

## **SURABAYA LATE NIGHT STREET FOOD MOBILE APPLICATION FOR LOCAL CITIZENS AND TOURISTS**

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### ***Abstract***

*Surabaya as the second largest city in Indonesia has a lot of tourist destinations for both domestic and international tourists. One of the most interesting tourist attractions in this City of Heroes is Surabaya culinary, especially the late night street food. The main characteristic of late night street food in Surabaya is the opening time that starts from around 8 p.m until midnight or even dawn. Moreover, the places used for these night street food spots are simple and far from luxurious. Some of them even use sidewalks and tents for place to eat. These days more and more late night street food spots have emerged to enliven Surabaya tourism atmosphere in the night. Therefore, the objective of this research and development is to create a mobile application to inform both local citizens and tourists about Surabaya late night street food. Three steps in multimedia development were used as the method to develop the mobile application, which are definition, design and production. The result of this research and development is Surabaya Late Night Street Food mobile application for Android operating system that could be installed in smart phones and tablets, with the main target users are Surabaya local citizens and Indonesian tourists, especially the ones between 18-35 years of age. Application has been published on Google Play Store under the name Kuliner Bengi Suroboyo. The features provided in the mobile application are late night street food categorization based on location, and short profile page that contain information and pictures about each late night street food spot. Conclusion that could be drawn from the development of this mobile application is that to provide application that could meet the main target users, which mostly are young local citizens and tourist, the interface design should be simple and the feature should be easy to navigate. Local Surabaya language called Suroboyoan was used in several phrases in the application to provide friendly Surabaya culture look and feel, including the title of this application that is Kuliner Bengi Suroboyo, which means Surabaya late night culinary.*

**Keywords:** *Mobile Application, Tourism, Surabaya, Street Food*

### **Introduction**

Indonesia is one of the countries in Asia that has great potential to attract both domestic and international tourists especially in gastro-tourism, which is a tourism activity that mainly focuses on visiting culinary spots to try various kinds of foods and beverages in those places (Rasyidah, 2015). As the second largest city in Indonesia, Surabaya also has mission to become the biggest gastro-

tourism place in East Java. In 2010, Surabaya Tourism Promotion Board together with Ciputra University and Surabaya Heritage has conducted an event called Night Heritage and Culinary Tour to promote gastro-tourism, especially the late night culinary spots in Surabaya. The late night culinary in Surabaya has become a trending lifestyle, especially for young citizens and tourists that would like to try new experiences in gastro-tourism (Halim, Susanto, Siaputra, & Nugroho, 2014: 303).

Nowadays, there are many information about gastro-tourism or culinary tourism that available on various kind of media, including website and mobile application. Singapore Tourism Board has promote Singapore's culinary tourism through website and mobile application as free resources that could be assessed by tourists to gain information about culinary tourism in Singapore (Brien, 2014). Other example of culinary information system application is an Android application called Toresto, which already published on Google Play Store since 2011 (Hidayat & Ferdiana, 2012: 74). Toresto provides culinary information in Indonesia and have been installed more than 50,000 times. Previous research on mobile culinary application was conducted by Hidayat & Ferdiana (2012: 74) who developed a Windows Phone application called JogjanaanPhone that provides information about Jogjakarta culinary tourism. Furthermore, Pattiasina, Tanazale & Tjahyana (2014: 30) who developed an Android application called Baronda Ambon, state that Indonesia has to promote their tourism to the world through popular media communication such as mobile application.

Based on the fact that Surabaya late night street food has been a trending lifestyle and many culinary tourism mobile applications have emerged on the market, this research was conducted to develop a mobile application about late night street food in Surabaya for local citizens and tourists. The scope of the project was to gather information about late night street food in Surabaya and create mobile application based on Android platform.

## **Literature Review**

### **Multimedia Development**

According to Savage and Vogel (2013: 232), multimedia development plans and process is divided into three main stages, which are Definition, Design and Production. These three stages are iterative process, which beginning stages could be remodeled during the development time.

### **Definition**

In this stage, the goals and purposes of the multimedia product have to be determined before continuing to the next stages. The important questions that have to be answered are:

- What are the main purposes of the product development?
- Why the product has to be developed as a multimedia product or application?

- How the product would be delivered? Would it be delivered as a website, or mobile application or other multimedia products?
- Who are the target audiences of the multimedia product?

After finished with the early brainstorming, three main documents will be resulted during this development stage, which are preliminary proposal, storyboard, and functional specifications. Preliminary proposal will state several important points, which are product goals, target audiences characteristics and needs, project outlines and advantages, product content, types of interactivities required, and development cost estimation. A flowchart is often included in the preliminary proposal to explain the outline product and navigation part. Next, storyboard is used to describe the project visually in the form of sketches, rough drawing, photos, and videos. The purpose of storyboarding is to produce visual description of the product to communicate the product outline to the client and the development team before continuing to the next development stage. The functional specifications are required to explain the main features, elements, and orders of the final product. Therefore, misunderstanding between developer and clients about product specification could be avoided.

## **Design**

Savage and Vogel (2013: 234) states that product prototyping is a process that important and required in the design stage. Prototype is the construction of early or unfinished model of the product to give basic understanding of the product interface and functionalities. Therefore, weaknesses and limitations of the product could be identified and evaluated before starting the production process. Media creation and interface design are the two parts included in the product prototyping.

Several tasks are included in media creation including preproduction, production, and postproduction phases. In the preproduction phase, all media are collected and prepared for production, such as photos or other graphics, audio and video resources, and other data or information. Next, all those media are edited and processed using graphic or video software to suit the layout or functionalities of the product. Finally in the postproduction phase, those edited media are finalized with effect or animation to enhance the product performances. Interface design is necessary to accommodate and deliver content on the screen. The design should consider user experiences in the form of interactivity through media elements such as buttons, navigations, text, and other media assets. Thus, user could easily engage in non-linear interaction with the product. The interface should be designed in suitable tone that is defined by the theme and style of the product. For example, the tone could be casual, formal, serious, or businesslike. Another example is to define the color theme for the product to suit the overall design tone.

## **Production**

After definition and design stages, all the media, interface design, and prototype that have been created are combined in the production stage to produce the final product. During this stage, all developer team are working together to integrate those elements into one application. Programmers are responsible to combine the media and interface into one application that function in accordance to the product definition and design. Several versions of the product could be produced in result of the trial and error process in production stage. For example, the product could be launched for the first time in alpha version, where product is tested by the predetermined audiences to get feedback and evaluation. After revision and improvement, the product will be launched in beta version to get more feedback from the audiences and also to identify bugs that have never been found before. Those early versions could be launched as free to use products, and further improved versions could be launched as commercial product (Savage & Vogel, 2013: 237).

## **Methods**

Surabaya Late Night Street Food mobile application was developed using the Multimedia Development stages, which suggested by Savage and Vogel (2013: 232). This mobile application is part of the student final project of Multimedia Application class at Faculty of Communication Science, Petra Christian University. The students that joined the development team are divided into several divisions according to the task, which are surveyors, copywriters, designers, and programmers. The development team was lead by the lecturer of the class as the project manager who were also the writer of this paper.

## **Definition Stage**

In the definition stage, the development team were discussing about the recent condition of Surabaya as the second largest city in Indonesia, especially concerning the local tourism destination in the city. Late night street food spots in Surabaya were observed by the surveyors, specifically the ones that could attract more tourists, both domestic and international tourists. Furthermore, a preliminary survey was conducted to examine recent tourism app that has been published and used in Indonesia especially in Surabaya. The team also tried to find the right multimedia application and platform as a medium to introduce Surabaya tourism to the world. Other survey was conducted to determine the target audiences for the application.

## **Design Stage**

The surveyors of the team conducted survey to collect data from late night street food vendors in Surabaya for preproduction phase. The data collected were including photos of the food, the place and several customers. Also, data about the menu, favorite food, address, and opening hours were collected to complete the information that will be delivered in the application. Next, all the

data that has been gathered were edited to suit the application requirements. The photos were edited and resized for mobile application by the designers and information about each of the late night street food vendor was arranged and written by the copywriters. For postproduction phase, all the images were saved as web images to get optimized image size and quality for mobile application. Some of the information was translated into local Surabaya language called “Suroboyoan” thus the users could taste a little bit of Surabaya culture through the application. Prototype was made and evaluated before proceeding further to final production process.

### **Production Stage**

After collecting, editing, and creating prototype, the team started to develop the actual mobile application. The designers, copywriters, and programmers were working together to integrate all the media and interface design that have been created in the previous stage.

### **Findings and Discussions**

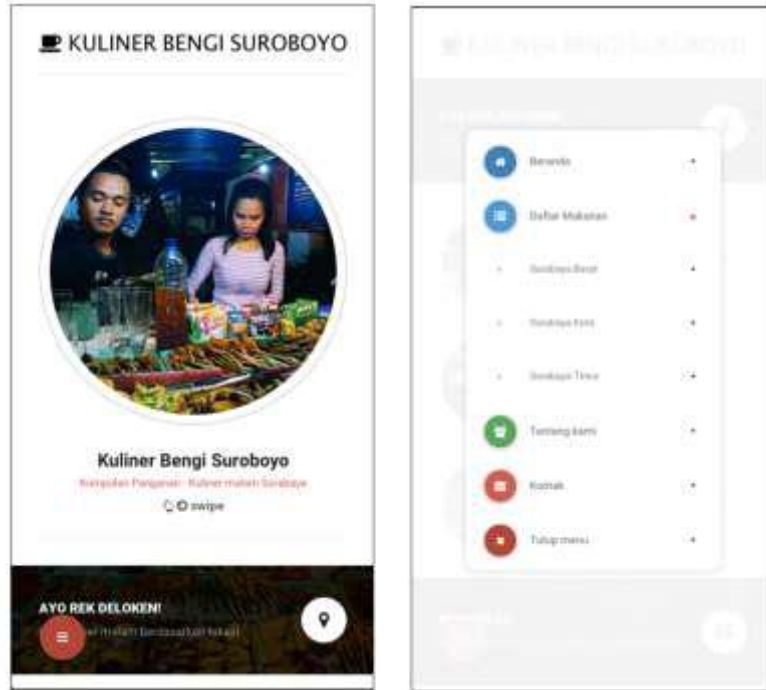
In the early stage of development, which was the definition stage, the surveyors were conducting survey and interview to the late night street food vendors in Surabaya. As the result, there were 20 vendors that were qualified to be use as data resources. The main qualification was the opening hours, which was every night from 8pm until dawn. Another distinct characteristic was the place to sell the food that only use simple impermanent hood on the roadside. Next compulsory requirement was the vendors should have fix price range to be included as recommendation for users. In order to determine the right multimedia application form to deliver information about late night street food in Surabaya, a survey was conducted to retrieve data about the most internationally used mobile platform. According to International Data Corporation (2015), Android operating system dominated the smartphone market worldwide with a share of 82.8%. Therefore, the team decided to develop an Android mobile application for the final product. Moreover, since the team has decided to create Android mobile application, another observation has been made to see the recent related mobile applications that have been published at Google Play Store. There were several applications that related to Surabaya tourism, such as Surabaya Guide, Surabaya Map, Surabaya Zoo, and Tempat Kuliner Surabaya. Fortunately, there were no applications that specifically inform users about late night street food in Surabaya. Another important findings at this stage are the characteristics of target audiences, which were young tourists and local citizens between 18 to 35 years of age that love to eat and explore the city at night with friends and relatives.

Furthermore, data collection was carried to gather all information needed for the application. Surveyors took photos of the late night street food vendors that consist of the photos of the places, the foods, and the customers. Interviews to the vendors and customers were also conducted to find out more about the unique characteristic of each vendor such as the signature dishes and favorite

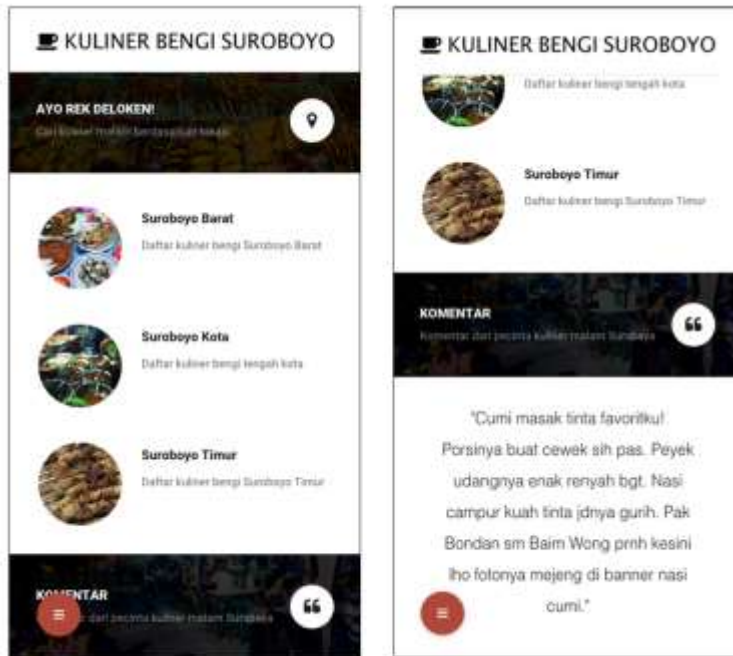
menus. The surveyors found out that most of the vendors sell Indonesian food with affordable price range for young people. Other unique characteristics revealed were despite the simple place to eat, customers were more than happy to eat and hang out with their friends and relatives at those late night street food places. Because of the simple places, the surveyors had to creatively took photos of the places, the foods and the customers with the best angles to get the best shots that attract tourists to visit them. For the interface design, the designers have to determine the right design theme for the application. Several standards of mobile application design need to be considered while designing the interface such as usability and compatibility for small screen interface design. According to Lee, Moon, Kim, & Yi (2015: 295), simplicity and interactivity are the two interface design keys to achieve mobile usability, thus the team decided to create a simple design theme with adequate interactivity for this application. Based on the survey, the team decided that the design should focus on the main target audiences who are young tourists and are expected to check the application while on the go and use it at night to look for the street food places. Therefore, the interface design should be simple and should be clearly seen in low light conditions. Moreover, simple and easy navigation are very important, as young adults tend to complete task faster than older adult but forget about accuracy and concentration while completing task with mobile device (Sonderegger, Schmutz & Sauer, 2016: 291). In addition, a lot of Indonesian mobile application providers use easy and simple navigation as a strategy to promote mobile technology adoption in Indonesia (Tjahyana, 2015: 21).

For this application, the interface use white background to give enough contrast with the text and photos so it would be clearly seen in low light conditions. Straightforward menu navigation was created to make the application usable to explore. The navigation menu was hidden to save space in the mobile small screen resolution and when the users press the small round button at the bottom of the page, the menu will be displayed on the screen. The features and menu provided in the mobile application are late night street food categorization based on location, and short profile page that contain information and pictures about each late night street food places. The interface design, features and navigation could be seen at Picture 1, 2, and 3.

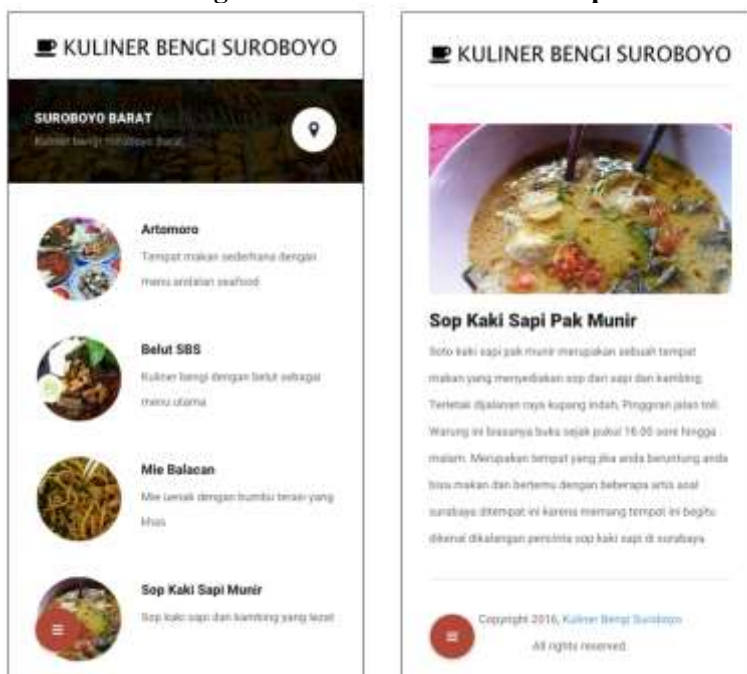
**Picture 1: Homepage and Navigation on Smartphones**



**Picture 2: Location Based Category and Testimonials Section on Smartphones**



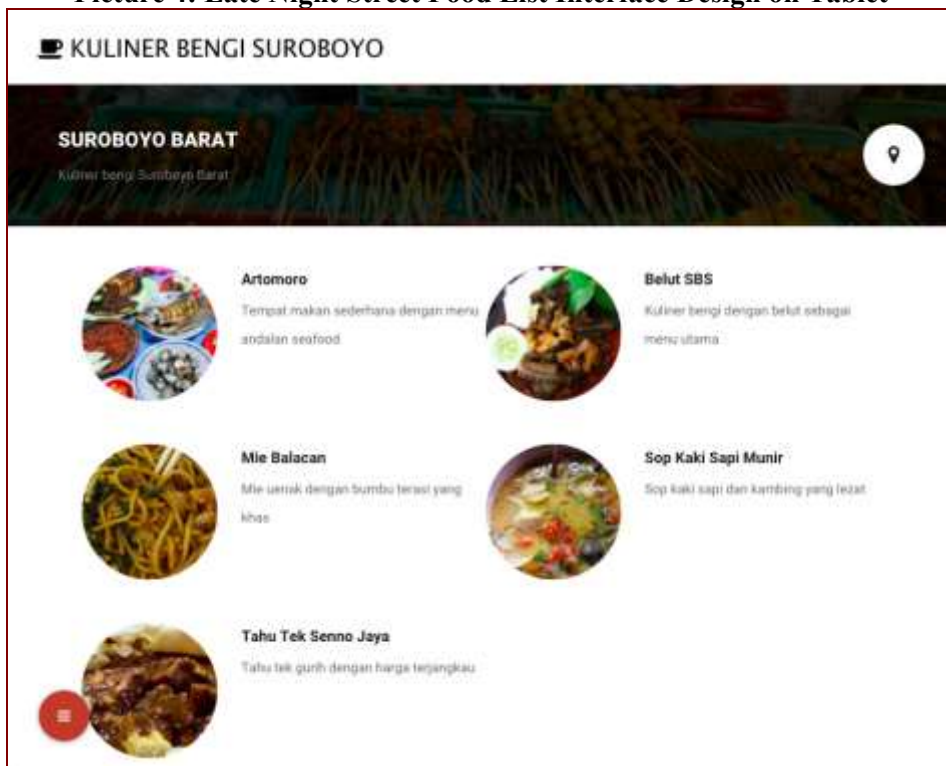
Picture 3: List of Late Night Street Food For Each Location and The Short Profile Page For Each Vendor on Smartphones





Recently, there are many types of Android devices, with various screen resolutions on the market. Consequently, the application has to adapt to each of those Android devices to reach broader audiences. To save time and development cost, the interface design was made as responsive interface that will be able to adapt to many screen resolutions, especially for Android smartphones and tablets. The example of responsive design on tablets could be seen on picture 4. After interface design has been completed, a prototype was made to integrate several data into the design. The prototype then was tested to check whether the interface design was usable enough for the application and to find weaknesses and limitations of the design.

**Picture 4: Late Night Street Food List Interface Design on Tablet**

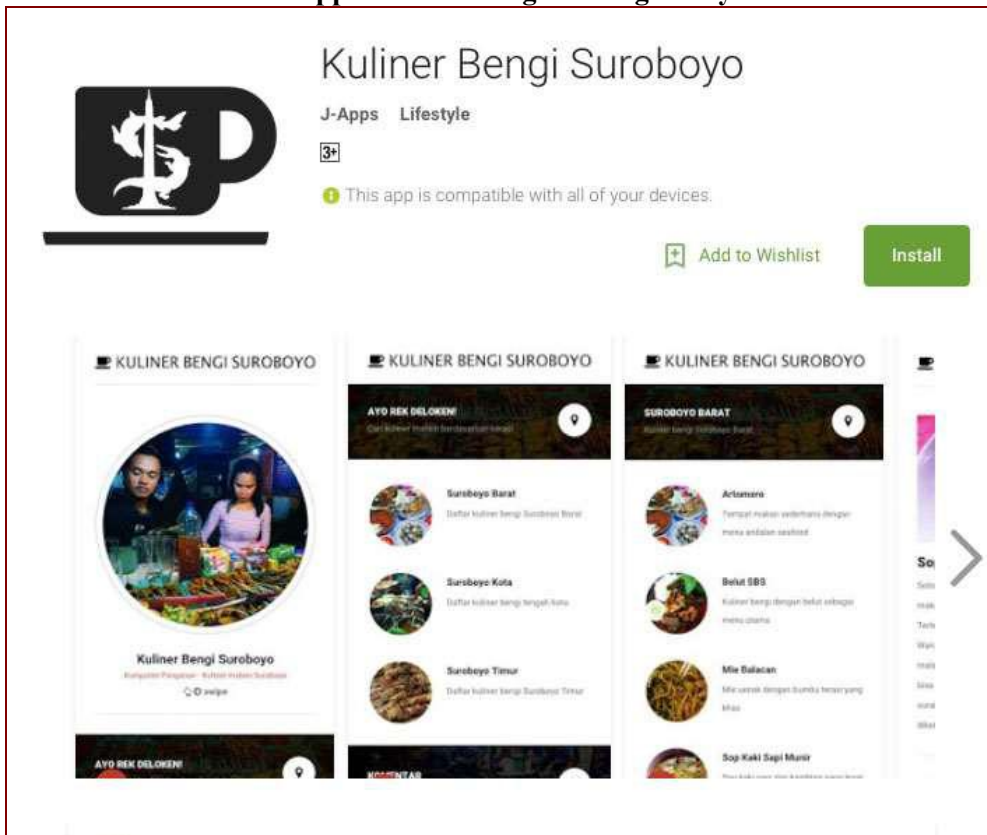


The team decided to create an alpha version of this application as an Android based mobile application. The programmers, designers and copywriters worked together to integrate all data and interface design to produce a fully functional final mobile application that ready to publish on Google Play Store. In this alpha version, the team decided to target more specifically on Indonesian tourists and local citizens in Surabaya, hence the language that used in the application is Bahasa Indonesia with some “Suroboyoan” or local Surabaya language. For the next versions, English language could be added to target international tourists that travel in Surabaya. The title of this application is

“Kuliner Bengi Suroboyo” or Surabaya Culinary at Night, which uses “Suroboyoan” language to directly reflect the culture of Surabaya.

This application has been published at Google Play Store, under the name “Kuliner Bengi Suroboyo”. It is available for various devices from smartphone and tablets. The application listing could be seen at picture 5.

**Picture 5: Application Listing on Google Play Store**



## Conclusions

Surabaya Late Night Street Food Application development has been completed through 3 main stages, which are Definition, Design and Production stage. Each of those stages has its own important part in the development. Based on preliminary surveys, the main target users for the application are Indonesian young tourists and Surabaya local citizens between 18 to 35 years of age and they are expected to use the application while on the go in low light conditions at night. Therefore, the application interface and functionalities should accommodate the need and match the characteristics of the target users. The application was created with simple interface design theme and easy to navigate menu and features. The languages used in this application are Bahasa Indonesia

and local language called Suroboyoan to create friendly local Surabaya look and feel. Furthermore, the title of this application also use Suroboyoan that is “Kuliner Bengi Suroboyo”, which means Surabaya late night culinary. The alpha version of the application was developed as Android mobile platform because Android operating system has dominated world mobile market share. For the next version development, in depth surveys and interviews to late night street food vendors, local citizens and tourists are needed to provide more relevant information and recommendations about late night street food. Also, English could be added as language option, so international tourists could also use the application.

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