



FINAL YEAR PROJECT REPORT

**M-TANGGING RECOMMENDER ADAPTIVE
PERSONAL ASSETS MANAGEMENT APPLICATION**

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

By

**FASIHA IKRAM
ROZMEEN MOMIN**

**(22742)
(22761)**

SUPERVISOR

DR. SOHAIB AHMED

BAHRIA UNIVERSITY (KARACHI CAMPUS)

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express gratitude to our research supervisor, Dr. Sohaib Ahmed, for his invaluable advices, guidance and his enormous patience throughout the development of this project.

In addition, we would also like to express my gratitude to our loving parents and friends who had helped and given us encouragement.

**M-TAGGING RECOMMENDER:
ADAPTIVE PERSONAL ASSETS MANAGEMENT APPLICATION**

ABSTRACT

In the past two decades, there is a wide deployment of mobile devices in a ubiquitous environment, where users can access all the information on-the-fly. Context-aware application is one of the components of a ubiquitous environment in which users can sense their physical locations and adapt the given situations accordingly. There are many context-aware applications in which mobile users can locate their places. One of the recent in all is geo-tagging, in which users can utilize camera and GPS functionality of mobile devices to tag location by taking images of that particular location. There are many mobile platforms such as android platforms, which have geo-tagging functionality in built.

Thus, in this project, an android-enabled mobile application 'm-Tagging recommender' is proposed in order to assist those users who are habitual of forgetting their personal belongings such as car keys, flash drives etc. By using this application, a user can capture picture of certain assets and then tag geographically using GPRS (General Packet Radio Service). Afterwards, they can keep track of these assets at any place, at any time. For evaluation purposes, random participants were selected for usability testing. Further, these participants were involved in describing their experiences of this application.

TABLE OF CONTENTS

DECLARATION		ii
APPROVAL FOR SUBMISSION		iii
ACKNOWLEDGEMENTS		vi
ABSTRACT		vii
TABLE OF CONTENTS		viii
LIST OF FIGURES		xii
LIST OF ABBREVIATIONS		xiv
 CHAPTER		
1	INTRODUCTION	1
1.1	Background	1
1.2	Problem Statements	3
1.3	Aims and Objectives	4
1.4	Scope of Project	4
 2	 LITERATURE REVIEW	 6
2.1	Geo-tagging	6
2.2	Related Work	8
 DESIGN AND METHODOLOGY		 14
3.1	Usability	14
3.2	Usability of Mobile Applications	14
3.3	Usability methodology	16
3.3.1	Principles	16
3.3.2	The incremental process model	17
3.3.3	Evaluation	19

3.3.4	Characters/Facades	20
3.3.5	Consequences	20
IMPLEMENTATION		22
4.1	Design iterations	22
4.1.1	Graphical representation of working of our application.	23
4.1.2	UML Diagrams of Our Project	23
4.2	Modules	24
4.2.1	Tag a Valuable/ Asset Send Data To Server	24
4.2.2	Location API For Capturing Location	24
4.2.3	Valuable/ Asset Name	25
4.2.4	Http Request for sending data to server	25
4.2.5	Retrieve Data from Server	26
4.3	Image Conversion from Jpeg To png	26
4.4	Receive Data at Server Side	26
4.5	Android Get Data	27
4.5.1	Webservicev + JSON Encoding	27
4.6	Display Result on Google Map	29
4.6.1	Google Map	29
4.6.2	Propertise We Use in our project	29
4.6.3	Markers	33
	Markers identify locations on the map. The default marker uses a standard icon,	33
	common to the Google Maps look and feel. It's possible to change the icon's color,	33
	image or anchor point via the API. Markers are objects of type Marker, and are	33
	added to the map with the	33
	GoogleMap.addMarker(markerOptions) method.	33
4.6.4	Custom Notification	33
4.7	HCI Implementation	35
4.7.1	Swipe Views with Tabs	35

		x
	4.7.2 Implement Swipe Views	36
4.8	Summary	38
5	RESULTS AND DISCUSSIONS	39
5.1	Experiment	39
	5.1.1 Experiment design	39
	5.1.2 Participants	39
	5.1.3 Procedure	40
	5.1.4 Results and analyses	41
6	CONCLUSION AND RECOMMENDATIONS	45
6.1	Conclusion	45
6.2	Project Limitations	45
6.3	Future work	46
6	References	47
	APPENDICES	50