



Kurdistan Region – Iraq
Ministry of Higher Education and Scientific Research
Lebanese French University
Department of Information Technology

Bus Management System Using WebApp

**A Graduation Project Submitted to the Department of
Information Technology (IT) / Lebanese French University
(LFU) as a Partial Fulfilment of the Requirement of the
BSc. Degree in Information Technology**

By

Asra Farhad Ahmed

Elaf Ahmed Taha

Nazdar Abdi Mirhamad

Sadaf Rashid Musa

Supervised By

Asst.Lect. Halmat Ayub Abdulmajeed

April - 2023

Supervisor's Certification

I certify that the preparation of this graduation research project titled **"BUS Management System Using WebApp"** was made under my supervision at the department of Information Technology – Lebanese French University in partial fulfillment of the requirements for the degree of BSc. in Information Technology.

Signature:

Name: Asst. Lect. Halmat Ayub Abdulmajeed

e-Mail: halmat@lfu.edu.krd

Affiliation: Department of information Technology, College of Engineering and university, Erbil, Kurdistan Region, Iraq.

Date: / 05 / 2023

Examining Committee Report

We certify that we have read this graduation research project titled **“Bus Management System Using WebApp”** and as an examining committee, examined the students:

Asra Farhad Ahmed, Elaf Ahmed Taha, Nazdar Abdi Mirhamad, Sadaf Rashid Musa

In its content and in what is related to it, and that in our opinion it meets the standard of a graduation research project for the degree of BSc in Information Technology.

Examining Committee

Signature:

Name: Dr. Saravana Balaji B

Date: / 05 / 2023

Signature:

Name: Asst. Lect. Farah Qasim Ahmed

Date: / 05 / 2023

Head of Department

Signature:

Name: Asst. Lect. Ahmed Najat

Date: / 05 / 2023

Dedication

This graduation research project is dedicated to:

Our parents who have taught us the way of life, our supervisor who tell us science with all other teachers, and our dear friends that help us in preparing this project, and those who want to learn.

- 1. Asra Farhad Ahmed*
- 2. Elaf Ahmed Taha*
- 3. Nazdar Abdi Mirhamad*
- 4. Sadaf Rashid Musa*

Abstract

This research project presents a web application for bus management system, designed to improve efficiency and user experience for bus companies and their passengers. Existing bus management systems often suffer from limited functionality, lack of user-friendly interfaces, and inefficiencies in scheduling and route planning. The aims of this research were to develop a web application that addressed these issues and provided a more comprehensive solution for bus management. The application was developed using JavaScript, HTML, and CSS, PHP, bootstrap, MySQL, ... with a focus on responsive design and ease of use. A range of features were implemented, including real-time bus tracking, route planning and optimization, automated scheduling, Results showed that the web application provided significant improvements in efficiency and user experience compared to existing systems. The conclusion highlights the importance of user-system design in developing effective bus management systems, as well as the potential for further research and development in this area. Limitations of the study include the need for further testing and refinement of the application, particularly in relation to scalability and security, the web application for bus management system presented in this research project offers a valuable contribution to the field and has the potential to significantly improve the bus industry. This system helps people in making better travelling decisions and more safety.

Table of Contents

Subject	Page No.
Supervisor's Certification	I
Examining Committee Report	II
Dedication	III
Abstract	IV
List of Figures	VI
List of Abbreviations	VI
Chapter One: An Overview	
1.1. Introduction	1
1.2. The Aim of project	1
1.3. Related Work	2
1.4. Problem statement	2
1.5. Proposed solution	3
Chapter Two: The System Design	
2.1. Introduction	5
2.2. The Data Structure Diagram	5
2.3. The Data Flow Diagram	6
Chapter Three: The Implemented System, Tests and Experimental Outcomes	
3.1. Introduction	8
3.2. Implementation tools	8
3.3. The implement system	9
3.4. Front End	11
Chapter Four: Conclusions, Limitations and Future Works	
4.1. Conclusions	18
4.2. Limitations	19
4.3. Suggestions for Future Works	20
References	
References	21
Appendix	
Appendix A: Code	22
Appendix B: Database	36

List of Figures

Figure No.	Figure's Title	Page No.
2.1	The Data Structure Diagram	5
2.2	The Data Flow Diagram	6
3.1	Main Page	12
3.2	Admin Index (Login) Page	12
3.3	Add Customer Page	13
3.4	List Of Customer Page	14
3.5	Database Page	15
3.6	Card Result Page	15
3.7	Creating QR-Code Page	16
3.8	Logout Page	16

List of Abbreviations

DFD	Data Flow Diagram
PHP	Hypertext Preprocessor
SQL	Structured Query Language
HTML	Hypertext Markup Language
CSS	Cascading Style Sheet
JV	JavaScript
QR	Quick Response