Employee Information System Module for OpenLGU

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**ABSTRACT**

Employees are considered the greatest assets of an organization because they consist of the workforce that keeps an organization running. OpenLGU is an open source enterprise information system project from the University of the Philippines Los Baños and its objective is to provide extensive control and efficient management of core business processes of local government units (LGUs) in the Philippines. In this paper, we present an implementation of the Employee Information System module for OpenLGU. The purpose of this module is to present an efficient management information system that fully supports all operations involving human resource management in LGUs. OpenLGU also aims to improve the global *e-Government* ranking of the Philippines in the succeeding years. However, OpenLGU is still in its early stages and only a number of its proposed features have been developed.

**Keywords**

OpenLGU, open source, local government units, information systems.

# INTRODUCTION

* 1. **Background of the Study**

Many people in today’s generation have integrated the use of and have been dependent on technology as part of their daily lives. The range of features offered by information technology and its easy availability impact everything including education, work, and entertainment. From the basic family, the local government, the small businesses, and up to the large companies, information technology has undeniably revolutionized the way the world works.

One of the most important applications of information technology is designing information systems that simplify what was once a time-consuming and tiring chore. Information systems help people in the collection and storage of data, the management and analysis of information, as well as critical decision-making. These allow people to handle large amounts of information in an efficient, organized, and structured fashion. As a result, a new industry which specializes in the creation of high-quality information systems became one of the most popular businesses in today’s generation.

Nations worldwide began using information and communications technology (ICT) to come up with solutions that enable the public sector to provide efficient delivery of government services and information to the public and have an effective and transparent government—this came to be known as *e-Governance* [1]. The Philippine Digital Strategy (PDS) [2] sees the introduction of technology-driven governance as an opportunity for the Philippines to level itself in par with other developing countries while taking advantage of the benefits offered by a technology-driven government. By transitioning into a government powered by information technology, we embrace the possibility of a faster and more efficient government that grants easy accessibility to information to the public. The PDS strives for the implementation of information systems that support the government, and the integration of an ICT infrastructure in government agencies across the country.

* 1. **Statement of the Problem**

Local government offices have been plagued with lengthy lines of Filipinos who are being served with slow and inefficient services using slow and inefficient technology.

According to the United Nations E-Government Survey 2012 [3], the Philippines currently ranks at 88 out of 193 countries worldwide, while it ranked 78 out of 193 two years ago. A large drop in the rankings suggests that the goal of having technology-driven governance has seen little priority and development over the last two years. Commission on Information and Communications Technology (CICT) Commissioner Tim Diaz de Rivera [4] said, “The delay of *e-Government* projects seems to be caused by failed biddings, delays in the release of funds, project modifications, changes in project management, and problems with the service providers”. According to the PDS [2], the low ranking is also attributed to low broadband penetration and limited service provision, insufficient ICT training and skills, the low digital literacy among Filipinos, and the lack of proper ICT tools. There are also issues concerning paperwork-driven LGUs such as delays in the availability or the processing of information leading to the congestion of government offices, and the unavailability or non-attendance of government workers handling important information which can bottleneck the workflow and postpone the processing of documents.

OpenLGU aims to improve our global *e-Government* standing by offering an open source enterprise information system targeted at LGUs in the country. This project is designed to provide extensive control and efficient management of core business processes of the said division. Because of its open source nature, it will be free to the public; delay in the release of funds and other governmental problems will not affect its development. Although far from complete, programmers from the University of the Philippines Los Baños continually create new modules and enhance existing ones that are essential to the realization of this project’s goals.

This study focuses on the development of the Employee Information System module for OpenLGU. The purpose of this module is to record, organize, manipulate, maintain, and analyze comprehensive employee information in LGUs using a management information system. It also aims to fully support the business processes concerned with human resource management and assist users in critical decision-making.

* 1. **Objectives of the Study**

The general objective of this study is to develop a fully working module that handles operations involving the creation, storage, modification, management, and analysis of comprehensive employee information in LGUs. The Employee Information System will be developed using the same programming tools used in the development of OpenLGU which includes PostgreSQL, PHP, and the Yii framework.

Specific Objectives:

- Develop features that support a wide range of operations commonly involved in human resource management;

- Store employee information in a safe and secure database that allows easy retrieval of information in the future;

- Develop a management information system that is compatible with and integratable to the OpenLGU project;

- Write high-quality code that strictly conforms to the programming standard used in the entire development of the OpenLGU project;

- Provide sufficient documentation that serves as a reference for future contributors to the OpenLGU project.

* 1. **Significance of the Study**

The Employee Information System is a very important component of OpenLGU since it deals with a very important asset of LGUs—the employees. It allows the human resources department to monitor their staff using readily available and well-presented information. The large number of employees in any given organization can often lead to errors or duplicates in information, as well as slow searching; these will all be addressed by the information system. It can also assist in the performance evaluation of employees and the selection of job applicants. The automation of business processes using a centralized information system ultimately means that resources are optimized and the workflow is efficient.

OpenLGU can serve as a stepping stone towards the development of bigger projects concerning *e-Governance.* The success of OpenLGU can pave the way for free enterprise information systems that are larger in scope, i.e. those that handle not just LGUs, but also the higher, larger, and more sophisticated divisions of the government.

OpenLGU will be a high-quality alternative to other enterprise information systems that are used by the government. Because it is open source, it is a viable option for local governments looking to cut expenses and reallocate the public sector’s budget. It is also guaranteed that new features will be constantly added and bugs persistently fixed to improve the project and keep it updated—all done for free.

Furthermore, the open source nature of this project invites interested programmers from all over the country to contribute in improving this system and be part of the movement towards a technology-driven government. It can also serve as a framework for students that want to have a better understanding of how complex information systems are designed.

Lastly, the implementation of OpenLGU will give government workers the necessary exposure to information technology that will help them improve their computer literacy.

# REVIEW OF RELATED LITERATURE

There have been numerous studies regarding the impact and practicality of transitioning to a technology-driven government. Many argue that the Philippines is not yet technically ready to make the shift, while some see it as an opportunity that we should take advantage of as soon as possible.

A paper by Alampay and Soriano [6] points out difficulties in integrating ICT into the local government. One of these is the gap between the private and public sector. The public sector usually lingers behind the private sector when it comes to technology. As a result, the public sector is tempted to outsource its *e-Government* projects to the private sector. Sufficient briefing about government operations to the developers is crucial in this situation. The public sector must also retain control of the project priorities and schedule of deliverables by maintaining proper communication with the solutions provider. Software developers today may possess the necessary skills to develop the appropriate information systems, but they usually lack extensive knowledge regarding the government’s core business processes. Public servants, on the other hand, are not fully aware of the potential ICT can bring to improve their services. Those who have poor computer literacy also try to avoid technology out of fear of its “complexity”. What Alampay and Soriano suggest is to have a compromise: that these two sides meet halfway and work together in developing the appropriate information system that will benefit this country the most.

The table below shows the *e-Government* ranking of the Philippines in Southeast Asia based on a survey conducted by the United Nations in 2012.

**Table 1. E-Government Development in Southeast Asia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **E-Gov. Development Index** | | **E-Gov. Development Ranking** | |
| **Country** | **2010** | **2012** | **2010** | **2012** |
| Singapore | 0.7476 | 0.8474 | 11 | 10 |
| Malaysia | 0.6101 | 0.6703 | 32 | 40 |
| Brunei | 0.4796 | 0.6250 | 68 | 54 |
| Vietnam | 0.4454 | 0.5217 | 90 | 83 |
| Philippines | 0.4637 | 0.5130 | 78 | 88 |
| Thailand | 0.4653 | 0.5093 | 76 | 92 |
| Indonesia | 0.4026 | 0.4949 | 109 | 97 |
| Laos | 0.2637 | 0.2935 | 151 | 153 |
| Cambodia | 0.2878 | 0.2902 | 140 | 155 |
| Myanmar | 0.2818 | 0.2703 | 141 | 160 |
| East Timor | 0.2273 | 0.2365 | 162 | 170 |
| **Sub Regional Ave.** | **0.4250** | **0.4793** |  |  |
| **World Average** | **0.4406** | **0.4882** |  |  |

As cited in a study by Hussain and Prowse [5], Gallagher states that human resource information systems (similar to employee information systems) influence the effectiveness of the human resources department. There will be an increased productivity from the workforce, more efficient recruitment, and better short-term working; these will result to fewer redundancies in information. The need to produce statistics for government transparency will be addressed as well. The fast rate of development of computer technologies also assures that newer and better software will attend to the growing needs of the organization. The increasing availability of human resource information systems (HRIS) leads to more options at lower costs.

A survey conducted by Hussain and Prowse [5] revealed that 94% of their sample HR managers from the UK uses or intends to use HRIS, while the remaining 6% does not—but intends to—use one. This reveals that the use of HRIS is important for the human resources department, especially for HR managers, to function efficiently. They concluded their study by stating that HR managers do benefit from HRIS by being able to “perform more efficiently, effectively, and professionally in their organizations while keeping a high quality of service”. These support the importance of the Employee Information System in OpenLGU and the latter’s integration among LGUs in the Philippines.

# METHODOLOGY

The software development method we will use will be Agile Programming. This method focuses on the periodic release of working versions of the software to clients. We chose this method because the OpenLGU project is open-source, so it will be subject to constant changes and adjustments throughout its development lifecycle. By periodically releasing working versions, we can receive feedback from the clients and any necessary changes will be immediately added to our priorities. This method aims to keep the project development on the right track and to minimize the time and resources wasted on unwanted and unnecessary features that might emerge due to changes in project specifications.

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