



**FINAL YEAR PROJECT REPORT**

**WEB APPLICATION FOR ANIMAL RESCUE &  
PET ADOPTION**

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

**By**

<b>MUHAMMAD HAMZA SHAHID</b>	<b>60033 (BSCS)</b>
<b>MUHAMMAD AMMAR</b>	<b>60042 (BSCS)</b>
<b>MUHAMMAD FURQAN MAZHAR</b>	<b>60052 (BSCS)</b>

**SUPERVISED**

**BY**

**MISS FATIMA BASHIR**

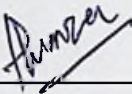
**BAHRIA UNIVERSITY (KARACHI CAMPUS)**

**FALL-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:



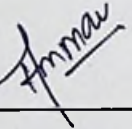
Name:

Muhammad Hamza Shahid

Reg No.:

60033

Signature:



Name:

Muhammad Ammar

Reg No.:

60042

Signature:



Name:

Muhammad Furqan Mazhar

Reg No.:

60052

Date:

12/1/2023

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.

© 2022 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, Miss Fatima Bashir for her invaluable advice, guidance and her enormous patience throughout the development of the project.

# WEB APPLICATION FOR ANIMAL RESCUE & PET ADOPTION

## ABSTRACT

The objective of this project is to develop a web application to help animal shelters and local NGO(s) with their administrative and logistical day to day tasks. This report explores the modules and functionalities offered by the application to help save care for animals and assist stakeholders and shelter in similar fashion. Different stages for the development of this application shall be discussed in the report. Finally the end product of the application will be written in the software called VS Code and deployed on internet upon successful approval from all the stakeholders involved.

This project uses MERN stack (React JS, Express JS, Mongo DB, and NodeJS), a powerful combination of JavaScript technologies for the development and design of the application. The main advantage of using these technologies is that they provide robust and effective development environment and libraries for effective application development. Different modules of this application are discussed with an in depth analysis of user flow and architecture of the application.

After a comprehensive research process to find suitable functionalities and modules for the application from numerous reference applications, the modules were finalized and progression of development followed suit. The application involves various libraries necessary for assisting in development to provide organizations with a reliable, secure, effective application that helps their welfare endeavours greatly. Some notable libraries integrated with this project are bCrypt, cookie-parser, GridJS, Material UI and JWT.

The application provides interfaces for staff to upload details of animals, educational resources, expenses, and medical records. Application visitors can view these resources and browse collection of animals housed inside the shelter to adopt/foster animals and take part in the welfare endeavours of the organization. Recommendations for future development and conclusions are also included in the report.

## TABLE OF CONTENTS

DECLARATION	ii
APPROVAL FOR SUBMISSION	iii
ACKNOWLEDGEMENTS	v
ABSTRACT	vi
TABLE OF CONTENTS	viii
LIST OF FIGURES	xi
LIST OF APPENDICES	xii

### CHAPTER

<b>1 INTRODUCTION</b>	<b>13</b>
1.1 Background	13
1.2 Aims and Objectives	13
1.3 Outcomes	14
<b>2 LITERATURE REVIEW</b>	<b>15</b>
<b>3 DESIGN AND METHODOLOGY</b>	<b>17</b>
3.1 Methodology	17
3.2 Process Model	18
3.3 Project Design	19
<b>4 IMPLEMENTATION</b>	<b>29</b>
4.1 Adapting a Pet	29
4.2 Admin Module	30

4.3	Newsletter Subscription	31
4.4	Volunteers	31
4.5	Testing	32
4.6	User Feedback	32
4.7	Test Cases	32
 <b>5 RESULTS AND DISCUSSIONS</b>		<b>36</b>
 <b>6 CONCLUSION AND RECOMMENDATIONS</b>		<b>37</b>
 <b>REFERENCES</b>		<b>38</b>