MAKERERE   UNIVERSITY

SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

NDAGANO ROBERT

May 28, 2017

RESEARCH METHODOLOGY
CONCEPT PAPER

ON

A MOBILE PROPERTY INTERACTIVE APPLICATION

1 Introduction

This chapter focuses on the problems, statement of the problem, purpose of the study, objectives of the study, scope and significance of the study.

1.1 Background to the problem

Out of research, the researcher found out that there exits a number of brokers who act as middle men for people who wish to buy and sell desired property like land, houses etc. These so called brokers tend to alter the prices and at times even the specifications of a property at their own will thus making both buyers and sellers to lose large sums of money and precious time.

This study will focus on designing a framework that will completely eliminate the brokers hence allowing direct contact between the buyer and the seller thus the development of a Mobile Property Interactive Application will better the process of buying and selling property.

This will all be possible through collecting information from various sources and feeding it into the proposed system to allow the buyer and the seller to have a wide range of information on what he or she wishes to buy or sell for example the location of the property, the price etc. the environments are becoming more complex and dynamic [Harris, 2013].

1.2 Problem Statement

There is a greater need for buyers and sellers to get quick and easy access to properties on sale and to individuals willing to buy respectively as and when needed yet currently this information is scattered in various locations like newspapers, read on television and radio stations, with this a buyer or seller may not be able to access the information he needs in a specified time period. This requires an urgent need to integrate the different source systems of data into one repository source so as buyers and sellers can easily track the property or market they wish to buy or sell to hence the need to develop a Mobile Property Interactive Application.

1.3 General Objective

The main objective is to develop a Mobile Property Interactive Application.

1.3.1 Specific Objectives

1. To analyze requirements gathered for the application to be developed.

2. To design and develop a Mobile Property Interactive Application.

3. To implement and test the design using a prototype of the Application.

1.4   Scope

The project will be carried out in regards to most of the nearby properties in and around of Kampala and it will focus on a solution to eliminate middle men as a go between buyers and sellers.

1.4.1   Significance

Embracing the proposed technology will be significant as;

1. It will allow quick access to information about properties on sale.

2. It will form further environment of knowledge for students who may wish to take research in the same or related field.

3. It will also allow quick access to markets by the sellers.

4. To test and validate the system.

2 Literature review

This will involve a review of previous studies in relation to the research topic of analyzing, developing and implementation of the above-mentioned system.

2.1 Data marts and Data Warehousing

The need for data warehousing originated in the mid-to-late 1980s with the fundamental recognition that information systems must be distinguished into operational and informational systems (Delvin, 1997). Operational systems support the day-to-day conduct of the business, and are optimized for fast response time of predefined transactions, with a focus on update transactions.
In contrast, informational systems are used to manage and control the business. They support the analysis of data for decision making about how the enterprise will operate now and in the future. They are designed mainly for ad hoc reporting, complex and mostly read-only queries over data obtained from a variety of sources. Informational data is historical that is to say; it represents a stable view of the business over a period of time. Delvin (1997) defined a data warehouse simply as a single, complete, and consistent store of data obtained from a variety of sources and made available to end users in a way they understand and used in a business context optimized for reporting and analysis. Data warehousing can also be defined as a subject-oriented, integrated, time-variant, non-volatile data stores of differing scope (Inmon, 1992).

In data warehousing, data and information are extracted from heterogeneous production data sources as they are generated, or in periodic stages, making it simpler and more efficient to run queries over data that originally came from different data sources. Data is turned into quality information to meet all enterprise reporting requirements for all levels of users. Inmon and his collaborators defined a data mart as a subset of a data warehouse that has been customized to fit the needs of a department.

Inmon (1995) emphasized that a data mart is a subset of a data warehouse, containing small amount of detailed data and a generous portion of summarized data. There has no been agreement on this, as there is a strong counter position that atomic data marts are the foundation of the data warehouse. It inconveniences knowledge workers and middle managers to organize data without the usage of a unified information repository in large databases or data mart. Decision making relied on paper based reports regarding performance in order to make important business decisions that are extracted from operational systems and collated with other sources of data to create reports which inevitably are out date as soon as they were created hindering overall decision making and

the performance of the organization.

A recommended solution to the different data sources is the creation of a data warehouse and web browser user interface that will enable stake holders to perform On-Line Analytical Processing (OLAP) analysis (Berson et al., 2000) and separate data or information for Executive Managers, physicians and other levels of users from operational data thus improving the speed of reporting, and overall presentation of the data. Not only that the data mart would have catered for the information needs of the Executive Managers that would foster in the provision of historical specific data that matters to a specific area of the organization needed for reliable decision making, it would also provide history data from prior visits just as quickly so that physicians would tell what has changed and view a patients current condition in the most complete context before drug prescriptions would be carried out thus improving patient care, and users would not be able to sift through data that they are not interested in; thus getting to work with the data that they already familiar with.

2.2 Information Management and the Property Industry: Competitiveness in the information age

Prior to the digital era, property agents played a vital role in facilitating the amalgamation of property owners (suppliers) with property buyers (customers) and reduced the transaction costs of searching (for customers) and administration (for suppliers) [Li and Wang, 2006: 47]. This role was made easier with the induction and vast adoption of the internet, which added value by creating a cost efficient and effective system of information distribution to a maximum number of members in a targeted group. This has lead to the creation of new external environment for the property agents, facilitating changes in the role of the property agents in comparison to the era proceeding the information age (Li and Wang, 2006: 47). Although the internet has been used as a medium for information distribution, it requires property agents to cross the digital divide. Those who choose to embrace new information technologies and systems could reap the rewards by increasing their competitiveness and open new opportunities (Li and Wang, 2006:47, Buhalis, 1998).

In addition, organisations have an increased need to compete would be forced to compute (Buhalis, 1998). The property industry is no different to this evolution. According to Brockway and Hurley (1998), some organisations consider IT merely as a support element and business can be successful with only this acceptable support. However, as stated in previous sections, IT can be a strategic business advantage. In order for business to evolve to its full potential, a strong IT capacity is required (Brockway and Hurley, 1998). This has been anticipated by Porter and Miller (1985), who suggested that the information revolution would influence the competitive landscape in the following ways: industry structure, competitive advantages and the creation of new business opportunities

(Porter and Miller, 1985 cited in Li and Wang, 2006).

2.3   Web based information systems

These are systems that will provide up to date product and support information available to the existing and emerging channels. A prerequisite of this is to support the process of creating all types of information once only, managing and making them available on timely and cost effective basis for all people in the information chain. (Larry, 2003)

3 Methodology

In this chapter, we discuss the techniques or methods that will be used to achieve the requirements of the system.

3.1 System study and investigation

The researcher will use various techniques in studying the existing system and gather requirements for the proposed system as follows;

3.1.1 Interviews

The interview will focus on selected users of the system/tool, with an aim of identifying their requirements, investigating the problems of their current manual system and many more using the ODK collect app.
These interviews will help the researcher attain first hand and in-depth information.

3.1.2 Review of existing documentation

The researcher will read the available literature in form of reports and brochures for example receipts, invoices.

3.1.3 Questionnaire

The researcher will use questionnaires to gather more information about system requirements through the forms built by the ODK collect app so as to effectively mitigate the problem stated above.

3.2 Requirement specification

3.2.1 User requirements vs System requirements

User requirements specifications will be produced for end users of the system and these will define what the user requires of the system.

Whereas

System requirements are those that will be needed for the system to function properly.

3.2.2 Functional requirements Vs Non-functional requirements

functinal requirements tell us what the system will be required to do, in other wards these requirements will define system functionalities.

Whereas

The non functional are requirements that will define system constraints and properties; these will not be directly concerned with specific functions to be delivered by the system.

3.3 System design

This is the application of systems theory to product development by defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirements. The goal is to find the best possible design, within the limitations imposed by the requirements and the physical as well as social development in which the system will operate.

References

[Grimson, 1994] Grimson, W.E.L., . J. M. (Mar. 1994). Computer vision applications. *Communications of the ACM*, pages 45+.Academic OneFile, Accessed 11 Apr. 2017.

[Harris, 2013] Harris, S. (2013). Physical and environmental security. *In CISSP Exam Guide*, pages 6th ed., pp.427–502 USA McGraw–Hill.

[Trivedi, 2010] Trivedi, M. (2010). Computer vision for homeland security. *University of California.*