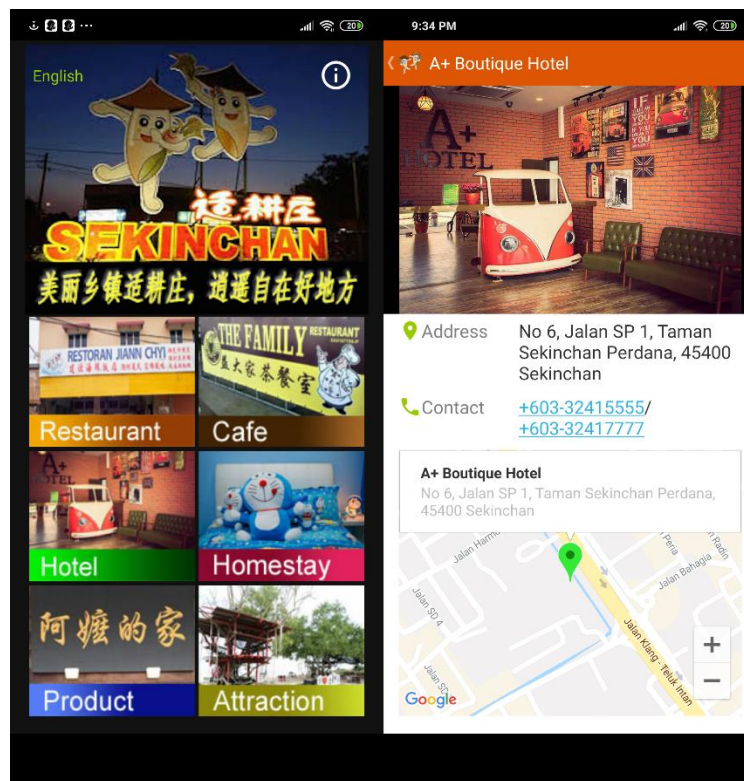


Figure 2.3: Sekinchan Travel - Main page and hotel detail page (Sekinchan Travel 2015)

2.5 Penang4U

Penang4u is an APP that brings together all the tourist information in Penang. This APP relieves the burden of visiting tourists in Penang. Like other travel APPs, this APP has information for food, tourist attractions, hotels and more with Google Map services. The special feature about this APP is that it has a special introduction to local cuisine. This local cuisine page is based on the type of food, not the store. For example, the Cendol and Char Koay Kak have a brief introduction from how to prepare to how it tastes like. Another special feature of this app is the discount feature,

as long as the app is used, user is able to get discounts on tickets or merchandise. These are the motivations that can start users to use this APP.

However, this APP is again not for Kampar Tourism and Google Map services is again not suitable for the target users. Besides, maintenance issues also occurred in this app, the promotions listed are outdated, which may cause bad impression to the user. User might not return to the APP because of this reason. In general, the interface for this APP is bad, images and information are not in order. Figure 2.4 show the outdated coupon from Penang4U APP.



Figure 2.4: Penang4U – Coupon (Penang4U 2019)

2.6 iOS and Android verses WeChat Mini Program

IOS and Android are the mobile operating systems of most smartphones today. They are the most widely used and most successful mobile operating systems (Challenger V 2018). The benefits of using iOS are the consistent with the mobile phone interface, smooth running and good operating experience. Whereas, the advantages of using Android is that there are many innovations from Google and mobile phone manufacturers, developers are constantly introducing new user interfaces and introducing many innovative features. For example, the analytics tools cloud messaging, map and etc.

However, except for the iOS products are more expensive as compare to its competitors, enclosed system, strict permission control are the disadvantages of developing for iOS APP. This caused more restrictions to users. On the other hand, Android has always been used more and more lags, the mobile phone hardware continues to improve, and there are still not enough memory cases.

For WCMP, it is really convenient for the user to use. Open whenever the user wishes, close whenever the user is satisfied, the main point is no download is required. This is better than an APP that needs downloading and occupy memory space on the smart phone. Besides, it is possible to call more mobile phone system functions than HTML5 for development, such as GPS positioning, recording, video recording, gravity sensing, and etc., to develop a wealthier usage scenario. It can also be added to the smart phone desktop on the Android phone, which looks like the normal APP, but only for Android phones, the iPhone will not work.

2.7 TravelUS (WCMP)

TravelUS is a simple WCMP which provides convenient and useful functionalities. The WCMP is made based on culture of United States. This WCMP can help with simple math problems. After entering the subtotal and the number of people, it will show the consumption tax, tip, total, and the average person's consumption for a meal. Other than that, the WCMP also provide convertor for example Fahrenheit to Celsius, mile per hour to kilometre per hour and currency converter. Those simple functionality help user to travel efficiently.

However, the functionalities are all based on United State. The concept and idea of the WCMP can be modified to suit the project's targeting user. For instance, the currency can be changed to MYR and RMB. These small features might increase the return rate of a user.

2.8 TravelTheWorld (WCMP)

TravelTheWorld is a WCMP developed personally by the developer. The purpose of the WCMP is to allow user to understand any location in the world quickly and easily. The information are provided mainly by the user online. This WCMP allow users to share their experience and photo by posting a story. Each story has its own time line from hour to hour and day to day, which records

the user's traveling experience in a certain location. The WCMP categorizes the story by country. In each country, there are attraction, hotel, restaurant, leisure activity and shopping.

However, the story and other information are all categorized by country only. User is not able to search a specific state or location, which is very inconvenient to the user. Beside each information given has no details, for example all the hotels only consist of name and user generated description only.

2.9 Travel66 (WCMP)

Travels Sixty Six SDN. BHD. is a Malaysia private company which business as a traveling agency. According to the official portal of Ministry of Tourism, Arts and Culture Malaysia, the company is located at Kuala Lumpur and has been valid since 22th March 2013. The company also produced a WCMP based on a travel-oriented service. This WCMP offers guided tours, tickets and yacht reservation and booking. All the finance transaction can be made by VISA, MasterCard, PayPal, ALIPAY, and WeChat Pay.

However, it does not provide free information service for example no attraction or food introductions. The WCMP also does not support review and comment service. In addition, some of the features are no functioning, for instance search function and some of the icons or pictures are not responsive after touch. For the travel packages provided, no detail information but only pricing and location in shown.

2.10 Ctrip (WCMP)

Ctrip is a Chinese travel information and service company, focusing on hotel reservations, transportation, travel packages and other services. Ctrip is also one of the largest online travel companies in China. Recently, Ctrip has also started several WCMPs in WeChat, including Ctrip Travel Official Mini Program, Ctrip Community Strategy and Ctrip Daily Discounts and other more. The review will be mainly on the Ctrip Travel Official Mini Program. Like any other traveling APP, it contains attractions, hotels, food, and homestays information. The extra features are the transportation booking function, the function helps user to check and book the available ticket for instance air ticket, train, bus and even taxi. Similar to other WCMPs, it requires no

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download, login via WeChat account and is able to pay by using WeChat too. After login, it also provides tour routes or manual planning and promotion coupons to assist user travels efficiently. In terms of colour and order, the interfaces are very professional and user friendly. On the other hand, the WCMP links to another WCMP called Ctrip Travel Photography, which allows user to interact with other users by sharing their experience of a certain location.

However, the results after searching Kampar in the app is not relevant. The results shown attractions from other places, for instance Cameron Highlands Waterfall, Ipoh bus station and more. None of the attraction is from Kampar. For hotel, only 9 results are shown which one of them is Grand Kampar Hotel. For trip planner, not one of the result is relevant to Kampar. The features of Ctrip incredibly excellent, but Ctrip did not focus much on data from Kampar. Figure 2.5 shows result of attraction and hotel after searching Kampar.

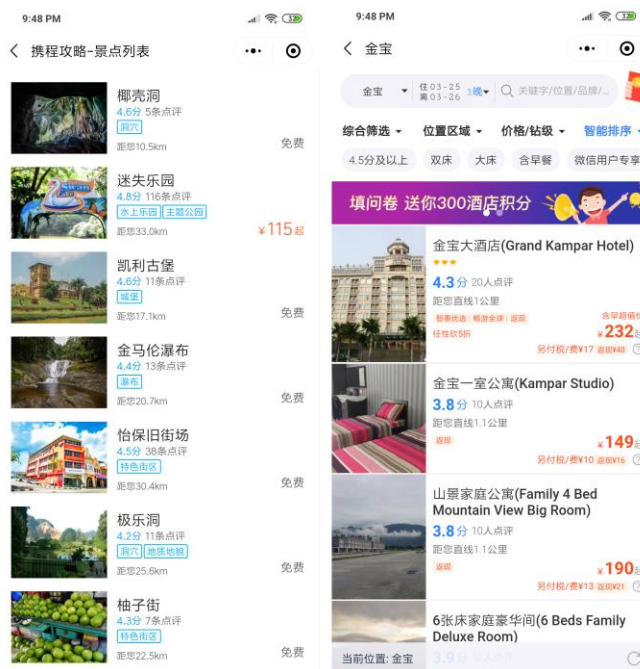


Figure 2.5: Ctrip – Attractions and Hotel (Ctrip 2019)

Chapter 3: Proposed Method/ Approach

3.1 Design Specifications

This section is written for the WeChat Mini Program or "WCMP" in short. This section likewise contains specification about the framework consideration and system design. The name of the WCMP is "Visit Kampar". The assumptions and dependencies is the WCMP is embedded mobile application which will only function inside a WeChat APP. Besides, there is mainly one role targeted by the WCMP which is user from China. The targeted user is generally who utilizes the WCMP, and they are required to have essential knowledge to use an APP and comprehend fundamental Mandarin. This is because the WCMP will be based on Mandarin. The general constraints of the WCMP are that it can possibly keep running on WeChat APP only, disregarding Android or IOS device and can only work when the device is associated with Internet connection.

WCMP is developed using the WeChat Open Platform - Developer Tools which integrated with development and debugging, code editing and mobile emulator functions. In order to create a new project, developer is required to register as member of WeChat Open Platform. In addition, if the developer is a China citizen, the developer can register as personal, company, government, media, or other organization. But as a non-China citizen, developer can only register as company. After registered, an AppID will be distributed which will be used during the log-in to the Developer Tools.

In order to verify the output of the mini program, the development tools provides a mobile emulator on the left hand side of the tools as well as the remote debug function which benefits the developer to debug directly from smartphone. The developer only have to scan the QR code generated by the tools, and the mini program will then be able to debug on the developer's smartphone. Figure 3.1 shows the interface of the Developer Tools with the JS file of homepage. Furthermore, the following details the functional requirement of this WCMP for tourism. The figure 3.2 shows the overall use case of the mini program.

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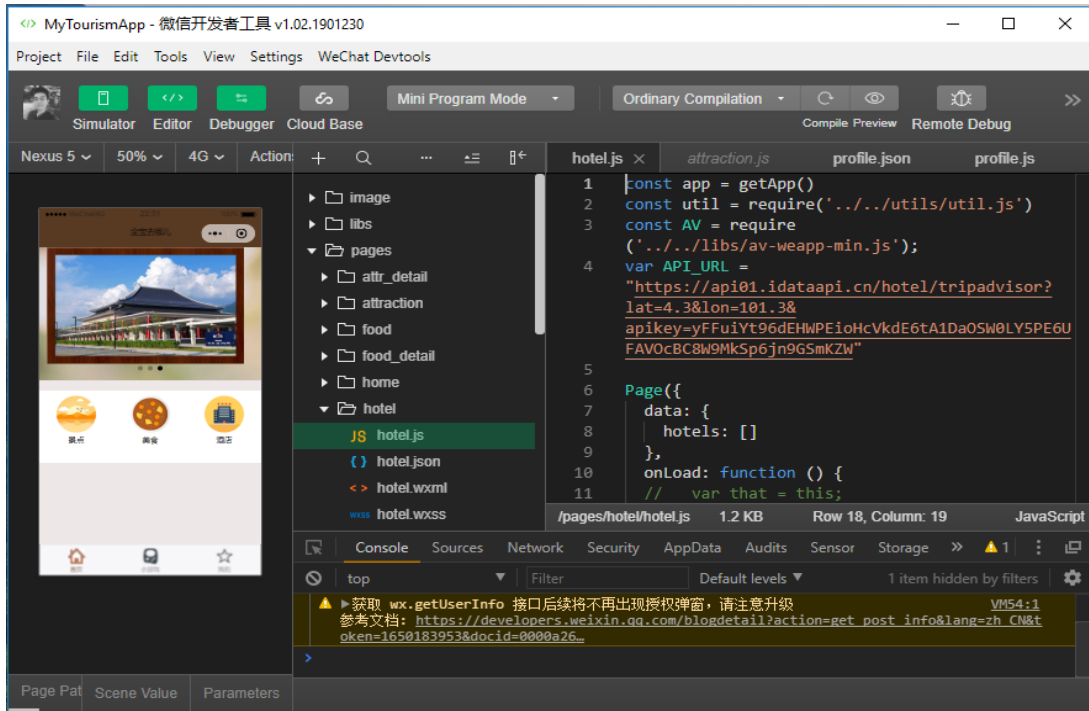


Figure 3.1: WeChat Open Platform - Developer Tools

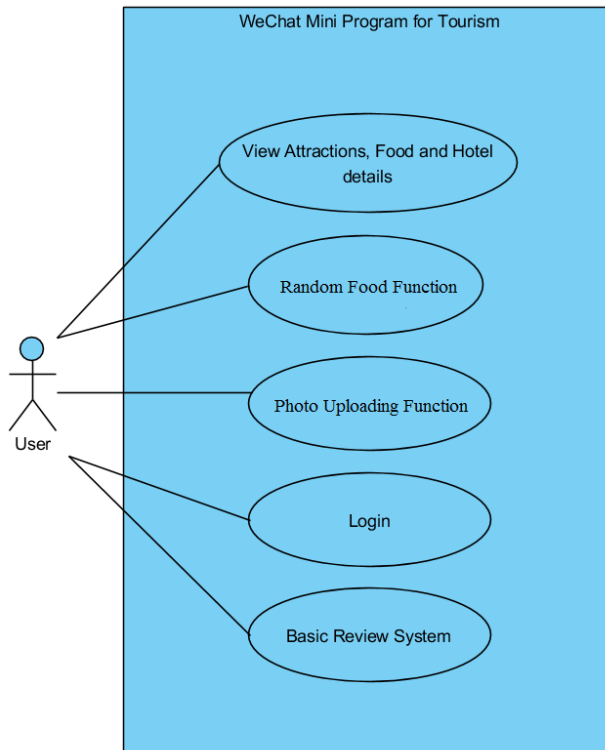


Figure 3.2: Use-case Diagram

3.2 System Design/ Overview

This section will discuss about from the overall architecture and front end of the system.

3.2.1 System Architecture

The system mainly are separated into two parts, front end and back end. The front end is the WCMP which handles interface and logic flow, whereas the back end is the cloud server. Both the front end and the back end are connected to the internet. The system design architecture of the WCMP is shown in Figure 3.3.

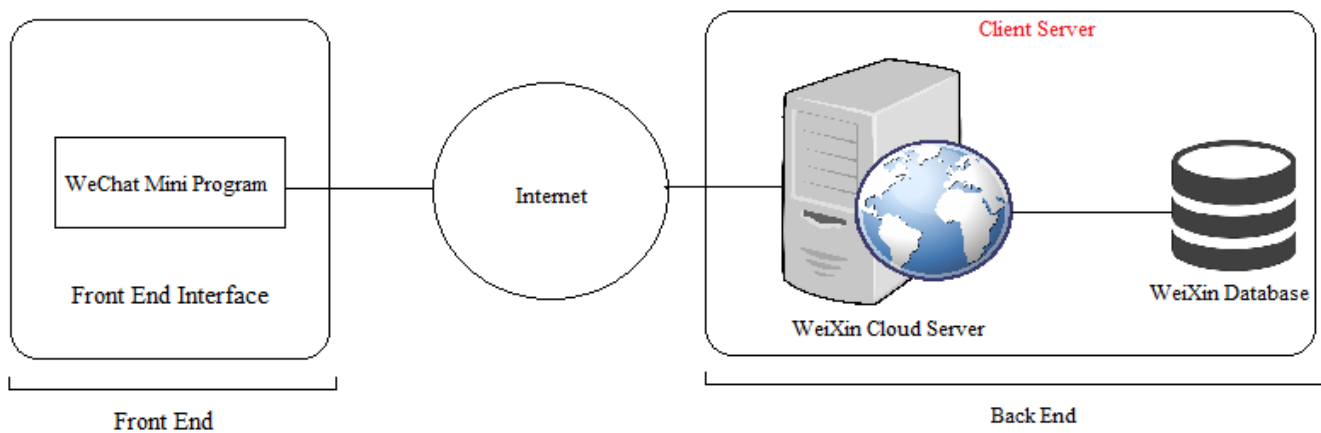


Figure 3.3: System Architecture

For the front end, the development language and files used by WCMP are special. The types of language and files used by WCMP are roughly divided into the four types.

- WXML (WeiXin Mark Language)
- WXSS (WeiXin Style Sheet)
- JSON (Page Configuration)
- JS (App Service).

In terms of language, mini programs seem to redefine a set of standards. But in fact, they are not much different from HTML, CSS and Java, however they have some minor differences. WXML is more like an interface XML description file in Android development, suitable for the construction of the program interface. WXSS and CSS have almost no difference in language and they can be used directly. The JSON file will handles the configurations of the whole app or specific page, for instance page display's name. Lastly, JS file of the program is almost the same as the JS used for Android front-end development, which will handles the logic flows of whole app or page and page routing, excluding that the JS of the program added some API interfaces of WeChat. Figure 3.4 show the structure of WCMP.

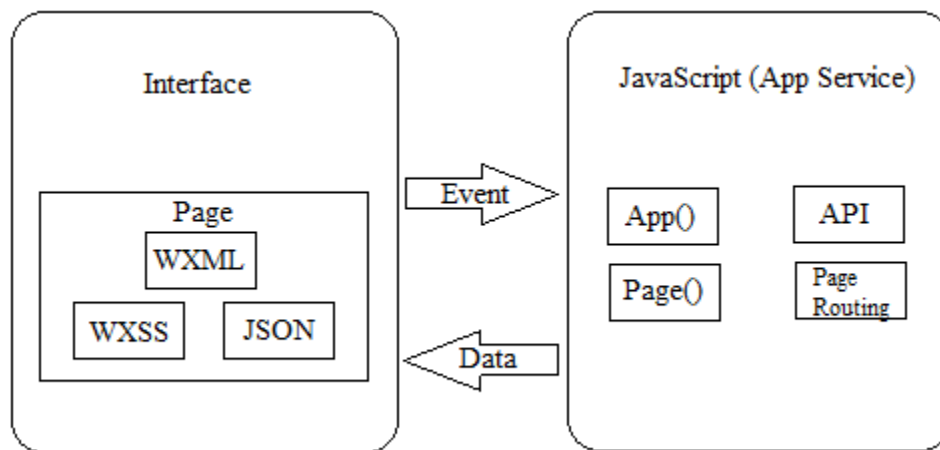


Figure 3.4: WeChat Mini Program Structure (Wang, 2018)

On the other hand, The cloud server is the WeiXin Cloud Server with its database. WeiXin Cloud Server provided a class-based database but with extra functionality for user management. This server is directly connected to the WCMP, this allows the retrieving and storing of user information to be convenient. The WeiXin Cloud Server will store all the user's details and all the WCMP's resources, for example photo, attraction, food, and hotel details. In addition, the domain names for each of the server has to be declared in the WeChat Open Platform website for each project.

3.2.2 Page Arrangement

Firstly, the WCMP divided into 3 tabs home, mini game and profile. The home tab is the initial page of accessing the WCMP. The tab can access to attraction, food and hotel page, where each of the page will have a list shop or location. Each of the page can access to its own detail page respectively. The second tab is mini game, it can access to two mini games. The first mini game is random food feature (shake), where user can shake their smartphone and a random restaurant will be pop out. The second mini game is photo uploading feature (upload), conceptually user can upload their photo of respective location to the server to win a souvenir. The third tab is profile, after user accept the authorization of accessing their information in WeChat, their profile and name will be shown in the tab. Figure 3.5 shows the file directory as well as page directory in the WCMP.

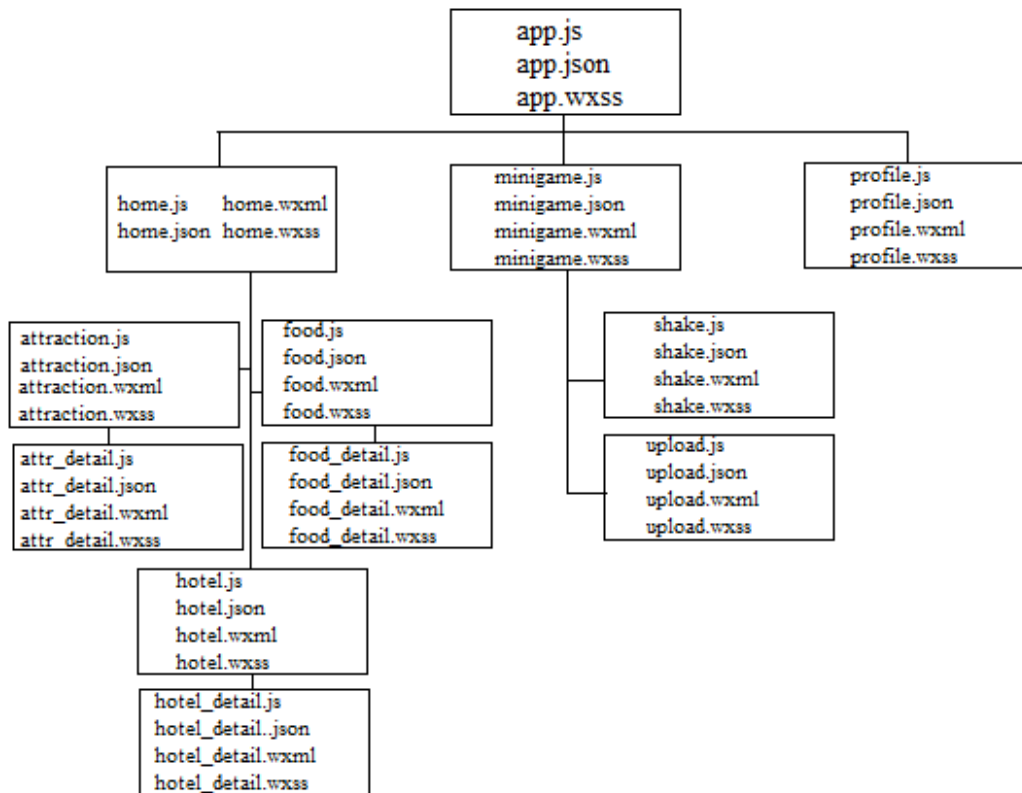


Figure 3.5: Mini Program Interfaces Chart

In addition, the app.js file handles the login management, set global variables and more. The app.json file to globally configure the WCMP, used to determine the path of the page file, window performance, set the network timeout, set multiple tabs, and more. The app.wxss file is to globally configure the WXSS of interfaces, where all the pages can access to the WXSS.

3.3 Implementation Issues and Challenges

The main problem in this project is none of our team member is China citizen. This restricts the project to develop efficiently. The first restriction happened when registering in the WeChat Open Platform. As mention in 3.1, non-China citizen can only register as company. In other words, one can deploy the WCMP and develop some API such as WeChat Pay, after he/she fully registered as the member. This process requires the company's documentations and have to be reviewed by the WeChat Open Platform administrator. The deployment of the WCMP is easy after registering, developer only have to submit the code for review, and after the review is successful the WCMP can be deployed. The second restriction occurred when registering for third party API such as map and navigation services. Since the WCMP cannot access any third party API from non-China country, register China's third party API was the only choice. However, the registration process required Chinese Identification and China's hand phone number for authorization.

Besides, data shortage is also an important and not negligible issue. This problem occurs when displaying data to the user. The information for attraction, food, hotel, and coupon or promotion require data from third party and manual copying the data to the server is the only way to accomplish it. Even if you can get data from google, it's useless, because our app is displayed in Mandarin, and in the end it still needs to be translated by itself.

Chapter 4: Interface and Informative Data of WeChat Mini Program

Program

4.1 WeChat Mini Program Interface

First and foremost, WeChat Open Platform has been fully registered under the company named LYE KEAN PING and the mini program is ready for public use. The WCMP has been built for mainly three use-case requirements. In the WCMP, these three requirements can be accessed through the tap at the bottom of the WCMP. The first requirement is details for attractions, food and hotel. After accessing one of the categories, a list of location will be shown, and each of the location can be further access to a detail page. Figure 4.1 shows the main page, attraction and Refarm's detail page of the WCMP.

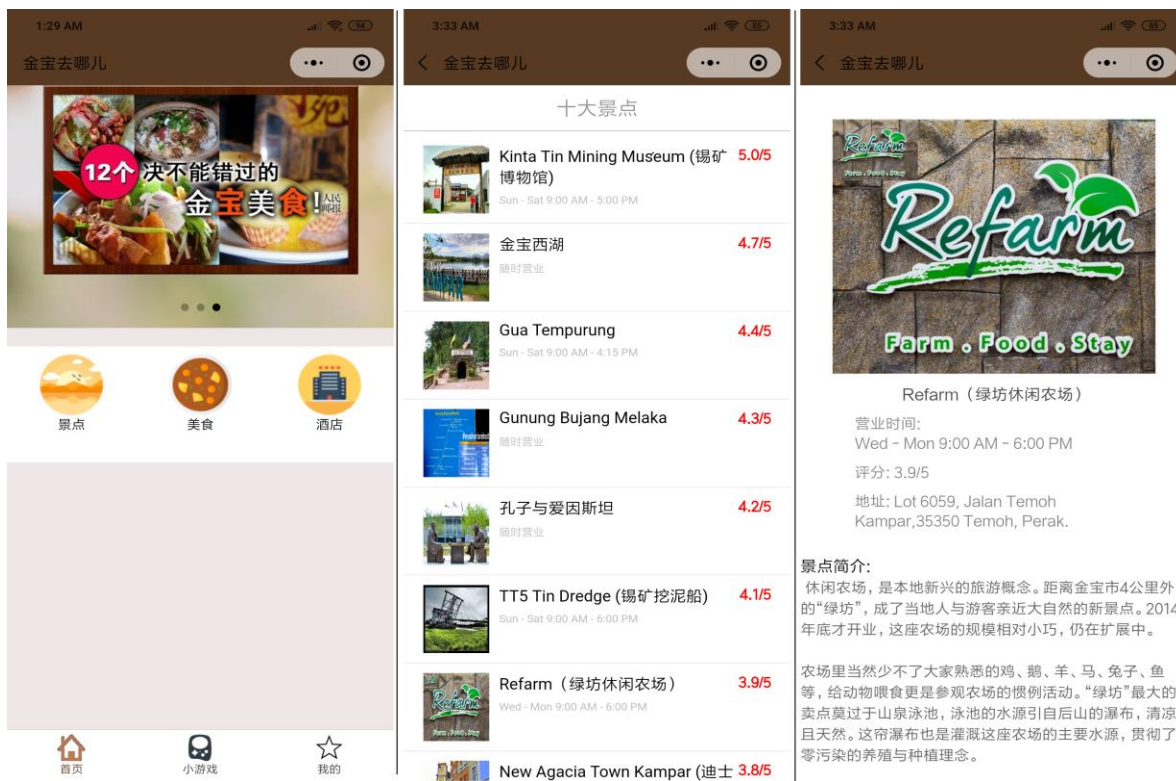


Figure 4.1 WCMP - Main page, attraction and detail page

According to Figure 4.1, the three categories can be accessed from the icon of the home page which is also the main page. The second requirement is the mini game requirement, which are random food location and photo uploading. For the random food location, a random restaurant will be shown after a user shake their phone at the page. For the photo uploading, user is able to

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upload their photo of attractions to the server, and admin will process the photo for further reward. Lastly, the third requirement is login Figure 4.2 shows the mini game list, Shake mini game, Photography mini game and login page.

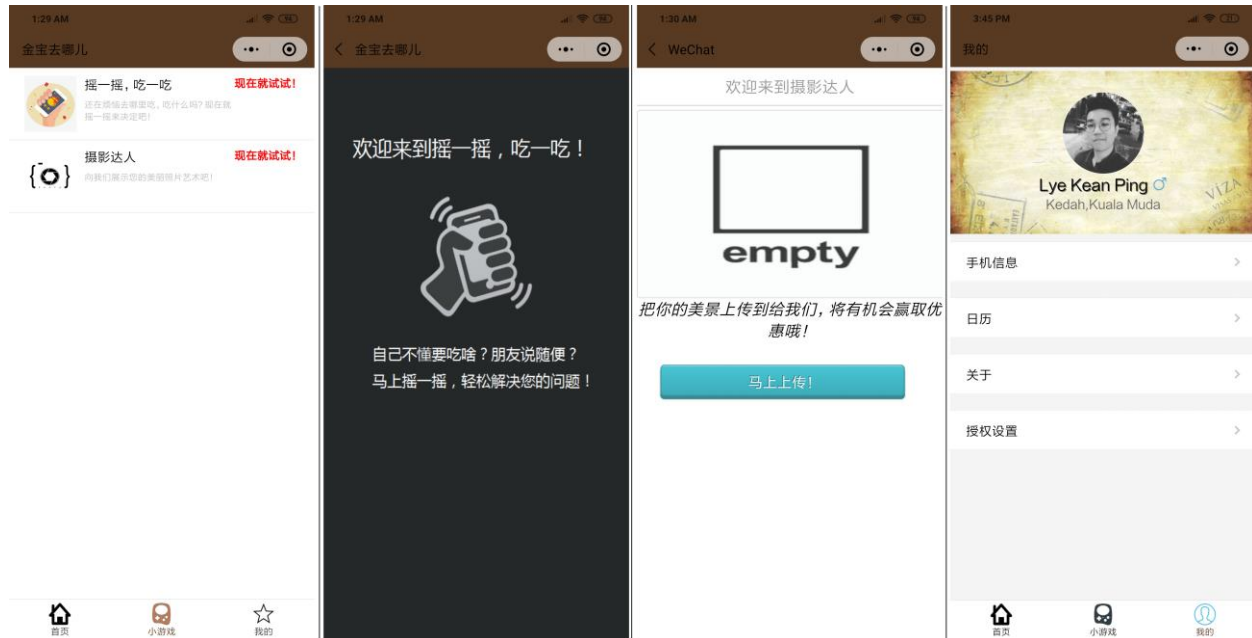


Figure 4.2 WCMP – Mini Game list, Shake, Photography and Login

4.2 Informative Data

On the other hand, WeiXin Cloud Server was used as server. It is handling with all the in app data, for instance, attraction, hotel, food data and user upload data. In addition, WeiXin Cloud Server is also partly handling with the user details. Figure 4.3 and figure 4.4 show the WeiXin Cloud Server.

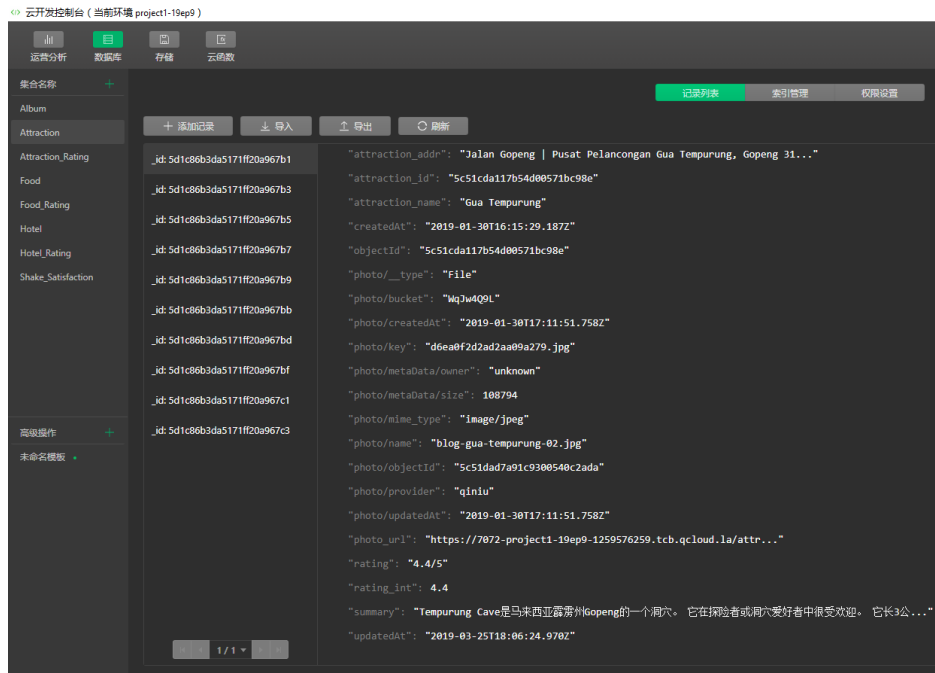


Figure 4.3 WeiXin Cloud Server and Database of Attraction



Figure 4.4 WeiXin Cloud Server of User Information

Chapter 5: Data Collection

5.1 Data Collection

This chapter explains the source and attributes of the data. The format of all data collected are in Excel. Thirty testers were asked to perform the beta testing, they are among friends and family. The date of the testing is from 14-07-2019 to 12-08-2019. All the figures below only show partial of the data, full list of data is in the appendix.

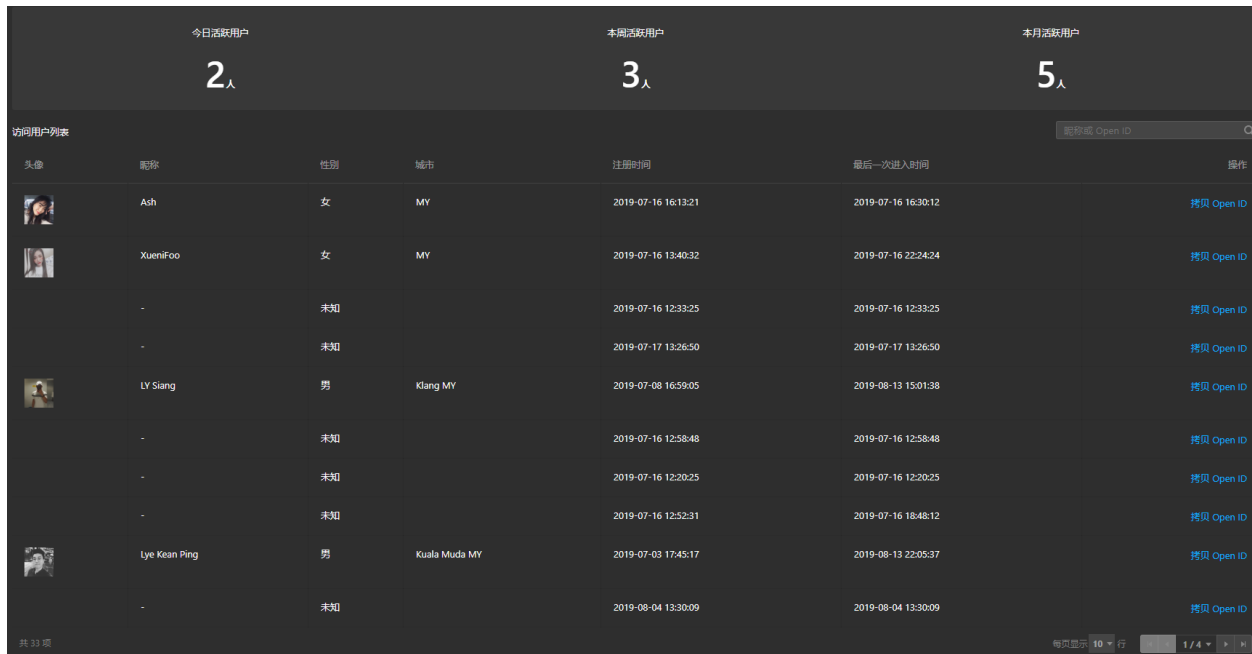
5.1.1 User Data

The first group data is the user information. The user attributes include sex, group of age and type of phone the user was using during access the WCMP. The source of these data are from the WeChat Mini Program analytic tools. Developer needs to apply the configuration to enable the tools. Figure 5.1 shows the data in Excel.

时间范围：	2019-07-14至2019-08-12	
表格内容：	用户画像_性别分布	
性别	用户数	占比
男	19	63.3333%
女	11	36.6667%
时间范围：	2019-07-14至2019-08-12	
表格内容：	用户画像_年龄分布	
年龄	用户数	占比
17岁以下	4	13.333300000000000001%
18-24岁	7	23.3333%
25-29岁	13	43.3333%
30-39岁	2	6.666700000000000005%
40-49岁	1	3.333300000000000004%
50岁以上	3	10%
时间范围：	2019-07-14至2019-08-12	
表格内容：	用户画像_终端分布	
终端	用户数	占比
Android	20	66.6667%
iPhone	10	33.3333%

Figure 5.1 User Data

Except the general user information, a more detail version of user information can be retrieved from the server. After a user had given the authorization of getting their WeChat information, information such as profile picture, name, sex, city, registration date and last time entering the WCMP, the data can be viewed from the server interface. But these data cannot be downloaded to local, only the developer or admin can view from the server interface. However, if the user did not give their authorization or disabled the authorization, the interface will show the user as unknown. Figure 5.2 shows different version of user data.



头像	昵称	性别	城市	注册时间	最后一次进入时间	操作
	Ash	女	MY	2019-07-16 16:13:21	2019-07-16 16:30:12	拷贝 Open ID
	XueniFoo	女	MY	2019-07-16 13:40:32	2019-07-16 22:24:24	拷贝 Open ID
-	-	未知	-	2019-07-16 12:33:25	2019-07-16 12:33:25	拷贝 Open ID
-	-	未知	-	2019-07-17 13:26:50	2019-07-17 13:26:50	拷贝 Open ID
	LY Siang	男	Klang MY	2019-07-08 16:59:05	2019-08-13 15:01:38	拷贝 Open ID
-	-	未知	-	2019-07-16 12:58:48	2019-07-16 12:58:48	拷贝 Open ID
-	-	未知	-	2019-07-16 12:20:25	2019-07-16 12:20:25	拷贝 Open ID
-	-	未知	-	2019-07-16 12:52:31	2019-07-16 18:48:12	拷贝 Open ID
	Lye Kean Ping	男	Kuala Muda MY	2019-07-03 17:45:17	2019-08-13 22:05:37	拷贝 Open ID
-	-	未知	-	2019-08-04 13:30:09	2019-08-04 13:30:09	拷贝 Open ID

Figure 5.2 User Data 2

5.1.2 Behaviour Analysis and Page Analysis

The second group of data is behaviour analysis and page analysis. The source of these two data is also from the WeChat Mini Program analytic tools. Behaviour analysis describes how users behave daily. For instance, the 26th of July 2019 has two users access the mini program and the accessing number of times is nine times. Figure 5.3 shows the behaviour analysis sample data.

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时间	访问人数	新访问人数	次均停留时长	打开次数	访问次数	人均停留时长	人均访问深度	次均访问深度	累计访问人数	总添加人数	分享人数	新添加人数	删除添加人数	分享次数	月活跃用户
20190716	24	24	79.0105	95	1261	312.75	19.3333	4.8842	24	1	0	1	0	0	0
20190717	8	2	61.1875	16	186	122.375	9	4.5	26	2	0	1	0	0	6
20190718	3	1	120.3333	3	44	120.3333	5.6667	5.6667	27	2	0	0	0	0	2
20190719	5	2	90.375	8	84	144.6	8.2	5.125	29	2	0	0	0	0	3
20190720	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190721	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190722	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190723	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190724	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190725	1	0	82	1	13	82	5	5	29	2	0	0	0	0	1
20190726	2	0	81.7778	9	99	368	22.5	5	29	2	0	0	0	0	2
20190727	1	0	115	1	27	115	8	8	29	2	0	0	0	0	1
20190728	1	0	23.3333	3	9	70	8	2.6667	29	2	0	0	0	0	1
20190729	2	0	37.8	5	34	94.5	7.5	3	29	2	0	0	0	0	2

Figure 5.3 Behaviour Analysis

On the other hand, page analysis describes users behaviour page by page. For example, the home page has the highest accessing time, probably because it is the first page while accessing the mini program. Besides, page analysis may also involve time. For example, this analysis can show the peak hour or minutes for a specific page or all the pages at once, depends on the requirement. Figure 5.4 shows the page analysis sample data.

页面路径	访问次数	访问人数	次均时长(s)	入口页次数	退出页次数	退出率
pages/home/home	408	54	5.69	146	64	15.69%
pages/logs/logs	251	43	5.8	95	35	13.94%
pages/minigame/minigame	231	48	2.58	92	22	9.52%
pages/food_detail/food_detail	188	39	6.73	51	8	4.26%
pages/shake/shake	154	39	7.83	50	7	4.55%
pages/attraction/attraction	139	37	8.85	56	4	2.88%
pages/food/food	131	32	7.07	50	4	3.05%
pages/upload/upload	100	31	10.88	45	9	9%
pages/hotel/hotel	92	28	4.4	39	3	3.26%
pages/attr_detail/attr_detail	71	24	6.65	27	1	1.41%
pages/hotel_detail/hotel_detail	37	14	6.43	16	0	0%
pages/sysinfo/sysinfo	36	20	5.58	28	3	8.33%
pages/calender/calender	28	17	4.14	21	1	3.57%
pages/about/about	22	17	5.09	19	0	0%

Figure 5.4 Page Analysis

5.1.3 Normal Rating and Preference Rating

The third group of data is normal rating and preference rating, two of these ratings exist for the situation where after or before the user has been going to the location. For instance, a user is using the random food function, the user is given a choice of like or dislike the location and this is considered as user preference because the user probably has not visited the place. The second type of rating is when the user has been to the place and this is considered as a normal rating. In addition, preference rating only available for food. These data was getting from the user themselves, user has to first give the authorization before giving the ratings for this to work properly. Figure 5.5 shows the interface of normal rating on the left and preference rating on the right.

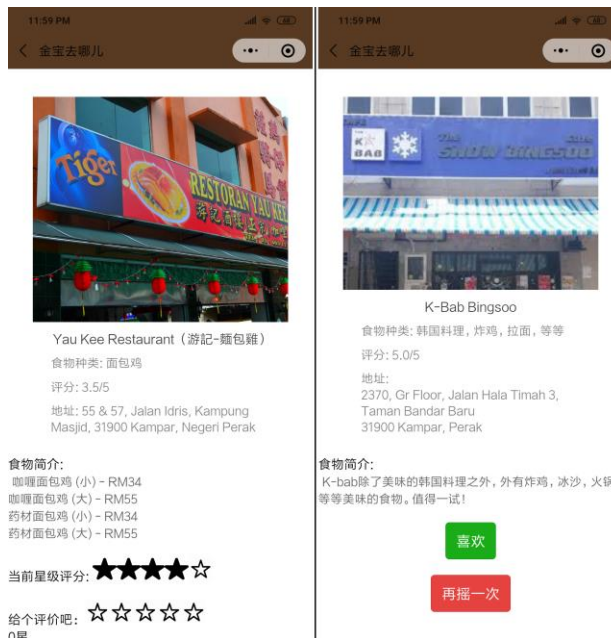


Figure 5.5 Normal and Preference Rating Interface

After a user rated a place, their information and the information of the place will be stored inside the cloud of the WeiXin Cloud Server. Figure 5.6 shows the screenshot of the food rating, followed by Figure 5.7 the preference rating of food.

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user_name	user_country	user_gender	user_city	food_id	food_old_rating	res_name	food_name	rate	user_province	user_language	rate_time
Lye Kean Ping	Malaysia	1	Kuala Muda	5cb2f62fd5de2b0071b8668c	4.1	Ah Boy Noodle (阿BOY面馆)	清汤, 招牌, 海鲜, 等等种类的面	5	Kedah	en	2019/07/04 14:27:11
何三岁	MY	1	Others	5cb2f62fd5de2b0071b8668c	4.1	Ah Boy Noodle (阿BOY面馆)	清汤, 招牌, 海鲜, 等等种类的面	5	Negeri Sembilan	zh_CN	2019/07/16 15:30:39
Jee Mee Lean余美莲	Malaysia	2	Kuala Muda	5c4ad63467f356004b5165e5	4	Bread First House (好冷爽)	冰淇淋泡芙, 蛋奶酥	4	Kedah	en	2019/07/16 21:39:57
Janice贾妮斯	MY	2	Others	5c4ad63467f356004b5165e5	4	Bread First House (好冷爽)	冰淇淋泡芙, 蛋奶酥	5	Pulau Pinang	en	2019/07/16 14:22:02
CK(有事找我要TAG)	Malaysia	1	Hulu Selangor	5c4ad63467f356004b5165e5	4	Bread First House (好冷爽)	冰淇淋泡芙, 蛋奶酥	3	Selangor	zh_CN	2019/07/17 12:43:22
CH	Malaysia	1	Bukit Mertajam	5cb2f799c8959c007584d84e	3.9	DING XIANG (鼎香)	泰国自助火锅	3	Pulau Pinang	zh_CN	2019/07/16 17:07:56
Janice贾妮斯	MY	2	Others	5cb2f799c8959c007584d84e	3.9	DING XIANG (鼎香)	泰国自助火锅	3	Pulau Pinang	en	2019/07/16 14:23:18
Lye Kean Ping	Malaysia	1	Kuala Muda	5cb2f550a3180b4766336d00	4.1	Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	2	Kedah	en	
CK(有事找我要TAG)	Malaysia	1	Hulu Selangor	5cb2f550a3180b4766336d00	4.1	Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	3	Selangor	zh_CN	2019/07/17 12:43:43
何三岁	MY	1	Others	5cb2f550a3180b4766336d00	4.1	Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	3	Negeri Sembilan	zh_CN	2019/07/16 15:30:35
手中的猫	oK_64q7hvZf	2		5cb2f550a3180b4766336d00	4.1	Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	4		zh_CN	2019/07/16 22:09:46
Cw Wong	Malaysia	1	Kuala Muda	5cb2f1fca3180b47663327e7	5	K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	5	Kedah	en	2019/07/17 13:35:34
Lim Hong Jin	Malaysia	1	Petaling	5cb2f1fca3180b47663327e7	5	K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	1	Selangor	en	2019/08/04 13:31:25
何三岁	MY	1	Others	5cb2f1fca3180b47663327e7	5	K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	3	Negeri Sembilan	zh_CN	2019/07/16 15:30:31
露洁	Malaysia	2	Ipoh	5cb2f1fca3180b47663327e7	5	K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	5	Perak	en	2019/07/18 15:12:52
CK(有事找我要TAG)	Malaysia	1	Hulu Selangor	5c4ad61cfb4ffe00528fae5	3.6	S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	2	Selangor	zh_CN	2019/07/17 12:43:43
LY Siang	MY	1	Klang	5c4ad61cfb4ffe00528fae5	3.6	S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	4	Selangor	en	2019/08/12 17:12:16
Lye Kean Ping	Malaysia	1	Kuala Muda	5c4ad61cfb4ffe00528fae5	3.6	S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	3	Kedah	en	
Lye Kean Ping	Malaysia	1	Kuala Muda	5cb2f87dd5de2b0071b89271	3.3	Vegan Life Kampar	各种各样的素食	5	Kedah	en	
Lye Kean Ping	Malaysia	1	Kuala Muda	5cb2f87dd5de2b0071b89271	3.3	Vegan Life Kampar	各种各样的素食	2	Kedah	en	2019/07/04 17:48:05
Sim Nam Eric Lye	Malaysia	1	Baling	5cb2f87dd5de2b0071b89271	3.3	Vegan Life Kampar	各种各样的素食	1	Kedah	en	2019/07/16 18:38:49
CyangOng	Malaysia	1	Butterworth	5cb2f87dd5de2b0071b89271	3.3	Vegan Life Kampar	各种各样的素食	1	Pulau Pinang	en	2019/07/16 12:49:40
GH	Malaysia	1		5c53067d0b6160004bf0cd7	3.5	Yau Kee Restaurant (游记-麵包糕)	面包糕	5	Selangor	en	2019/07/26 15:53:42
Lye Kean Ping	Malaysia	1	Kuala Muda	5c53067d0b6160004bf0cd7	3.5	Yau Kee Restaurant (游记-麵包糕)	面包糕	5	Kedah	en	2019/07/16 13:32:18
Sim Nam Eric Lye	Malaysia	1	Baling	5c53067d0b6160004bf0cd7	3.5	Yau Kee Restaurant (游记-麵包糕)	面包糕	5	Kedah	en	2019/07/16 18:38:57
Jee Mee Lean余美莲	Malaysia	2	Kuala Muda	5c53067d0b6160004bf0cd7	3.5	Yau Kee Restaurant (游记-麵包糕)	面包糕	4	Kedah	en	2019/07/16 21:39:33
CK(有事找我要TAG)	Malaysia	1	Hulu Selangor	5c53067d0b6160004bf0cd7	3.5	Yau Kee Restaurant (游记-麵包糕)	面包糕	5	Selangor	zh_CN	2019/07/17 12:43:26
CK(有事找我要TAG)	Malaysia	1	Hulu Selangor	5cb2f019d5de2b0071b7f04c	4.2	菊姐家乡饭店	福建面, 泰式金凤鱼, 等等	3	Selangor	zh_CN	2019/07/17 12:43:32
何三岁	MY	1	Others	5cb2f019d5de2b0071b7f04c	4.2	菊姐家乡饭店	福建面, 泰式金凤鱼, 等等	5	Negeri Sembilan	zh_CN	2019/07/16 15:29:48

Figure 5.6 Normal Rating Data (Food)

user_city	user_gender	user_language	satisfaction	food_old_rating	user_name	user_province	_openid	food_id	res_name	rate_time	user_country	food_name
Kuala Muda	1	en	Dislike	4.1	Lye Kean Ping	Kedah	oK_64f0l3xEtP180l9JStIDBM	5cb2f62fd5de2b0071b8668c	Ah Boy Noodle (阿BOY面馆)	2019/08/06 22:22:35	Malaysia	清汤, 招牌, 海鲜, 等等种类的面
Kuala Muda	1	en	Like	3.3	Lye Kean Ping	Kedah	oK_64f0l3xEtP180l9JStIDBM	5cb2f87dd5de2b0071b89271	Vegan Life Kampar	2019/08/06 22:22:46	Malaysia	各种各样的素食
Kuala Muda	1	en	Dislike	4	Lye Kean Ping	Kedah	oK_64f0l3xEtP180l9JStIDBM	5c4ad63467f356004b5165e5	Bread First House (好冷爽)	2019/08/07 13:18:34	Malaysia	冰淇淋泡芙, 蛋奶酥
Kuala Muda	1	en	Dislike	3.3	Lye Kean Ping	Kedah	oK_64f0l3xEtP180l9JStIDBM	5cb2f87dd5de2b0071b89271	Vegan Life Kampar	2019/08/07 13:20:28	Malaysia	各种各样的素食

Figure 5.7 Preference Rating (Food)

Chapter 6: Statistical Analysis

6.1 Statistical Analysis

This chapter applies the collected data to perform statistical analysis. The purpose of statistical analysis is to improve the mini program in all the possible way. The analyses are based on a few topics, including direct marketing, maintenance and usgae of user data.

6.1.1 Direct Marketing

Direct marketing is a sort of advertising compaign that tries to evoke an activity from a selected gathering of buyers or users (Rouse, 2016). Basic types of direct marketing activity include direct email, coupon, and targeted online advertisement. For instance, the advertiser ought to have the option to decide if a client offered a rebate for web-based shopping exploits the offer.

This section is to highlight user category which is the most likely to use or re-use this mini program, based on the attributes from the collected data. From the user data, a male who is between 25 to 29 years old and using Android smartphone is most likely to be using the mini program. In other words, female who is around 45 to 49 years old and using the iPhone are least likely to be using the mini program. Besides, from the result of page analysis, the most common peak hour of the mini program to be used is 12 pm to 3 pm.

As a conclusion, direct marketing is suitable to be performed from 12 pm to 3 pm to who are male, aged between 25 to 29 years old and he must be using Android smartphone. From this conclusion, advertising activity can be a lot easier as compared to without any user attributes. Since the main focus of the project is not on the advertising platform, in this case only example will be given. For example, Facebook advertising has such a service where the advertiser can select the audience who see the advertisement. The selection includes age, sex, time and many more options. Facebook advertising is one of the example which suitable for direct marketing, there are still many platforms will support or suit the attributes.

6.1.2 Maintenance

Maintenance is a part of the Software Development Life Cycle. Its primary objective is to improve and updates software application or mobile application after deployment to fix bugs (The Economic Times, 2019), to fulfill user requirement, or to improve user experience.

From the page analysis and behaviour analysis, it is easy to identify that what is the preference type of page by the user. From the mini program, two types of the page can be distinguished, which are informative and leisure. Informative is such as hotel page, food page, calendar page, etc., whereas example leisure page is random food page and photo uploading page.

After grouping all the informative page, figure 6.1 shows all the informative pages with their attributes.

页面路径	访问次数	访问人数	次均时长(s)	入口页次数	退出页次数	退出率
pages/attraction/attraction	139	37	8.85	56	4	2.88%
pages/food/food	131	32	7.07	50	4	3.05%
pages/hotel/hotel	92	28	4.4	39	3	3.26%
pages/sysinfo/sysinfo	36	20	5.58	28	3	8.33%
pages/calender/calender	28	17	4.14	21	1	3.57%

Figure 6.1 Informative Pages Data

From figure 6.1, it is obvious that attraction has the highest access times followed by food and the average second of accessing are 8.85 and 7.07 respectively. In other words, tourists are more preferable to seek information about attraction and food as compared to hotel and system info and calendar. From this result, maintenance can be made based on these two pages, for example, add on more attraction and food locations, improve the features such as navigation or WeChat pay to attract more user.

On the other hand, the leisure page is also crucial to be improved, because the random food page has the highest accessing times for both leisure and informative page. Although, two types of pages unmenat to be compared to each other. However by comparing them, it is found that leisure pages interest the users more as compare the informative page. Figure 6.2 shows the leisure pages with their attributes.

页面路径	访问次数	访问人数	次均时长(s)	入口页次数	退出页次数	退出率
pages/shake/shake	154	39	7.83	50	7	4.55%
pages/upload/upload	100	31	10.88	45	9	9%

Figure 6.2 Leisure Pages Data

As a result, the random food page and photo uploading page have 154 and 100 accessing times respectively and average seconds are 7.83s and 10.88s respectively. Again, maintenance must be applied on the leisure page since this may be the main reasons for users to return to the mini program. The example of maintenance here could be add on more meaningful and creative leisure features to attract more users or improve the performance of the feature since the average seconds of photo uploading is highest among all, this may be due to the uploading duration.

6.1.3 Usage of rating data

First and foremost, all the informative data, including food, attraction, and hotel are retrieved from many kinds of sources. These sources are people, Facebook and Google. The rating of a certain place is based on rating by a minority of people, which is not accurate at this point. New rating has to be retrieved by the mini program to improve the accuracy of the data. This can be easily achieved from the collected data, simply by generating the average of the rating given by the user.

On the other hand, sorting the place list by different categories can be achieved, categories including most rated and most popular. Sort by rating is simply by taking the highest rank among the place. However, the most popular place can only be discovered by identifying the most frequent ranking of a certain place. In other words, the place where has the most ranking has the highest popularity towards the tourist. In the case of sorting the place list, operating hour or alphabetical order need to be included for the next update to improve user experience. Figure 6.3 shows the popularity chart of attraction based on the number of rating followed by figure 6.4 and figure 6.5 show the popularity chart for food and hotel respectively.

WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for Kampar Tourism

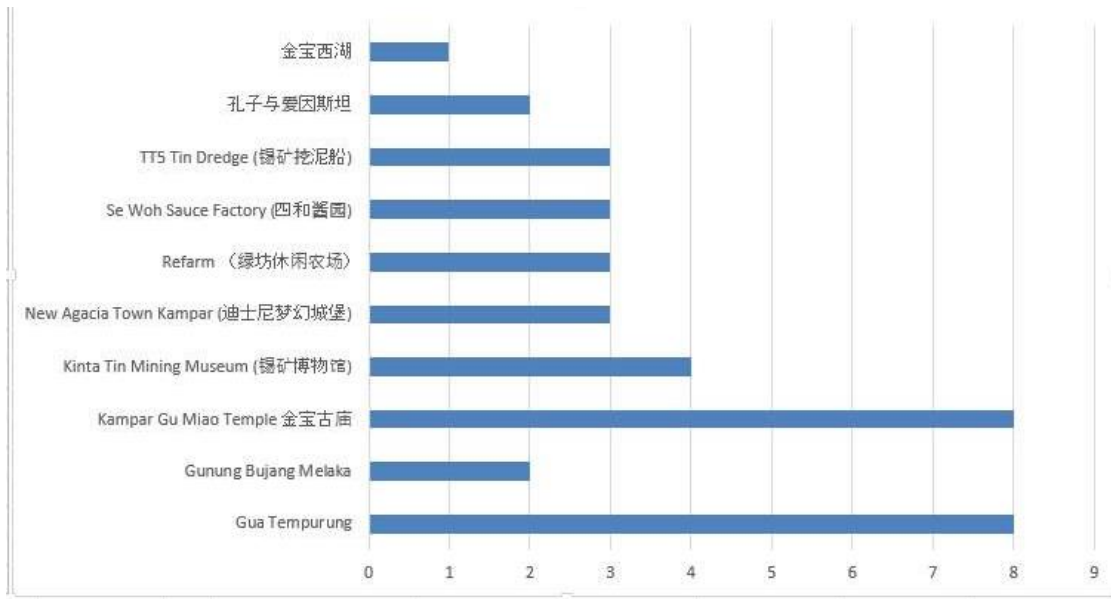


Figure 6.3 Popularity Chart for attraction

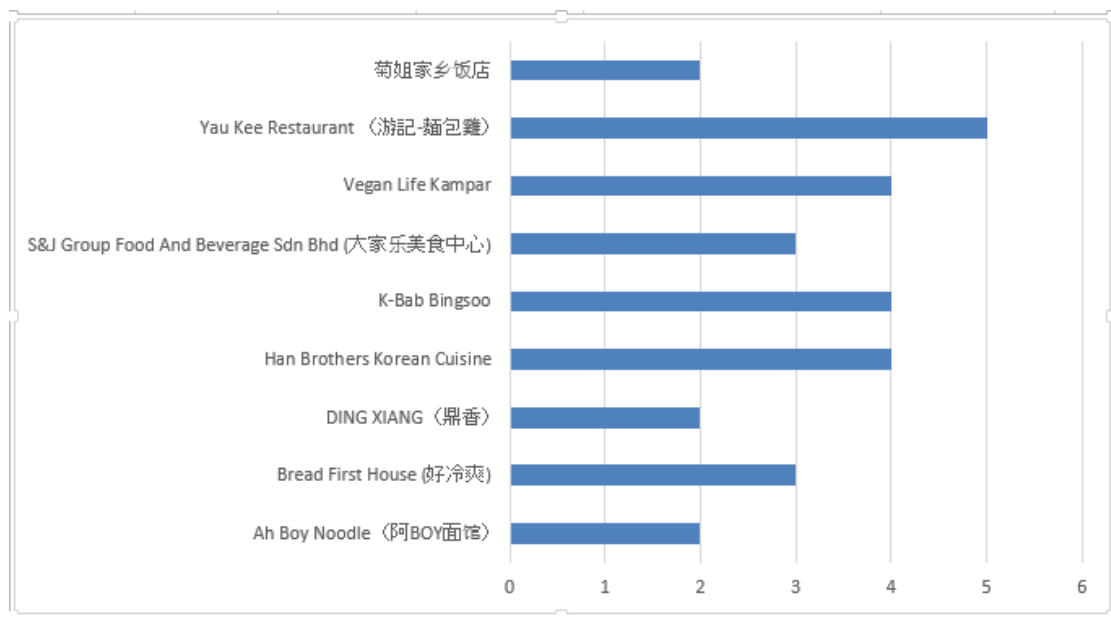


Figure 6.4 Popularity Chart for food

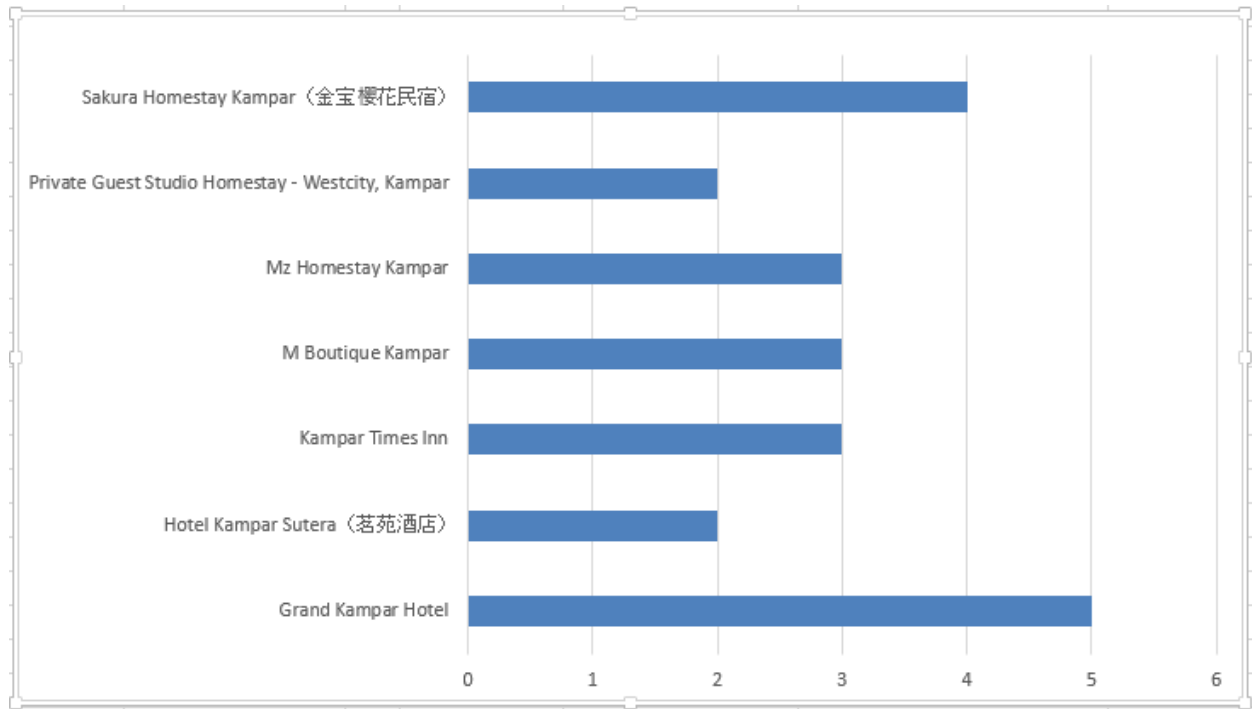


Figure 6.5 Popularity Chart for hotel

Based on figure 6.3, both Gua Tempurung and Kampar Gu Miao have the highest popularity among all the places, whereas Kampar Westlake has the least popularity. In addition, based on the figures above, Yau Kee Restaurant is the most popular restaurant in the food category, whereas the Grand Kampar Hotel is the most popular restaurant in the hotel category.

As the number of data increases, more analysis can be carried out, for example identifying a pattern and make a prediction. The data can be analysed from different perspective or attributes, for instance for a certain period of operating hour is less popular than usual or a certain location of people dislike a certain kind of food. After identifying the pattern, prediction can be made during the random food function to show more relevant restaurant towards the user. These pattern identification and prediction requires a huge amount of data in order to be accurate. For the stage now, only assumptions can be made.

Chapter 7: Conclusion

In conclusion, to improve the living standards of the Kampar's community, tourism is a key point that cannot be ignored. Because Kampar has many tourist attractions and food that have not yet been excavated and promoted. Tourism will create business opportunities in Kampar which will directly benefit Kampar people. From the digital perspective, a mobile application which contains all the tourism information and some creative tourism function or services will improve and provide advertising effect towards Kampar tourism. At the same time, the major tourist in Malaysia are people from China. To promote and make the Chinese travel conveniently, a WeChat Mini Program should be created. This is because they are more familiar with the WeChat platform. This WeChat Mini Program is created based on the Chinese language and contains all the information related to tourism in Kampar. The WeChat Mini Program is now deployed to the public, the user particulars and behaviour will be collected and perform statistical analysis based on a few topics to create value-added service and the analysed results will lastly benefits to the developer side, the vendor and the community. The targeted data to be analysed will be mainly on the user's particular and their access behaviours when using the WeChat Mini Program. This includes the cumulative number of visitors, page analysis, overall resources distribution, behaviour analysis, gender, age, regional distribution and more. A few conclusions have been made based on three topics, including direct marketing, maintenance, and usage of rating data. In the future, the WeChat Mini Program may improve in terms of functionality, informative data and performance. Creativity and useful function are the keys to attract users. On the other hand, the data collected will be increasing as time goes, this allows the application of more advanced analysis, for example identifying pattern and prediction.

Bibliography

Ctrip, 2019. Available from: WeChat Mini Program: Ctrip. [11 March 2019].

Grand Kampar Hotel Room, 2019. Available from: <<https://grandkamparhotel.com.my/rooms/>>. [11 March 2019].

Ma, L & Wang, L & Jiang, E 2018, 'Empirical Study on the WeChat Mini Program Acceptance Based on UTAUT Model', 2018 15th International Conference on Service Systems and Service Management (ICSSSM) Service Systems and Service Management (ICSSSM), pp. 1-2. Available from: UTAR LIBRARY: IEEE. [12 March 2019].

New Straits Times, 2018, 'Malaysia to achieve target of 33.1 million tourist arrivals in 2018', NSTP 25 August. Available from <<https://www.nst.com.my/news/nation/2018/08/404883/malaysia-achieve-target-331-million-tourist-arrivals-2018>>. [10 March 2019]

Novac, OC & Novac, M & Gordan, C & Bercze, T & Bujdosó, G 2017, 'Comparative study of Google Android, Apple iOS and Microsoft Windows Phone Mobile Operating Systems' 14th International Conference on Engineering of Modern Electric Systems (EMES), Oradea, 2017, pp. 154-159. Available from: UTAR LIBRARY: IEEE. [23 March 2019]

Penang4U, 2019. Available from: Google Play Store: Penang4U. [11 March 2019].

Rouse, M. (2016). What is direct marketing?. SearchCustomerExperience. Available from <<https://searchcustomerexperience.techtarget.com/definition/direct-marketing>> [10 Aug. 2019].

*WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for
Kampar Tourism*

Sekinchan Travel, 2015. Available from: Google Play Store: Sekinchan Travel. [11 March 2019].

The Economic Times. (2019). Definition of Software Maintenance. [online] Available at: <https://economictimes.indiatimes.com/definition/software-maintenance> [Accessed 15 Aug. 2019].

TripAdvisor Attraction and Hotel, 2019. Available from: Google Play Store: TripAdvisor. [11 March 2019].

Wang, J & Wang, W & Zhu, Q 2018, 'Design and Implementation of WeChat Mini Program for University Dormitory Based on SOA'. *Journal of Physics: Conference Series*, vol. 1069, no. 1, pp. 1-5.

Appendix

Sex

时间范围:	2019-07-14 至 2019-08-12	
表格内容:	用户画像_性别分布	
性别	用户数	占比
男	19	63.3333%
女	11	36.6667%





Age

时间范围:	2019-07-14 至 2019-08-12	
表格内容:	用户画像_年龄分布	
年龄	用户数	占比
17岁以下	4	13.3333000000000001%
18-24岁	7	23.3333%
25-29岁	13	43.3333%
30-39岁	2	6.6667000000000005%
40-49岁	1	3.3333000000000004%
50岁以上	3	10%

Phone Type

时间范围:	2019-07-14 至 2019-08-12	
表格内容:	用户画像_终端分布	
终端	用户数	占比
Android	20	66.6667%
iPhone	10	33.3333%






User Data

今日活跃用户		本周活跃用户		本月活跃用户			
1人		3人		5人			
访问用户列表							昵称或 Open ID <input type="text"/>
头像	昵称	性别	城市	注册时间	最后一次进入时间	操作	
	Ash	女	MY	2019-07-16 16:13:21	2019-07-16 16:30:12	拷贝 Open ID	
	XueniFoo	女	MY	2019-07-16 13:40:32	2019-07-16 22:24:24	拷贝 Open ID	
-	-	未知	-	2019-07-16 12:33:25	2019-07-16 12:33:25	拷贝 Open ID	
-	-	未知	-	2019-07-17 13:26:50	2019-07-17 13:26:50	拷贝 Open ID	
	LY Siang	男	Klang MY	2019-07-08 16:59:05	2019-08-13 15:01:38	拷贝 Open ID	
-	-	未知	-	2019-07-16 12:58:48	2019-07-16 12:58:48	拷贝 Open ID	
-	-	未知	-	2019-07-16 12:20:25	2019-07-16 12:20:25	拷贝 Open ID	
-	-	未知	-	2019-07-16 12:52:31	2019-07-16 18:48:12	拷贝 Open ID	
	Lye Kean Ping	男	Kuala Muda MY	2019-07-03 17:45:17	2019-08-14 01:27:08	拷贝 Open ID	
-	-	未知	-	2019-08-04 13:30:09	2019-08-04 13:30:09	拷贝 Open ID	

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每页显示 10 行 1 / 4




User Data (cont.)

头像	昵称	性别	城市	注册时间	最后一次进入时间	操作
-	-	未知		2019-07-16 13:06:58	2019-07-16 13:06:58	拷贝 Open ID
	J	男	TH	2019-07-16 17:54:11	2019-07-16 19:08:16	拷贝 Open ID
	GH	男	MY	2019-07-16 12:46:43	2019-08-12 01:11:26	拷贝 Open ID
-	-	未知		2019-07-16 22:49:31	2019-07-16 22:49:31	拷贝 Open ID
-	-	未知		2019-07-08 18:22:10	2019-07-08 18:22:31	拷贝 Open ID
-	-	未知		2019-07-16 12:45:01	2019-07-16 12:45:01	拷贝 Open ID
-	-	未知		2019-07-09 10:32:44	2019-07-09 10:32:44	拷贝 Open ID
	CH	男	Bukit Mertajam MY	2019-07-16 14:21:48	2019-07-19 14:44:40	拷贝 Open ID
	Cw Wong	男	Kuala Muda MY	2019-07-16 14:51:36	2019-08-07 12:13:25	拷贝 Open ID
	Janice 贾妮斯	女	Others MY	2019-07-16 14:16:34	2019-07-16 14:25:51	拷贝 Open ID

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每页显示 10 行 2 / 4



User Data (cont.)

头像	昵称	性别	城市	注册时间	最后一次进入时间	操作
-	-	未知		2019-07-19 15:08:40	2019-07-19 15:08:40	拷贝 Open ID
-	-	未知		2019-07-16 18:10:46	2019-07-16 18:10:46	拷贝 Open ID
-	-	未知		2019-07-16 15:29:17	2019-07-16 15:29:17	拷贝 Open ID
	露洁	女	Ipoh MY	2019-07-16 12:43:14	2019-07-25 20:20:49	拷贝 Open ID
	手中的猫	女		2019-07-16 22:06:01	2019-07-16 22:18:36	拷贝 Open ID
	Jee Mee Lean余美莲	女	Kuala Muda MY	2019-07-16 21:37:19	2019-07-17 09:01:50	拷贝 Open ID
-	-	未知		2019-07-17 23:32:09	2019-07-17 23:32:09	拷贝 Open ID
-	-	未知		2019-07-16 13:09:38	2019-07-19 21:49:23	拷贝 Open ID
-	-	未知		2019-07-18 15:13:40	2019-07-18 15:13:40	拷贝 Open ID
-	-	未知		2019-07-16 13:39:26	2019-07-17 06:07:31	拷贝 Open ID

共 33 项

每页显示 10 行 ⏪ ⏩ 3 / 4 ⏪ ⏩

User Data (cont.)

头像	昵称	性别	城市	注册时间	最后一次进入时间	操作
	Sin Nam Eric Lye	男	Baling MY	2019-07-16 18:38:07	2019-07-16 19:08:35	拷贝 Open ID
	Isy	未知		2019-07-19 14:47:05	2019-07-26 14:31:52	拷贝 Open ID
	CK(有事找我要TAG)	男	Hulu Selangor MY	2019-07-16 22:06:18	2019-07-17 13:26:00	拷贝 Open ID

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每页显示 10 行 4 / 4

Page Analysis

时间范围:	2019-07-14 至 2019-08-12							
表格内容:	使用分析_页面分析							
页面路径	访问次数	访问人数	次均时长 (s)	入口页次数	退出页次数	退出率	分享次数	分享人数
pages/home/home	408	54	5.69	146	64	15.69%	0	0
pages/logs/logs	251	43	5.8	95	35	13.94%	0	0
pages/minigame/minigame	231	48	2.58	92	22	9.52%	0	0
pages/food_detail/food_detail	188	39	6.73	51	8	4.26%	0	0
pages/shake/shake	154	39	7.83	50	7	4.55%	0	0
pages/attraction/attraction	139	37	8.85	56	4	2.88%	0	0
pages/food/food	131	32	7.07	50	4	3.05%	0	0
pages/upload/upload	100	31	10.88	45	9	9%	0	0
pages/hotel/hotel	92	28	4.4	39	3	3.26%	0	0
pages/attr_detail/attr_detail	71	24	6.65	27	1	1.41%	0	0
pages/hotel_detail/hotel_detail	37	14	6.43	16	0	0%	0	0
pages/sysinfo/sysinfo	36	20	5.58	28	3	8.33%	0	0
pages/calender/calender	28	17	4.14	21	1	3.57%	0	0
pages/about/about	22	17	5.09	19	0	0%	0	0

Page Analysis (cont.)

实时访问次数

下载

所有页面

2019-08-01 00:00 至 2019-08-14 23:59

60分钟

对比



Behaviour Analysis

时间范围:	2019-07-14 至 2019-08-12														
表格内容:	使用分析_行为数据_指标对比														
时间	访问人数	新访问人数	次均停留时长	打开次数	访问次数	人均停留时长	人均访问深度	次均访问深度	累计访问人数	总添加人数	分享人数	新添加人数	删除添加人数	分享次数	月活跃用户
20190716	24	24	79.0105	95	1261	312.75	19.3333	4.8842	24	1	0	1	0	0	0
20190717	8	2	61.1875	16	186	122.375	9	4.5	26	2	0	1	0	0	6
20190718	3	1	120.3333	3	44	120.3333	5.6667	5.6667	27	2	0	0	0	0	2
20190719	5	2	90.375	8	84	144.6	8.2	5.125	29	2	0	0	0	0	3
20190720	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190721	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190722	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190723	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190724	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190725	1	0	82	1	13	82	5	5	29	2	0	0	0	0	1
20190726	2	0	81.7778	9	99	368	22.5	5	29	2	0	0	0	0	2
20190727	1	0	115	1	27	115	8	8	29	2	0	0	0	0	1
20190728	1	0	23.3333	3	9	70	8	2.6667	29	2	0	0	0	0	1
20190729	2	0	37.8	5	34	94.5	7.5	3	29	2	0	0	0	0	2
20190730	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190731	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190801	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190802	1	0	16	1	5	16	4	4	29	2	0	0	0	0	1

20190803	0	0	0	0	0	0	0	0	29	2	0	0	0	0	0
20190804	1	1	246	1	32	246	10	10	30	2	0	0	0	0	0
20190805	1	0	31.5556	9	22	284	17	1.8889	30	2	0	0	0	0	1
20190806	0	0	0	0	0	0	0	0	30	2	0	0	0	0	0
20190807	2	0	96	2	34	96	5	5	30	2	0	0	0	0	2
20190808	0	0	0	0	0	0	0	0	30	2	0	0	0	0	0
20190809	1	0	17.5	2	10	35	5	2.5	30	2	0	0	0	0	1
20190810	2	0	20.5	2	7	20.5	2	2	30	2	0	0	0	0	2
20190811	0	0	0	0	0	0	0	0	30	2	0	0	0	0	0
20190812	1	0	59	1	21	59	10	10	30	2	0	0	0	0	1

Hotel_Rating

hotel_name	hotel_old_rating	rate	user_name	user_gender	user_city	user_province	user_country	user_city	user_language
Grand Kampar Hotel	7.6	5	手中的貓	2					zh_CN
Grand Kampar Hotel	7.6	4	Jee Mee Lean 余美 蓮	2	Kuala Muda	Kedah	Malaysia	Kuala Muda	en
Grand Kampar Hotel	7.6	4	CH	1	Bukit Mertajam	Pulau Pinang	Malaysia	Bukit Mertajam	zh_CN
Grand Kampar Hotel	7.6	3	CK(有事找 我要 TAG)	1	Hulu Selangor	Selangor	Malaysia	Hulu Selangor	zh_CN
Grand Kampar Hotel	7.6	5	GH	1		Selangor	Malaysia		en
Hotel Kampar Sutera (茗 苑酒店)	6.6	3	Jee Mee Lean 余美 蓮	2	Kuala Muda	Kedah	Malaysia	Kuala Muda	en
Hotel Kampar Sutera (茗 苑酒店)	6.6	3	Sin Nam Eric Lye	1	Baling	Kedah	Malaysia	Baling	en
Kampar Times Inn	7.4	1	Lye Kean Ping	1	Kuala Muda	Kedah	Malaysia	Kuala Muda	en
Kampar Times Inn	7.4	2	CK(有事找 我要 TAG)	1	Hulu Selangor	Selangor	Malaysia	Hulu Selangor	zh_CN
Kampar Times Inn	7.4	5	GH	1		Selangor	Malaysia		en
M Boutique Kampar	8.4	5	GH	1		Selangor	Malaysia		en

M Boutique Kampar	8.4	3	Lye Kean Ping	1	Kuala Muda	Kedah	Malaysia	Kuala Muda	en
M Boutique Kampar	8.4	5	Pang Cheng	1	Ipoh	Perak	Malaysia	Ipoh	en
Mz Homestay Kampar	8.4	2	LY Siang	1	Klang	Selangor	MY	Klang	en
Mz Homestay Kampar	8.4	5	Sin Nam Eric Lye	1	Baling	Kedah	Malaysia	Baling	en
Mz Homestay Kampar	8.4	4	CK(有事找 我要 TAG)	1	Hulu Selangor	Selangor	Malaysia	Hulu Selangor	zh_CN
Private Guest Studio Homestay - Westcity, Kampar	0	5	GH	1		Selangor	Malaysia		en
Private Guest Studio Homestay - Westcity, Kampar	0	2	CK(有事找 我要 TAG)	1	Hulu Selangor	Selangor	Malaysia	Hulu Selangor	zh_CN
Sakura Homestay Kampar (金宝樱花 民宿)	9	5	GH	1		Selangor	Malaysia		en
Sakura Homestay Kampar	9	3	Lye Kean Ping	1	Kuala Muda	Kedah	Malaysia	Kuala Muda	en

(金宝樱花 民宿)									
Sakura Homestay Kampar (金宝樱花 民宿)	9	4	Lye Kean Ping	1	Kuala Muda	Kedah	Malaysia	Kuala Muda	en
Sakura Homestay Kampar (金宝樱花 民宿)	9	1	CH	1	Bukit Mertajam	Pulau Pinang	Malaysia	Bukit Mertajam	zh_CN

Food_Rating

res_name	food_name	food_old_rating	rate	user_name	user_city	user_province	user_country	user_gender	user_language	rate_time
Ah Boy Noodle (阿 BOY 面馆)	清汤, 招牌, 海鲜, 等等种类的面	4.1	5	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	2019/07/04 14:27:11
Ah Boy Noodle (阿 BOY 面馆)	清汤, 招牌, 海鲜, 等等种类的面	4.1	5	何三岁	Others	Negeri Sembilan	MY	1	zh_CN	2019/07/16 15:30:39
Bread First House (好凉爽)	冰淇淋泡芙, 蛋奶酥	4	4	Jee Mee Lean 余美莲	Kuala Muda	Kedah	Malaysia	2	en	2019/07/16 21:39:57
Bread First House (好凉爽)	冰淇淋泡芙, 蛋奶酥	4	5	Janice 贾妮斯🍁	Others	Pulau Pinang	MY	2	en	2019/07/16 14:22:02

Bread First House (好凉爽)	冰淇淋泡芙, 蛋奶酥	4	3	CK(有事找我要 TAG)	Hulu Selangor	Selangor	Malaysia	1	zh_CN	2019/07/17 12:43:22
DING XIANG (鼎香)	泰国自助火锅	3.9	3	CH	Bukit Mertajam	Pulau Pinang	Malaysia	1	zh_CN	2019/07/16 17:07:56
DING XIANG (鼎香)	泰国自助火锅	3.9	3	Janice 贾妮斯🍁	Others	Pulau Pinang	MY	2	en	2019/07/16 14:23:18
Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	4.1	2	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	
Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	4.1	3	CK(有事找我要 TAG)	Hulu Selangor	Selangor	Malaysia	1	zh_CN	2019/07/17 12:43:43
Han Brothers Korean Cuisine	韩国料理, 烤肉, 等等	4.1	3	何三岁	Others	Negeri Sembilan	MY	1	zh_CN	2019/07/16 15:30:35
Han Brothers	韩国料理,	4.1	4	手中的貓				2	zh_CN	2019/07/16 22:09:46

Korean Cuisine	烤肉, 等等									
K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	5	5	Cw Wong	Kuala Muda	Kedah	Malaysia	1	en	2019/07/17 13:35:34
K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	5	1	Lim Hong Jin	Petaling	Selangor	Malaysia	1	en	2019/08/04 13:31:25
K-Bab Bingsoo	韩国料理, 炸鸡, 拉面, 等等	5	3	何三岁	Others	Negeri Sembilan	MY	1	zh_CN	2019/07/16 15:30:31
K-Bab Bingsoo	韩国料理, 炸鸡,	5	5	霖洁	Ipoh	Perak	Malaysia	2	en	2019/07/18 15:12:52

	拉面, 等等									
S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	3.6	2	CK(有事找我要 TAG)	Hulu Selangor	Selangor	Malaysia	1	zh_CN	2019/07/17 12:43:18
S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	3.6	4	LY Siang	Klang	Selangor	MY	1	en	2019/08/12 17:12:16
S&J Group Food And Beverage Sdn Bhd (大家乐美食中心)	咖喱仁当鸡	3.6	3	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	
Vegan Life Kampar	各种各样的素食	3.3	5	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	
Vegan Life Kampar	各种各样的素食	3.3	2	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	2019/07/04 17:48:05
Vegan Life Kampar	各种各样	3.3	1	Sin Nam Eric Lye	Baling	Kedah	Malaysia	1	en	2019/07/16 18:38:49

	的素食									
Vegan Life Kampar	各种各样的素食	3.3	1	CyangOng	Butterworth	Pulau Pinang	Malaysia	1	en	2019/07/16 12:49:40
Yau Kee Restaurant (游記-麵包雞)	面包鸡	3.5	5	GH		Selangor	Malaysia	1	en	2019/07/26 15:53:42
Yau Kee Restaurant (游記-麵包雞)	面包鸡	3.5	5	Lye Kean Ping	Kuala Muda	Kedah	Malaysia	1	en	2019/07/16 13:32:18
Yau Kee Restaurant (游記-麵包雞)	面包鸡	3.5	5	Sin Nam Eric Lye	Baling	Kedah	Malaysia	1	en	2019/07/16 18:38:57
Yau Kee Restaurant (游記-麵包雞)	面包鸡	3.5	4	Jee Mee Lean 余美莲	Kuala Muda	Kedah	Malaysia	2	en	2019/07/16 21:39:33
Yau Kee Restaurant (游記-麵包雞)	面包鸡	3.5	5	CK(有事找我要 TAG)	Hulu Selangor	Selangor	Malaysia	1	zh_CN	2019/07/17 12:43:26
菊姐家乡 饭店	福建面, 泰式金凤鱼, 等等	4.2	3	CK(有事找我要 TAG)	Hulu Selangor	Selangor	Malaysia	1	zh_CN	2019/07/17 12:43:32

菊姐家乡 饭店	福建 面, 泰式 金凤 鱼, 等等	4.2	5	何三岁	Others	Negeri Sembilan	MY	1	zh_CN	2019/07/16 15:29:48
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Attraction_Rating

attraction_name	attraction_old_rating	user_province	user_gender	rate	user_name	attraction_OpHour	user_city	user_country	user_language	rate_time
Gua Tempurung	4.4	Selangor	1	5	Lim Hong Jin	Sun - Sat 9:00 AM - 4:15 PM	Petaling	Malaysia	en	2019/08/04 13:35:27
Gua Tempurung	4.4	Kedah	1	5	Lye Kean Ping	Sun - Sat 9:00 AM - 4:15 PM	Kuala Muda	Malaysia	en	
Gua Tempurung	4.4	Pulau Pinang	2	5	Janice 贾妮斯 🍁	Sun - Sat 9:00 AM - 4:15 PM	Others	MY	en	2019/07/16 14:21:49
Gua Tempurung	4.4	Kedah	1	5	Cw Wong	Sun - Sat 9:00 AM - 4:15 PM	Kuala Muda	Malaysia	en	2019/07/17 13:39:24
Gua Tempurung	4.4		2	2	Ash	Sun - Sat 9:00 AM - 4:15 PM		Malaysia	en	2019/07/16 16:14:05
Gua Tempurung	4.4	Kedah	2	3	Jee Mee Lean 余美莲	Sun - Sat 9:00 AM - 4:15 PM	Kuala Muda	Malaysia	en	2019/07/16 21:40:22
Gua Tempurung	4.4	Selangor	1	4	CK(有事找我要TAG)	Sun - Sat 9:00 AM - 4:15 PM	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:42:34
Gua Tempurung	4.4	Perak	2	5	霖洁	Sun - Sat 9:00 AM - 4:15 PM	Ipoh	Malaysia	en	2019/07/18 15:13:19
Gunung Bujang Melaka	4.3	Kedah	1	5	Lye Kean Ping	随时营业	Kuala Muda	Malaysia	en	
Gunung Bujang Melaka	4.3	Kedah	1	3	Cw Wong	随时营业	Kuala Muda	Malaysia	en	2019/07/17 13:39:31

Kampar Gu Miao Temple 金宝古庙	0		0	4	Isy	Sun - Sat 8:00 AM - 4:00 PM			en	2019/07/26 14:33:46
Kampar Gu Miao Temple 金宝古庙	0	Kedah	1	1	Lye Kean Ping	Sun - Sat 8:00 AM - 4:00 PM	Kuala Muda	Malaysia	en	2019/07/04 14:27:28
Kampar Gu Miao Temple 金宝古庙	0	Kedah	2	4	Jee Mee Lean 余 美莲	Sun - Sat 8:00 AM - 4:00 PM	Kuala Muda	Malaysia	en	2019/07/16 21:40:47
Kampar Gu Miao Temple 金宝古庙	0	Kedah	1	3	Cw Wong	Sun - Sat 8:00 AM - 4:00 PM	Kuala Muda	Malaysia	en	2019/07/17 13:39:36
Kampar Gu Miao Temple 金宝古庙	0	Selangor	1	5	GH	Sun - Sat 8:00 AM - 4:00 PM		Malaysia	en	2019/07/27 21:27:19
Kampar Gu Miao Temple 金宝古庙	0	Kedah	1	4	Lye Kean Ping	Sun - Sat 8:00 AM - 4:00 PM	Kuala Muda	Malaysia	en	
Kampar Gu Miao Temple 金宝古庙	0	Kedah	1	2	Sin Nam Eric Lye	Sun - Sat 8:00 AM - 4:00 PM	Baling	Malaysia	en	2019/07/16 18:42:26
Kampar Gu Miao Temple 金宝古庙	0	Selangor	1	3	CK(有事 找我要 TAG)	Sun - Sat 8:00 AM - 4:00 PM	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:43:09
Kinta Tin Mining Museum (锡矿博物馆)	5		2	2	Ash	Sun - Sat 9:00 AM - 5:00 PM		Malaysia	en	2019/07/16 16:14:30
Kinta Tin Mining Museum (锡矿博物馆)	5	Selangor	1	4	CK(有事 找我要 TAG)	Sun - Sat 9:00 AM - 5:00 PM	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:42:42

Kinta Tin Mining Museum (锡矿博物馆)	5	Kedah	1	5	Lye Kean Ping	Sun - Sat 9:00 AM - 5:00 PM	Kuala Muda	Malaysia	en	
Kinta Tin Mining Museum (锡矿博物馆)	5	Kedah	1	5	Lye Kean Ping	Sun - Sat 9:00 AM - 5:00 PM	Kuala Muda	Malaysia	en	
New Agacia Town Kampar (迪士尼梦幻城堡)	3.8		2	5	手中的 貓	随时营业			zh_CN	2019/07/16 22:10:37
New Agacia Town Kampar (迪士尼梦幻城堡)	3.8	Kedah	1	4	Lye Kean Ping	随时营业	Kuala Muda	Malaysia	en	2019/07/16 12:47:48
New Agacia Town Kampar (迪士尼梦幻城堡)	3.8	Kedah	1	5	Sin Nam Eric Lye	随时营业	Baling	Malaysia	en	2019/07/16 18:39:33
Refarm (绿坊休闲农场)	3.9	Kedah	1	1	Sin Nam Eric Lye	Wed - Mon 9:00 AM - 6:00 PM	Baling	Malaysia	en	2019/07/16 18:39:23
Refarm (绿坊休闲农场)	3.9	Kedah	2	3	Jee Mee Lean 余美莲	Wed - Mon 9:00 AM - 6:00 PM	Kuala Muda	Malaysia	en	2019/07/16 21:48:02
Refarm (绿坊休闲农场)	3.9	Kedah	1	5	Lye Kean Ping	Wed - Mon 9:00 AM - 6:00 PM	Kuala Muda	Malaysia	en	
Se Woh Sauce Factory (四和酱园)	0		0	4	lsy	Sun - Sat 9:00 AM - 5:00 PM			en	2019/07/26 14:32:45

Se Woh Sauce Factory (四和酱园)	0	Selangor	1	3	CK(有事找我要TAG)	Sun - Sat 9:00 AM - 5:00 PM	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:42:53
Se Woh Sauce Factory (四和酱园)	0	Negeri Sembilan	1	4	何三岁	Sun - Sat 9:00 AM - 5:00 PM	Others	MY	zh_CN	2019/07/16 15:30:26
TT5 Tin Dredge (锡矿挖泥船)	4.1	Selangor	1	5	CK(有事找我要TAG)	Sun - Sat 9:00 AM - 6:00 PM	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:42:47
TT5 Tin Dredge (锡矿挖泥船)	4.1	Selangor	1	5	Lim Hong Jin	Sun - Sat 9:00 AM - 6:00 PM	Petaling	Malaysia	en	2019/08/04 13:35:19
TT5 Tin Dredge (锡矿挖泥船)	4.1	Kedah	1	2	Cw Wong	Sun - Sat 9:00 AM - 6:00 PM	Kuala Muda	Malaysia	en	2019/07/17 13:39:29
孔子与爱因斯坦	4.2	Kedah	1	2	Sin Nam Eric Lye	随时营业	Baling	Malaysia	en	2019/07/16 18:39:28
孔子与爱因斯坦	4.2	Selangor	1	3	CK(有事找我要TAG)	随时营业	Hulu Selangor	Malaysia	zh_CN	2019/07/17 12:43:01
金宝西湖	4.7	Negeri Sembilan	1	4	何三岁	随时营业	Others	MY	zh_CN	2019/07/16 15:30:21

Preference Rating (Food)

user_city	user_gender	user_language	satisfaction	food_old_rating	user_name	user_province	res_name	rate_time	user_country	food_name
Kuala Muda	1	en	Dislike	4.1	Lye Kean Ping	Kedah	Ah Boy Noodle (阿 BOY 面馆)	2019/08/06 22:22:35	Malaysia	清汤·招牌·海鲜·等等种类的面
Kuala Muda	1	en	Like	3.3	Lye Kean Ping	Kedah	Vegan Life Kampar	2019/08/06 22:22:46	Malaysia	各种各样的素食
Kuala Muda	1	en	Dislike	4	Lye Kean Ping	Kedah	Bread First House (好凉爽)	2019/08/07 13:18:34	Malaysia	冰淇淋泡芙·蛋奶酥
Kuala Muda	1	en	Dislike	3.3	Lye Kean Ping	Kedah	Vegan Life Kampar	2019/08/07 13:20:28	Malaysia	各种各样的素食

WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for Kampar Tourism

Introduction

- “Sub-applications” within the WeChat ecosystem.
- Can access without download anything except WeChat.
- Provides tourism information for tourist to Kampar.
- Includes attraction, hotel, food and more.
- Special functions and mini games.
- Analyse user’s information for value-added services.
- Benefits to the community

Methodologies

- Develop by using the WeChat Open Platform – Developer Tools.
- Implement by using Cloud Server & Database.
- Collection of data including user data, behavior and page data
- Statistical Analysis based on the collected data



Discussion

- A innovative program since there are less people start develop at Malaysia.
- A new generation of mobile application.
- Convenient and easy to access.
- Benefits the tourist by providing a platform consist of information and other free services.
- Targeting Chinese from China as the primary users, to provide a familiar platform since they are not using Google.
- Promote the Kampar Tourism which directly boost the economy and create more business opportunities.

Conclusion

- In order to improve the living standards of the Kampar’s community, tourism is a key point that cannot be ignored.
- Tourism will creates business opportunities in
- Kampar which will directly benefits Kampar people.
- A mobile application which contains all the tourism information and some creative tourism function or services
- Improve and provide advertising effect towards the Kampar tourism.

Project Developer: Lye Kean Ping

Supervisor: Ts. Dr. Liew Soung Yue

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Full Name(s) of Candidate(s)	Lye Kean Ping
ID Number(s)	15ACB06005
Programme / Course	Bachelor of Computer Science (Hons)
Title of Final Year Project	WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for Kampar Tourism

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WeChat Mini Program Development for Travel Guide Services and User Statistical Analysis for Kampar Tourism

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FACULTY OF INFORMATION & COMMUNICATION
TECHNOLOGY (KAMPAR CAMPUS)

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