Software Engineering 2 Report

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**Clinic Management System (Icare)**

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This Report Is Part of The Software Engineering 2 Subject of The Department of Computer Science at Umm Al-Qura University

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ABSTRACT

Now a days applications are integrated into our daily life for both consumers and businesses therefore any business of any size needs up to date software that can do the core functions of a clinic system such as adding patients ,editing ,searching , booking appointments and has a hierarchy for the system users such receptionist , managers, and owners to maintain information integrity which is necessary to get consumers trust which will result in better profits.

There are many systems that provide that for large-scale hospitals and clinics however for their scale that results in a very expense information systems that are rigid and nonflexible with customizability and its features furthermore these large-scale applications demand high spec systems to run on which isn’t an optimal option for small to medium businesses .

That’s where Icare comes in as An Information System for a small to medium sized clinic that will solve the large-scale application problems by being a lightweight desktop application that will work on low to medium spec systems which will provide the core functionality any small to medium clinic would need moreover won’t be bigger than what the user needs i.e., they pay for what they need and won’t have any unnecessary features there paying for .

This will be achieved by using tools such as , java for the backend with javaFX for frontend interfaces and MySQL for the database all these three tools are great for light weight desktop applications.

In conclusion we aim to fill a gap in the market where cheaper smaller apps will work for clients that can be easily customized to their needs that work on low spec systems.

**Contents**

CHAPTER 1 INTRODUCTION *..................................................................................*

1.1. PURPOSE OF THE PROJECT*..................................................................................*

1.2 PURPOSE OF THIS DOCUMENT*..............................................................................*

1.3 OVERVIEW OF THIS DOCUMENT *..........................................................................*

CHAPTER 2 SYSTEM ANALYSIS *............................................................................*

2. SYSTEM ANALYSIS *............................................................................................*

2.1 PROJECT SCOPE *.................................................................................................*

2.2 SYSTEM REQUIREMENTS *...................................................................................*

2.2.1 Functional requirements *.............................................................................*

2.2.3 Non-functional requirements *.....................................................................*

2.2.3.1 Look and feel requirements*..........................................................*

2.2.3.2 Usability requirements *.................................................................*

2.2.3.3 Security requirements *................................................................*

2.2.3.4 Performance requirements *...........................................................*

2.2.3.5 Availability *..........................................................................*

CHAPTER 3 DESIGN CONSIDERATIONS *............................................................*

3. DESIGN CONSIDERATIONS *..............................................................................*

3.1 DESIGN CONSTRAINTS *.......................................................................................*

3.2.4 Architectural pattern *.................................................................................*

3.2.4.1 The Model-View-Controller pattern *...................................................*

3.2.4.2 The Component And Link Diagram

3.2.4.3 Class diagram

3.2.4.4 Software Architecture Diagram

3.2.4.2 Layered Architecture Diagram

CHAPTER 4 SYSTEM DESIGN *...............................................................................*

4. SYSTEM DESIGN *.................................................................................................*

CHAPTER 5 IMPLEMENTATION *...........................................................................*

5. IMPLEMENTATION *.............................................................................................*

CHAPTER 6 VALIDATION *.....................................................................................*

6.VALIDATION *.........................................................................................................*

6.1 VALIDATION *......................................................................................................*

REFERENCE: *............................................................................................................*

CHAPTER 1 INTRODUCTION

* 1. Purpose of the project

The purpose of this project is to provide a application for clinics of small to medium size that will provide the core necessary functions the establishment would need without any over the board capabilities that won’t be utilized furthermore providing just the needed functions will also cut down on cost of development therefore making a cheaper costing application that will sell for less and when needed can be upgraded easily.

1.2 Purpose Of This Document

This document is intended to provide all the software engineering details of the Icare system from the conceptual and technical aspects of the application.

1.3 Overview Of This Document

This report divided into six chapters. Chapter 1 introduces the main idea of the project, describes the purpose of this project/document, reviews of existing systems, and describes similar systems to our existing system and background about machine learning and natural language processing.

Chapter 2, system analysis chapter gives a detailed textual description of the system and depicts the types of users of the system, identifies functional and non-functional requirements, covers a number of UML diagrams, including Use-Case Diagram, Data-Flow Diagram and Context Diagram and provides proposed/alternative solutions.

Chapter 3, design considerations, specifies the design constraints of hardware and software environment, and defines end user characteristics, Also, explains architectural strategies and focus on the algorithm to be used, methodology of development and architectural pattern.

Chapter 4, system design, describes system architecture and program flow and detailed component description.

Chapter 5, this chapter describes the implementation of Icare system. It describes the tools and way to implement the system.

Chapter 6, This chapter describes the validation of Icare using Juint Framework.

CHAPTER 2 SYSTEM ANALYSIS

2.1 System Analysis

This chapter presents the analysis of the Icare system. It starts by describing the project scope, then discusses the types of users who are going to deal with the system, it lists functional and nonfunctional requirements of the system and finally context level, data flow and use case diagrams.

2.2 Project Scope

The scope of the project is to design a desktop application that can provide the core functions in a lightweight and cost effective way for small to medium size clinics.

2.3 System Requirements

2.4 Functional Requirements

2.5 Non-functional Requirements

CHAPTER 3 DESIGN CONSIDERATIONS

DESIGN CONSIDERATIONS

DESIGN CONSTRAINTS

Architectural pattern

3.2.4 Architectural pattern

3.2.4.1 The Model-View-Controller pattern

3.2.4.2 The Component And Link Diagram

3.2.4.3 Class diagram

3.2.4.4 Software Architecture Diagram

3.2.4.2 Layered Architecture Diagram

CHAPTER 4 SYSTEM DESIGN

. SYSTEM D

CHAPTER 5 IMPLEMENTATION

Implantation

CHAPTER 6 VALIDATION