The Development Of Food Truck Decision Making System

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Abstract—The Development Of Food Truck Decision Making System is an online web application primarily used for the entrepreneur's food trucks service and industry in Malaysia. Recently, Malaysian entrepreneur's community does not have any dedicated online platform especially to the food truck business entrepreneur to promote their product and services. Therefore, the demand for the specific online web application for entrepreneur food truck business is practically increased. The Development Of Food Truck Decision Making System is an online web application will helps in exploring and identify the suitable type, package, design and facilities for food truck businesses. Thus, the Malaysian entrepreneur's acquired to have an appropriate web application that provides decision making information for the food trucks business including the package, design, facility, price and others. The aim of this system is to develop an online web application system that provide a suitable services, design and package to the Malaysian entrepreneur food trucks market. The main objective of The Development Of Food Truck Decision Making System is to study the needs of food trucks for Malaysian entrepreneurs in developing the food truck decision making system. Besides, the system development will use decision making system technique in order to generate the best services and package requested by the customer. By implementing this system, it helps the entrepreneur who interested in this food trucks business to easily choose the food truck type, package and design that applicable with their needs and expectation under different type of packages and categories. Therefore, it can encourage the current food truck market to get more request and promotes the food truck service and industry among entrepreneurs who interested in food truck business.

Keywords—web application; food truck; entrepreneur; decision making;

I. INTRODUCTION

Nowadays, the food trucks business is getting bigger and popular in Malaysia. The rise in the popularity of food truck make some people tend to believe that the concept is interesting and challenging most entrepreneurs to start their business. As definition that supported by (6) food truck is a mobile kitchen, canteen, or catering truck that sells food or drink. The newest ideas and most exciting concept of these food businesses make it low barriers to entry in industry. On the other hand, food truck industry grown more extensive based on service scope where people can see the food truck at anywhere and anytime. The food truck is the combination of variety concept, design and facilities growing the popularity all over the world.

II. RELATED WORKS

A. Food Truck Industry

Food truck trend is one of the food sector services fastest growing. According to (11), food truck industry in United States targeted to be at $630 000 million on profit generating. This industry will create many opportunity to the new entrepreneurs who keen to start the business. This is because the demand from the current market will make the entreprenur to find better business strategy using food truck that have more eco-friendly, eco supplier, having small run food manufacturer, more customizable insurance resources, more robust financing tools, expand on marketing partnership and absorbs the information technology resources in food truck markets.

According to (1), food truck is the most exciting concept, low barriers to entry and newest ideas in food business strategy. However, (12) also states that food trucks business has bright features and growing strongest in current food industry.

B. Decision Support System

In order to understand the decisions making to choose the correct and right food truck design using system application, it is important to understand the real concept of decision support system for food truck industry. Decision support system is the main technique to develop this system. Decision support system (2) is a computer-based information system that supports business or organizational decision-making activities. Decision support system serve the management, operations, and planning levels of an organization (usually mid and higher management) and help people make decisions about problems that may be rapidly changing and not easily specified in advance such as unstructured and semi-structured decision problems. Decision support systems can be either fully computerized, human-powered or a combination of both. According to (14), the entrepreneur's decision making is creating a business or choosing an appropriate food truck design in industry. Food truck entrepreneurs are a compelling class of entrepreneurs as the industry has increasingly popular for food hunting. In

differences context, (12) writes decision making is a problem of choice among several alternatives. The process of constructing the alternatives, give a problem statement, developing a list of choice options includes a somewhat more sophisticated view.

C. Web Based Applcation System

A web based application system is an illustration many theories states the understanding of web application. According to (4) the accessing application in web browser over a network and the development using browser-supported languages such as HTML and JavaScript is basically the main meaning of web application.

Web based application system is a software application specifically run in a web browser. It is a computer program refer to customer-facing web pages, retrieve and store data from database through architecture system(10). Nowadays, web application has brought a new modern concept in human daily life to find the information and interconnectivity (13).

D. Food Truck vs Traditional Brick and Mortar Restaurant

A food truck can be identified as a large vehicles equipped with design facilities for cooking and selling food. The food truck concept has become an influential segment in the food service industry which comes in variety design, color and size. The evolution of food trucks and food carts are positively benefit owners, customers and the communities where it operates. According to (11) , there has been a wide variety an opportunity to the food truck entrepreneurs in supporting industries for food truck market.

E. Comparison the Existing System

TABLE 1: Comparison between the existing system and Current System

System Features	Unique Food Truck (2014)	Food Truck Company (2016)	Tapak (2016)	The Development Of Food Truck Decision Making System (2017)
Registration	No	No	Yes	Yes
Packages	Yes	No	No	Yes
Budget Estimation	No	No	No	Yes
Food Categories	Yes	No	Yes	Yes
Component / Design	No	Yes	Yes	Yes
Optional / Additional component/ Facilities	No	Yes	No	Yes
Invoices	No	No	No	Yes

Table 1 above shows the comparison between the existing system and current system. The Comparison between the existing and current system are based on the features develop in the current system of The Development Of Food Truck Decision Making System. The new system development is developed using the features mentioned in Table 1.

III. RESEARCH METHODOLOGY

Research methodology is a set or system method, tool and phase guideline to meet the requirement in developing system. The system development methodology engage for this project development is using an Agile methodology. The agile system development methodology is a rapid software development approach that aids and focuses on developing software or application quickly and efficiently. In addition agile methodology is a group of software development methods that use based on iterative an incremental system development (15).

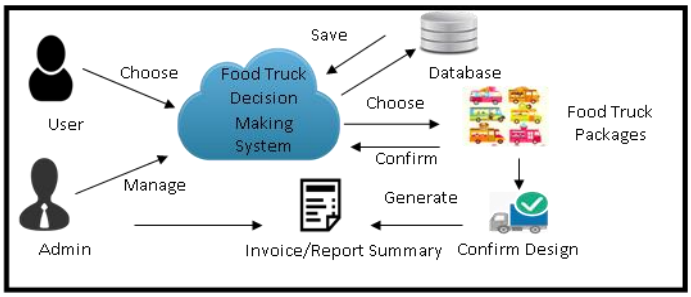

Figure 1: System Architecture for The Development Of Food Truck Decision Making System

Figure 1 above shows the System Architecture for The Development Of Food Truck Decision Making System. It involves a general process platform on how the systems are been generated.

A. Agile Methodology

The system development methodology that used in this project is Agile development methodology which this development methodology includes the requirement phase, planning phase, design phase, implementation phase and testing phase. Every phases in this development methodology will explain on how this project is developed and conducted by the method that has been choosen. The agile system development methodology aids and focuses on developing software quickly and efficiently in development approach. From using this methodology, it will then help to respond the unpredictability through incremental, iterative work cadences and empirical feedback (16).

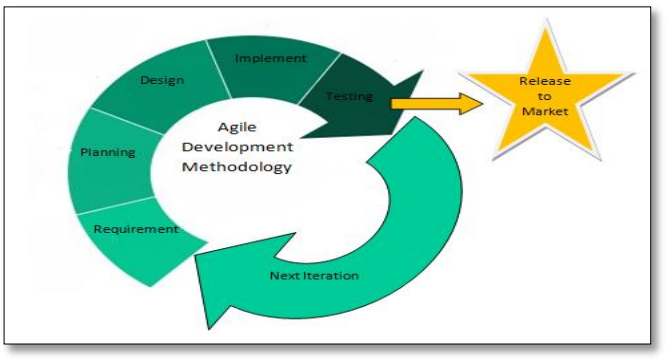

Figure 2: Agile System Development Methodology

Furthermore, this agile methodology is known as methodology that tend to process easily and quickly. The always tend to acquire the services to be delivered specifically on time. But being quick and easy is not sufficient for providing working system every time. With that, developer's ability to handle frequently changing requirements is a big concern. This is because methodology is not just the part of development team but the whole organization works accordingly (3).

Figure 2 shows the Agile Development Methodology including five phases involve such as requirement phase, planning phase, design phase and implementation phase and testing phases. It is usually use for a project that bring a few advantages to complete the system project. In addition Agile Methodology are group of software development methods that are used based on iterative an incremental development methodology (15).

IV. RESULTS AND FINDINGS

A. Questionnaires

The questionnaire was made to get the results in testing of the usefulness of this system. 30 sets of questionnaires were distributed through a "Google form" and filled by the entrepreneur and other users.

TABLE II. QUESTIONS FOR SYSTEM TESTING

No	Type of question
1.	Do you think Food Truck Decision Making System is easy to use and understand?
2.	Do you think system is user friendly?
3.	Do you think the user interface is interesting and can attract user?
4.	This system is really helpful to user?
5.	Do you satisfied with the system? i Do button to register the entrepreneur of food truck works and managed to keep the information requested? ii Do button to choose packages and price of food truck are able to click? iii Does the button estimation budget are able to fulfill budget for submit? iv Do button to choose food category shows a listing and work well? v Do button to add component and facilities running as its target? vi Is button confirming design run as its target to view report summary?

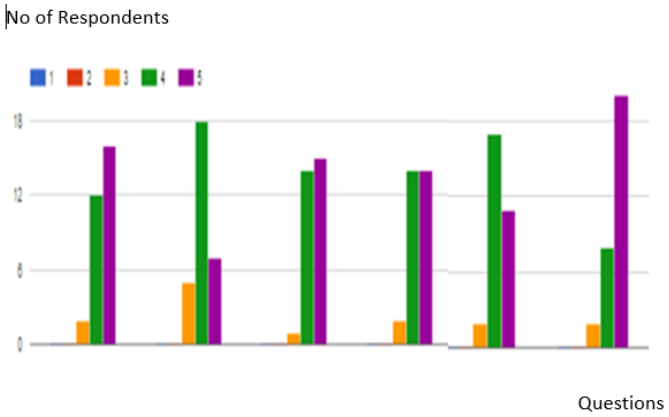

Figure 3. Respondent Feedback Using The Development Of Food Truck Decision Making System

Figure 3 above show the feedback from respondent using for The Development Of Food Truck Decision Making System. For the question number *1-easy to use and understand the system*, 15 respondents agree and strongly agree with that. For question number *2-system is user friendly*, 6 respondents answers for neutral, 16 agree and 8 strongly agree. For the question number 3-*the user interface is interesting and can attract user*, 4 respondent answer neutral, 18 agree and 8 strongly agree. For question *number 4- whether this Food Truck Decision Making System really helpful to user*, 5 respondent answers neutral, 14 agree and 11 strongly agree. For question number *5-user satisfied with the system*, only 2 respondent answers for neutral, 12 agree and 16 strongly agree. The highest answer from respondent is based on the user interface is 18.

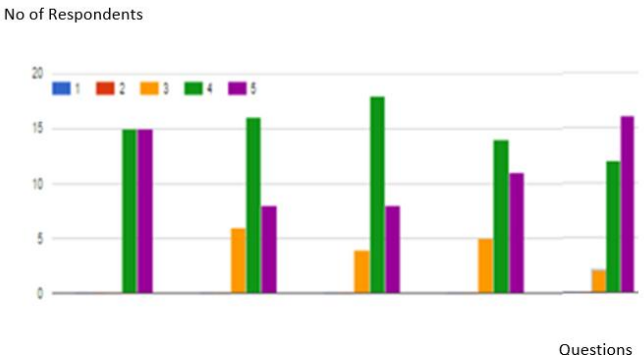

Figure 4. Prototype function for The Development Of Food Truck Decision Making System

Figure 4 above show the prototype functions for The Development Of Food Truck Decision Making System. For the question number *1-button register*, 2 respondent answer neutral, 12 agree and 16 strongly agree. For question number *2-button choose package and price*, 5 respondent answers neutral, 18 agree and 7 strongly agree. For question number *3-button estimation budget*, only 1 respondent answer neutral, 14 agree and 15 strongly agree. For question number *4-button choose*

food category, 2 respondent answer neutral, 14 agree and strongly agree. For question number *5-button add component and facilities*, 2 respondent answer neutral, 17agree and 11 strongly agree. Last question number *6-on confirm design to view report summary*, 2 respondent answer neutral, 8 agree and 20 strongly agree. The highest score is based on question to view report summary 20 respondent answer strongly with that question.

B. Test Plan

TABLE III. TEST PLAN QUESTION

Test ID	Description	Expected Result	Actual Result	Remark
DFD 1	User include the details information to sign up page	User can able to sign up and all information will be record in database	Sign Up page was run	Pass
DFD 2	User click on the button packages to choose type package of food truck	User can able to click the button package, image and price of food truck will view	Packages page was run	Pass
DFD 3	User fulfill estimation budget and click button for submission	User able to fulfill estimation budget from its requested and can click button submit	Estimation budget page was run	Pass
DFD 4	User click on the button food categories to choose list of food categories food truck	User can able to click button food categories	Food categories page was run	Pass
DFD 5	User click button view image of food truck design	User can able to click button view image of food truck design	Image food truck design was display	Pass
DFD 6	User click button for optional / additional component design food truck	User can able to click button optional / additional component design food truck	Optional / additional component design food truck page was run	Pass
DFD 7	User click button confirm design to view report summary of food truck design	User can able to click button confirm design and report summary of food truck design will display	View summary report page was run	Pass

Table 3 above shows the test plan of The Development Of Food Truck Decision Making System. Test plan is a comprehensive testing on document or system development that lays out all major activities associated with a particular testing project. There are seven function involve in the system development for this project. The list functions for this system are, *follow step by step of the system, click button package to choose packages of food truck, estimate budget to order food truck, choose food category of food truck, view image of food truck design, click optional/additional component design food truck, confirm design* and *view summary report of food truck* has been selected. User registers their personal information to get access use of the system. In this test plan 10 respondents from various entrepreneurs of food truck itself been agreed to test and use the system. Started from the test ID *DFD 1, DFD 2, DFD 3, DFD 4, DFD 5, DFD 6, and DFD 7* that all functions provided in this system is successfully run by the users.

V. CONCLUSION

The overall purpose for this project was conducted and followed all requirements needed. However, The Development Of Food Truck Decision Making System helps especially for new food truck entrepreneurs to identify the suitable concept design of their businesses and budget expectation. Besides that, by develop this food truck decision making system it give the practical recommendation to those people who used ICT application system to acquire more opportunities in the future. The use of IT application system was delivered from this project is the web application decision making system developed to help the entrepreneur easily use this system. Thus, by using the current technology platform will helps the food truck industry market growing up rapidly day by day.

In addition, this system also able to get an opportunity to explore the new market and able to attract new potential entrepreneur in food truck industry. Meanwhile, the decision making system designed to diversify customer needs and add value into the developer of the services. Therefore, based on the new services offered, it basically will satisfy the customers need and able to generate profit from the customer purchased on the products and services.

By developing this system also will help the entrepreneur who interested involve the business food trucks easier to choose the food truck design and package that required for their needs and expectation under different categories. Other than that, it also can encourage the current market food truck to promotes the food truck industry among entrepreneurs who interested in food truck business industry.

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