



**ATENEO DE DAVAO UNIVERSITY**  
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**ADAPTING THE J2EE ARCHITECTURE IN IMPLEMENTING  
AN ENTERPRISE SOFTWARE PACKAGE**

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AN ENTERPRISE SOFTWARE PACKAGE**

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The Faculty of the Computer Studies Division  
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Bachelor of Science in Computer Science**

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## **Abstract**

The growth of software development has emphasized the need to produce the software as soon as possible. In the fast-moving and demanding world of e-commerce and information technology today, enterprise applications must be developed with ease, greater speed and practicality. Many platforms are used but since the J2EE Platform is not widely patronized, the proponents recommend this as it is the upcoming trend.

Thus, this study discusses the use of the J2EE Platform in developing an enterprise software package. Along with this is the usage of the Agile Principles throughout the programming and implementation phases.

*Keywords:*

J2EE, enterprise software, Payroll System

# Chapter I INTRODUCTION

## 1.1 Background of the Study

Enterprises today need to extend their reach, reduce their costs, and lower their response times by providing easy-to-access services to their customers, partners, employees, and suppliers. Typically, applications that provide these services must combine existing enterprise information systems (EIS) with new business functions that deliver services to a broad range of users.

In relation to the previous paragraph, the proponents thought of using J2EE to try its capabilities in addressing business problems. It is a matter of interest since J2EE is the future trend and it is a combination of different technologies. As its name implies, J2EE is targeted at large-scale business systems. Also, J2EE is not commonly used since there is a diverse selection of platforms. With this, the proponents see the significance of and motivation for this study. Java is currently part of the school's curriculum and giving the students knowledge about J2EE will give them an edge as it is an emerging technology. Only a number of people know about this platform and addressing this issue might spur interest among individuals to use this. In addition, it is said that the J2EE platform simplifies the complexity of developing an n-tier application since it is a combination of different technologies bundled together to form a pack which offers everything that is needed to create an enterprise application. It is said to be the future of Java Technology. The proponents would like to try this to be able to find alternatives to platforms which are usually utilized.

The potentials of J2EE have not been exhausted yet since there is a diverse collection of platforms to choose from. If its potentials are used and honed, it could certainly offer more help in more fields. The proponents chose to use J2EE because its features are said to be the best suitable for creating enterprise software.

## **1.2 Technology Application Context**

The enterprise world is getting larger day by day. This would also involve many challenges as the enterprise world is very dynamic and demanding. Experts have provided some several platforms in the past. Although some of these platforms were introduced with good intent, these have failed to yield the expected results.

To meet up with the fast pace, J2EE is proposed to be used. According to research, it is designed to support applications that implement enterprise services for customers, employees, suppliers, partners, and others who make demands on or contributions to the enterprise. Such applications are inherently complex, potentially accessing data from a variety of sources and distributing applications to a variety of clients.

Since J2EE is said to be the future of Java Technology and more and more are becoming interested with its capabilities, the team was greatly motivated to conduct this study. This greatly interests the team since they are in a very dynamic field and looking into this would give them a solid foundation of the uprising platform. Other than that, only a number know of its potentials in enterprise development.

This study addresses the upcoming trend which is J2EE. The proponents would like to develop a software package while adapting the J2EE Platform.

### **1.3 Objective of the Study**

The general objective of this research is to develop a J2EE-based enterprise-level software package.

The specific objectives are:

- To develop an enterprise application using the J2EE architecture
- To develop a payroll system and time monitoring in one branch of LandBank.
- To use Agile Principles while developing a module of the software package

### **1.4 Scope and Limitation of the Study**

The study will focus on developing a Payroll and time monitoring module in an Enterprise-level software package using J2EE as the platform. This package will be for a branch of LandBank of the Philippines here in Palm Drive Bajada, Davao City. In addition, there will also be a time monitoring system. Definitely, the proponents will adapt the agile principles in developing the said package.

A simulation of the module will be created to assess and evaluate both the Agile Principles and J2EE. Creating a web application is not included in this study.

### **1.5 Significance of Study**

After the implementation phase, the group would have acquired something beyond from what is usually taught in school. Programmers who are proficient in J2EE are very in demand nowadays. According to the team's resource person, if not none,

only a few students graduate with knowledge of J2EE. As a student, knowing even the basics of J2EE already gives the team great advantage above others.

This study will benefit software developers who are still not using J2EE. Mastery of J2EE can lead to faster development since one can reuse and build new applications from existing beans. In addition, this entails programmers to lesser resources and costs.

This will also be helpful to those who want to use J2EE as their platform. J2EE will gain its popularity and more and more people will be encouraged to use this. As for other IT individuals, they will get to know its capacity and appreciate this technology.

## **1.6 Definition of Terms**

### **AGILE**

AGILE is an iterative and incremental (evolutionary) approach to software development which is performed in a highly collaborative manner with "just enough" ceremony that produces high quality software which meets the changing needs of its stakeholders.

### **Enterprise Information Systems (EIS)**

EIS are applications that constitute an enterprise's existing system for handling companywide information. These applications provide an information infrastructure for an enterprise. An enterprise information system offers a well-defined set of services to its clients.

## **Enterprise JavaBeans (EJB)**

A component architecture for the development and deployment of object-oriented, distributed, enterprise-level applications. Applications written using the Enterprise JavaBeans architecture are scalable, transactional, and secure.

## **Java Database Connectivity (JDBC)**

A Java API that enables Java programs to execute SQL statements. This allows Java programs to interact with any SQL-compliant database. Since nearly all relational database management systems (DBMSs) support SQL, and because Java itself runs on most platforms, JDBC makes it possible to write a single database application that can run on different platforms and interact with different DBMSs.

## **Java Platform, Enterprise Edition or J2EE**

(formerly known as Java 2 Platform, Enterprise Edition or J2EE up to version 1.4), is a programming platform—part of the Java Platform—for developing and running distributed multitier architecture Java applications, based largely on modular software components running on an application server.

## **Persistence**

The protocol for transferring the states of an entity bean between its instance variables and an underlying database.

## **Platform**

A platform is any base of technologies on which other technologies or processes are built.