

SHEHRYAR SAJJAD

01-134132-175

SALMAN ALI

01-134131-079

Hostel Locator Website and Android Application

Bachelor of Science in Computer Science

Supervisor: DR. SABINA AKHTAR

Department of Computer Science

Bahria University, Islamabad

May 2017

Certificate

We accept the project that contained in the report entitled "Hostel Locator Website and Android application", written by Shehryar Sajjad and Salman Ali as a confirmation to the required Standard for the partial fulfillment of the degree of Bachelor of Science in Computer Science.

**Bahria University Library
Islamabad Campus**

Acc No: MFN 5971
Date : _____

Approved by:

Supervisor: Dr. Sabina Akhtar (Assistant Professor)

Fur RTR

Internal Examiner: Dr. Arif Ur Rahman (Assistant Professor)

AR Rahman

External Examiner: Dr. Rizwan Ahmad (Associate Professor)

Rizwan

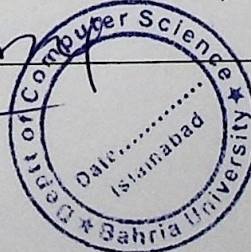
Project Coordinator: Dr. Arif Ur Rahman (Assistant Professor)

AR Rahman

Head of the Department: Dr. Faisal Bashir (Associate Professor)

Faisal Bashir

June 1st, 2017



Abstract

'Hostel Locator' is the basic use of Android and Website, as the android application enables users to search hostels, details, navigate to them rate or review them and the website have complete information about hostels in Islamabad it also enables owners to place their information e.g. rents and facilities. The students are keen of using phones and website surfing to find solutions to their problems, so this application is designed to keep their interest in mind. Purpose of the application is that students can find hostels with ease and hostel owners can advertise with ease. Concepts of Navigation and Advertisement are used in application. Hostel locator is an application developed using multiple development environments to provide users with multiple platform which will ensure flexibility and mobility. Android Studio, Dreamweaver, Firebase database and WAMP server are used as development environments. Java, HTML, CSS and PHP are the programming languages used in this project.

Acknowledgments

Thanks to Allah Almighty for giving us knowledge, power and strength to complete this project. We learned much about the Android and PHP during this project and that will help us in our professional life. We are really thankful to the help and support of our project supervisor Dr. Sabina Akhtar. She helped us in all phases of this project. In the end, we would like to thank our teachers because without their support during our studies, this project was not achievable. Lastly, we offer our regards and blessing to all of those who supported us in any respect during the completion of the project.

SHEHRYAR SAJJAD

SALMAN ALI

Islamabad, Pakistan

May, 2017

Contents

1 Introduction	1
1.1 Project Background/Overview	1
1.2 Problem Description.....	2
1.3 Project Objective.....	2
1.4 Project Scope.....	2
1.5 Methodology	3
2 Literature Review	5
2.1 Applications similar to our project.....	5
2.1.1 AROUND ME.....	5
2.1.2 Hostelworld.com	7
2.2 Web Based applications Importance	7
2.2.1 Web-based interaction.....	7
2.3 Android Based Wireless location.....	8
2.4 Why This Project.....	8
3 Requirement Specification	9
3.1 Project overview.....	9
3.2 Basic Functionality.....	10
3.2.1 Android application.....	10
3.2.2 Website.....	10
3.3 Functional Requirements	10
3.3.1 Android Phone	11
3.4 Non-Functional Requirements	11
3.4.1 Timing.....	11
3.4.2 Efficiency	11
3.4.3 Robustness.....	11
3.4.4 Reliability	11
3.4.5 Modifiability (Future updates)	12
3.5 Use Cases:	12
3.5.1 Search Hostel	12

3.5.2 Management / Owner	13
4 System Design	14
4.1 System Architecture	14
4.1.1 Architecture Diagram	14
4.1.2 User Classes and Characteristics	16
4.2 Entity Relation Diagram	16
4.3 Sequence Diagram	18
4.4 Class Diagram	19
4.5 Collaboration Diagram	20
4.6 Context Diagram	21
4.7 Data Flow Diagram	22
4.7.1 Level 0	22
4.7.2 Level 1	23
5 System Implementation	26
5.1 Tools and Technologies	26
5.1.1 Android Studio	26
5.1.2 Adobe Dreamweaver	27
5.1.3 Google APIs	27
5.1.4 Wamp Server	27
5.1.5 Firebase	27
5.1.6 Android phone and Web browser	27
5.2 Programming Languages	28
5.3 Methodology	28
6 System Testing and Evaluation	29
6.1 Testing Strategy	29
6.1.1 Unit Testing	29
6.1.2 Integration Testing	29
6.1.3 System Testing	29
6.1.4 Black box Testing	30
6.1.5 White box Testing	30
6.1.6 Compatibility Testing	30
6.1.7 Usability Testing	30
6.2 Test Cases	31
6.2.1 Graphical user interface testing	31
7 Conclusion and Future Enhancements	37

A API Classes Description	38
B User Manual	43
B.1 Scope and Purpose.....	43
B.2 Process Overview Android.....	43
B.2.1 Sign In	44
B.2.2 Sign Up.....	45
B.2.3 User Profile.....	45
B.2.4 Main Map Activity	46
B.2.5 Hostel Activity.....	46
B.2.6 Shortest Route Activity	47
B.2.7 Owner Delete Hostel Activity	48
B.3 Process Overview Website	49
B.3.1 Home Page.....	50
B.3.2 Search Hostel.....	50
B.3.3 Hostel Profile.....	51
B.3.4 Hostel Wish list	51
B.3.5 Rating and Reviews.....	52
References:	53

List of Figures

Fig 1.1 Islamabad Map on Application Screen	1
Fig 1.2 User interface for website	2
Fig 1.5 User interface for website	4
Fig 2.1 Around Me Application User interface	6
Fig 2.2 Around Me Functions screen	6
Fig 3.1 Search Hostel Use case.	12
Fig 3.2 Management owner Use case	13
Fig 4.1 Architecture Diagram	15
Fig 4.1.1 Architecture Diagram Android	15
Fig 4.2 Entity Relationship Diagram.	17
Fig 4.3 Sequence Diagram	18
Fig 4.4 Class Diagram	19
Fig 4.5 Collaboration Diagram	20
Fig 4.6 Context Diagram	21
Fig 4.7 Data Flow Diagram	22

List of Tables

3.1 Search Hostel Use Case	13
3.2 Owner Use Case.....	14
6.2.1 Graphical User Interface	31
6.2.1.1 User Interface 2.....	32
6.2.2 Usability Test	33
6.2.2.1 Usability Test 2	33
6.2.2.2 Usability Test 3	34
6.2.3 Compatibility Testing	34
6.2.4 Exception Handling Testing	35
6.2.4.1 Exception Handling Test 2.....	35
6.2.5 Security Test of Application	36

Acronyms and Abbreviations

API: Application programming interface.

CMS: Content Management System.

ERD: Entity Relationship Diagram.

DFD: Data Flow Diagram.

UI: User Interface.

Fig: Figure.