



FINAL YEAR PROJECT REPORT

SMART CARD MANAGEMENT SYSTEM

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

By

SHEIKH M. HUMZA TASLEEM

57196 BSCS

AMTULLAH SHEIKH

57207 BSCS

ALI RAZA

57157 BSCS

SUPERVISED

BY

MR. TALHA ALAM

BAHRIA UNIVERSITY (KARACHI CAMPUS)

SPRING-2022

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 : Humza

Name : Sheikh M. Humza Tasleem

Reg No. : 57196

Signature : Amtullah Sheikh

Name : Amtullah Sheikh

Reg No. : 57207

Signature : Ali Raza

Name : Ali Raza

Reg No. : 57157

Date : 18-06-2022

The copyright of this report belongs to Bahria University according to the Intellectual Property Policy of Bahria University BUORIC-P15 amended on April 2022. Due acknowledgement shall always be made of the use of any material contained in, or derived from, this report.

© 2022 Bahria University. All right reserved.

ACKNOWLEDGEMENTS

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

In addition, We would also like to express my gratitude to our loving parent and friends who had helped and given me encouragement.

SMART CARD MANAGEMENT SYSTEM

ABSTRACT

With the advancement in our daily lifestyle, introducing new products and technologies to our lives become mandatory. A university student these days is well aware of everything going around and it becomes the duty of the university to provide latest facilities to its students in order to ease them. Student Smart Card Service strives to provide a handful of facilities that a student might not feel important now but will definitely appreciate.

Student Smart Card, a prepaid smart card for students that facilitate its users with wireless / contactless transactions and identification as well as being a fully functional student id card.

As it is a modern-day smart card that provides students with a bunch of facilities around the university campus along with being a student ID card. Student Smart Card has NFC tag technology for contactless payments and identification. Students are able to deposit money to the withholding Student Smart Card and transaction can be made at university cafeteria and book shop to pay the required bills, as well as it is also applicable as a library card for book issuance. Students are also able to pay their academic using Student Smart Card Services.

TABLE OF CONTENTS

DECLARATION	i
APPROVAL FOR SUBMISSION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF SYMBOLS / ABBREVIATIONS	viii

CHAPTER

1	INTRODUCTION	14
	1.1 Background	14
	1.2 Problem Statements	14
	1.3 Aims and Objectives	15
	1.4 Scope of Project	15
2	LITERATURE REVIEW	16
	2.1 BACKGROUND	16
	2.2 RELATED WORK	16
3	DESIGN AND METHODOLOGY	30
	3.1 PROPOSED METHODOLOGY	30
	3.2 PROCESS MODEL	31
	3.3 MODULES DISCUSSION	32
	3.4 PROJECT DIAGRAM	37
	3.4.1 DATABASE DESIGN (ERD)	37

	3.4.2	SEQUENCE	38
	3.4.3	CONTEXT	43
	3.4.4	USE CASES	49
4		IMPLMENTATION	79
	4.1	Module development	79
	4.2	GUI and Source Code	79
	4.3	Result and Discussion	133
5		TESTING AND EVALUATION	136
	5.1	Test Plan	136
	5.2	Testing Modules	136
	5.3	Test Cases and Evaluation	136
6		CONCLUSION AND FUTUER WORK	139
	6.1	Conclusion	139
	6.2	Future work	139
		REFERENCES	140