



FINAL YEAR PROJECT REPORT

BUKC EXAM DUTIES SCHEDULE MANAGEMENT SYSTEM

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

By

ALISHA SAFDAR	72955 (BSCS)
MISBAH ABID	72975 (BSCS)
SOHAIB MUHAMMAD KHAN	73005 (BSCS)

SUPERVISED

BY

DR. GHULAM MUHAMMAD

BAHRIA UNIVERSITY (KARACHI CAMPUS)

FALL-2024

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : Alisha

Name : Alisha Safdar

Reg No. : 72955

Signature : Misbah

Name : Misbah Abid

Reg No. : 72975

Signature : Sohaib

Name : Sohaib Muhammad Khan

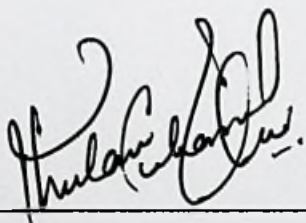
Reg No. : 73005

Date : 11/12/2024

APPROVAL FOR SUBMISSION

We certify that this project report entitled “**BUKC EXAM DUTIES SCHEDULE MANAGEMENT SYSTEM**” was prepared by **ALISHA SAFDAR, MISBAH ABID and SOHAIB MUHAMMAD KHAN** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Science in **Computer Sciences** at Bahria University, Karachi.

Approved by,

Signature : 

Supervisor : Dr. Ghulam Muhammad

Date : 11/12/2024

ACKNOWLEDGEMENT

The report was prepared under the supervision of the project supervisor, who provided the necessary guidance and support throughout the project. The report is a result of the author's own research and analysis, and it is not intended to be a substitute for the original research. The author acknowledges the contribution of the project supervisor and the project team in the completion of this report.

The copyright of this report belongs to Bahria University according to the Intellectual Property Policy of Bahria University BUORIC-P15 amended on April 2019. Due acknowledgement shall always be made of the use of any material contained in, or derived from, this report.

© 2024 Bahria University. All right reserved.

ACKNOWLEDGEMENT

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express our gratitude to our research supervisor, **Dr. Ghulam Muhammad** for his invaluable advice, guidance and his enormous patience throughout the development of the research.

In addition, we would also like to express our gratitude to our loving parent and friends who helped and given us encouragement.

BUKC EXAM DUTIES SCHEDULE MANAGEMENT SYSTEM

ABSTRACT

The project introduces an innovative application specifically designed for Bahria University, transforming the process of assigning exam invigilators. At its core, the application enhances efficiency by factoring in teachers' subject expertise and availability across multiple exam sessions. This comprehensive approach simplifies the invigilator assignment process and improves the examination management system. A key feature of the application is a dynamic scheduling system that allows educators to specify their availability for multiple sessions. This flexibility ensures optimal room assignments while accommodating teachers' varying schedules and exam requirements. Furthermore, the application streamlines the post-exam process by organizing and managing the collection of exam copies, ensuring an efficient and seamless transition. The project's objectives are robust, focusing on optimizing invigilator assignments, tracking availability for dynamic scheduling, avoiding conflicts, and maintaining subject integrity. By addressing these goals, the project aims to bring meaningful improvements to the examination management process. Expected outcomes include a significant reduction in administrative workload through digitalization, smoother post-exam operations, and the creation of a user-friendly interface for administrators and teachers. By prioritizing usability, the application fosters a positive and productive environment within the educational institution.

In conclusion, the application's proactive approach to invigilator assignments ensures preparedness, eliminating the stress of last-minute arrangements. By supporting an organized and effective examination management system, the project benefits the entire educational community at Bahria University, advancing efficiency and excellence in academic administration. Its scalability also makes it a valuable tool for future improvements, enabling the university to adapt to evolving needs. This application helps Bahria University enhance its approach to efficient and innovative examination management practices.

Table of Contents

DECLARATION	ii
APPROVAL FOR SUBMISSION	iii
ACKNOWLEDGEMENT	v
ABSTRACT	vi
LIST OF TABLES	x
LIST OF FIGURES	xii
LIST OF APPENDICES	xii
CHAPTER 01	1
1 INTRODUCTION	1
1.1 BACKGROUND	1
1.2 PROBLEM STATEMENT	2
1.3 AIMS AND OBJECTIVES	2
1.4 SCOPE OF PROJECT	3
CHAPTER 02	5
2 LITERATURE REVIEW	5
2.1 BACKGROUND	5
2.2 RELATED WORK	6
2.3 COMPARISON TABLE WITH EXISTING STUDY	8
2.4 CHAPTER SUMMARY	11
CHAPTER 03	13
3 REQUIREMENT SPECIFICATIONS	13
3.1 EXISTING SYSTEM	13
3.2 PROPOSED SYSTEM	13
3.3 REQUIREMENT SPECIFICATION	14
3.4 USE CASES	16

	CHAPTER 04	18
4	DESIGN AND METHODOLOGY	18
	4.1 PROPOSED METHODOLOGY(FRAMEWORK/ARCHITECTURE)	18
	4.2 PROCESS MODEL	19
	4.3 MODULE OVERVIEW	20
	4.4 FLOW CHART	22
	4.5 SEQUENCE DIAGRAM	23
	4.6 ENTITY RELATIONSHIP DIAGRAM (ERD)	24
	4.7 CONTEXT DIAGRAM	25
	4.8 METHODOLOGY	25
	4.9 SOFTWARE SCREENSHOTS	26
	CHAPTER 05	33
5	SYSTEM IMPLEMENTATION	33
	5.1 PROGRAMMING LANGUAGES	33
	5.2 DEVELOPMENT FRAMEWORKS	34
	5.3 DATABASE MANAGEMENT SYSTEM	34
	5.4 INTEGRATED DEVELOPMENT ENVIRONMENT	35
	5.5 DEVELOPMENT METHODOLOGY	35
	5.6 SPRINTS	35
	5.7 CODE REVIEWS AND TESTING	36
	5.8 SYSTEM ARCHITECTURE	36
	5.9 BACKEND SERVICES	36
	5.10 FRONTEND COMPONENTS	36
	5.11 DATABASE LAYER	37
	5.12 CHALLENGES AND MITIGATION STRATEGIES	37
	5.13 CONCLUSION	37

	CHAPTER 06	38
6	SYSTEM TESTING AND EVALUATION	38
	6.1 TESTING STRATEGY	38
	6.2 TESTING PROCESS	39
	6.3 TESTING TYPES	40
	CHAPTER 07	41
7	CONCLUSION	41
	7.1 CONCLUSION	41
	7.2 FUTURE WORK	41
	REFERENCES	43
	APPENDICES	47
4	APPENDIX A: Computer Programme Listing (CODE)	47