

CHAPTER I

INTRODUCTION

1.1 Background

The development of technology from time to time makes it easier for humans to do their jobs. One of the technological advances is the development of management information systems for various subjects that have managerial processes. This management information system is able to optimize the workflow and minimize the occurrence of human error. It developed along with technological advances to meet the needs of its users. One of the things that wants to be developed so that progress able to be realized is by increasing developments in the field of technology, one of which is in the housing that designed to be able to provide services and conveniences to managers and housing occupants in the housing area who initially still used manual management information systems. The main issue concerning the management information system for a group or individual is how to implement a management information system while at the same time utilizing it for the benefit of groups and individuals, in the form of integrated management and connected in a computer network called a management information system.

This information system can be defined as a system within an organization which is a combination of human resources, technology, facilities, media, procedures, and controls aimed at obtaining important communication lines, processing certain types of routine transactions, giving signals to management and others. on important internal and external events and provides an information basis for making good decisions [1]. The web-based housing

management information system is a system designed for housing management needs in an effort to meet shared needs such as information related to housing and its occupants, as well as cash management for housing operational and maintenance costs. The purpose of implementing a web-based management information system implementation process is to support management function activities such as planning, organizing, and controlling in order to support the achievement of the goals and objectives of operational functions [10].

Graha Nirmala housing which is the case study in this research is everyone's dream housing. This housing has a safe and comfortable home, no exception for students to someone who wants to enjoy old age. With the spirit of helping to provide a safe and comfortable place, the owner of this housing tries to offer housing which is only a few minutes of drive to the city (Malioboro and Kraton).

Agile method is a specific approach that using in software development. This method response the uncertainty of feature development with iterative incremental update that called as sprint. Agile method has several models and Extreme Programming is the one. Extreme Programming is a method of software development that able to make client add or change business process to the application throughout the development process. There is lot of Management Information System that created using Agile method. Management Information System have different needs for a specific use case and may uncertainty of its feature. It is related with the basic concept of Agile with Extreme Programming model that able to handle changes as development progresses.

Currently, Graha Nirmala housing has also used a management information system using Microsoft Excel to assist housing management. This management way is carried out so that the occupants in the housing can achieve common goals and meet their needs. However, the current management information system which uses Excel still has several problems.

With the current system it's hard to maintain that admin input the correct types and follow the value rule. For example, phone number should have format country code followed by the number, so when the data needed, it will be consistent. With the current system, it cannot guarantee that the phone number follow that rule. To make it consistent in the current system, it also has pain point to input the data from the housing occupant. The pain point is we cannot expect the housing occupant will give their phone number with correct number, thus the admin has to redundantly make sure the format is correct. If the phone number format is not correct, the admin has to fix the format manually. This problem also applies in every fields that has specific rule.

The current flow of pay the housing bill is admin remind all housing occupant every month, then occupant pay the bill to admin bank account. The occupants need to send the payment proof to confirm to the admin that they already paid. In the other side, admin manually input the payment data. Two problems occurred in the admin side, the first problem payment proof guaranty, then the second payment amount guarantee. We cannot guarantee that the payment proof is valid one, because the payment proof photo can be faked. There is also possibility that the occupants pay the bill without its fine, so we cannot guarantee the occupant pay the bill with appropriate bill amounts. Thus, admin need to double check by its side whether the money already enter admin's bank account and its bill amount is appropriate. But at the same time, double-checking is redundant activity that cannot be guaranteed that it will be done by admin. When the worst scenario happens, it will harm the housing cash and lead to extra step to do by admin which is not efficient.

There are several ways to tackle pain points of the bill payment as mentioned above. One of the ways is using payment gateway that integrated with our system and set the rule logic for the bill amount in the system. Payment gateway is an intermediary for payment confirmation from the sales website to the online system by a third party or bank directly, which if the

payment is rejected for certain reasons, it will be returned to our sales system and vice versa, if the transaction is successful, the payment will be immediately processed digitally/online [16]. Our system can forward the payment request to the payment gateway to be handled, and our system can reflect the payment status that will be send by the payment gateway. In that way, housing admin no need to check whether the bill already paid or not, and the rule logic can make sure the occupants pay with the appropriate amounts.

Therefore, hopefully the research able to develop a housing management information using agile method with Extreme Programming model. This research aims to tackling pain points that occurred in previous management system and accommodating the housing needs.

1.2 Research Scope

The scope of the discussion is limited as follows:

1. Data for the research is collected from Graha Nirmala Housing as the study case.
2. Problems that tackled are data inconsistency and traditional payment pain points.
3. Entity attributes fit the Graha Nirmala housing context.

1.3 Research Question

Based on the above background, the problems that discussed in this research is “How to develop a housing management information system using agile method with Extreme Programming model?”

1.4 Research Objective

Based on the research question, the objectives of this research is to develop a housing management information system using agile method with Extreme Programming model.

1.5 Research Benefits

The benefits that can be obtained from this research are as follows:

1. Help housing admin to manage the housing data and avoid data inconsistency in it.
2. Help housing admin to manage the housing bill without any risk of traditional payment problem.