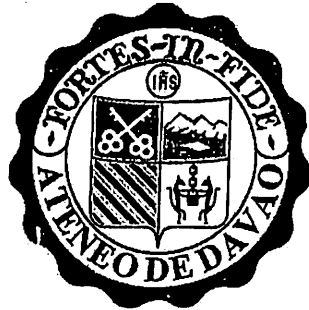


**DESIGN AND DEVELOPMENT OF A JOSE RIZAL INTERACTIVE
GAME FOR ANDROID**



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**SCHOOL OF ARTS AND SCIENCES
ATENEODAVAO UNIVERSITY**

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**DESIGN AND DEVELOPMENT OF A JOSE RIZAL INTERACTIVE
GAME FOR ANDROID**

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Ateneo de Davao University**

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**of the Requirements for the Degree
Bachelor of Science in Computer Science**

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ABSTRACT

“Jose Rizal: Life, Works and Writings” is a subject mandatorily taken by college students in the Philippines as one of the requirements to graduate. It is for the purpose of knowing the life of our national hero and the condition of the Philippines during his time. In line with this, the study is developed from the idea of helping the students in studying and reviewing the basic and important facts about the life of Jose Rizal. It is designed to be an interactive game having a touchscreen gameplay for easy playing. It is intended for Android OS tablets because of the rise of android tablet use and also for better resolution. The programming language that is used for development is Java. This game is mostly composed of questions with their respective graphic display, following the order of the chapters of the book it is based from. The Rizal book by Gregorio F. Zaide and Sonia M. Zaide is the one commonly used by most schools, colleges and universities; this is where the questions in the game are based. The database used for data-interchange is JSON (JavaScript Object Notation) which is designed to be read and written easily.

Keywords:

Rizal, Android, Game, Java, JSON

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Studying the life of Jose Rizal is a mandatory subject under the Republic Act No. 1425. It is an act to include in the curricula of all public and private schools, colleges and universities courses on the life, works and writings of Jose Rizal, particularly his novels *Noli Me Tangere* and *El Filibusterismo*, authorizing the printing and distribution thereof, and for other purposes. The law was enacted on June 12, 1956. It is also known as the "Rizal Law."

Since the enactment of Rizal Law, students in recent years were required to acquire Rizal books and study his life, works, and writings. The purpose of learning them involves the promotion of nationalism and also enabling the youth of the country to appreciate Rizal's hardships and triumphs as he fulfilled his life's mission. It also serves as an inspiration for the Filipinos to not settle for less but actually do something more to complete one's true mission in life.

Along with the advancement of technology, learning has also progressed well to meet the standards of modern society especially in education. Recently, the usage of tablets has increased and is expected to surpass the usage of PCs in three years' time. Among the most popular operating systems used for tablets is Android. There are a lot of different apps made every day in this environment, most apps downloaded by users are for entertainment and mind exercise. In line with this, it would be most appropriate to develop an app which is both entertaining and educational. Thus, with the implementation of Java, JSON, 2D graphic design tools, other technologies involved, and including most especially the purpose of learning Jose Rizal's life, works, and writings in a game app, the proponents were inspired by the idea of making the learning of this subject fun and challenging. This is especially for students taking up the Jose Rizal subject to be of help in studying and reviewing.

1.2 Technology Application Context

The study was able to answer the problem of how to design and develop the Jose Rizal game app for android. The study was also able to answer the other problems on how to arrange the questions base on Rizal's life events, and as well as including the facts about Rizal which prove its importance.

The application used for the 2D graphic design of the menu, buttons, character and backgrounds is Adobe Photoshop CS5.

The technologies used for the development of the study include Java, Android, Eclipse, Android Software Development, Android SDK, ADT Bundle for Windows, XML, and JSON. Further explanation of each of the technologies mentioned is on the fourth chapter which discusses the technology background.

1.3 Objectives

The general objective of the study was to create an educational game using the Android development tools and other related technologies. This game application is intended to help users specifically students studying the life of Jose Rizal in knowing more about the subject in an interesting and effective way.

The specific objectives are:

- To use Adobe Photoshop CS5 for the 2D graphic design of the menu, buttons, character, and backgrounds.
- To develop an educational Android application using Java as the programming language
- To use a non-relational database schema in the form of JSON
- To use XML resources in the development of the game's layout design / user interface that would be suitable for the users
- To develop an educational game with the use of Android libraries and its development tools

- To use the Android Developer Tools plugin for Eclipse as the main development environment in creating the game application
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1.4 Significance of the Study

The significance of the study is to help the students taking up the Jose Rizal subject understand better his life, works and writings, have a fun way of learning them and aid in showing nationalism. Through answering the questions in the game, with the use of the hints and the revealing of the answer, it allows the target users to review and remember facts about Rizal. It paves a way of making learning more efficient and effective such that it will be more interesting and challenging. It also shows in its own way the concept of nationalism which is also included in the Rizal law. Through this, it gives an overview of the life of Jose Rizal highlighting specific events and facts. Thus, by gaining more knowledge and having reviewed the questions and its answers, it gives the users the sense of awareness and appreciation towards Rizal's hardships and triumphs and may gain inspiration from them to be motivated to work harder.

1.5 Scope and Limitations of the Study

The study is limited to students who are taking up the subject Jose Rizal. Also, even those who are interested in knowing more information regarding Jose Rizal may also play the game. However, even as an educational game, it does not equate the books about Rizal and is also not an alternative of those books. It only covers some parts about the life of Jose Rizal. The game is to act as a study support and review material.

1.6 Definition of Terms

- **Android SDK** – A software development kit that enables developers to create applications for the Android platform.
- **APK** – Android application package file (APK) is the file format used to distribute and install application software and middleware onto Google's Android operating system.
- **App** – is an application which is a specialized program downloaded into mobile devices.
- **Nationalism** – Devotion to the interests or culture of one's nation.
- **Touchscreen Gameplay** – A kind of gameplay which uses a display device to allow the user to have interactivity by touching the areas on the screen of the device.