1. INTRODUCTION

Tourism is a phenomenon of human activities in traveling to various destinations. The so-called tourism phenomenon has begun in 4000 Before Christ (BC) by Sumerians and started to gain its popularity in the early eighteenth century in Europe with the branding of The Grand Tour [12]. Scientist found many diaries, journals, and letters written by tourist during their journey around Europe related to The Grand Tour. All those written materials pose certain problems, observations, expenses, and impressions about the places they have been visited during their journey [30].

Tourism industry started to grow exponentially with growth of the industrial revolution. This technological advancement of machinery brought many conveniences to the tourism activities. The popularities of machinery unlocked the boundaries for traveling activities such as reliable transportations [33]. During this period, newly transportation system which was dominated with railway transportation made travel both reliable and faster [35]. In such convenience, people had started displaying an interest in traveling for hedonistic reasons.

1.1 Research Background

According to The World Bank, the number of international tourism arrivals in 2019 has been double the number in 1995. In the United Nations World Tourism Organization Yearbook of Tourism Statistic also reported the same pattern with the specified numbers which are 1.03 billion in 1995 and 2.28 billion in 2019 [1]. Every country in this world has been affected by the increasing number of international tourisms, Indonesia was no exception. In order to push the tourism industry, The Ministry of Tourism Republic Indonesia launched Visit Indonesia Year project in 1991 and so rebranded to Wonderful Indonesia in 2011. The development of many tourism sectors all around the country under Wonderful Indonesia campaign successfully increased the number of international arrivals from 4.3 to 16.1 million.

Tourism has been an important economic sector in Indonesia. Under the hood of Wonderful Indonesia campaign, it had contributed around 23% of nation Gross Domestic Product (GDP) in 2013, Rp 347 trillion to the total of Rp 1502 trillion [14]. As the biggest island country with total of 18307 islands, the main selling point of Indonesian tourism are its long beach line and the uniqueness of nature that authentic to every single island.

Seeing the huge potential of tourism, the central government planned to push it even further. However, the development of tourism sector was still mainly focused on the existing and developed location, such as Bali, Lombok, and other big cities. As for the rest, there is still no real effort on the development until 2019. Central government under the lead of President Joko Widodo planned to push the development of tourism anywhere not only in big cities. The plan effectively started on 2019 and there were some key points that need to be considered as crucial, one of them was integration to the internet. Central government projected that by 2045, all core and big cities in Indonesia are going to be smart cities [11]. This project has been started and it begun with Jakarta as the model. Jakarta Smart City project connected every supporting aspect in the city with Jakarta Smart City mobile application, like transportation, payment, and many other aspects. With Jakarta as model, the central government hope other cities would follow Jakarta's path as soon as possible.

Daerah Istimewa Yogyakarta (Yogyakarta) is one of the focus for the tourism industries in Indonesia. Packed with many potentials, nature and cultural, Yogyakarta standing as the go to for tourist who

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[1] https://data.worldbank.org/indicator/ST.INT.ARVL?end=2019&name_desc=false&start=1995&view=chart.

wants to experience the uniqueness of Javanese taste [34]. Yogyakarta is still maintaining its status as a kingdom under a sultan as the king. Hence, Yogyakarta still has many cultural aspects that keep intact, not faded as the time goes by. Given the fact that Yogyakarta was very special region, the central government planned to push the tourism industries in Yogyakarta. The plan marked with the construction of Yogyakarta International Airport (YIA) that finished and ready to be operated in late 2019 [27]. YIA has a capacity of 7.2 million passengers per year. This number is significantly bigger than the old airport that only has a capacity of 1.6 million passengers per year.

A great advantage of the development of tourism industry in Yogyakarta is that it brings investors to collaborate with locals to create more tourism attractions. In other words, there is a mutualism symbiosis between businessman and locals. The real example for the case is the urge of Kulon Progo's government to push investment for developing Kulon Progo as a tourism focus region. Kulon Progo is a region under Yogyakarta. This region used to be focus on mining and forestry. However, after the development of YIA which is located on the east of Kulon Progo, they began to glance toward tourism industry [27]. Not only Kulon Progo, many regions in Yogyakarta also did the same. The impact of aforementioned case is significantly important to the economic growth of Yogyakarta. Although central and local government has been investing and pushing the development of tourism industry in Yogyakarta, there is one major critical issue. The lack of digital support for tourist to gather information about Yogyakarta.

Mainly focus on small and underdevelopment tourist destinations, Yogyakarta completely relies on its official website and mobile application. Unlike Bali that has a proper tourist focus website, Yogyakarta's applications merge two purposely different functions. The first is it serves as the go to for locals to check the official news or status, such as bills and statistics. Second, it serves as an information and help center for tourists. Hence, tourism aspects only took a fraction part of the website. The aforementioned case shows how behind Yogyakarta, given the fact that local government has been tried to push the tourism industries. This thesis paper will try to address the aforementioned problem by creating a new version of Yogyakarta mobile application.

1.2 Similar Applications

These are several similar applications that used as inspiration:

1. Jogja Istimewa[2]: Yogyakarta official mobile application.

2. Jogjakota[3]: Yogyakarta official website.

3. Airbnb[4]: Tourism and hospitality application.

4. Tripadvisor[5]: Tourism review application.

Both Jogja Istimewa and Jogjakota are the official applications of Yogyakarta. As mentioned before, it contains general information about Yogyakarta, including information for local citizens and tourist. Hence, these applications are not tourist centric. Inspired by Airbnb and Tripadvisor, this thesis paper is going to develop a new tourism focus application for Yogyakarta.

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[2]`https://play.google.com/store/apps/details?id=id.go.jogjaprov.jogjaistimewa`

[3]`https://www.jogjakota.go.id/`

[4]`https://play.google.com/store/apps/details?id=com.airbnb.android`

[5]`https://play.google.com/store/apps/details?id=com.tripadvisor.tripadvisor`

1.3 Problem Formulations

Yogyakarta official website brings a complete information about the city, but not all of them are useful for tourist. Hence, Yogyakarta needs to build new a platform to serves as tourist guide and information center. There are several important requirements of this new mobile application as follow:

1. Guide application has to be more tourist friendly focus to prevent tourist from getting unimportant information.
2. This platform needs to be in form of a mobile app to make it convenient to be accessed from everywhere.
3. This platform has to contains all attractions in Yogyakarta.
4. Develop a unique and tempting user interface to attract tourist to visit Yogyakarta.

1.4 Research Objectives

The purposes of the research are as follow:

1. Learn mobile application development.
2. Create a tourist friendly mobile application for Yogyakarta to promote the city tourism.
3. Knowing the important information for tourist.
4. Populate the mobile application with gathered information.
5. Create an application programming interface for Yogyakarta.

1.5 Scope of Problems

The scope of the research to be discussed are as follow:

1. Building a user friendly application.
2. Simplify the complexity of the information showed on Yogyakarta mobile application.
3. Creating a tourist focus application.

1.6 Structure of The Paper

The paper is divided into five chapters, with the detail as follow:

CHAPTER 1 INTRODUCTION
Introduction is the opening of the paper. It contains the background, problems to be solved, objectives, scope of problems, and the detail structure of the paper.

CHAPTER 2 INTRODUCTION OF TECHNICAL ROUTE
This chapter contains the introduction of tourism theory and mobile application development tools according to the purpose of the paper.

CHAPTER 3 ANALYSIS AND APPLICATION DESIGN

The Application Design discusses the process of designing the application and the meaning behind every design. It contains some topics such as user interface, functional modules, User flow, back-end, database, and privacy security design.

CHAPTER 4 IMPLEMENTATION

This chapter contains the implementation of the design that has already discussed on the chapter 3. It contains the process to build the application and the problems behind the process.

CHAPTER 5 CONCLUSION AND FURTHER WORK

Analysis and conclusion chapter contains the summary of the paper. It also address the limitations and future works that could be done to the application.