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FINAL PROPOSAL FOR HOSTEL MANAGEMENT SYSTEM

# DECLARATION

We hereby declare that this Project Proposal is our own work and has, to the best of our knowledge, not been submitted to any other institution of higher learning.

**Student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Registration Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signature: ............................................... Date: .....................................................**

This project [proposal] has been submitted as a partial fulfillment of requirements for the Diploma in Business Information Technology in Zetech University with my approval as the University supervisor.

**Supervisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signature: ..................................................... Date: ..................................................**

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# ABSTRACT

“ONLINE HOSTEL MANAGEMENT SYSTEM” is software developed for managing various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software’s are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

# DEDICATION

This dissertation is dedicated to my family, who passed on a love of reading and respect of education. Without their huge support, it would not have been possible. And also to my lovely friends, your inspiration, encouragement and support in diverse forms would always be remembered and cherished.

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# CHAPTER ONE - Introduction

## 1.1 Background of Study

In our current era of automated systems with it being either software or hardware, it’s not advisable to be using manual system. Hostels without a management system are usually done manually. Registration forms verification to other data saving processes are done manually and most at times, they are written on paper. Thus a lot of repetitions can be avoided with an automated system. The drawbacks of existing systems lead to the design of a computerized system that will help reduce a lot of manual inputs. With this system in place, we can improve the efficiency of the system, thus overcome the drawbacks of the existing manual system.

This system is designed in favor of the hostel management which helps them to save the records of the students about their rooms and other things. It helps them from the manual work from which it is very difficult to find the record of the students and the mess bills of the students, and the information of about the those ones who had left the hostel years before.

This system gives an idea about how a student and fee details, room allocation, mess expenditure are maintained in a better way. The hostel management system will also contain special features like how many students are in a room, student’s id and free rooms or space available. The administration has a unique identity for each member as well as students details

## 1.2 Problem Statement

There are a lot of drawbacks in keeping and maintaining a hostel. Especially with a manual system. Since most hostels are being run by only one hostel manager, the number of students in a room are sometimes not known by the officer. He has to go room by room to ensure that a room is occupied or not. Sometimes people may be owing in the hostel and they are saved on papers or huge notebooks, and sometimes receipts. If the books should go missing or stolen, one would never be able to know if a student is owing or not. Room allocation also becomes a problem as the officer might not know which rooms are available or not. And some hostels have a lot of rooms or have mare storeys and it would be very tedious to go through all storeys in search of a free room for an applicant. Also the officer might not know the number of students in a room or know if a room is full or not.

## 1.3 Aim of the Study

* To make it easier for data collection, storage and referencing reliable.
* To maintain the students as hostellers and waiting list students separately.
* To process allotment list.

### 1.3.1 Research Questions

Based on the need for effective and efficient system for hostels and some amount of probing into the matter, the following questions were identified:

• What are the easier forms student collection, storage and referenced by the system?

• How can information of students be collected and stored for future reference?

• How can the system reduce errors as compared to the manual system?

## 1.4 Limitations

Time and financial constraints were the major factors that hindered the progress of this research. The study involved a lot of financial obligations such as the cost of stationary, printing, photocopying and transportation.

Moreover, combining fieldwork and lectures to produce a comprehensive research report within the time limit was tiresome. Nevertheless, the quality of this study was not compromised.

# CHAPTER TWO – Literature Review

## 2.1 Introduction

In this section we are going to analyze the existing system and provide solution to errors or build a new system all together

## 2.2 Existing Systems

The existing system is manual based and need lot of efforts and consume enough time. In the existing system we can apply for the hostels online but the allotment processes are done manually. It may lead to corruptions in the allocation process as well as hostel fee calculation. The existing system does not deals with mess calculation and complaint registration.

### 2.2.1 Disadvantages:

#### More human power

#### More strength and strain of manual labour needed

#### Repetition of same procedure.

#### Low security.

#### Data redundancy.

#### Difficulty to handle.

#### Difficulty to update data.

#### Record keeping is difficult.

#### Backup data can be easily generated.

## 2.3 Proposed Solution

This project is aimed at developing a system for keeping records and showing information about or in a hostel. This system will help the hostel officer to be able to manage the affairs of the hostel. This system will provide full information about a student in the hostel. It will show rooms available or not and number of people in a particular room. This will also provide information on students who have paid in full or are still owing. This system will also provide a report on the summary detail regarding fees and bills students are owing. Also included is a user module for employees or the hostel officer. There will also be an administrator module which will accessed by the administrator and has the ability to delete, add and edit employee records. This system will be developed based on Software Development Life Cycle (SDLC) with PHP and My SQL server. PHP is good for the development and design of web based programs whiles My SQL is good for databases because of its security and its advanced features and properties.

# CHAPTER THREE – Methodology

## 3.1 Introduction

Methodology may be defined as a collection of procedures, techniques, tools and documentation aids that will help in the developing of an online hotel reservation. It includes a model, which embodies methods, tools, techniques and documentation. It also includes a feasibility study and requirements Specification which outlines the functional and the non-functional requirements of the system.

* In the case of the hostel management system I will be using object oriented modelling (OOAD) to propose the methodology for developing this project.

Reasons of using the OOAD model:

* The OOAD model has improved Reliability and Flexibility
* It is easy to Understand
* Reduced maintenance
* Better Efficiency compared to other models

This methodology is developed with 3 phases:

**Object-oriented analysis**

* In the analysis stage, the problem is formulated, user requirements are identified then a model is built based upon real world objects. The analysis produces models on how the system should function and how it will be developed.

**Object-oriented design**

* Design includes two main stages namely, system design and object design.

**System design**:

In this stage the complete architecture of the desired system is designed. The system is termed as a set of interacting subsystems that is composed of a hierarchy of interacting objects grouped into classes. System design is done according to both the system analysis model and the proposed system architecture where the emphasis is on the objects comprising the system.

**Object design**:

In this phase, a design is developed based on both the models developed based on both the system analysis phase and the architecture designed in the design phase. The classes required will be identified, the designer will have to decide whether:

* New classes are to be created,
* Any existing classes can be used in their original form or
* New classes should be inherited from the existing classes.
* The associations between the identified classes are established and the hierarchies of classes are identified. The designing of the data structure for each attribute and the algorithms for the operations is done at this point.

**Object-oriented Implementation**

* In the implementation stage the design model developed is translated in to code in a programming language or software tool. The databases are created and the specific hardware requirements are ascertained. The code is then tested using specialized techniques to identify and remove errors in the code.

## 3.2 Feasibility

Feasibility study aims to objectively and rationally uncover the strengths and weaknesses of the proposed hotel reservation project, opportunities and threats present in the [environment](https://en.wikipedia.org/wiki/Natural_environment), the [resources](https://en.wikipedia.org/wiki/Resources) required to carry through, and ultimately the prospects for success. It determines whether the project is worth the investment.

## 3.2.1 Technical Feasibility

The technical feasibility in the proposed system deals with the technology used in the system. It deals with the hardware and software used in the system whether they are of latest technology or not and if it happens that after a system is prepared, a new technology arises and the user wants the system based on that technology. This system use windows platform, apache server, sql for database, php as the language and html or xml as user interface. Thus HOSTEL MANAGEMENT SYSTEM is technically feasible.

## 3.2.2 Economic Feasibility

Economic analysis is the most frequently used method for evaluating the effectiveness of a new system. More commonly known as cost/benefit analysis. Php, html, xml and sql database are easily available on internet.

## 3.2.3 Operation Feasibility

The project has been developed in such a way that it becomes very easy even for a person with little computer knowledge to operate it. This software is very user friendly and does not require any technical person to operate .Thus the project is even operationally feasible.

## 3.3 Requirement Specification

Here, information related to the potential system is gathered from the hostel management levels and students. After examining the current systems and manual way of processing payment and the allocation of services, both functional and non-functional requirements that would make the new system address the problems of the previous systems are considered.

* The system is focused into 2 ways:

## 3.3.1 Functional Requirements

* The function of the potential system or its component is defined. The function will be described as a set of inputs, the behavior, and outputs.
* The system is expected to perform the following basic functions:
* The system should be able to accept creation of new accounts for students.
* The system should be able to capture the new user’s details and get enrolled on the systems
* Process hostel and payment for customer.
* Allocate room services to all customers.
* Efficient storage and retrieval of user’s particulars, in a safe database which will restrict unauthorized persons from gaining access to the system by use of password and user name.

## 3.3.2 Non-functional Requirements

* Here, the criteria that can be used to judge the operation of a system is specified, rather than specific behaviors. They are constraints imposed on the functionality of the system.
* The system should have the characteristics such as:
* The new system should be easy to maintain and upgrade.
* The system should offer adequate security as user’s information is very confidential.
* The system should be easy to learn and use fast and efficient.
* The system should be simple to use with a user friendly interface and features that are simple to use e.g. icons, command buttons.
* The system should be easy to extend to include features that will unfold in the future.

## 3.4 Data Collection

* Data collection is the process of gathering and [measuring](https://en.wikipedia.org/wiki/Measuring) information on targeted variables in an established systematic fashion, which then enables one to answer relevant questions and evaluate outcomes. The data collection component of research is common to all fields of study including [physical](https://en.wikipedia.org/wiki/Physics) and [social sciences](https://en.wikipedia.org/wiki/Social_science), [humanities](https://en.wikipedia.org/wiki/Humanities) and [business](https://en.wikipedia.org/wiki/Business). While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same. The goal for all data collection is to capture quality evidence that then translates to rich data analysis andallows the building of a convincing and credible answer to questions that have been posed.

## 3.4.1 Interview

* This is a direct face-to-face communication with the proposed user of the system which will help get suggestions and recommendations that may help during the design of hotel reservation system.

The interviews will help in:

* Acts as a fact-finding to gather facts about the existing system
* Verifying and clarifying facts gathered through other methods
* Getting the user involved in the development of the new system

## 3.4.1 Questionnaires

* A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. I will give pen-paper questionnaires out to a large customers which will help collect large amount of information which is a cost effective way and will take a short period of time. They might have their challenges like some customers who receive questionnaires and fail to return them while others may not pay much attention to it or take it seriously thus making it ineffective.

Example of Questionnaires:

* How long does it take to book the hotel manually?

## 3.5 Hardware Configurations

The section of hardware configuration is an important task related to the software development. Insufficient random access memory may affect adversely on the speed and efficiency of the entire system. The process should be powerful to handle the entire operations. The hard disk should have sufficient capacity to store the file and application. Processor: Pentium IV and above

Processor speed: 1.4 GHz Onwards

System memory: 128 MB minimum (256 MB recommended)

Cache size: 512 KB

RAM: 512 MB (Minimum)

Network card: Any card can provide a 100mbps speed

Network connection: UTP or Coaxial cable connection

Printer: Inkjet/Laser Color printer provides at least 1000 Dpi

Hard disk: 80 GB

Monitor: SVGA Color 15”

Mouse: 104 keys US Key Serial, USB or PS/2

## 3.5 Software Configurations

A major element in building a system is the section of compatible software since the software in the market is experiencing in geometric progression. Selected software should be acceptable by the firm and one user as well as it should be feasible for the system. This document gives a detailed description of the software requirement specification. The study of requirement specification is focused specially on the functioning of the system. It allow the developer or analyst to understand the system, function to be carried out the performance level to be obtained and corresponding interfaces to be established.

Technology Implemented: Apache Server

Language Used: PHP 5.3 or newer versions

Database: My SQL 5.5 or newer

User Interface: HTML, AJAX

Web Browser: Mozilla, Chrome or Internet Explorer 8(or newer)

Software: XAMPP or WAMP Server

Operating System: Windows XP or higher versions.

**CHAPTER FOUR – System Analysis**

4.1 Introduction

In this process the primary object is to identify user requirements and to build a system that  
satisfies these requirements. Design of the system is mainly the logical design that can be  
sketch on a paper or on a computer. It includes physical design elements, describes the data  
to be inputted. Model can be built for the existing system to better understand the proposed system. Process modelling is technique which involves graphical representation of functions or processes that capture, manipulates, stores or distribute data between a system & its environment or among components with in a system. The process involved in manipulation of data & output design represents: -

File structure, storage devices etc.

Database is also designed in this phase

Changes to be made in the organizational structure of the firm are outlined

Input, Output, files, forms and procedures are planned

Finally, standards for testing, documentation, system control are designed

4.2 Analysis of the current System

Currently in Kenya there is few online platform where students can access hostel services from their homes. Major universities and colleges handling related services have hard book written receipts with no full description of services being offered and pricing. These schools rely on networks between workers and the student’s interested.

4.3 System Requirements

((System requirements are all of the ((requirements at the system level that describe the functions which the system as a whole should fulfill to satisfy the ((customer needs and requirements, and is expressed in an appropriate combination of textual statements, views, and non-functional requirements; the latter expressing the levels of safety, security, reliability, etc., that will be necessary. System requirements help a lot in coming up with a good system as they: -

Form the basis of system architecture and design activities.

Form the basis of system integration and verification activities

Act as a reference for validation and customer acceptance.

Provides a means of communication between the various technical staff that interact throughout the project.

System requirements gives a wider vision of what the system should look like and function. They are expresses in technical language that is useful for architecture and design.

4.3.1 Functional Requirements

Functional requirements explain what has to be done by identifying the necessary task, action or activity that must be accomplished. Functional requirements analysis will be used as the top-level functions for functional analysis. The requirements qualitatively describe the system functions or tasks to be performed in operation. The online hotel booking system has various Functional requirements. They include: -

4.3.1.1 The Client Functional requirements

View The Hostel’s Profile

The client should be able to access the system. This will be possible through accessing the system website and also Login after going through registration using your students Id

Book a room

When on the portal you can book a room by accessing the book hostel tab.After successful booking the details are sent to the admin for approval.

4.3.1.2 The Admin’s functional requirements

Login

The admin has his portal to login and access all students request and respond to them

The Admin must login in order to add rooms and access their portal. Only the correct admin details will be able to login. After successful login a session is opened with all the Hostel’s details and can start using the system through the admin portal

Update Company Profile

Companies have the ability to edit their profile in case of any changes.

Add Room

After Login, Admin should be able to add rooms on available rooms field. And also delete rooms

View Student’s Booking Requests

Through the admins’s portal, all bookings made by students and their details can be seen and recorded in real time. This will show how many student’s the school will be handling.

Bill Students

After a successful communication with the Student, the school should be able to approve the student’s payment status. This is after payment is done.

4.3.2 Non-Functional Requirements

Non-functional requirements are requirements that specify criteria that can be used to judge the operation of a system, rather than specific behaviors. They include: -

Reliability

The system should be able to handle all what its meant to do at any given time. This includes 24/7 uptime of the system which will enable users to access their portals any day any time.

Security

Security is everything in online systems. The system should be able to distinguish between students and admin. Also, the system should be able to make sure that login in users have registered on the system first before allowing them to their respective portals

Maintainability

Once the system is fully operational, the administrators should be able to handle any errors arising at a given time. Changes should be made without affecting the systems functionality.

Portability

The system should be able to run on all web platforms. This includes all browsers and all devices (smartphones, tablets, laptops, smart TVs etc.)