RespoGuard is a project that uses machine learning to enhance community security at the barangay level. The goal is to make communities safer by providing law enforcement with a proactive and effective means to detect anomalies and swiftly act. This advancement in technology is comparable to extending an alert eye and a helping hand, to boost and strengthen the efforts of those charged with safeguarding our safety and security. The study has the following specific objectives:. Design and implement a web application with an acceptable level of accuracy. Establish a notification/alert mechanism to promptly inform Barangay officials about anomalies. Anomaly refers to any behavior or activity that differ from the established normal. Its recognition is crucial for maintaining a secure and well-regulated environment. RespoGuard aims to develop and implement machine learning-based anomaly detection in Barangay 294. The system is positioned as a tool to enhance surveillance, offering real-time detection and alerting, with human operators retaining the responsibility for interpreting and taking action based on the identified anomalies. However, there are several project limitations that must be acknowledged. The system provides real-time information on potential threats and incidents. It enables law enforcement and tanod to respond quickly and effectively to incidents. The research offers a foundation for future studies on automated security systems, allowing researchers to build upon existing knowledge for continued improvements. It also provides opportunities for future researchers to contribute to technological advancement by exploring and expanding upon the real- time machine learning detection system. The system was developed by the University of the Philippines at Rizal, Manila.

The Real-Time Anomaly Detection System was designed to detect anomalies in real-time. The system's data flow diagram (DFD) showed the interactions between various components within a system. The heart of the system lay in the anomaly detection algorithm, which analyzes the incoming video stream from surveillance cameras. If the system finds an action or frame to be abnormal, it sends notifications to the authorities so that appropriate actions take place. The DFD illustrated the viewpoints and interactions between entities, processes, and data stores that

provided the efficient management of the surveillance system. The system used machine learning techniques to recognize anomalies. The system was based on a machine learning algorithm that identifies the given types of anomalies. All the data was stored in the System Data Configuration Storage. The User Database was responsible for account creation, reading account detail, modification of user information and deletion of User accounts. The authorities maintained and controlled users efficiently due to the User Management process and CRUD operations sub-process. These procedures and data sources were used to validate the surveillance system configuration, security measures, and the ability of the system to generate necessary reports. The system log includes important events including anomaly detections, camera malfunctions, and hardware malfunctions like camera offline instances. It is a tool for investigative work, allowing users to examine footage that has been captured, spot irregularities, and compile data to improve security and response procedures. The system acts as an extensive inspection, inspection, and inspection system and acts as extensive inspection of the system. It acts as a repository for archival surveillance footage, enabling barangay staff to review past events and situations. The Settings page serves as a complete control center for users to monitor and adjust many parts of the system. It has sub-pages such as Profile, Cameras, User, Recordings, Backup, and System Configuration. This interface gives users the ability to customize the system to meet viewpoints and requirements. It also provides a comprehensive view of system status, camera views, camera feeds and zoom. The dashboard allows users to navigate seamlessly between camera views and alerts. The live feeds are displayed in real-time. Display the number of detected videos of the researchers and types of detection, and manually classify the detection video. View the total count of recorded videos and the total number of hardware in the system. View and edit system settings. View configuration files. Edit system settings and update configuration files via code and code. Display the CPU status and the temperature of the system in the temperature tab. Display and edit the list of hardware in the hardware list. The ISO 25010 will serve as the basis for the evaluation tool. The Likert scale was deployed in the system assessment on a number of factors. The researchers will demonstrate to the

respondents how to use the system. The data collected will be calculated to ascertain the mean ratings. The 4-point Lik Bert scale will also be used to interpret the ratings. It will be used for the assessment on factors including Functionality, Performance, Usability, Efficiency, Maintainability, Portability, and Design.

The study's analysis and conclusions will be explained in this chapter. This chapter completes the project's description, structure, capabilities, and limitations. The study's conclusions will also be discussed in the next chapter. The report modal provides the information required for the Barangay staff to effectively investigate potential issues and take necessary action. The system is positioned as a tool to enhance surveillance, offering real-time detection and alerting, with human operators retaining the responsibility for interpretation and subsequent actions based on the identified anomalies. RespoGuard uses machine learning algorithms to identify anomalies. The system can process live surveillance feeds and detect unusual activities in real-time. Users can add, remove, and configure camera settings including the video resolution, frame rate, and bit rate. The software is compatible with various hardware, including DVRs and Closed-Circuit Television (CCTV) cameras. RespoGuard was tested using some of the widely used CCTV and DVR brands such as Dahua and Hikvision. It has an intuitive and user-friendly interface, enabling easy monitoring andmanagement. The system was evaluated by respondents using a series of questions based on Functionality, Performance, Usability, Maintainability, and Maintainingability. The total number of respondents who were evaluated by the system was 30. The system?s modules are working properly and connected properly properly. There is a substantial security system that gives a high grade in the statement ?High grade?. The results of the survey were: 92% of the respondents were IT professionals, and 92% were barangay authorities. The system input and output are accurate 3.7 Highly Acceptable. The system Modules are working and connected properly 3.8 Highlyacceptable. There is a substantial system security 3.5 Highly Acceptables. For the Usability of the system, 85% of the respondents give a Highlyaccepted answer. Overall, 91.25% of respondents Highly Accepted

the Functionality. required for the systems are ?implemented.? The system is error free (sy syntax, logic, run-time) 3.4 Highly AcceptABLE. Ten (10) Barangay Citizens evaluated the Performance, Usability, and Efficiency. 85% of the respondents give a Highly Acceptable rating for Maintainability and 92.5% for Portability of the system. Overall, 90% of respondents rate the M maintainability, Portability, & Design a Highlyacceptable grade. The GUI design used was clear, neat, and visible. Overall Summary of ResponsesTotal Mean Interpretation 3.76 Highly AcceptablesPerformance/Usability/Efficiency 3.55 Highly AcceptabilityMaintainability/Portability/Design 3.63 Highlyaccepted. ondent 14 (BC)44444. Shiite. Sunni. Muslim. IT Professionals BA ? Barangay Authorities. BA ? Bangay Citizen. IT professionals BA ?. Barangays Authorities. IT workers BA ? BarangAY Citizen. Barangsay authorities. IT staff BA ? Barangaya. Citizen. Maintainability/Portability/Design. Maintained/Design/Maintainability. Credibility/Maintained Credibel/Credibility. itionallyRespondent 12 (BC) 3 3 4 3.33 unequivocally.reprehensibleRespondents 13 (BC), 14 (BC) 3 4 4 3, 3.67, 4 4 4, 3, 4, and 3, respectively. HypocriticalRespondency: 3.3%, 3.4%, 3, 2, 2.5%, 3,.5%, 2, 1, 1.5, 2,.5, 1,.0, 0, 0.0.

The system achieved an amazing 3.76 out of 4 for functionality. The system exhibits a respectable viewpoints degree of efficacy and user-friendliness. The web application found to be effective and capable of assessing whole system. The Anomaly Detection System's capabilities and effectiveness in practical situations are demonstrated by the table that follows. Researchers have developed and implemented a web application with an anomaly detection system with an acceptable level of accuracy. Barangay officials have been able to create a notification/alert mechanism to promptly inform about anomalies. The system capabilities have been successfully assessed with the use of Python. hardware such as DVR, Closed-Circuit Television (CCTV), and Computer/Laptop. implement a web application for live surveillance. The system's user-friendly interface had made it valuable in assessing the setup of the total framework. The recommendations for the system are the following: Choose high-quality hardware with real-time processing and enough storage capacity to

handle a large amount of data. Develop an auto-captured face image system for incident identification.