

WEB-BASED ORDERING APPLICATION FOR BLACK TURMERIC COFFEE USING BOOTSTRAP

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ABSTRACT - Nowadays, online shopping has become a culture in society. A business must follow market trends so that the business continues to grow and does not lag behind the competition. Therefore, this project produced a web-based ordering application for businesses to increase product sales. The project has chosen a black turmeric coffee product as it is new to the market. User interface design principles which are learnability, robustness, and flexibility are applied in the design and the Bootstrap framework is employed in the development of the ordering system. An electronic ordering system (EOS) is developed to facilitate a company to manage their orders by giving the customer an opportunity to complete their order through the system. Moreover, this web-based ordering application allows users to browse, store, update, and retrieve data transactions that can improve the company's technological solution, especially in the ordering process. As for the payment method, the toyyibPay API is implemented. This project also has been evaluated by four experts and thirty-three users using user acceptance and usability testing. As a result, most of the users agreed that applying the learnability principle of user interface design manages to deliver satisfaction to most of the users. Additionally, this resulted a good user experience in terms of ease of use and usefulness that can support users to learn the system quickly and achieve maximum performance when using the system.

Keywords: Web-Based Ordering Application, Black Turmeric Coffee, user interface design principles, Bootstrap, toyyibPay API

1. INTRODUCTION

Nowadays, technology is growing rapidly, and the internet network is getting wider. This makes fierce competition happen especially in the business field. A business must have an online platform to continue to compete in today's business world. Web-based ordering application is the best platform to expand the market. This web-based ordering application is not only used for customers to order products but also helps admin to manage their product inventory. Web-based ordering application can increase user loyalty towards a business or brand, saving users time and energy. This project is developed using a web-based ordering application using Bootstrap and black turmeric coffee as the product of choice. This system is integrated with toyyibPay API and Electronic Ordering System (EOS). The user interface design principles used in EOS are learnability, robustness and flexibility.

2. METHODOLOGY

The Waterfall Model was chosen as the methodology for this project. There are five phases which are Requirement Analysis, Designing, Development, Testing, and Documentation. The Requirement Analysis was an important phase where the researcher had to identify problem statements and define the project objective, scope, and significance. Then, the Designing phase describes the user interface system design, ERD, Experimental Design, Flowchart, Context Diagram, and Sitemap of the system. Other than that, in the Development phase, the web-based ordering application is developed using Bootstrap, and MySQL is used to manage the tables and data in the database. In the Testing phase, the system is evaluated by experts and users using user acceptance (UAT) and usability testing (UT). Lastly, in the Documentation phase, all relevant information, and activities were collected and documented for this project.

3. RESULTS AND DISCUSSION

There are two types of testing that are applied which are User Acceptance Testing (UAT) and Usability Testing (UT). User Acceptance Testing is to measure Perceived Ease of Use and Perceived Usefulness. Usability Testing (UT) is the process of determining how easy it is for a representative group of users to use a product. Usability Testing, are related to the user interface design principles which are Learnability, Robustness, and Flexibility. Four experts and thirty-three users participated in the evaluation process. They are given the website address and after completing the ordering process they need to answer the online questionnaire to provide feedback. Figure 1 and Figure 2 shows the

result of the evaluation. As a result, most of the users agreed that applying the learnability principle of user interface design managed to deliver satisfaction to most of the users. Additionally, this resulted a good user experience in terms of ease of use and usefulness that can support users to learn the system quickly and achieve maximum performance when using the system.

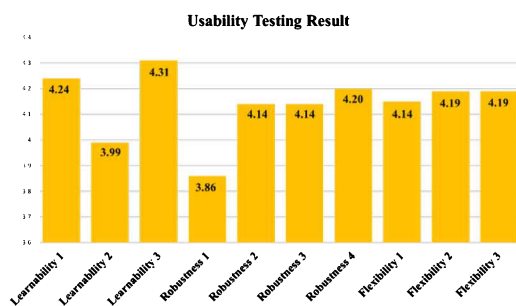


Figure 1. Usability testing result

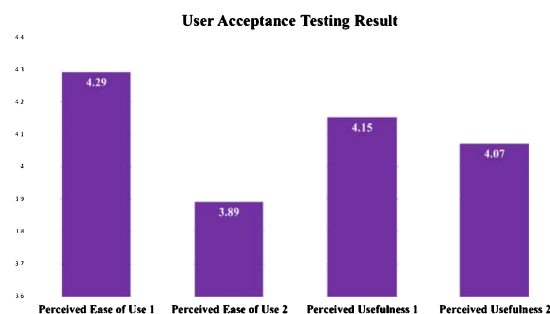


Figure 2. User acceptance testing result

4. NOVELTY OF RESEARCH / PRODUCT

An electronic ordering system (EOS) is developed to facilitate the company to manage their orders by giving the client a chance to complete their order through the system (Ishak & Zakaria, 2019). The toyibPay provides an API (Application Programming Interface) that allows developers to integrate toyibPay's payment services into their own applications, websites, or systems (Zakaria et al., 2017). MySQL is an open-source relational database management system (RDBMS). A relational database organizes data in one or more data tables, where the data can be related to one another; these relationships help structure the data (Mawansyah et al., 2020).

5. CONCLUSION

In conclusion, Using the Web-Based Ordering Application for Black Turmeric Coffee also helps businesses manage inventory and analyze sales, all of which can be centralized. In addition, with the Web-Based Ordering Application for Black Turmeric Coffee customers can place orders easily. Lastly, with the Web-Based Ordering Application for Black Turmeric Coffee, customers, and businesses can form a relationship based on trust and loyalty to a product.

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