

# Construction Issue Management System

<sup>1</sup>Maha AlShaghroud, <sup>2</sup>Shuruq AlBaqami, <sup>3</sup>Zain Balfagih

<sup>1,2,3</sup>College of Engineering, EFFAT University, AnNazlah Al Yamaniyyah, Jeddah 22332 Saudi Arabia

<sup>1</sup>mzalshaghroud@effatuniversity.edu.sa, <sup>2</sup>salbogami@effatuniversity.edu.sa,

<sup>3</sup>zbalfagih@effatuniversity.edu.sa

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## Abstract

This study showed issue management system analysis, design and implementation phases that lead to develop the system from beginning of collected the requirement. The issue management system was software development that showed new techniques for the clients and users. The study aims was to improve the production and issues and reports system in a construction company, by made its process easier and more efficient and provide better services to the customers. The website was helped the project managers and their team to reduce time without any cost and affected in the updates.

**Keywords:** Issue management; notification; message; site engineer

## 1. Introduction

The internet is largest network of computer networks which important development in global communication [1]. The organization get in touch with the customers and provide the information and sell goods and services through website [2]. Approximately 22 million people are access internet based data from Italian Network Information Centre [3]. Meanwhile, 90% of people in developed countries and 25% of people in developing countries had accessed to the internet [4]. The Kingdom of Saudi Arabia is second highest population of Internet users (18 million) in the Middle East and second country was Iran (46.8 million) [5].

The management system is described as technologies, processes and peoples used to maintain and manage the organization activities [5]. Management based on Internet technology should met several criteria and cover all areas of organization such as planning, organizing, managing, communicating, controlling, motivating, effective action, innovation, creating pleasant and stimulating environment, talent recognize and human resource management [6].

Meanwhile, issue management was invented as response strategy and early warning tool for dealing with emergent and robust protest toward business in USA [7-9]. Issue management website is an advanced system that will be created to develop new ways of communication between the project managers and their team related to issues reporting. Many systems had created to customize the report issuing system. This system about report issuing and helps the project manager such as show,

filter, search and sort new issues. New updates of new issue and assign responsibility and help other team members for deliver their issue problem and their responsibility and its detail in most clear and easy way.

The study aims was to improve the production and issues and reports system in a construction company, by made its process easier and more efficient and provide better services to the customers.

## 2. Methodology

The SDLC model was used in this study. This model was important sine its break down the development process into sequence of phases or stages. There were few SDLC models and methodologies such as waterfall model, V-shaped SDLC model, Iterative SDLC model and spiral SDLC model.

In the waterfall model, the whole process of software development was divided into separate phases. In waterfall model, outcome of one phase acted the input for next phase sequentially.

In waterfall model, the whole process of software development was divided into separate phases. In waterfall model, the phase outcome acted as input for next phase sequentially and good choice to develop software.

Meanwhile, V-shaped SDLC model was variant of waterfall model that emphasizes the verification and validation of product. The product test was planned in parallel with corresponding phase of development.

In Iterative model, iterative process started with simple implementation of small set of software requirements and iteratively enhances evolving versions until complete system was implemented and ready to be deployed.

The spiral model combined iterative development idea with systematic, controlled aspects of waterfall model. Each cycle involved same sequence of steps as waterfall process model.

Most flexible SDLC methodologies was spiral model. The study passes through phases over and over in a “spiral” until completed which allowed for multiple round of refinement. This model allowed for the building of high customized products and user feedback incorporated from early in the study which best choice for this study.

Overall system was designed in term of the database design, layout sketching design and screen layout design.

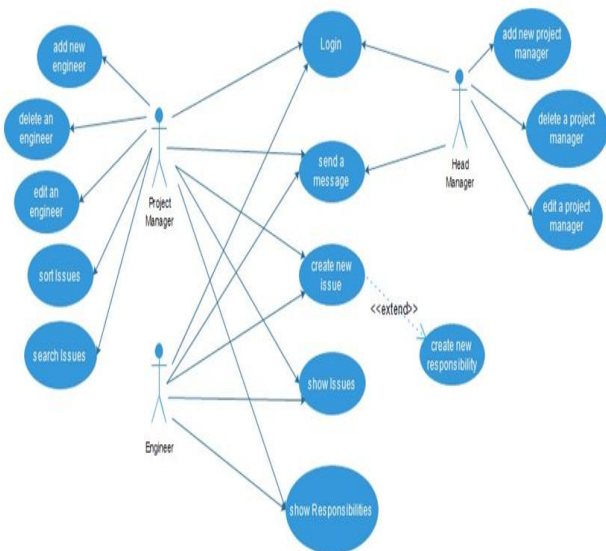


Figure 1: Use case diagram.



Figure 2: Data flow diagram.

The figure 3 to figure 7 shows the interface of the application.

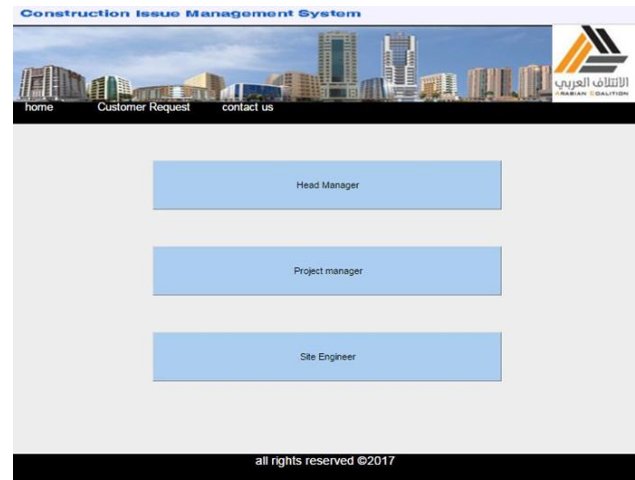


Figure 3. Index page.



Figure 4: Login page.

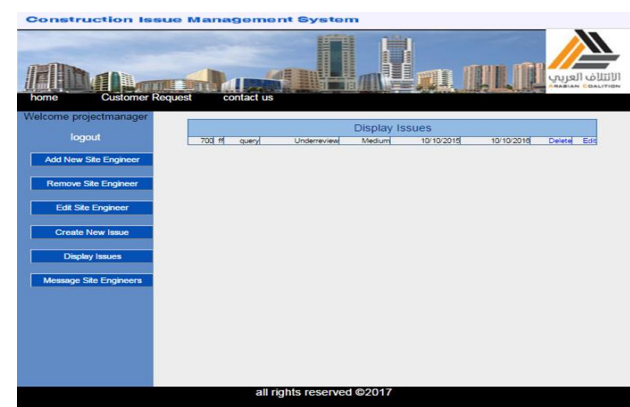


Figure 5: Display issues page.

Figure 6: Create issue page.

Figure 7: Create new request page.

### 3. Verification and Validation

Verification was evaluation process on the intermediary work products of software development lifecycle. In this system, the verification process ensured that the system satisfy the condition imposed during the beginning of phase and built as the specified requirements.

Meanwhile, validation was process of evaluating the final product to confirm whether the software met the business need. This system produced good issues from different types of engineers which describe toe work process on a building or problem in the website.

The test was done such as check head manager, site engineer and project manager login with incorrect data an error message display to show that username or password was wrong as shown in Figure 8.

Figure 8: Error notification.

Meanwhile, project manager registered new site engineer. All fields were needed to fill because helped to obtain an accurate data for every users. A project manager filled up username that was users name used for login to system and password. The password was protected which avoids unexpected people to hack into system and read another passwords. Figure 9 shows the site engineer register page.

Figure 9: Site engineer register.

The project manager displayed all issues and deleted and edit issues and tested these functions to ensure that working correctly and affected data in backend database, as shown in Figure 10.

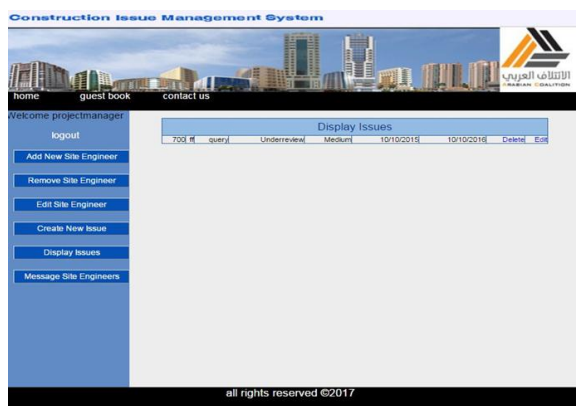


Figure 10: Display issues page.

The message was test by sending to site engineer from project manager, as shown in Figure 11.

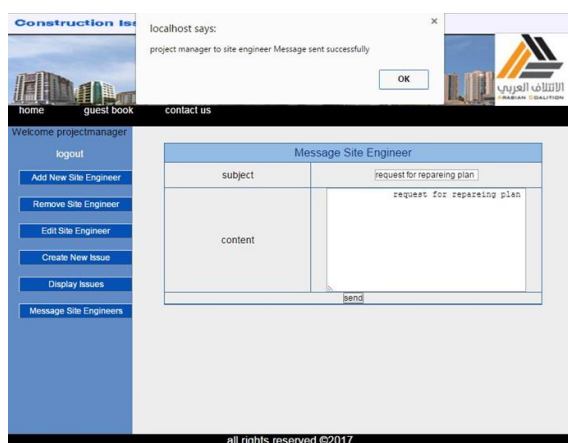


Figure 11: Message site engineer.

#### 4. Conclusion

In conclusions, the website based issue management system was an improved system and completed as fully functioning system that corresponds to the companies need and help to produce good quality website applications for the clients. The company was satisfied with features implemented and the reliability and robustness.

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