PANGASINAN STATE UNIVERSITY

RECORD AND BILLING SYSTEM

Mark Jayson V. Dela Cruz

Aljon V. Datuin

Keanna Michaela DG. Perida

BSIT-2B

Chapter I

Introduction

Background of the Project

A Record and Billing System (RBS) is a digital platform used to manage requests, maintain records, and facilitate billing and online payments for government services. It helps streamline administrative tasks, reduce human error, and improve service delivery through technologies such as cloud-based storage, online payment gateways, and real-time transaction tracking. Despite these advancements, many RBS implementations face common issues, including limited adaptability across different agencies, inefficient user interfaces, dependence on manual verification, and inadequate integration with mobile payment platforms. These challenges often lead to slow processing, long queues, and inconvenience to both applicants and administrative personnel.

At the Basista Police Station in Pangasinan, a Record and Billing System is already in place to support the processing of police clearance applications. While this existing system automates certain aspects of the workflow, it still presents issues such as long wait times, limited flexibility for expansion to other government services, and incomplete integration with mobile payment systems. Applicants often have to return to the station multiple times for verification, payment, or updates on their requests. These inefficiencies point to the need for an upgraded system that is more responsive, scalable, and user-friendly.

To resolve these issues, a new and enhanced Record and Billing System is proposed. This system is designed to reduce long queues, eliminate repetitive visits, and offer dynamic functionality that can be adapted for other government agencies. The enhanced system introduces full integration with online payment platforms such as GCash and Landbank, allowing applicants to request police clearances, make secure payments, and receive real-time updates from the comfort of their homes. For police personnel, the system will feature an intuitive administrative dashboard, improved record management, and accurate payment tracking.

This project is not merely an upgrade but a strategic modernization effort. It aligns with national and global trends in e-governance and digital transformation by emphasizing transparency, efficiency, and accessibility. Through a scalable architecture, the system is future-proofed to support additional services beyond police clearance positioning it as a reusable solution for various government agencies. Ultimately, the proposed system addresses the core problems of the existing setup while embracing a more dynamic, digital approach to public service. By minimizing wait times and maximizing efficiency, the Basista Police Station continues to advance its mission of delivering timely and citizen-centered services.

Objectives of the Project

The main objective of this project is to enhance the existing Record and Billing System at the Basista Police Station by making it more efficient, dynamic, and adaptable for broader government use. Specifically, the study aims to:

1. Reduce Service Wait Times – Streamline the police clearance application, billing, and payment processes to minimize in-person visits and improve overall transaction speed.
2. Make the System Dynamic and Scalable – Redesign the system to be flexible and adaptable for use in other government agencies beyond the police station.
3. Integrate Online Payment Options – Incorporate secure and convenient digital payment platforms such as GCash and Landbank to facilitate cashless transactions.

Significance of the Project

The enhanced Record and Billing System is designed to improve the efficiency, convenience, and scalability of police clearance processing through online applications and digital payment integration. This project is significant to the following stakeholders:

1. Basista Police Station – The upgraded system enhances operational efficiency and transparency by reducing manual workload, minimizing errors in processing and billing, and modernizing public service delivery.
2. Administrator – The system provides the administrator with a centralized dashboard to manage user requests, monitor transactions, generate reports, and oversee overall system performance with increased accuracy and control.
3. Police Staff – Law enforcement personnel benefit from reduced paperwork, streamlined workflows, and improved tracking of records and payments, allowing them to focus more on core policing duties.

4. Applicants – Citizens benefit from a faster, more convenient, and cashless method of obtaining police clearances. The system eliminates long queues and allows users to pay online from anywhere, improving the overall user experience.
5. The Developer – This project allows the developer to apply and expand technical skills in system development, online payment integration, and scalable architecture, while contributing to improved public service delivery.
6. Future Developers – The study serves as a foundation for future innovation in e-governance, encouraging continued research on digital transformation in government services.

Scope and Delimitation

The enhanced Record and Billing System is designed to automate the application, processing, and payment of police clearance certificates at the Basista Police Station. The system supports three primary user levels: **Applicants**, who can submit police clearance requests and pay via online platforms like GCash and Landbank; **Administrators**, who oversee system operations, manage reports, and handle account controls; and **Police Staff**, who process applications, verify records, and track payments. The system features an online application portal, secure payment integration, real-time tracking of requests, and an administrative dashboard for efficient monitoring. While its initial implementation focuses on police clearances, its dynamic and scalable design allows for future use in other government services and agencies.

However, the system's functionality depends on stable internet connectivity and currently supports only GCash and Landbank as payment methods. The final verification and approval of police clearance applications still follow standard police protocols and are conducted manually by authorized officers. Biometric verification and inter-agency data sharing are not yet included. Additionally, the system is optimized for desktop and mobile browsers but may have limited support on older devices or operating systems.

Definition of Terms

1. Record and Billing System – A digital platform used for processing requests, managing records, and facilitating online payments for police documents such as police clearances.
2. Police Clearance – An official document issued by law enforcement authorities certifying that an individual has no pending criminal record within a specific jurisdiction.
3. Online Payment – A digital transaction method allowing users to pay fees through electronic means, such as GCash and Landbank.
3. GCash – A widely used mobile payment service in the Philippines that enables users to send money, pay bills, and complete transactions online.
4. Landbank – A government-owned bank in the Philippines that provides online banking services, including payments for government-related transactions.
5. Administrative Dashboard – A control panel within the system that allows police

personnel to manage user requests, track payments, and generate reports

Chapter II

Review of Related Literature and Studies

Related Literature

The adoption of digital systems in government processes has become a critical strategy in improving public service delivery. According to Thunes (2023), the integration of digital payment solutions significantly enhances government transactions by reducing wait times and minimizing physical interaction between citizens and public offices. Online billing platforms allow users to complete applications, payments, and monitoring remotely, cutting down processing delays and reducing the burden on front-line personnel.

McKinsey (2021) emphasized that government institutions that shift to digital systems not only increase transaction speed but also improve financial security and data accuracy. In the case of law enforcement agencies, online platforms have shown to minimize paperwork, improve accountability, and reduce manual errors through structured digital record-keeping. This supports the project's objective of minimizing service wait times and improving operational efficiency.

Furthermore, scalable system architecture is essential to ensure that platforms can be adapted and reused across various government functions. The SEAN Institute (2023) noted that modular system design and cloud-based infrastructure make systems dynamic,

allowing them to be configured for multiple agencies. By designing the Record and Billing System with scalability in mind, it can later be implemented beyond the police department.

Online payment integration also plays a key role in making public services more accessible and secure. The Bangko Sentral ng Pilipinas (BSP, 2021) reported that the use of mobile wallets such as GCash and online banking platforms like Landbank greatly improves the security and convenience of financial transactions in government offices. These systems also contribute to greater transparency and reduce opportunities for financial mismanagement. This supports the third objective of integrating secure online payment systems in the proposed RBS.

A report by Visa and Kearney (2022) further noted that unified digital infrastructures in public sectors allow for real-time updates, lower operational costs, and improved trust in government systems. As more local government units adopt digital platforms, a well-designed, dynamic system becomes crucial for interoperability and user adaptability.

Related Studies

Foreign

A study by Axon (2021) found that modernized Record and Billing Systems significantly improve processing times and enhance interdepartmental coordination. The research emphasized that cloud-based systems provide flexibility for future upgrades and support efficient service delivery through automation.

According to GovPilot (2022), municipalities that adopted scalable billing platforms saw improved responsiveness to public needs and reduced administrative workload. This supports the design goal of making the system dynamic and adaptable to multiple government agencies.

PoliceRecordsManagement.com (2023) reported that law enforcement agencies that migrated to integrated, cloud-based platforms benefited from improved scalability, reduced operational costs, and better data security. These findings align with the project's aim to minimize manual processes and improve record tracking.

The World Bank (2022) highlighted the importance of integrating secure e-payment systems into public services, citing increased citizen satisfaction, reduced corruption risk, and more streamlined service delivery.

Local

The Philippine National Police (PNP, 2022) found that their digitization projects led to improved accuracy, faster access to records, and better coordination between units. This supports the project's focus on reducing wait times and improving internal efficiency for police staff.

The Department of Finance (DOF, 2021) documented how integrating platforms like GCash and Landbank in public systems led to faster processing and improved citizen convenience.

According to the Department of Information and Communications Technology (DICT, 2022), the success of public digital services in the Philippines relies heavily on building systems that are modular, scalable, and user-friendly—validating the need for a dynamic system architecture in the proposed solution.

The Department of Science and Technology (DOST, 2022) also emphasized that centralized digital systems improve reporting, financial tracking, and public trust—essential components for an efficient Record and Billing System.

Synthesis

The reviewed literature and studies reinforce the importance of enhancing the existing Record and Billing System by focusing on three major areas: reducing processing time, ensuring scalability, and integrating secure online payments. Both local and international findings support the implementation of dynamic, user-friendly systems that streamline operations, minimize human error, and allow citizens to access services conveniently. By aligning with global and national digital transformation efforts, this project addresses the key issues in the current system while laying the foundation for expansion into other government agencies.