



MUHAMMAD TABISH MAQSOOD

01-134161-044

HAMAD YAQOOB

01-134161-013

Accessible Points for People on Wheelchair

Bachelor of Science in Computer Science

Supervisor: Dr. Kashif Naseer

Department of Computer Science
Bahria University, Islamabad

November 2019

Abstract

Accessible points for people on wheelchairs is a very interactive and helpful application for handicapped. They can effectively see the accessible places for themselves. This application will make them independent. Module selection will allow them to see nearby selected modules places and they can also search the places individually and check their accessibility. Navigation feature allows them to reach destination easily. User can generate alarm in any emergency case.

Contents

Abstract	i
1 Introduction	1
1.1 Project Background	1
1.2 Problem Description	1
1.3 Project Objectives	2
1.4 Project Scope	2
1.4.1 For User:	3
1.4.2 For administrator:	3
2 Literature Review	4
2.1 Geolocation	4
2.2 GPS (Global Positioning System)	4
2.3 Google Maps:	5
3 Requirement Specifications	6
3.1 Existing System	6
3.2 Proposed System	6
3.3 Requirement Specifications	7
3.3.1 Functional Requirements	7
3.3.2 Non Functionl Requirements	7
3.4 Use Case Diagram	8
3.5 Descriptive Use Cases	9
3.5.1 Login:	9
3.5.2 Register:	9
3.5.3 Add new places:	10
3.5.4 Select Modules:	10
3.5.5 Database Update:	11
4 Design	12
4.1 Context Flow Diagram:	12
4.2 Activity Diagram	12
4.3 Entity Relationship Diagram	13
4.4 Sequence Diagram	13

4.5	Database Design:	13
4.6	Graphical User Interfaces (GUI):	14
5	System Implementation	19
5.1	Development Environment (IDE)	19
5.2	Architecture and Components Integration	21
5.2.1	Interface	21
5.3	Tools and Techniques	22
5.3.1	React Native	23
5.3.2	Libraries	23
5.4	Processing Logic	24
6	System Testing and Evaluation	25
6.1	Graphical User Interface Testing	25
6.2	Usability Testing	25
6.3	Compatibility testing	26
6.3.1	Operating System	27
6.4	Test Cases	27
6.4.1	Marker Detection	27
6.4.2	Marker Placement	27
6.4.3	Search Places	27
6.4.4	Adding location	28
6.4.5	Emergency Alert	28
6.4.6	Exploring	28
6.4.7	Database Integration	28
7	Conclusions and Prespectives	31
7.1	Conclusion	31
7.2	Future work:	31
A	User Manual	32
A.1	Splash Screen	32
A.2	Home Screen	32
A.3	Add Places Screen	32
A.4	Emergency Alert	32
A.5	Sign up Screen	32
A.6	Sign In Screen	32
	Index	40