



Faculty of Computer Science and Information Technology

I-GLOBE (INTERACTIVE GLOBE) ANDROID BASED APPLICATION

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Bachelor of Computer Science with Honours
(**Software Engineering**)
2014

I-GLOBE (INTERACTIV]



BASED APPLICATION

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**This project is submitted in partial fulfillment of the
requirement for the degree of
Bachelor of Computer Science
(Software Engineering)**

Faculty Computer Science and Information Technology

UNIVERSITI MALAYSIA SARAWAK

2014

I-GLOBE (GLOB INTERAKTIF) APLIKASI BERDASARKAN ANDROID

Parameswari A/P Ranganathan

**Projek ini merupakan salah satu keperluan untuk
Ijazah Sarjana Muda Sains Komputer
(Kejuruteraan Perisian)**

Fakulti Sains Komputer dan Teknologi Maklumat

UNIVERSITI MALAYSIA SARAWAK

2014

UNIVERSITI MALAYSIA SARAWAK

THESIS STATUS ENDORSEMENT FORM

TITLE I-GLOBE (INTERACTIVE GLOBE) ANDROID BASED APPLICATION

ACADEMIC SESSION: 2013/2014

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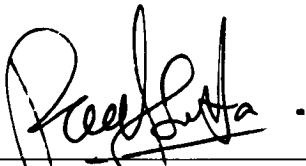
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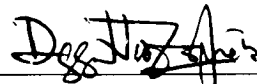


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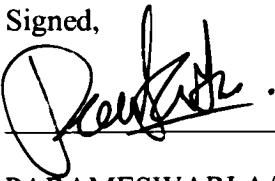
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ACKNOWLEDGEMENTS

Apart from the efforts of myself, the victory of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my deepest appreciation to the people who have been supporting and guiding me in the successful completion of this project.

First and foremost, I would like to thank God for granting me the patience and self-motivation throughout the project development. I would like to show my greatest appreciation to Dr. Dayang NurFatimah, my Final Year Project Supervisor, whose contribution in stimulating suggestions and encouragement helped me to coordinate and structure my project especially in completing the project development or application development. Without her encouragement and guidance this project would not have materialized.

I also wish to convey my appreciation to my parents for being my pillar and backbone whenever I needed support. A heap of thanks to my friends who have supported me throughout process of this project development and keeping me happy and instilling inspiring words when I was at the edge of giving up.

ABSTRACT

In this modern era, everyone tends to take less importance in general knowledge about their surroundings. As for a great example, most of us do not know about the places of wonders in this world and types of wonders that are available. To solve this, I-Globe (Interactive Globe) which is an Android Application is developed for the aims to serve as an interactive learning repository to users to experience about places of wonders. It enables users to play a game of answering questions that will ask them about the wonder places and present the information on the wonder places to them with the images of those places. This application is an application that focuses on Wonders places which are 7 New Wonders of World and 7 New Wonders of Nature. It is an educational application that has globe applications for user to find location of those wonders places in world. With this application, user should be able to navigate through the location of places of wonders in world. The main objective is to enable people to enable people to have some historical and geographical knowledge regarding these wonders using this mobile application and increase their interest in this topic. Besides it provides a package of information gaining elements.

ABSTRAK

Dalam era moden ini, ramai antara kita memberi kepentingan dalam pengetahuan am mengenai sekeliling mereka. Contohnya, kebanyakan daripada kita tidak tahu tentang tempat-tempat keajaiban dalam dunia ini dan jenis keajaiban yang boleh didapati. Untuk menyelesaikan ini, I- Globe (Interactive Globe) yang merupakan aplikasi Android yang dibina untuk menjadi repositori pembelajaran interaktif kepada pengguna untuk mengalami tentang tempat-tempat keajaiban. Ia membolehkan pengguna untuk main permainan menjawab soalan tentang tempat-tempat keajaiban dan member maklumat mengenai tempat-tempat tersebut bersertakan imej. Aplikasi ini lebih memberi tumpuan kepada tempat keajaiban seperti 7 Keajaiban Baru Dunia dan 7 Keajaiban Baru Alam. Ia adalah sebuah aplikasi pendidikan yang membolehkan pengguna untuk mencari lokasi tempat-tempat keajaiban di dunia . Dengan aplikasi ini, pengguna akan dapat mengemudi lokasi tempat-tempat keajaiban di dunia. Objektif utama membina aplikasi ini adalah untuk membolehkan orang ramai untuk mempunyai pengetahuan sejarah dan geografi mengenai keajaiban ini menggunakan aplikasi mudah alih. Selain itu, ia akan memberikan satu pakej maklumat dengan penyampaian menggunakan elemen-elemen yang menarik.

Table of Content

ABSTRACT	ii
ABSTRAK	iii
CHAPTER 1 : INTRODUCTION	1
1.1 Background Studies.....	1
1.2 Problem Statement	2
1.3 Objectives.....	3
1.4 Methodologies	4
1.5 Scope	5
1.6 Significance of the Project.....	5
1.7 Project Schedule	5
1.8 Expected Outcome	6
1.9 Summary	6
CHAPTER 2 : LITERATURE REVIEW	7
2.1 Reviews	7
2.1.1 Amazing Earth Application	7
2.1.2 Globe Quiz Application.....	8
2.1.3 3D GLOBE Application	9
2.2 Comparison among the applications	11
2.3 Review on Tools and Technology used.....	14
2.3.1 Eclipse Java Editor (Java Programming Language)	14
2.3.2 SQLite.....	14
2.3.3 Java SE 6 Software Development Kit	15
2.4 Analysis and feedback on the comparison results	15
2.5 Direction of proposed system	16
2.6 Summary	17
CHAPTER 3: REQUIREMENT ANALYSIS AND DESIGN	18
3.1 Introduction	18
3.2 Rapid Application Development (Incremental)	19
3.2.1 Planning Requirements.....	20
3.2.1.1 Project Schedule (Project Plan)	20

3.2.1.2 Requirement Analysis 21

3.2.1.4 Software requirements..... 21

 3.2.1.4.1 Eclipse 22

 3.2.1.4.2 SQLite Database 23

3.2.1.5 Hardware requirements 24

3.2.2 Analysis and Design 25

3.2.3 Implementation and Deployment 34

3.2.4 Testing 34

3.2.5 Evaluation..... 35

3.3 Summary 35

CHAPTER 4: IMPLEMENTATION 36

4.1 Introduction 36

4.2 User Interface Flow 36

 4.2.1 Main UI (Splash Screen) 42

 4.2.1.1 Android Manifest..... 44

 4.2.2 Homepage UI..... 45

 4.2.3 Menu page UI 47

 4.2.4 Info Reading 49

 4.2.4.1 Interact with Globe 52

 4.2.4.2 Info Reading 54

 4.2.5 Quiz Page 56

 4.2.5.1 Seven New wonders of World naming quiz..... 57

 4.2.5.2 Seven New Nature Wonders naming quiz..... 58

 4.2.5.3 Overall Test 60

 4.2.6 Others page UI..... 73

 4.2.7 Gallery 76

 4.2.7.1 Image Slider..... 76

 4.2.7.2 Grid View 77

 4.2.7.3 Full Screen Image..... 79

 4.2.8 Help page UI..... 80

4.3 Installation and Configuration of Application's Components 81

4.3.1 Eclipse (Version Kepler) 81

4.3.2 SDK Manager 83

4.3.3 SQLite 84

4.3.4 Adobe Flash..... 84

4.4 Summary 85

CHAPTER 5: TESTING 86

5.1 Introduction 86

5.2 Functional Testing 86

5.2.1 Unit Testing 86

5.3 Non-Functional Testing..... 89

5.3.1 Performance Testing 90

5.3.2 Usability Testing 90

5.4 Heuristics Comparison 93

5.5 Summary..... 94

CHAPTER 6: CONCLUSION AND FUTURE WORKS..... 95

6.1 Introduction 95

6.2 Objective Achievement 95

6.3 Project Limitations 96

6.4 Future Works 96

6.5 Summary..... 96

Appendix I..... 97

Appendix II 98

REFERENCE 118

List of Figures

Figure 2.1.1 Amazing Earth application's user interface screenshots. 8

Figure 2.1.2 User interface of Globe Quiz app's user interface..... 9

Figure 2.1.3: Screenshots of 3D Globe app user interface. 10

Figure 2.1.4: Screenshots of 3D Globe app user interface. 11

Figure 3.1: Incremental Development Life Cycle 19

Figure 3.2.1.4 1: The screenshot of Eclipse 23

Figure 3.2.1.4 2: Screenshot of database in SQLite 24

Figure 3.2.2 1 : User Use case Diagram 26

Figure 3.2.2.2: Sequence Diagram Of the application 28

Figure 3.2.2.4.a: Menu page of I-Globe Application 30

Figure 3.2.2.4 b: Category of Wonders I-Globe Application..... 31

Figure 3.2.2.4.c Quiz interface of I-Globe 32

Figure 3.2.2.4.d Info Page of I-Globe 32

Figure 3.2.2.4.e Gallery interface of I-Globe 33

Figure 4.2 a : Creating New Project screen in Eclipse to create new Android Appication..... 37

Figure 4.2 b : The Code to create a layout and its attributes that can be changed accordingly 37

Figure 4.2 c : Use Level for the Hierarchy of I-Globe application..... 38

Figure 4.2.1 a : Screenshot of the Splash Screen in the application..... 42

Figure 4.2.1 b: Splash java code screenshot..... 43

Figure 4.2.1 c: Android manifest file code..... 44

Figure 4.2.2 a : Screenshot of the Homepage of the application.....	45
Figure 4.2.2 b : Screenshot of homepage class file.	46
Figure 4.2.3 a : Screenshot of the Menu page of the application.	47
Figure 4.2.3 b : Screenshot of menu java code to call other class.....	48
Figure 4.2.4 a : Screenshot of Info Layout.	49
Figure 4.2.4 b : Code to call or launch another application from application	50
Figure 4.2.4 c: Screenshot of Code for Menu on top of application	51
Figure 4.2.4.1 a : Screenshot of Interact with Globe of the application to view information.	52
Figure 4.2.4.1 b: Screenshot of code for Interact with Globe button.	53
Figure 4.2.4.1 c : Information displayed	53
Figure 4.2.4.2 a : Info Reading screenshot.	55
Figure 4.2.4.2 b : Info Reading tabhost code screenshot.....	56
Figure 4.2.5 a : Quiz Page screenshot.	56
Figure 4.2.5.1 a : 7 New wonders of World naming quiz	57
Figure 4.2.5.1 b : Screenshot of code of 7 New wonders of World naming quiz.....	58
Figure 4.2.5.2 a : Screenshot of 7 New Natures Wonders naming quiz.....	59
Figure 4.2.5.3 a : Load Page for the quiz	60
Figure 4.2.5.3 b : Questions of the quizzes that are loaded	61
Figure 4.2.5.3 c : Codes for the load page (splash screen)	62
Figure 4.2.5.3 d : Codes to load the questions from the XML file in Raw folder	62

Figure 4.2.5.3 e : Username entered before answering the quizzes 63

Figure 4.2.5.3 f : Screenshot of the button with function 63

Figure 4.2.5.3 g : Screenshot of the Overall Quiz 64

Figure 4.2.5.3 h : Screenshot to retake or quit Quiz..... 65

Figure 4.2.5.3 i : Codes to retake or quit Quiz code..... 66

Figure 4.2.5.3.1 a Create database name 68

Figure 4.2.5.3.1 b : Create table in database created 68

Figure 4.2.5.3.2 a: Create table in database created 68

Figure 4.2.5.3.3 a : Screenshot of insert data code into database 69

Figure 4.2.5.3.5 a : Screenshot of the code for getting all contacts..... 70

Figure 4.2.5.3.5 b : Screenshot of quiz score 71

Figure 4.2.5.3.5 c : Screenshot answer java file display 72

Figure 4.2.5.3.5 d : Screenshot for answer layout. 72

Figure 4.2.6 a : Screenshot of Others page or layout 73

Figure 4.2.6 b : Screenshot of Others class file code 74

Figure 4.2.6 c : Screenshot of the Others page of the application.(Tab 2) 75

Figure 4.2.7 a : Screenshot for Gallery content display 76

Figure 4.2.7 b : Shows part of FullScreenImageAdapter.java..... 78

Figure 4.2.7 c : ScreenShot of Full Screen Image 79

Figure 4.2.8 a : Screenshot of Help page..... 80

Figure 4.3.1 a : Make up of subsystem define extension points to the Platform Runtime 82

Figure 4.3.1 b : The Screenshot of Eclipse..... 82

Figure 4.3.2 a : The SDK Manager that shows the package to be selected and installed..... 83

Figure 4.3.3 a : Screenshot of database in SQLite..... 84

List of Tables

Table 2.1 : Comparison of functionalities criteria of existing application 12

Table 3.2.1: Hardware requirements of the proposed application..... 24

Table 5.1: Ease of functionality..... 91

Table 5.2 : User Interface Design..... 92

Table 5.4a Heuristics Comparison 93

Table 6.2 a : Objectives and Achievements 95

CHAPTER 1 : INTRODUCTION

This chapter will give an overview on the I-Globe (Interactive Globe) Android Application project. It will highlight the main elements such as introduction, problem statement, objectives, scope, expected outcome, significance and the methodology that will be used in developing the project as well as the project plan and the estimated schedule for its completion.

1.1 Background Studies

Currently, existing globes are the globes that we can zoom out and zoom in to find our places, or type in the places and get the direction from current places via help of GPS (Global Positioning System). But the existing globe applications are not focusing in a small scope or topic which will be beneficial to user. According to Natalia Marmasse and Chris Schmandt (2000), application knows its latitude and longitude from the satellite-based Global Positioning System (GPS). But coordinates must be translated into positions that are relevant to the user, and these obviously vary greatly from person to person. The existing globe applications are for the use of finding people and places. If referred to wonders in our world, we have a lot of wonder places, but they are not known by people due to less emphasize on the topics. Therefore most of them do not know the history background or the wonder places in this world. To encourage everyone on the places of wonders in world, an android-based application on educational platform that capitalizes on the Android Technology is proposed.

The proposed application is I-Globe (Interactive Globe) Android Application. I-Globe aims to serve as an interactive learning repository for users to experience. This application enables users to play a game of question and answers about wonder places geographically and present the information on the wonder places to them with the images of those places. The types of wonders to be included are **7 New Nature Wonders** and **7 New Wonders of the World**. The places in **7 New Nature Wonders** are Ha Long Bay, Iguazu Falls, Table Mountain, Puerto Princesa, Jejudo, Amazon Rainforest and Komodo National Park. While the places in **The 7 New Wonders of**

the World are Chichen Itza (Mexico) - Mayan City, Christ Redeemer (Brazil) - Large Statue, The Great Wall (China), Machu Picchu (Peru), Petra (Jordan)- Ancient City, The Roman Colosseum (Italy), The Taj Mahal (India)..

This application is an application that focuses on location of the places of wonders in world. There is no such application being developed. The application existing are mostly casual puzzle game under the theme of national flags which test player's memory ability. Besides, existing educational games also have globe applications for player to find a city on the map on the world map, continent or a single country. But there is no globe application that focuses on location of the places of Wonders in world games. In addition, users also will be able to navigate through the location of the places of Wonders in world. Therefore, by developing this application, it will enable people or user to learn about new thing since not everyone knows about on location of the places of Wonders in world.

1.2 Problem Statement

Nowadays, a lot of people do not know about the Wonders which refer to remarkable constructions and natures. There is no encouragement on location of places of wonders to people for their general knowledge. Most of them do not even have idea what are the wonders in world. They do not have historical and geographical knowledge regarding the places of wonders. In the world today, people are using Smartphone everywhere. They are searching and getting information using the search engines in their phone. But getting answers from search engines would not be interactive. Besides, the presentation of information would not be interesting and it will bore the user. According to Ashbrook and Starner systems using GPS to detect location must have some method to determine which locations are significant, and which may be ignored. Therefore this could be a solution for the problem.

1.3 Objectives

The objectives of this I-Globe Android Application are to:

a) **Design and develop an Interactive mobile-based 2D globe.**

By using this application, users can interact with the globe and know more about the location of the places of Wonders in world that allow a more interesting learning about those places. This is done by tapping some parts from globe to get the information about the place

b) **Use different multimedia elements in presenting historical and geographical information**

Since everyone is using Smartphone with android OS, it is more applicable for developer to develop this application in this platform. Besides, it is also easy and more interactive for them to play in a mobile application rather than finding that information one by one via a web-based search engine. The information is presented using a combination of different multimedia elements such as images, text, and videos.

c) **Integrate database technology in mobile application**

Users are able to do quizzes to test their understanding and knowledge. The quiz is integrated with database to store the player name and score.

d) **Adopt all the Ten Usability Heuristics for User Interface Design by Jakob Nielsen**

Conduct study on the user interface throughout the project. The user interface of this application is build based on the Ten Usability Heuristics for User Interface Design by Jakob Nielsen.

1.4 Methodologies

The methodology used is Rapid application development (RAD) which is an incremental development process model that emphasizes an extremely short development cycle. The RAD model is a high-speed adaptation of the linear sequential model in which rapid development is achieved by using component-based construction. The RAD approach encompasses the **Planning Requirements**. In this phase, business requirements are gathered in this from users or customers. This phase is the main focus of the project managers and stake holders. The group of users that are going to use this system also identified.

Next phase is **Analysis and Design**. The requirements are analyzed for validity and the possibility of requirements in the application to be developed during this phase. User Requirement Specification (URS) document is created which contains the guideline for the next phase of the model. Besides it also will help in how the system will look like and its overall architecture.

After design, the next phase is **Implementation** of designed documents. In this phase, the work is divided into modules and actual development is started. Since, in this phase the code is produced so it is the main focus for the developer that developed the behind work of this application. This is the longest phase of the software development life cycle. In this case, coding and development are done in Android programming platform.

The fourth phase after implementation or development is **Testing**. During this phase, application will be tested against the requirements to make sure that the product is actually solving the problem stated and gathered requirements during the requirements gathering phase. During this phase, some tests are done on the application such as unit testing, integration testing, system testing, and acceptance testing.

The last phase in this approach is **Evaluation**. It is based on customer feedback, a plan is developed for the next increments, and modifications are made accordingly. Often some of the features in the initial planning are removed from the scope of a project in the planning or analysis phase. This process **repeats** till the complete product is delivered.

1.5 Scope

The application developed will enable end-users to interact with the Globe to get information of the location of the places of wonders in world. However there are some limitations in developing this system. This system is only designed for the purpose of getting the location wonder places geographically since it is just focusing on the gaining of historical and geographical knowledge. It is not like some other globe application that allows users to zoom in and zoom out to get the clear picture of places. It is mainly for the purpose of learning the geographical location of places. There is no research or development on this type of application is introduced. The scope of users for this application is for everyone around the world. There is no restriction on the age or nationality in this application.

1.6 Significance of the Project

The significance of this project is that this application can contribute a great change on the human thinking. This application is easily installed in android platform and can be easy for users to use it. This is because this application will implemented after installed in users android mobile. This application is also a main significant to learn knowledge about location of the places of Wonders in world. In addition, this app will also include the images of the places and some information or history about the places for users to learn about them. Therefore, this is an information giving app which contains gaming approach to make it more interesting and challenging for users. Additionally, it will bridge up knowledge and expertise of individual in terms of geographical due to their personal interacts with the globe.

1.7 Project Schedule

The project schedule is developed as the assumption timeline of project that will be working on. The Gantt charts will be shown in Appendix. All the progress that will be done throughout the first and second semester of the academic year of 2013/2014 will take 9 months approximately. Throughout this duration, both FYP 1 and FYP 2 will be conducted.

1.8 Expected Outcome

The expected outcome of this project is an android application that is capable to present information, graphical visualization, and provide users with some general knowledge about the places of wonders. The proposed application would serve as an interactive and user-friendly android based application to the users. It would be a better encouragement for user towards educating themselves in terms of their historical and geographical knowledge. This application enables users to get improved presentation of information about the wonders without bore the user and be more involved within the application. Other than that, the users also can play a better gaming that actually gives them some benefits.

1.9 Summary

This chapter generally describes the introduction of the project which talks about the problems and solutions that are reasonable. The objectives and scope of the project had been clearly stated. The following chapter after this discusses about the review done on existing methods and application. Besides providing an overview of the application to be developed that enlightens the reader on the limitations of existing applications and how it can be improved. Discussions also had been done about the software and the technology tools used for this project implementation.

CHAPTER 2 : LITERATURE REVIEW

This chapter includes the review of the existing application in the market that already developed by others. Comparison is done in order to come up with a better and enhanced proposed application. Literature review also explains to us why there is a need of this new application and includes information about the existing applications with its feature.

2.1 Reviews

The three similar systems to the I-Globe are reviewed based on their functionalities, implementation tools and user interface.

2.1.1 Amazing Earth Application

Amazing Earth is a mobile based application. Amazing Earth provides a list of spectacular places to view in Google Earth on your Android device. In order to apply Amazing Earth, the user has to install Google Earth on their device because this application depends on the Google Earth. If the device has a dual core, then the user can enable the 3D layers in Google Earth. This Amazing Earth application depends on the installation of Google Earth because it is just connecting to the Google Earth to display the location. The view that is selected by user will be displayed through Google Earth. User has to select the places from the spectacular places list where the places are displayed in image icons which play a role as file that link to Google Earth. Amazing Earth application is user friendly as it is just asking the users' to select a place to be viewed with the help of Google Earth. As can be seen in Figure 2.1, the user interface of Amazing Earth application is simple and understandable by user. The application first display information about the application itself. In this, it shows that Amazing Earth display places from the list using Google Earth on users Android devices. It also displays that this app runs a web server on user's device at <http://localhost:8002/> to serve KMZ files to Google Earth and some other information about the files, icon, and images.