

The Functionalities of Mobile Applications

Case Study: WeChat

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ABSTRACT

The objective of this thesis is to find out the functionalities of mobile application. And the purpose of this study is to make a research on WeChat's functionalities. A native application and mobile web application are the two different types of mobile applications. When designers start to create an application, companies need to discuss which type of app is more suitable for business targets. Each has both pros and cons which influence companies' choice. WeChat is a popular mobile application created in China by Tencent. It is a free communication tool. WeChat assist people contact their friends or customers by messaging or voicing or using video chat. WeChat has more valuable functions in contrast to other similar mobile applications. The concepts of Mobile Application Development will be introduced. And this thesis will mainly discuss one type of application-WeChat.

This thesis focuses on the functionalities of mobile application and functionalities of WeChat. Moreover, the thesis applies a qualitative research method and is based on the deductive approach. In this thesis, readers can get an in-depth understanding of

the functionalities of mobile application and WeChat. Secondary sources from internet and books help support the thesis. The result of the thesis is to compare with the functionalities of different apps and finally conclude the particular functionalities that WeChat has.

Key words: mobile application, WeChat, functionality

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Abbreviations

BYOD=Bring Your Own Device

CYOD=Choose Your Own Device

CEO=Chief Executive Officer

COPE=Cooperative Orthotic and Prosthetic Enterprise

ID= Identification

KPCB=Kleiner Perkins Caufield Byers

MIDP=Mobile Information Device Profile

OS=Operating System

QR code= Quick Response Code

1. INTRODUCTION

Because of the development of mobile phones, customers have more and more requirements for them. People are not satisfied with current usage. Designers and developers therefore create more functional apps to meet customers' needs and earn business value. The first app named "time-waster" was produced at the end of the twentieth century. And then video games appeared in people's life. Nokia was famous for putting the 1970s video game Snake on some of its earliest phones. And then other companies followed Nokia, they created games like Pong, Tetris, and Tic-Tac-Toe. Mobile application becomes an important in people's life. It provides job opportunities and increases revenues. (Clark, 2011)

The mobile app industry shows a good development trend. Smart phones and mobile apps were the most warmly welcomed product in 2010. However, in 2011, tablets computers exceeded smart phones and mobile apps became the leader in the market. Furthermore, this change led to the corresponding increases in the needs of available apps in the app market. (Rakestraw& Eunni& Kasuganti 2013, 15)

In 2014, mobile applications moved into the corporate sector and the workplace and bring your own device (BYOD) became popular. Companies promote BYOD for developing different mobile platforms and devices. Thus, companies like BlackBerry did not need to provide specific facilities for employees. However, in 2015, the choose your own device principle (CYOD) replaced BYOD, and companies started to issue devices directly to employees. The mobile terminal owned by the enterprise, that is COPE (Cooperative Orthotic and Prosthetic Enterprise). CYOD allows employees to select the intelligent terminal from selected device. The limitation for the scope and category of mobile device is to facilitate centralized management of enterprises and to

facilitate uniform implementation of corporate security standards and policies.

Therefore, in 2015 CYOD becomes the new standard for enterprises.

By 2015, most of the mobile applications provide more personalized content and services. These services were used on the web, but now they are used over applications. New applications allows users to create, modify, share and buy personalized products and services. Newly developed technology can effectively use large data provided by analysis tools, which contribute to the personalized services of the applications. Through the collection of relevant information on the user's mobile device, manufacturers provide specific services associated with it. This allows users to spend less time in the selection of their favorite things because they see all of the results are displayed according to their own preferred content.

There are two types of mobile applications, native apps and mobile web apps. A native app is created and improved for a certain mobile device. It is supported by its app stores, and customers can easily download a native app in the mobile app stores. Camera+ for iOS devices is a good native app example. A mobile web app, on the other hand, is internet-enabled. It is based on a mobile device's web browser. Apple's Safari browser is an example of a mobile web app. Compared with a native app, a mobile web app is harder to find, because native apps are supported by app stores and web apps are not.

A native app is more expensive but faster than a mobile web app. Moreover, a native app ensures the security and safety for customers' devices and information.

Conversely, a mobile web app is slower and developed without particular official authority to guarantee the quality and safety for the web app. The user can access a

mobile web app via a mobile device's web browser. In addition, they have a different user interface. As shown in figure 1, a native app and a mobile app often look almost the same, and therefore provide users a consistent user experience. Besides that, for each native app, it has its own development process. However, the mobile web app has its own features because of the variability of mobile device's web browser. Besides that, while native app should be manually downloaded by users, mobile web app do not need to be downloaded. In addition, for native app users, they have to download and install updates manually, but mobile web app can update automatically. And the native app as its name, it suits all the device's native features while mobile web app only can access certain few device's native features, it is not suitable for all device's features Therefore it saves time for mobile web app users. And if native app users are lazy to update an application, it will cause a result that the users are in a different version of this app. Conversely, all mobile web app users are in the same version of one application.

The conclusion can be drawn that when creating a mobile application, one should compare the features of the two kinds of apps and then choose the more suitable one for business. However, if a choice cannot be made, it is certainly possible to develop both. As shown in figure 1, Facebook has created both a native and a mobile app. By comparison, people can choose a more suitable app which can help reach the business goal. However, if it is difficult to make a choice, both native app and mobile web app can be developed at the same time.



Figure 1: Native Apps vs. Mobile Web Apps: A Quick Comparison (Mudge JT July 2012)

2. RESEARCH TASK

The purpose of this thesis is to find out the functionalities of mobile application. And it will introduce one popular app, WeChat, and compare it with other similar applications. In addition, this thesis tries to figure out the particular functionalities that WeChat differs from other applications.

This thesis is written with basic understandable words and simple sentences.

Furthermore, this thesis will achieve the goal by some reliable and clear statements. In this way, all the people can read and have a deep or new comprehension of a mobile application. Consequently, everyone learns something from the thesis. If there is someone really interests in the or topic, and he or she wants to start doing business in mobile, for this reason the thesis can be seen as a free and reliable source for people to find what they want.

2.1 Research Problem

This thesis discusses the following research question: What are the functionalities of WeChat that differ from other applications?

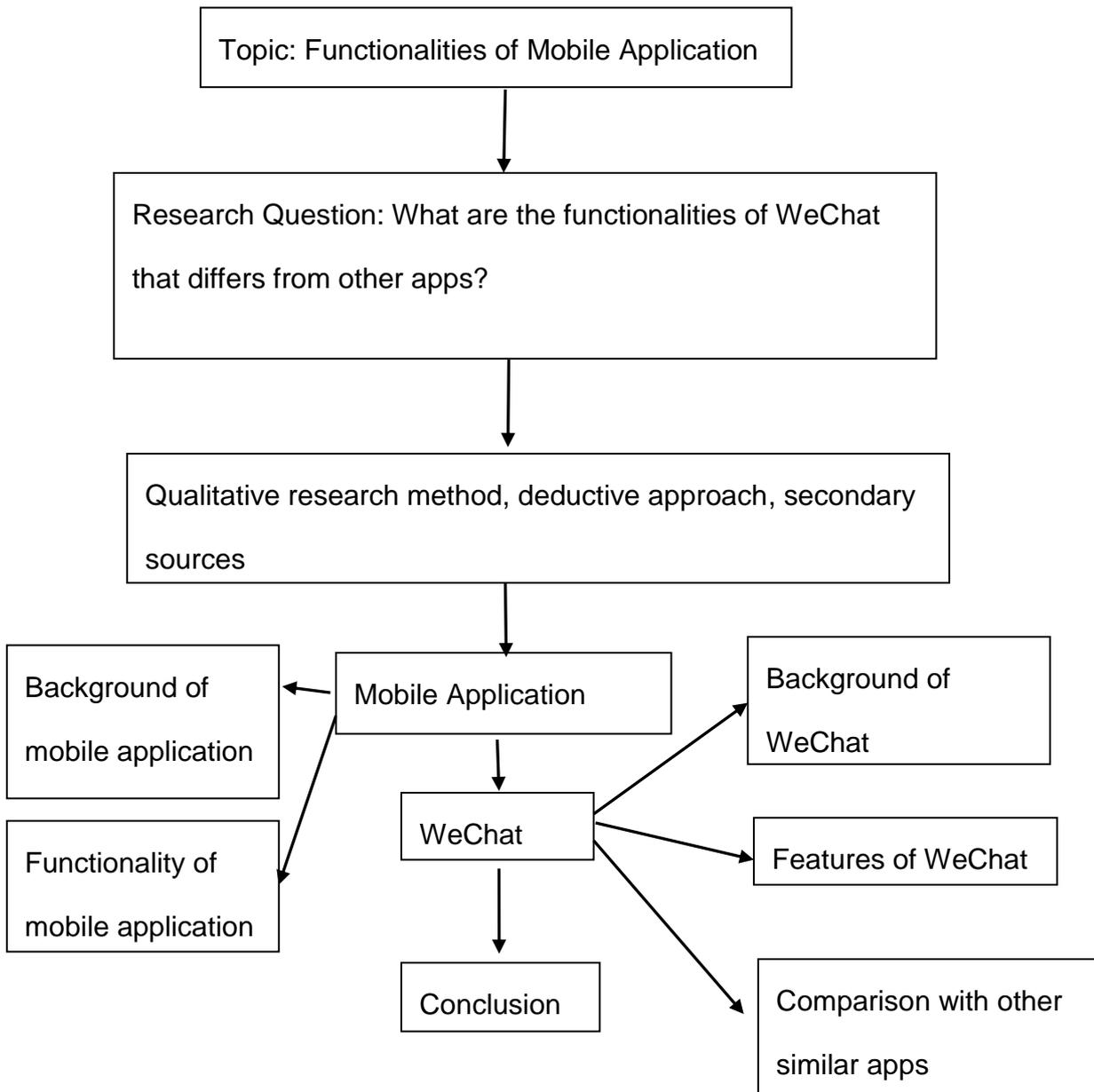
The research question belongs to the explorative type. By providing pieces of evidence and information about the functionalities of mobile application and WeChat, this thesis will provide an understanding of the mentioned theories and answers the research question.

The thesis focuses on the functionalities of mobile application and WeChat and aims to answer the research question. Moreover, the thesis continues with the overview and

introduction about mobile application. And then the more detailed information is followed. After users get an idea about mobile application, the thesis will continue with the introduction of WeChat. By search for information about WeChat and other similar apps, this thesis will find out the functionalities that WeChat differ from other apps.

2.2 Research Framework

The topic of this thesis is the functionalities of mobile applications. This thesis focuses on the functionalities of mobile application and the functionalities of WeChat. And to gain in-depth understanding of the functionalities of the mobile applications, this thesis will find other similar applications' functionalities and discuss the differences between these applications and WeChat. Furthermore, this thesis will utilize qualitative research methods and deductive approach to find out the answer of the research question. To achieve the objective, this thesis will introduce the background of mobile application at the beginning. Then the general functionalities of mobile applications will be discussed in the following pages. After discussing the functionalities of mobile applications, this thesis will provide an overview of the background about the study case WeChat. Next, we will list all functionalities of WeChat in order to ensure readers have more knowledge about WeChat. After that, we will discuss about the differences between WeChat and other similar applications and find out the answers to the research question.



3. LITERATURE REVIEW

3.1 Mobile Application

Mobile phones are widely used in people's life. It is a necessary digital device which accompanies us from morning to the end of the day. For each mobile phone, with different operating system, such as Android, iPhone, Windows, needs to download apps from its own app store. (Laitinen Laura, 2014)

In recent years, mobile application has a rapid development. According to the small size, lower costs, good capability and functionality, mobile devices have earned considerable demands (John Wiley&Sons August, 2009). Personal digital assistants (PDAs) as well as cellphones widely spread in all over the world (Gong J, Tarasewich P, 2004).

According to the source from Laitinen Laura (2014), we can see that there are seven important qualities for mobile application:

- 1 A mobile application should be ready at any time and any place for instantly available usage.
- 2 For personal use, a mobile application should be created to reach particular requirements and meet customer's needs.
- 3 A mobile application should have the ability to be switch off and make it become offline.
- 4 A mobile application requires the function of managing time in order to help people have an overview of their schedules.

- 5 A mobile application needs to have the ability to help people contact with others. It is important to have real time connection when using a mobile application.
- 6 An easy controlled mobile application is needed from customers' point of view. It should assist customers in the area of internet services, used data, money usage and payment protection.
- 7 A good mobile application should be created with the quality of instantly updates. Due to different changes of surroundings, a mobile application should provide newest information , therefore, users can receive information for nearby people and communication with people around.(Talouselämä 2014, date of retrieval 20.1.2014)

3.2 WeChat

WeChat is a free mobile application which designed by Tencent company on January 21th of 2011 in China. It contains the many functions, such as real time connection with multiple people, video chat, text input, and images transmission. WeChat has the similar functions as SMS, MMS. (Yi Liang 2014, 9)

According to the reliable data from WeChat's official blog in September 2015, an average of 570 million users use WeChat every day. Besides that, for each day, the active users of WeChat has increased by 64 percent during a year. WeChat provides the functions of shopping and instant news, and it also offers the opportunity for customers to communicate with their friends and track exercise activity. There is a research shows that not only young make use of WeChat, people from 15 years old to 29 years are the main users. And among these people, each of them has an average of 128 friends in WeChat. (WeChat Lifestyle, 2015)

4. RESEARCH METHODS

Research approach: Inductive vs. Deductive

The research method we chose is qualitative research method. We use the qualitative method to find out the functionalities of WeChat that differ from other apps. We collect data by seeking reliable sources from Internet and books and other papers. And then we analyze the data by deductive approach. Based on the trusted data and information, we will give you a deep understanding about mobile application and WeChat.

There are two types of research approaches, which is inductive approach and deductive approach. Inductive approach is used to minimize the scope of the research question. It starts with observation, and after searching reliable data and information, gets deeper and broader theory. And the inductive approach is more exploratory than the deductive approach. Deductive approach is used to make theories from general level to a specific level. It also called “top-down” approach.

Compared with inductive and deductive approach, we find out that deductive approach is more suitable for our thesis. Therefore, deductive approach is commonly used in this thesis. We follow the deductive approach path, start our thesis with a topic and a research question. Then we will use context-based sources and materials to find the answer of the research question.

5. DATA ANALYSIS

In this thesis, the content analysis method is used to help analyze collected sentences and paragraphs. Via content analysis, we collect data for different categories, such as mobile application, operating system. Therefore, all the data we collect match with our topic. And we try to gather as much information as we can to prove our idea. This type of qualitative data analysis method support our topic, improve decision making and help answer the research question. They make the idea clearer, specific and convincing.

5.1 Research Data

With the development of technology, the first mobile phone Motorola DynaTAC 8000X first marketed in 1983(Clark, 2011). Mobile phones allowed you to talk for a little more than half an hour, according to this functionality, mobile phones began to pop up. Mobile phone becomes a necessary tool in people's life, customers can use a mobile phone to communicate with friends and do business work. Then mobile users want more functions their phones, therefore more and more apps created by handset manufacturers. For normal people, they want to use a mobile app to make the social connection or pass the time. For the businessman, they want to use a mobile app to connect customers and do publicity for their existing product, therefore, they can earn money for an application.

The functions for a mobile application is very important. More than 80% of apps are deleted by customers after their first use(IBM MobileFirst). This tells us only do publicity doesn't make your app grow up, at the same time you need to pay attention to the functionality of your app, which is the most important aspect that enhance the

application and earn rewards. If you don't want to be one of the 80% apps, create and develop your mobile app functionality.

With a plenty of useful functions, a mobile application can attract customers and will be welcomed by most of the people. From figure 2, we can see that, in 201 mobile apps has more than one function, more of the users use the mobile app to play games, and 32% people use the mobile app to contact friends and customers in order to improve social skills. And the rest of the people use the mobile app for reading news and entertainment and so on.

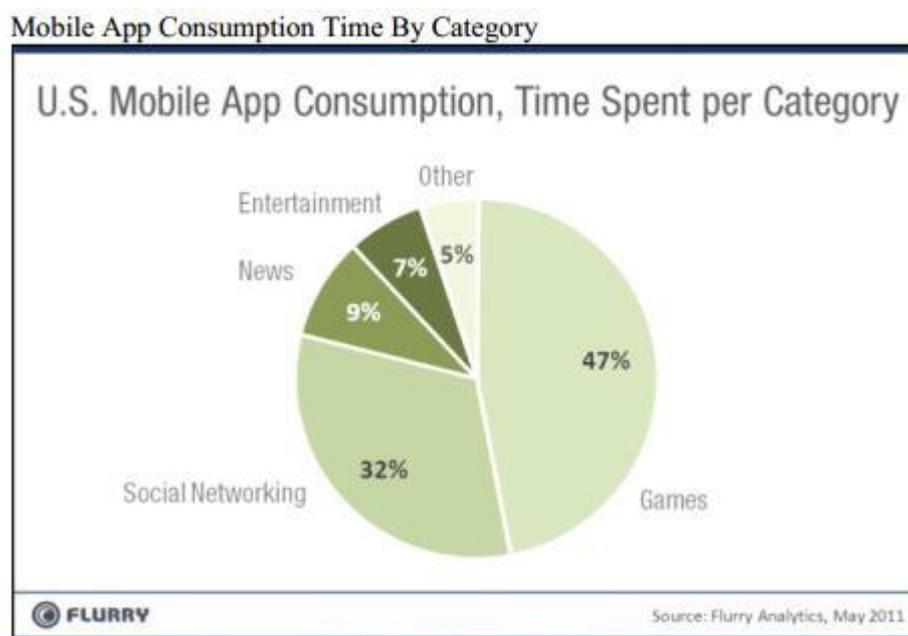


Figure 2: Mobile App Consumption Time by Category ((Rakestraw& Eunni& Kasuganti 2013, 15)

5.1.1 Functionalities

The aim of this chapter is to make deep research of the thesis topic.

Find out the functionalities of mobile application this chapter, it will list the functionalities of mobile application which attract people's attention, and especially in Chinese market.

1) User Interface

The user interface is an important factor in the development of mobile application. From the earlier stage, mobile user interface focuses on simple features. Handset manufacturer only shows the basic icons on a mobile phone to give customers' the information to use the phone. So the idea is to make the phone clear and user-friendly. But nowadays, the user interface plays a very important role in creating value. A beautiful user interface can attract people's attention. Once customers have interesting on their applications, they can go on with the next step to earn business value.

2) PinYin support

Currently, mobile apps provide a plenty of functions. For example, when you type Chinese PinYin in some old system, there is no result, but in iPhone Operating System (iOS), there will be Hanzi results. From figure 2, it is clear to see that mobile apps with good system facilitate people's usage. In this way, Chinese customers enjoy more convenient services.

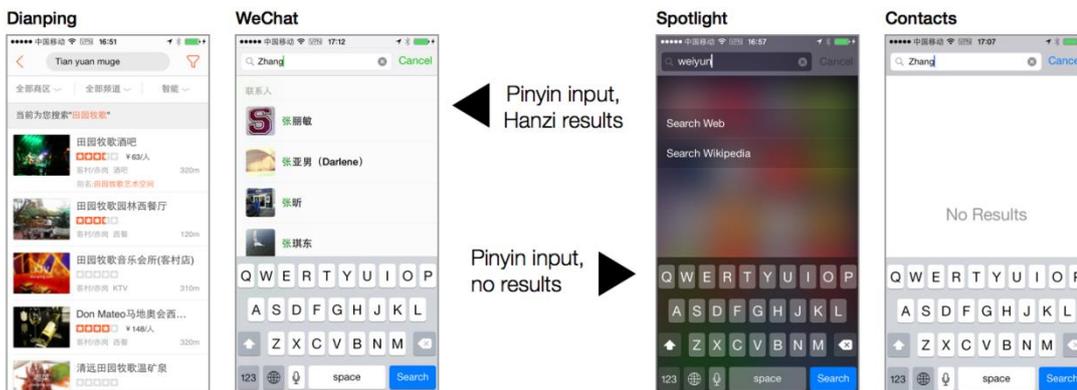


Figure 3: Chinese Mobile App UI Trends-PinYin Support (GROVER DAN December 1 2014)

3) Voice search

Besides that, voice search is a new and novelty feature that bring benefits to the people who can't type or the people who are lazy to type. From picture4, we can conclude that in recent years, many Chinese apps provide voice search to satisfy their customers. And there is a well-known voice search tool which is popular recently. The name is Siri. Siri is a new and attractive function that created by Apple Company for iPhone. By clicking the button, you can control the mobile by voice. For example, if you want to call a friend and you are lazy or difficult to type, then you can say "Call XXX" to Siri, and then Siri will make a phone call directly to your friend.



Figure 4: Chinese Mobile App UI Trends-Voice Search (GROVER DAN December 1 2014)

4) "Sweep a little"

This feature appears in mobile applications recently. "Sweep a little" is a QR Code Scanner. By using "Sweep a little", you can easily pay and receive money, or you can find information from others from the codes and quickly add them to your list. It offers a more convenient experience.



Figure 5: Chinese Mobile App UI Trends-"Sweep a little" (GROVER DAN December 1 2014)

5) Discover

In Chinese apps, you can see there is always "Discover" button, this button is the place where you can find related tools. For example, in WeChat, there are Friend Moments, from Friend Moments you post your life moments and see your friend's life moments. You can see from picture 6, there are different Discover button in different apps, they provide particular functions that increase your sense of usage. For example, in the user interface of WeChat, there are Moments, QR code Scanner, Shake (find random people), People Nearby, Message in a Bottle and Games. These functions help you contact old friends and meet new friends.

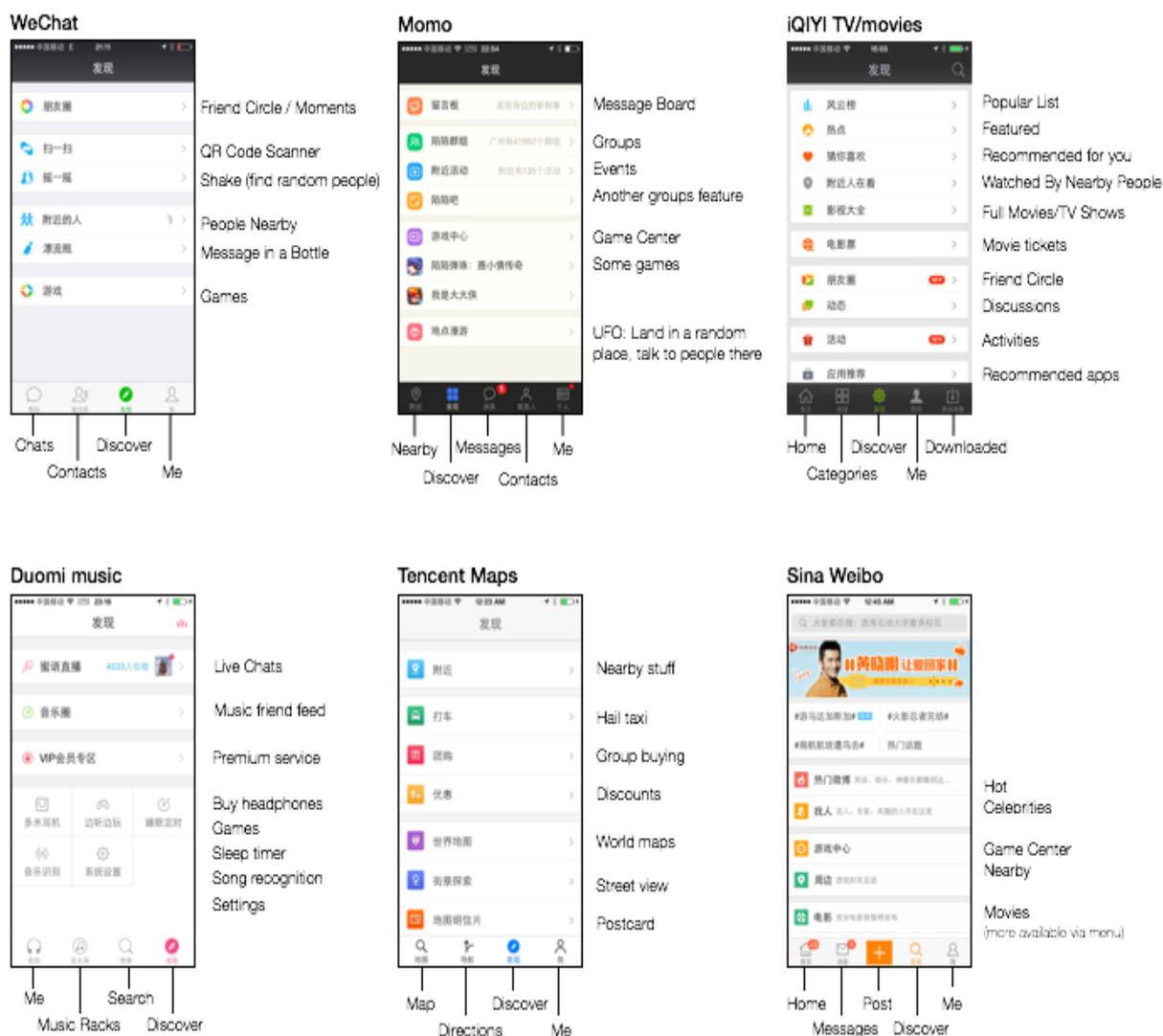


Figure 6: Chinese Mobile App UI Trends-Discover (DAN GROVER December 1 2014)

5.1.2 Operating System

Talking about a good application, we have to think about its operating systems. The operating system is system software which deals with computer programs. It supports multitasking. In figure 7, we can see that an operating system provides the functions to run applications, send and receive information to display in a monitor, manage keyboard input, control printer (scan, copy, paste) and mouse, and handle disk drive. (Vangie Beal 2015)

There are a lot of operating systems, such as iOS, Android, BlackBerry, Linux, BSD (Berkeley Software Distribution), OS X, Microsoft Windows, QNX, Steam OS and so on. It is very important to choose the right operating systems in order to meet customers' need and minimize costs.

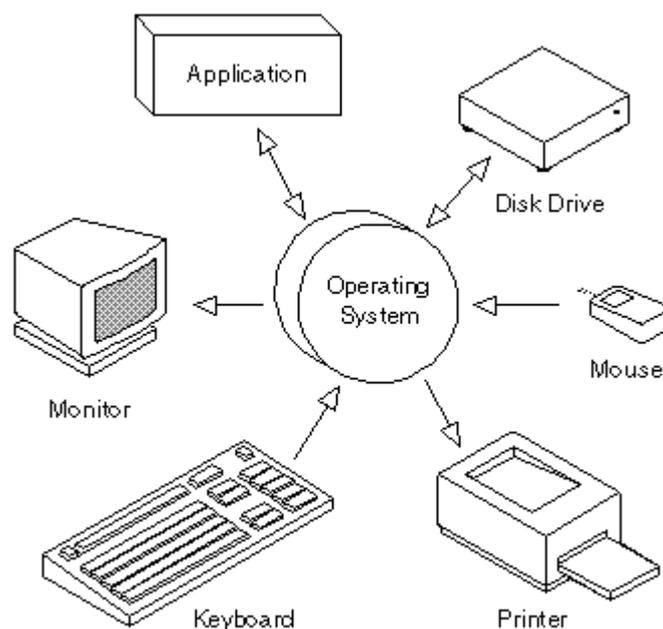


Figure 7: OS-operating system (Vangie Beal 2015)

iOS (iPhone OS) one of the top well-known operating system. It is popular in China, the United States, and the United Kingdom and even all over the world. It is written by C language, C++, Objective-C and Swift. It is designed for touchscreen mobile devices. This operating system supports every Apple products, such as iPhone, iWatch and iPad. You can see from picture 8, this is an iOS interface in iPhone. It looks clear. Users can control the phone by screen touch. You can either swipe, tap, pinch or reverse pinch the phone to reach your goal.

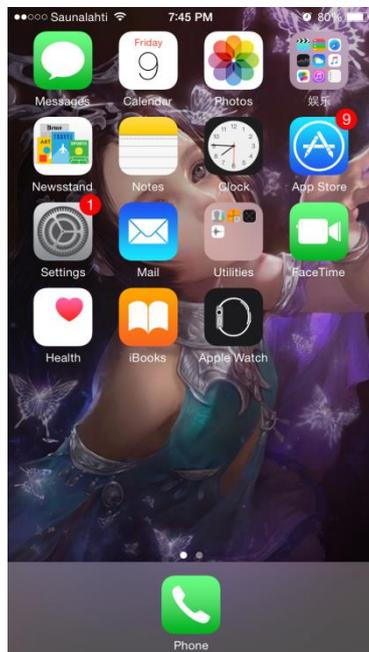


Figure 8: IOS interface

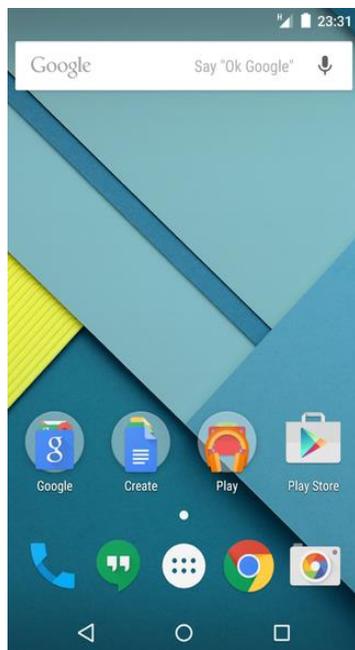


Figure 9: Android operation system interface

There are a lot of impressive features of iPhone Operating System. For instance, in the newest version iOS 9, there is a Low Power Mode which increases battery life. This is

definitely a good change, it benefits people who use mobile device very often or who do not have time to charge. This change makes mobile live one hour more. Besides that, when users' mobile devices remain charge reaches 20%, the Low Power Mode will be activated and a notification will be given to the user.

Besides that with iOS 9 users can easily move Android apps into an iOS device. Before transferring, users need to download Move to iOS, this app will help users do the transfer. Via Move to iOS, messages, contacts, notes, photos, videos and apps users have saved and downloaded in Android can be quickly transferred. After transferring, iOS will help users rebuild your app library. And all the apps will be listed in iTunes Wish List.

Moreover, in the newest version, it improved security and protect users' personal information. In iOS 9, six-digit passcodes are created. In the old version, it's four digits. This means now there is one million possible combinations instead of 10000. This change makes it harder for people who want to access users' mobile devices and at the meantime it is easy for users to use, and enhances the security and protect users from malicious access. And the other improvement for security is to build a two-factor authentication. Needless to say, a password cannot protect users' mobile device perfectly. Therefore, a verification code is needed and useful. Whenever users want to sign in from a new mobile device, there is a verification code popped up, and users can check it in their own phone, then users can easily start to use their apps. But others cannot access without the code.

Besides that, Siri is another impressive feature. In iOS 9, Siri becomes more user-friendly and flexible. Users can ask Siri to help them call someone, or users can

let Siri help users check the information they want, and users can even communicate with Siri. It is more like an entertainment tool. There is an example, when users say “I love you” to Siri, Siri will reply users with “You are the wind beneath my wings”, or “impossible”, or “Oh, I bet you say that to all your Apple products”. Besides that, Siri becomes more accurately and quickly. It understands users’ words and sentences more clearly and replies users faster.

5.1.2.1 iPhone Operating System

Since June 2007, iPhone has helped the development of mobile. Apple transformed iPod users to iPhone users with simple and effective user interface practices. In the United States, the mobile web data mainly used from iPhone in May 2010, and iPhone occupied 59 percent among all the other smartphones (McWherter & Scott 2009, 183).

iOS is different from Android, it is quicker in the update. It is true that users can update the newest iOS version immediately. But whenever a new version of Android comes out, most Android users have to wait a long time before the official version of the system can be obtained from the official upgrade. And another important thing is that there are many preloaded applications in Android devices, which cannot be deleted manually. These many preloaded applications seem too bloated and have a bad influence in the use of mobile devices. There are preloaded applications in iOS devices too, however iOS gives enough space for a user to organize their own apps. And another difference is that iOS is far more intuitive. One Android device can always find different options or features while Apple's iOS system used to do everything the same way. Certainly, the native Android operating system may be the most intuitive, but the device manufacturers may do not like the native Android, almost every brand of smartphones have their own customized user interface. This means that if a user wants to change

different brands of mobile phones, the user must learn to adapt through a certain learning process, this process may be easy or difficult. More importantly, the same brand of smartphones have a different interface, this is different from iOS users, and they can get a new iPhone start to use it directly without learning the process. And in terms of camera features, compared to Android, iOS seems more intuitive and have more functions such as exposure control, auto exposure/auto focus. A lot of features on an Android are missing. However, the new version of Android camera application, as well as the equipment manufacturer, provided camera can be seen as a remedy. One more, iOS comes with powerful data backup feature- iCloud, it is intuitive and easy to use. Users simply turn on the switch and selected the application and data can be automatically backup in Wi-Fi environments at any time. Android also has a similar solution, but most of the data is difficult to complete backups. If users want to have a perfect backup, users need to get Root permission, and then through a third party Recovery's backup and recovery, such as titanium Nan droid backup. And the lack of continuous interworking is a big weakness for Android. If users have an Apple family's products such as Mac, iPad and iPhone, as long as users' mobile device upgrades to the newest iOS, a lot of work and life-tasking will become more convenient, for example, their unfinished work on Mac can be continued on iPad, when iPhone gets a phone call, users can pick it up by Mac, they can share hotspot without Wi-Fi. A lot of functionality between Apple devices can achieve seamlessly. But Android cannot reach it.

5.1.2.2 Android

Android is another widely used operating system which is created by Google. It based on Linux and often applied on smartphones or tablets. The programming language is C, C++, Python and Java. It can be seen from figure 9, this is written by android operating

system. It looks different from an iOS interface. But users can also control it by screen touch as well.

Among the many reasons to target Android platform, first and foremost is cost. On average users can get an Android smartphone for a fraction of the cost of an iPhone (John Wiley&Sons August 2009).

Android system source code is opening, it is able to attract more developers to join its camp. Developers improve source code and fully meet the individual needs of users and personal habits. However, they use of Android system have high requirements for hardware, which is the reason why many mobile phone manufacturers emphasize on some hardware parameters. Only higher hardware configuration is able to run better and more smoothly. At present, major mobile phone manufacturers have developed their own proprietary version of Android systems, such as millet's MIUI, Samsung's Touch Wiz and HTC's sense.

Android's application is numerous. Software provided by third-party developers enriches the Android platform resources. Java technology provides a convenient platform for Android development. The free application resources offered by third party developers is the key advantage for market competition.

Android and iOS interface development have the fusion trend, both sides are learning from each other and try to develop themselves in a right way. The development characteristics of Android system is more able to attract developers to develop. And the attendant phone viruses and malicious software expense Android mobile phone users. However, the advantage of relatively cheap costs makes Android's market

share is much higher than iOS. Compared with android, iOS closed system can bring more security guaranteed, but users have to face selection constraints and inconveniences in using the application.

5.1.2.3 BlackBerry

BlackBerry Operating System is a special system that created and developed for its own smart phone device- Blackberry. The characteristics contain multitasking and the native support for corporate email. For instance, via Mobile Information Device Profile (MIDP), it is a published standard for the use of Java on embedded devices 1.0 and a subset of MIDP 2.0, when Blackberry device connects BlackBerry Enterprise Server, it can be wirelessly activated. According to data at the end of 2010, BlackBerry operating system market share has surpassed Nokia, placed after Google Android, Apple's iPhone Operating System and Microsoft windows phone operating system, becomes the world's fourth largest smartphone operating system.



Figure 10: BlackBerry operating system interface

Therefore In the different operating system, there are the different percentage for the popularity of an application. From figure 11, we can see that in iPhone OS, BlackBerry OS, and other smartphones, Facebook is the most popular app. However, in Android OS, Google Maps is the most welcomed app by customers. This means when developers want to develop an app, they need to think about which operating system is more suitable and which can decrease their costs, in this way, developers can maximize their profit.

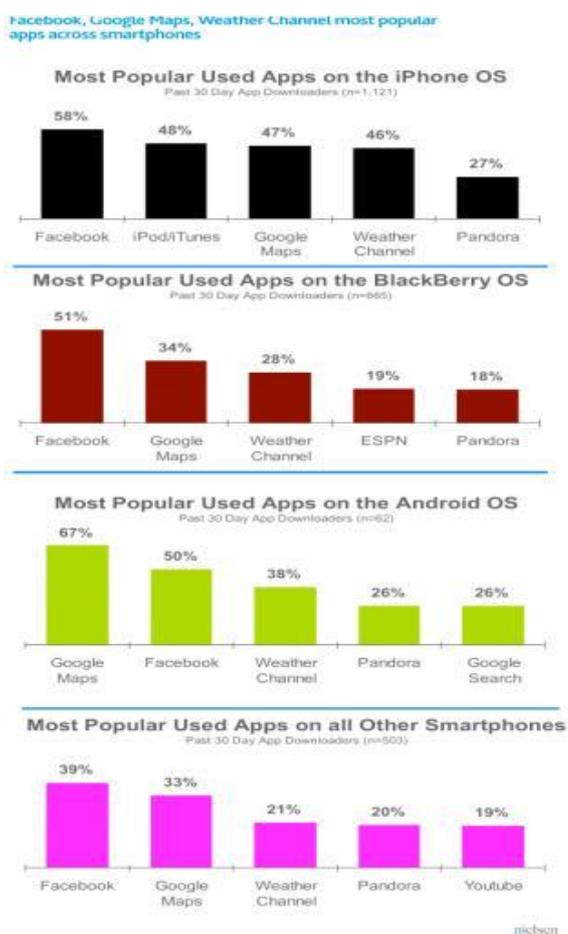


Figure 11: Most Popular Used Apps on the iPhone OS

6. STUDY CASE: WECHAT

6.1 Background

WeChat (also called as Weixin) is developed by Tencent in China in January 2011. It is a mobile communicating application which can send text and voice message. In addition, it is one of the largest standalone messaging apps by monthly active users. The app now is available for Android, iPhone, BlackBerry, Windows phone and Symbian phones. WeChat also has a web-based version. However, users must install the app on a supported mobile phone for authentication in advance. Furthermore, there is no neither message roaming nor 'Moments' provided on web-based release. A report from January 2014 suggested that WeChat had over 100 million registered overseas users. In addition, WeChat had 355 million active monthly users (Maruma Misha, 2014).

WeChat began as a project at Tencent Guangzhou Research and Project center in October 2010. The original version of the app, "Weixin", was invented by Xiaolong Zhang, and named by Ma Huateng, Tencent CEO.

In April 2012, Weixin re-branded as the name of WeChat for the international market. Nowadays, WeChat has 1.1 billion registered accounts. And it has 650 million monthly active users. (Smith Craig, 2015)

6.2 The features of WeChat

In this chapter, we will describe the most popular and welcomed features that WeChat possess. In order to give readers a deep understanding, we list these functions by collecting data from reliable sources.

6.2.1 Various ways to send instant message

WeChat supports various ways for sending instant message. For example, text message, voice message and walkie-talkie. Walkie-talkie is a function that enables users to communicate with their contacts immediately.

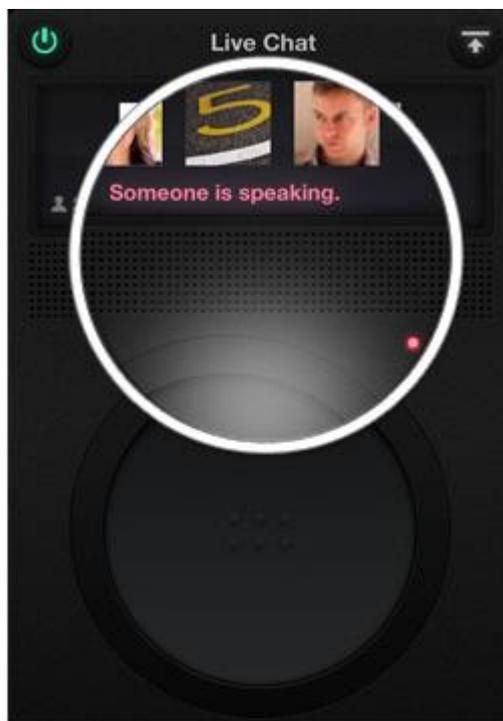


Figure 12: The sample platform when users use Walkie-talkie

Users enable to hold the button to talk with the person who joins in this live chat. In addition, users have ability to see who is talking from the Walkie-talkie user interface. Besides, as the 'Figure 12' displayed, when one of them is talking, the user interface will show 'someone is speaking' to notify the other users do not press the button. Therefore, the other users cannot interrupt the talking.

6.2.2 Various stickers from sticker gallery

WeChat supports a sticker gallery to users. Users are able to download the stickers what they interested in from sticker gallery. Moreover, the copyright of these stickers searching from sticker gallery belongs to WeChat only. These special and unique stickers enable users to chat with their contacts in a satisfied atmosphere.

6.2.3 Public accounts

WeChat supports users to register as a public account. In addition, WeChat does not limit the classification of registrant. It means not only the companies can register public accounts but also individuals can enroll public accounts for purpose. For those people who register public accounts, this function enables them to promote their products, information or ideas to subscribers. Furthermore, in order to protect the copyright, organizations have the ability to apply for the public accounts which are verified and official. Recent years, WeChat public accounts have already become a common service or promotion platform for government, news media, companies and the individuals who manage a small-scaled business. Specific public account subscribers use this platform for services like hospital pre-registrations, visa renewal or credit card service.

6.2.4 Sharing status with contacts in 'Moments' platform

WeChat supports 'Moments' service. In this platform, users are able to share anything they want to post with their contacts. For example, their statements, feelings, positions, pictures and so on. Besides, users are able to post some useful articles, such as "three ways to make you look more beautiful and healthy". This type of articles can benefit the contacts who would look through the 'moments'. Moreover, users can press the 'like' button below of which their contacts have sent to show their appreciation and make comments below the status. Furthermore, users can also post urgent or wanted information. For example, if one lost his or her dog, he or she can post the dog information on 'Moments' platform in order to gain some useful information. Therefore, 'Moments' is an extremely useful function for users to know friends' recent life and to learn something new from posted information.

6.2.5 Various ways to add contacts

WeChat supports several different ways to add new contacts. The first and the most traditional way is to add new contacts by searching their specific WeChat accounts Identifications (ID). For WeChat users, they can not only add friends by searching their accounts ID but also can do it by scan the Quick Response Code (QR codes) of WeChat account. Next, if users have the phone number or Tencent QQ number of the person who they want to add on their phone and the person named WeChat account as his phone number or Tencent QQ number, the system of the WeChat would recommend those contacts to users. Moreover, WeChat has a service which called 'Shake'. After they open the 'Shake' service, users are able to shake their phones to search strangers who are shaking their phones as well. One limitation is that users

must give permission of using location data to 'Shake' service, otherwise, they cannot use this service. The last way, which is also needed accessing location data permission from users is to add people via 'People nearby' service. It is worth to mention that 'Shake' and 'People nearby' services enable users to add strangers as contacts. It is a way for users to know more people.

6.2.6 Free call and Video call

Needless to say, this Free Call absolutely attracts user's attention. By free call, users can make video call with their contacts wherever WI-FI is available. This function saves money to users and makes communication become easier and cheaper.

6.2.7 Transfers and purchase

With the development of WeChat, WeChat is not only a communication tool, but it is an application which combine many functions. Users are able to transfer their money via WeChat. In addition, many online shop websites support users to pay for purchase by WeChat. Furthermore, from January 2014, users can send lucky money to his or her contacts, check transformation information of money and withdraw by their WeChat app.

6.3 Web-based client

WeChat provides a Web-based client with messaging and file transfer capabilities. But not all of the functions in phone app can be used in the Web-based client, such

as the discovery of nearby people. To use the Web-based client, it is important to scan the QR code using the phone app at first. This means it is not possible to log in WeChat Web-based client, if users do not have a suitable smartphone with the app installed.

There are some reported issues with the Web client. Specifically when using English, some users have experience with auto-correct, auto-complete, auto-capitalization, and auto-delete behaviors as they type messages. For instance, "gonna" gets auto-corrected to "go", the "needs" get auto-deleted in "need", "Wechat" gets auto-capitalized to "WeChat" but not "Wechat". And after the message is sent, "don't" gets auto-corrected to "do not".

6.4 Comparison with another similar applications

This chapter focuses on the comparison between WeChat and other similar applications. In this chapter, it mainly compares four similar applications with WeChat. These applications include LINE, WhatsApp, MiChat and Fetion.

6.4.1 Comparison between WeChat and LINE

Both Line and WeChat contain the functions of instant messaging, voice chat, sending multimedia messages. In addition, both of them have launched their own platform for their public accounts. However, WeChat possesses more functions than LINE. For instance, there is a plug-in in WeChat system for users to look through the messages from other Tencent's application, such as replying QQ message, checking email message. In addition, WeChat is possible for users to add strangers as contacts using 'shake' and 'drift bottles' services. Besides that, WeChat possesses public accounts for celebrity, as well as for normal persons. Furthermore, third-party

applications have the ability to access their own initiative to WeChat platform. LINE also has its own Timeline and a public platform. However, compared with WeChat, the functions in LINE are not sufficient. LINE has no system plug-in, but has its own sticker store. It occasionally releases new stickers to users. LINE public platforms are well-known. The main feature is that users are able to chat with celebrities' line. Then celebrities' line could push latest message to users. LINE has its own game, the camera application, but has no third-party application access. Users can share beauty photos and game results to contacts. But there is no ability sharing links of Taobao which is an online shopping website from China with others.

In short, WeChat pays more attention to evolve other related services as many as possible in order to make a big platform. In contrast, LINE is concentrated to enrich content itself to satisfy communication experience between users and users' contacts.

6.4.2 Comparison between WeChat and WhatsApp

First of all, WhatsApp does not have 'Moments' service, nor public accounts service. It does not have media functionality. Secondly, WhatsApp does not support platform for games and stickers store. The third difference is that WhatsApp cannot use on computer. Fourthly, it has no ability to scan QR code to add new contacts. Fifthly, in WhatsApp, during a chat, there is no notification such as 'the other person is typing ...'. But if users' information transfer is successful, a green tick would be shown in the lower right corner of the text box. In addition, if the other one has read the information, then there are two ticks below the text box. Furthermore, WhatsApps supports one-touch dial. However, the call will not be through the Internet, but users' telephone operator. Last, each user must customize his or her status that other people could

see. The WhatsApp status are predefined, such as available, busy, in school, battery running out, sleeping.

6.4.3 Comparison between WeChat and MiChat

MiChat is the first company which releases the beta client in China. It is the first one which launches voice, group chat function as well. At the first, MiChat client has a rapid momentum, but the rapid momentum was covered by WeChat later. Besides that MiChat has a powerful function to find new contacts and it supports sending Graffiti, location information. In addition, users can check the chat status, including 'sent', 'read', 'the other being input'. WeChat does not contain this feature. Users can only wait for reply from their contacts. They have no ability to know when his or her has seen this message. However, compared to these benefits, MiChat has the most deadly defect. It cannot remember the account, which means users must log in every time. The second disadvantage of MiChat is that in the dialog interface. There is always the small helper, chat small secretary, friends recommended showing on the top 3 forever. It really takes up a huge memory in a phone. Moreover, MiChat does not support message push functionality. Users can look through message only after login.

WeChat possesses more advantages compared with MiChat. The only two functions that WeChat does not release are sending Graffiti and check the chat status. But most users do not care about these functions too much. The most necessary functions that users pay attention to are message push functionality and saving data usage functionality. WeChat does well in these functionalities. This is the most important

reason that WeChat is becoming more popular than MiChat, even though MiChat released earlier.

6.4.4 Comparison between WeChat and Fetion

Fetion is launched by China Mobile Company. Fetion can not only send free text messages from PC to mobile phone but also call multi-party voice without any restrictions. Users can chat or voice chat with their friends anytime and anywhere. But if both sides want to chat for free, they must add friends with each other in Fetion. Otherwise, the one who does not install Fetion would pay the bill for the messages he or she sent. In addition, if one of them does not use the mobile card from China Mobile Company, the software would charge the cost for a text message as well. This software can only send a message, voice chat with contacts. Besides, both sides in communication must be users to China Mobile, otherwise Fetion would charge the cost. As we can see, it is not more convenient than WeChat.

6.4.5 Conclusion

In contrast with other applications, the superiority to WeChat is obvious. WeChat can apply in BlackBerry, Android and iPhone operating system and Windows. And after careful checking, it acts well in the mobile application market. WeChat can make users chat with their friends and share their status with friends anytime, anywhere. It supports many interesting stickers in sticker store, increases interest during chatting. In addition, users can charge bill and transfers via WeChat. Users can discover the restaurant or entertainment place nearby searching through WeChat as well. And WeChat has the ability to remember users account, then users do not need to log in every time. Furthermore, WeChat supports message push functionality, even if the

users were offline. The most significant benefit is that WeChat possesses the functionality to refuse accessing pictures or videos automatically to save data usage. And if users have any question, they can always contact them.

7. SUMMARY

7.1 Limitation

During writing the thesis, we find that there is a large scope of mobile application, so we can't write down all of them. Therefore, we list what we mainly want and what are more useful for readers to understand. And after seeking information, we find mobile application is a vital topic, and it is important for people to know and develop because it relates closely to human's life. Besides that, according to the lack of WeChat data, we find that it is hard to look for valuable sources to support our thesis. Therefore, it takes us more time to focus on this part and it becomes a limitation during the completion of the thesis. What's more, because this thesis is written by two people, therefore, we find that sometimes it is hard to arrange a time. And because different people have different idea, so during the time, we need to discuss more time and in the end get a conclusion that both of us are satisfied with it.

7.2 Reliability

The information we described is reliable. We find the sources from the internet, and it can be trusted. The reliability of our thesis can be seen from the research objective and the measurable data we have found. We state the research objective in a specific and accurate way, users can get a clear understand of our research topic and goals. Besides that, the data we found is measurable and precise. The statistics we find are of validity. Readers can regard our thesis as a free and reliable sources. Besides that, it can be used in the research of mobile application and WeChat. We try to give readers some ideas about own studies.

7.3 Validity

All the data and information we have written is of validity. For each quote, it is followed by a reference and readers can find it from either books or internet. Readers can use it as a free source and no need to worry about the validity. And the figures readers can see that the thesis is used to measure the functionalities of mobile application and WeChat. We have used qualitative research method and deductive approach to answering our research question. We have collected different data and information to make sure the answer is consistent and convincing.

7.4 Transferability

In the thesis, we give a clear statement of mobile application, and answer the research question. This help readers to understand our topic and make readers access the knowledge in this area. Therefore, the knowledge can subsequently be transferred in the development of the mobile application and WeChat.

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