Journal of Engineering and Applied Sciences

SME Supplier Registration System using QR Code for Sabasun SDN BHD

Farahwahida Binti Mohd@Abu Bakar and Nurul Fatehah Binti Embong
University of Kuala Lumpur, Kuala Lumpur, Malaysia

Key words: Supplier registration system, QR code, Mysql, SME, critical business

Corresponding Author:
Farahwahida Binti Mohd@Abu Bakar
University of Kuala Lumpur, Kuala Lumpur, Malaysia

Page No.: 3057-3059
Volume: 15, Issue 16, 2020
ISSN: 1816-949x
Journal of Engineering and Applied Sciences

Abstract: The purpose of this project to enhance the current system of SME Supplier Registration of Sabasun Sdn. Bhd in managing SME supplier and product registration and also generate QR code to provide SME product information for customer. The previous system was a manual, it is difficult for suppliers to come over every time when they want to register or update their products. This is because no online platform for suppliers request to register their products. In addition, suppliers cannot manage their detail and products detail immediately on current process also current system does not keep historical data in proper way which problem may arise. Thus, the enhancement covered critical business processes handled in the organization. In developing this system through research and development of other system are needed. The technologies used this system is PHP and Mysql. The reason for choosing these language because it is suitable for develop this system.

INTRODUCTION

Supplier Registration System for Small Medium Enterprise (SME)'s supplier is a system which is usually handled by admin and staff in the company. It is operated independently in that company. This system allows admin and staff to get information about new supplier and SME's product registration that has been sent by supplier registration form. Then, this system will automatically linked to the Quick Response (QR) code using details information that has been provided via system registration before. After that, the system through its QR scanner and printer that attached to its CPU will scan the product and sent it directly to the supplier[1].

Supplier registration system is an easier system that gives company and new SME supplier who want to sell their product to Sabasun Hypermarket in online form without wasted the time to go to the company to get offline form. These will allows supplier to used online form to fill up information about their product and sent it to the company. Only then, the administration section can decide whether the product will be approved or not. After the company has decided to approve the product this system will automatically sent QR code using the information given with image of product then give to supplier.

These system will records details of each information, so that, admin and staff management records will always keep up dated with the supplier and products information. Furthermore, with QR code for SME product customer can get much more information and image about the product when they scan that QR code, it also could linked with a manual system which using normal label (sticker or piece of paper that been provide together with the product) for that product. By running reports based on this information, admin can make better decisions regarding on the approval matter of the product.

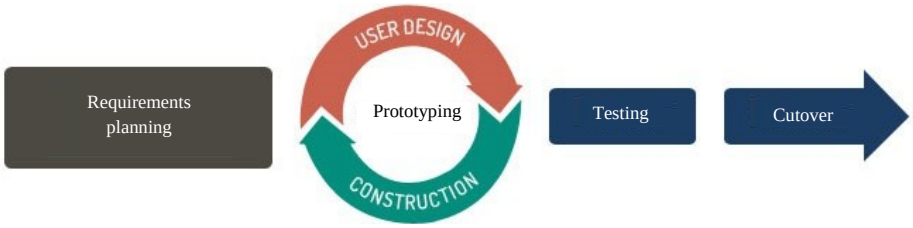

Fig. 1: Rapid Application Development (RAD); (http://rootsitservices.com/CustomPages/sdlifecycle.aspx)

MAIN BODY

Methodology adaptation: For the development of the project, the authors have decided the implementation of the Rapid Application Development (RAD) as the methodology that will be used. RAD as the acronym states is a rapid application development which is originally developed[2].

The reason why RAD is chosen can be observed from several aspects, the first one is that it allows the development of the system iteratively. The second reason is that as RAD emphasis on helps to reduce the risk and required efforts on the part of the software developer. The third and final reason for the selection of RAD is that it gives the developer the ability to control changes in the system in terms of ensuring that the possible change is necessary and the ability to track and monitor the changes (Fig. 1). Each consisting of one or more executable iterations of the software at that stage of development.

Requirements Planning (RP): The objectives of the RP stage are to establish a general understanding of the business problems that surround its development and eventual operation to become familiar with existing systems and to identify the business processes that will be supported by the proposed application.

User Design (UD): The objectives of the UD stage are to analyse in detail business activities associated with the proposed system area to analyse in detail the business data associated with the proposed system area to develop the system structure in terms of the automated and manual functions that will comprise the system to develop proposed screen layouts for the most important automated functions to select the appropriate construction approach for the system and to prepare a work plan defining the steps necessary for transition of the system, the effort required to perform these steps and a schedule by which these steps can be completed.

Construction: Where the development of the project is completed. The application design is finished and the source code is written. It is in this stage that the software is tested to determine if the project has met its goal laid out in the inception phase[3].

Testing: The overall testing time is reduced in RAD model as the prototypes are independently tested during every iteration. However, the data flow and the interfaces between all the components need to be thoroughly tested with complete test coverage. Since, most of the programming components have already been tested, it reduces the risk of any major issues.

Cutover: In construction phase of RAD model, the system is installed in client site and the user acceptance testing is performed. The users are also trained about the system.

BUSINESS MODELLING

In the business modelling phase, the developers are tasked to explore and understand the business process of SuRS as a whole. In forming a conceptual understanding of the inner works of SuRS, some actions are needed to be made such as inquiring the SME's unit on the overall process flow of SuRS and obtaining copies of documentation which relates towards SuRS such as the product form and approval status. From the information that is managed to be obtained, a use case diagram is designed based on gathered information which describes the possible functions that are feasible to be implemented[4, 5].

Requirement: With the completion of the business modelling phase, whereby the developers have managed to grasp the basic understanding of the domain knowledge of the SuRS process. The developers shall proceed to the requirement phase where the developers shall consult the SuRS admin of the use case draft's potential to be realistically and feasibly implemented, noting any changes, additions and removals stated by the SME unit[6].

Functional requirements: The functional requirement defines a function of a system or its components. A function is described as a set of inputs, the behaviour and outputs. Functional requirements involve technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish. In some cases a requirement analyst generates use case after gathering and validating a set of functional requirements functional requirements for Supplier Registration System (SuRS) are represented in the use case in Fig. 2.

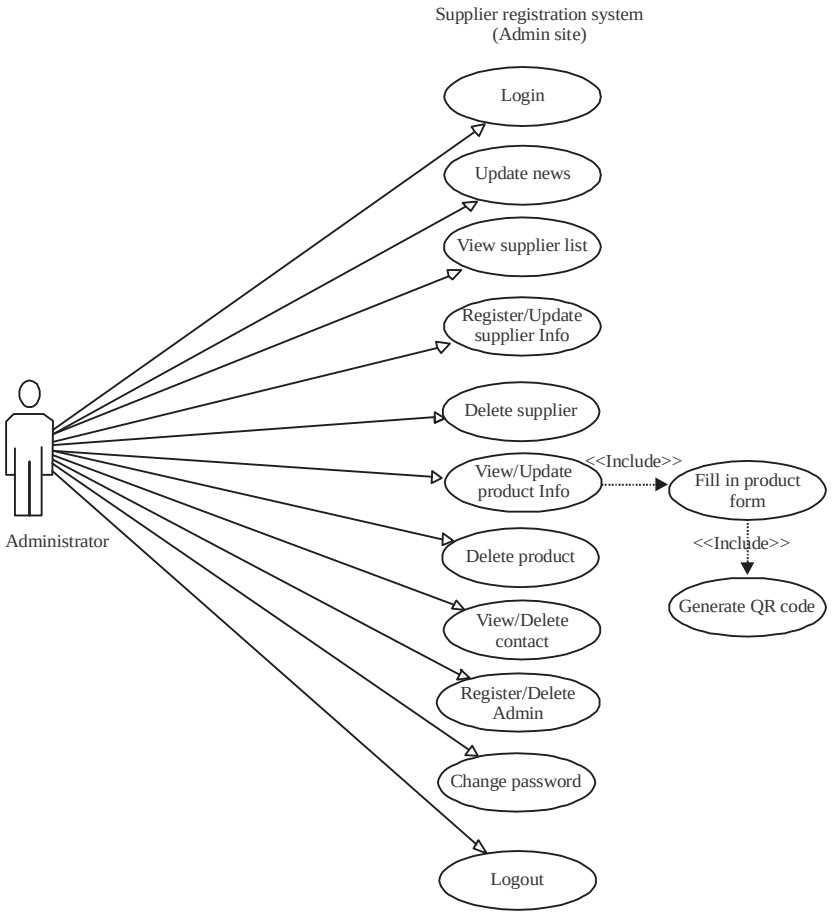

Fig. 2: Supplier registration system

CONCLUSION

The best experience gained when the system were completely develop based on the prototype and following the requirement and implementing the company's need. By developed this system, it will effort the SME's Unit to sort the issue and help reduce the time.

IMPLEMENTATION

Coming off from the analysis and design phase is the implementation phase where all designs, diagrams and models will be realized and implemented through development of the system. The preferred programming language for the processing is Hypertext Processor (PHP) while Hypertext Markup Language (HTML) and Cascading Style Sheet (CSS) are applied for design purpose. Meanwhile, we introduce MySQL for the database. Taking advantage of the Rational Unified Proces's compliance with system reuse, the implementation phase will be much smoother for the developer as it allows existing components to be reused, specifically the part of the allocation algorithm.

Test: In the testing phase, there are four stages to be tested which are the functionality testing, black box testing and user acceptance testing.

REFERENCES

01. Karn, P., 2010. PHP QR Code-QR code generator an LGPL PHP library. SourceForge, Mountain View, California, USA.
02. Rouse, M., 2014. QR code definition and format. WikiPedia, USA.
03. Scribd, 2014. Guideline for new SME definition 7Jan2014. Scribd, San Francisco, California, USA. https://www.scribd.com/document/247110258/Guideline-for-New-SME-Definition-7Jan2014
04. Karita, K. and A. Shimizu, 2011. Research of digital watermark to QR code. IEICE. Tech. Rep., 111: 7-10.
05. Koza, J.R., 2007. A source of information about the field of genetic programming and the field of genetic and evolutionary computation. California, USA. http://www.genetic-programming.org/
06. Wix.com, 2011. Volunteer management system. Wix.com, Tel Aviv, Israel. https://www.my-trs.com/