



FINAL YEAR PROJECT REPORT

**M-TOURISM: An Interactive Touring and Learning Application For City
Exploration**

By

SUMMAIYAH MOHAMMED SABIR (22767)

HUMA JABEEN MUGHAL (22744)

Supervised by

(Dr. Sohaib Ahmed)

Bahria University (Karachi Campus)

2014

ACKNOWLEDGEMENTS

“START WITH NAME OF ALLAH WHO IS MOST BENEFICENT AND MERCIFUL”

First of all, we are thankful to Almighty ALLAH (The most Gracious & the most Powerful, the knower of seen & unseen) for making us strong enough to face and overcome all the challenges during our final year of graduation. No doubt, this project is the most challenging work we have ever done during our bachelor's degree program. For all the struggling & depressions, we have been through this whole year we are amazed and joyful to get success at the end.

We would like to express profound gratitude to our supervisor, Dr. Sohaib Ahmed for his prompt and valuable guidance throughout this journey. His hard work and dedication to make our project successful showed what an academic professional ought to be. Therefore, he deserves applauses for his passion about the work, having exceptional patience during the year and encourages us to attend professional meetings. This is the reason, our project approved for National ICT R&D fund. We have no hesitation to say that this could not be possible without him. In addition, we also grateful to National ICT R&D (Ministry of Information Technology, Government of Pakistan, Islamabad) for providing funds to purchase the android-enabled mobile phone for our designed application.

We truly enjoyed work together in a group and we appreciate our constructive suggestions about our work. Consequently, we have learnt the strength of sheer determined team work. Last but not the least; we are also thankful to our family members and friends for encouraging us throughout this year.

M-TOURISM: AN INTERACTIVE TOURING AND LEARNING APPLICATION FOR CITY EXPLORATION

ABSTRACT

Today, tourism is one of the largest industries in the world and the reason is that majority of the public used to travel from city to city or country to country in their daily lives. The designed application, M-tourism, an interactive touring and learning application for city exploration takes advantage of the latest technologies in order to support tourism to a new level; combination of navigation and learning of the places for tourists.

This project intends to develop user, situation and position dependent information in a seamless manner. In the current tourism systems, whenever a tourist visits certain famous spots, he has to hire a guide to know more about the place. The guide then narrates the history of the place and provides additional information about the important aspects of the tourist spots. However, by using this new generation mobile application installed on the Android based mobile phone can provide the same information more efficiently and in a user-friendly manner.

The goal of the project is to explore a city using the Android platform. In this regard, a prototype was implemented that includes the basic functionalities of city guide such as showing a map, locating points of interest (POIs) on a map, locating location of a user, show route direction to POIs, and choose different kinds of POIs to show on map. Additionally, the application asks interactive and challenging questions about the desired location once a tourist reaches there. In this way, tourists need to discover the answers from his/her surroundings.

The results of the application showed that tourists enjoyed while using this application due to its interactivity and challenging nature. Therefore, it is hoped that this kind of guides would serve as a useful tool for all travellers in future.

TABLE OF CONTENTS

DECLARATION	ii
APPROVAL FOR SUBMISSION	iii
ACKNOWLEDGEMENTS	v
ABSTRACT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF SYMBOLS / ABBREVIATIONS	xii
LIST OF APPENDICES	xiii

CHAPTER

1	INTRODUCTION	1
	1.1 Background	1
	1.2 Problem Statement	2
	1.3 Aims and Objectives	2
	1.4 Scope of Project	3
	1.5 Report Outline	3
2	LITERATURE REVIEW	5
	2.1 Introduction	5
	2.2 Location Based Services	5
	2.2.1 Person-oriented LBS	6
	2.2.2 Device-oriented LBS	6
	2.2.3 Push Services	6
	2.2.4 Pull Services	6
	2.3 Context Awareness	7
	2.4 Mobile Visual Location Recognition	7
	2.5 Technology Used in Android Application for Tourism	8
	2.5.1 Global Positioning System (GPS)	8

	2.5.2	Graphic Information System (GIS)	8
	2.5.3	Google Maps APIs	8
	2.5.4	Google Translator APIs	8
2.6		Previous Studies	8
	2.6.1	Guide	9
	2.6.2	CRUMPET	10
	2.6.3	TIP	11
	2.6.4	The CyberGuide	11
	2.6.5	World Explorer- Travel Guide	12
	2.6.6	TouristEye- Travel Guide	13
	2.6.7	World Travel Guide by Triposo	13
	2.6.8	Google Places	13
2.7		Mobile Learning in Tourism	14
2.8		Summary	15
3		DESIGN AND METHODOLOGY	16
	3.1	Technology Acceptance Model	16
		3.1.1 Perceived Usefulness	17
		3.1.2 Perceived Ease of Use	17
		3.1.3 Self Efficiency	17
		3.1.4 Social Influence	17
		3.1.5 Perceived Trust	18
		3.1.6 Control Variables	18
	3.2	Evaluation Method	19
		3.2.1 Field-Based Usability	19
		3.2.2 Data Collection Model	19
		3.2.2.1 Quantitive Method	19
		3.2.2.2 Qualitative Method	19
4		IMPLMENTATION	22
	4.1	System Implementation	22
		4.1.1 Implementation Procedures	23
		4.1.2 Design and development	23

4.2	Flow Chart Diagram for M-Tourism	24
4.3	Activity Diagram for M-Tourism	25
4.4	Sequence Diagram for M-Tourism	26
4.5	Class Diagram for M-Tourism	27
4.6	Use Case Diagram for M-Tourism	28
4.7	Data Flow Diagram for M-Tourism	29
4.8	Screen Shots	30
4.9	Source Code	30
5	RESULTS AND DISCUSSIONS	35
5.1	Experiment	30
5.1.1	Participants	35
5.1.2	Procedure	36
5.1.3	Result	36
5.1.3.1	Questionnaire Responses	36
5.2	Interview	42
5.2.1	Research Questions	42
5.3	Summary	44
6	CONCLUSION AND RECOMMENDATIONS	45
6.1	Conclusion	45
6.1.1	Future Enhancement	46
6.2	Recommendations	46
6.2.1	Cost of Travel Guides	46
6.2.2	Create or Incentivize free Wi-Fi Zones	47
6.2.3	Promote Free Wi-Fi Zones	47
6.2.4	Charging Stations will Help Business	47
6.2.5	Get Familiar with the Technology	47
6.2.6	Promote Your App	47
	REFERENCES	48
	APPENDICES	51