



Faculty of Computer Science and Information Technology

FCSIT LOST AND FOUND MANAGEMENT SYSTEM

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Bachelor of Computer Science with Honours

(Software Engineering)

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requirements for the degree of
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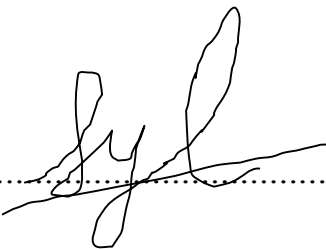
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ABSTRACT

Losing items is a time-consuming occurrence and everyone loses things once in a while. It is a matter of fact that losing items is an integral part of daily life (Van Hoof, J., Douven, B., Janssen, B. M., Bosems, W. P. H., Oude Weernink, C. E., & Vossen, M. B., 2016). The most common causes for losing items are a hectic way of life, carelessness, or a bad memory (Esure Verzekeringsmaatschappij, 2012). Due to their busy schedule, students lose their items all the time and almost all of the time, none of their items were found. Besides, students also find themselves finding an unknown item but there is no direct platform to report it. Hence, it is important to develop an online portal where the students can report both lost item and found item. The project is to develop a Lost and Found Management System for Faculty of Computer Science and Information Technology (FCSIT) in Universiti Malaysia Sarawak (UNIMAS). The development of the lost and found management system will help FCSIT students in finding their lost items and reporting for items that they have found. The system is easy to use due to the user-friendly interface and features and the data is protected and will not be accessed by any third party or unauthorized users.

ABSTRAK

Kehilangan barang adalah kejadian yang memakan masa dan setiap orang pernah mengalami kehilangan barang walaupun hanya sekali. Sebenarnya, kehilangan barang adalah bahagian penting dalam kehidupan seharian (Van Hoof, J., Douven, B., Janssen, B. M., Bosems, W. P. H., Oude Weernink, C. E., & Vossen, M. B., 2016). Penyebab yang paling biasa untuk kehilangan barang adalah cara hidup yang sibuk, kecuaiian, atau ingatan yang buruk (Esure Verzekeringsmaatschappij, 2012). Kerana kesibukan mereka, pelajar kehilangan barang mereka sepanjang masa dan hampir sepanjang masa, mereka jarang menemui barang mereka. Selain itu, para pelajar juga mendapati diri mereka mencari barang yang tidak diketahui tetapi tidak ada tempat untuk melaporkannya. Oleh itu, adalah penting untuk membangunkan sistem ini di mana pelajar boleh melaporkan barang yang hilang dan barang yang ditemui. Projek ini bertujuan untuk menubuhkan Sistem Pengurusan Barang Hilang dan Barang Temu untuk Fakulti Sains Komputer dan Teknologi Maklumat (FSKTM) di Universiti Malaysia Sarawak (UNIMAS). Sistem pengurusan ini akan membantu pelajar FSKTM untuk menyatukan barang-barang yang hilang dan barang-barang yang dijumpai dengan pemilik yang sah. Sistem ini mudah digunakan kerana ciri yang mesra pengguna dan data akan sentiasa dilindungi dan tidak mudah diakses oleh mana-mana pihak ketiga atau pengguna yang tidak dibenarkan.

CHAPTER 1: INTRODUCTION

1.1 Introduction

According to Gleick (1999), society spends 16 minutes of each day searching for misplaced items which is almost a year of entire life looking for lost items. Students are no exception to this problem.

Students often lose their items as they move around different venues all the time and almost all of the time, they failed to find their missing items. This problem seems trivial considering if the lost items are not important such as water bottles and umbrellas. However, if one of the students lose his/her mobile phone or even a laptop, it is important to have an online portal for students to refer to in finding their valuable items especially if the items are unreplaceable such as important documents. Hence, this project is proposed to solve that issue.

The project aims to create an online web-based system for Faculty of Computer Science and Information Technology (FCSIT) students to report both lost and found items based on the venue they were found all in one platform, namely FCSIT Lost and Found Management System. The project is very beneficial to the students as it provides a direct platform to report lost and found items which is through an online system instead of the students running around venue by venue looking for their lost items or the owner of the lost items manually.

1.2 Problem Statement

A number of FCSIT students in University Malaysia Sarawak (UNIMAS) find themselves losing their items as they move in between different venues a lot due to their hectic schedule. Those students are often left struggling to search for their lost items by reporting them online via various social media such as Whatsapp, Facebook and Instagram. Besides, they rely on the lost and found box to locate their lost items. However, the lost and found box is not efficient for the students to find their lost items as the box is not guarded and anyone can retrieve the items from box. Some of them post flyers of their lost items around the faculty but most of them choose to look for their items manually by walking around wasting their time if the items are nowhere to be found. However, those efforts in finding their lost items are not useful as social media refreshes all the time and thus their post can easily be overlooked by the new feeds. Besides, posting flyers is a hassle as it involves a lot of handiwork by printing and walking around the faculty posting the flyers. In conjunction to that, students also find themselves struggling to return lost items once they have found it as they do not have any direct platform where they can return the found items directly to the rightful owner.

Hence, an online portal is proposed in tackling this lost and found issue.

1.3 Scope

As the Lost and Found Management System is centred at FCSIT, the scope of the project is limited for FCSIT students only. The system is also limited to only reporting the lost and found items whereby FCSIT students can only use the system to find the owner of the lost items or to

find their lost items virtually. Although, the system will not be able to actually return the lost items personally to the owner. That process of returning the lost items will be done in a real life setting between the users. The system will only focus on lost and found items reported at the FCSIT venues such as the tutorial rooms and computer labs instead of the whole campus.

1.4 Aims and Objectives

The project aims to create an online web-based system for FCSIT students to return the lost items to the rightful owner. The objectives of the project comprise of:

- a) To develop a web-based lost and found management system for the FCSIT students to report the lost items and to report for items they have found.
- b) To develop a platform to view the general statistics of the lost and found records.
- c) To develop a database to store and manage the lost and found records for FCSIT Lost and Found management system.

1.5 Brief Methodology

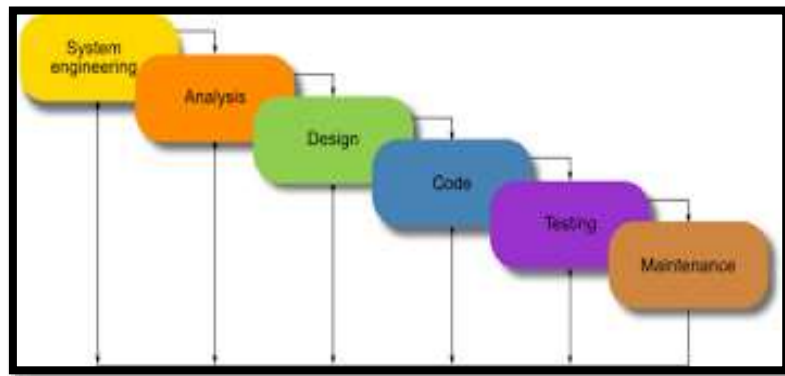


Figure 1.5.1 Waterfall Model

Powell-Morse, A. (2016). Waterfall Model: What is it and when should you use it?

[Diagram]. Retrieved from <https://airbrake.io/blog/sdlc/waterfall-model>.

Based on Figure 2.5.1, a waterfall methodology is used as a framework in this project to ensure a structured and methodical development of the system from the inception of the idea to the delivery of the final system. The waterfall model in software development life cycle (SDLC) is a sequential model that divides software development into pre-defined phases where each phase generally finishes before the next one can begin. In the waterfall model, each phases must be completed before the next phase can begin with no overlap between the phases and customer involvement are only required at milestones. Waterfall model works well with this project as all of the requirements are very well understood.

There are six (6) phases in the waterfall model. The phases of the waterfall model are system engineering, requirement analysis, system design, system coding, testing of system followed by maintenance. Each of the phases comprises distinct endpoints that must be completed before proceeding to the next phase.

1. Requirement gathering

Requirement gathering also known as system engineering which is the first phase of the waterfall model aims to determine whether it is feasibly possible of developing the lost and found management system financially and technically. This phase determines various identified requirements based on the benefits and drawbacks of what the project can achieve. Potential requirements of the system is analysed and documented into a functional specification. For this project, a survey was done with 25 respondents which are of FCSIT students to gather the requirements of the system. The survey was done using Google Forms questionnaire to collect data related to the system such as their current problem, their current solution and system expectations. This process is then continued with the analysis process in the second phase where the data collected is analysed.

2. Analysis

The second phase in the waterfall model which is the analysis phase must be approved by the customer before the system design can begin. Product models and business logic are being generated in this phase after further analysis to the system to guide production of the web-based system. The results of the questionnaire in this project are analysed thoroughly representing in a graphical data such as pie chart and bar chart.

3. System design

The third phase of the waterfall model is the system design phase. In this phase, a design specification will be created to outline how the business logic in the first phase be implemented. The system design helps in defining the overall system architecture by

specifying the technical design requirements such as the programming language, hardware, data sources, the architecture itself and its services. The FCSIT Lost and Found Management System is design logically through use case diagrams, sequence diagrams, activity diagrams and class diagrams and physically through wireframes.

4. Coding/Implementation

Coding is the fourth phase of the waterfall model. Based on the models, logic and requirements designated in the prior phases, an actual source code of the project is developed in small programs called units. PHP language is used to develop the proposed system. MySQL is chosen as the database for the project. Each unit is then be developed and tested for its functionality. This is referred to as Unit Testing. In the implementation phase, PHP language is used to develop the system.

5. Integration and testing

The fifth phase of the waterfall model is the integration and testing. During this phase, all of the units developed in the previous implementation phase are integrated into the lost and found management system after testing of each unit. The software designed then undergo constant software testing which involves a forced repeat of debugging to report any issues that may need to be resolved. Testing is important to ensure the users do not face any problems during software installation. A random group of FCSIT students are selected to test the system. The waterfall model is continued if the system passes the tests.