

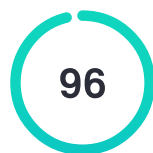
PNPOCRS

by New cook

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86,462	13,214	913	52 min 51 sec	1 hr 41 min
characters	words	sentences	reading time	speaking time

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268	10	258
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Writing Issues

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36

Passive voice misuse



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19

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93

Wordy sentences



50

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2

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1

Outdated language



12

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3

Misspelled words



1

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1

Determiner use (a/an/the/this, etc.)



1

Mixed dialects of english



1

Incomplete sentences



1

Unknown words



3

Improper formatting



1

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44

Engagement

44

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1

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PNPOCRS

Chapter I

Introduction

Technology is spreading its wing in almost every aspect of human life.

Nowadays, the innovation of technology has been widely used in developing strategies for government agencies, corporate bodies, and individuals to increase the speed, efficiency, and productivity of works of every employee.

Many departments implement these and other technologies to increase efficiency, improve outcomes, significantly diminish resources, and enhance public attention and security of law enforcement tactics and results.

In the second half of the 20th century, we live in a globalized and technologically advanced society where technology has been considered a significant driver of law enforcement strategies and tactics. In recent years, rapid advancement and innovation have seen increasing use of computers within Police Forces, not just in general administration but also to assist the core business activity of policing (preventing and solving) crime. The quest to control crime and the breakdown of law-and-order increases as the society grows and diversity of human intentions and interactions abound. An ideal organization is governed by laws and regulations that are collectively agreed upon and measurable consequences that will be meted out¹ for any member of the society that is found guilty to have floated any specific component of the legal infrastructure. Besides, the legal infrastructure in a community is the security apparatuses that enforce the law to maintain law and order. The legal infrastructures determine how law enforcement agents can act or protect the common interests of individuals in society. It also outlines the civic

responsibilities and human rights of the members of the community. The technological innovation can be viewed as one of the four elements of new professionalism in policing, along with the accountability, legitimacy, and national coherence, that distinguishes “*the policing of the present era that of 30, 50 or 100 years ago*” (Stone and Traves, 2011).

However, the process of reporting in society has been mainly manual. Individual who has some complaints will work into any office of security agents (e.g., police, neighborhood corps) to inform and write in statement issues that may need their attention. Reported crime incidents need to be evaluated by the duty investigator before the police can respond to the area of crime Incident. This process takes time, especially when multiple complainants or reporters are in the station; the reporter or complainant must wait until the previous reporter or complainant is done until they can report. Additionally, the manual process also involves more workforce since taking a report or complaint requires 2 – 3 officers to assist the reporter or the complainant. According to the Philippines 2020 Crime & safety Report, The PNP is a capable force but limited in responding and helping victims of crime and traffic accidents due to the lack of response vehicles, radios, and other essential equipment.

The Philippine National Police (PNP) is the national police force of the Republic of the Philippines that provides all law enforcement services throughout the Philippines. The mission of the Philippine National Police is to enforce the law, prevent and control crimes, maintain peace and order, and ensure public safety and internal security with the active support of the community. The Philippine National Police have a massive campaign against criminality to maintain peace and order in the community. Crime in the Philippines is one of the concerns facing every local, especially those living in larger urban cities. Maintaining security and order is challenging for the police because of increasing crime

rates since 2009 (Sanchez, 2020). The speed of crimes is growing daily across the country; however, much of the crimes committed were unreported to the authorities because of the fear of getting involved.² People are afraid for their safety should the people they report identify them.

Furthermore, people afraid of intimidation may choose not to offer information or stand as witness to criminal acts. Some people also fail to report a crime due to the cost and time incurred in traveling to police stations situated far from their homes and workplaces. This³ shows that distance is also a factor that significantly influences how crimes are being handled, with many crimes going unreported. All these concerns contributed to an environment in which crime is more challenging to address.

Therefore, there is a need to develop an online crime reporting system that will address the lack of Philippine National Police to fight against crimes and override the problems prevailing in manual systems. Since the current system uses a manual approach in reporting crimes, the researcher would design a web platform that reports all manners of crimes accessible to people and can easily be understood. No formal knowledge is needed for the user to use the system. Furthermore, the proposed system will provide proper safekeeping of data and reduces manual work. The system is user-friendly, and the assigned staff can easily do their jobs without time lag. Also, there has been no current study conducted in Babatngon Leyte on an Online Crime Reporting System.

Project Context

Babatngon Municipal Police Station is the local office of the police force composed of 27 personnel headed by Police Captain John Rey R. Layog PCPT, the acting chief of police. Twenty-three (23) of which is the Police officers who are responsible for enforcing laws, preventing crimes, responding to emergencies, and providing support service, one (1) Chief Investigator who is

responsible for the initial investigation of the crimes by interviewing the reporter, and three (3) Nonuniformed Personnel (NUP). They play a vital role in police works. They are the partners of police officers in delivering service, not in a combatant way but as clerks who manage the office and its paper works. Babatngon Municipal Police Station covers over twenty-five (25) Barangays of Babatngon Leyte with over 27,797 total population according to the 2015 census. This figure shows that the twenty-seven (27) entire workforce of Babatngon Municipal Police Station cannot meet the approximate police-to-population ratio of one (1) policeman for every five hundred (500) persons, which means that the police will accommodate only one-third of the population.⁴

Babatngon Municipal Police Station has two main functions. First (1) *Receiving the Reports*, and second is (2) *Responding to the Reports*. To report a crime, the complainant or the reporter must go to the Police Station to give a statement about the crime incident that happened.⁵ The complainant or the reporter will report to the desk officer about the incident so they can⁷ determine if it is a Crime or not. If the incident is a crime, the complainant or the reporter is endorsed to the duty investigator, the complainant then is entered into the Crime Incident Recording System. Where they will be asked about the 5w's and 1H of the incident, while the other police officer records the nature of the incident between the investigator and the reporter or the complainant, some of the questions are as follows; (1) *Who are the involved* (2) *What happened*, (3) *Where did it happen*, (4) *When did it happened*, (5) *why it happened* and How does the crime incident happen. The Duty Investigator and complainant or the reporter shall review the information entered for correction and additional data before printing the incident Record Form (IRF). The Duty Investigator and the complainant shall sign the IRF; the complainant or the reporter must be

furnished⁸ with a copy of the IRF. After recording the incident, the police officer will inform his superior officer or duty officer regarding the occurrence of⁹ such an incident for further investigation.

The researchers conducted a survey in¹⁰ Babatngon Municipal Police station through a survey questionnaire. The survey was answered by the Police officers in Babatngon police station, including the chief of police. Based on the result, 71 % of the respondents are from 22-43 yrs. Old and 29 % ages from 44 – 65 yrs. Old. Ranks were also identified¹¹ based on the years in service of the police officers. Based on the survey result, there are six (6) PSSg¹² or Police staff Sgt. with over 11-20 years in service, six (6) PCpl or Police corporals with less than ten years in service, Tree (3) PCMs. or the Police master Sgt. with over 21-30 years in service, one (1) Pat or Patrolman with less than ten years in service, one (1) PEMs or Police exec. Master Sgt. with over 11-20 years in service, one (1) officer of the day with over 21 – 20 years in service, and three (3) NUP or nonuniformed police with over 2-6 years in service¹³. Along with this, the result¹⁴ also says that the most common crime incidents in Babatngon police station are as follows; Street Crimes, Drugs/Narcotic violations, gambling offenses, and physical injury. These crimes incidents were reported¹⁵ from the different Barangays of Babatngon Leyte, in which people need to travel to the police station in order to¹⁶ inform the crime incident.

The respondents were also asked if they would like to have a user-friendly interface system for Babatngon Municipal Police Station, where the Police Officer in charge can accept crime reports and update the status or progress of complaint online were 78% of respondents agreed to develop an online crime reporting system while¹⁷ 22% did not give their response since they are not around during the survey.

Furthermore, the researchers also conducted a survey in the community of Babatngon Leyte where several individuals responded from the different barangays of Babatngon. Based on the result, 88% of the respondents strongly agreed to have an online crime reporting system, 85% strongly agreed that it is necessary that the monitoring of their reports should be done online especially this time of pandemic where movement is limited because of the health protocols that need to be followed.¹⁸ Respondents were asked if they are willing to be connected to the police after filing the report for further investigation were 62% of the respondents agreed that they are eager to participate in the study. Another part of the survey was respondents in the community were also asked if what are¹⁹ the root cause of unreported crime in their barangays. 58% strongly agreed, and 44% agreed that the root cause of unreported crime is the fear that the people they reported will identify them. 85% of the respondents strongly agreed that the safety and security of the reporter is the primary concern in reporting crime incidents. Also,²⁰ 89% of the respondents²⁰ also agreed that the cost and time²¹ is one of the factors that affect reporting a crime incident, especially those living in the far situated barangays of Babatngon Leyte. Furthermore, few respondents said that "it is intimidating" to write a crime, especially to sensitive cases like rape, in which crimes go unreported as a result.

Therefore, the researchers propose a system that will automate the manual process of reporting and receiving crime incidents from the community to address the problems in Babatngon Municipal Police Station and in the²² community. The system will help Babatngon Police Station to accommodate reports from over 25 barangays of Babangon Leyte and will lessen the²³ workforce in receiving the information. Also, this system will help the community to have a secure platform in reporting crime incidents without

risking their safety and security. Furthermore, the system will also be beneficial to the public ²⁴ as well as to the police in saving the cost and time incurred in receiving and reporting crime incidents.

Theoretical Framework

The rapid technological change is affecting almost every area of the economy, society, and culture. And the evolution of technology seems to be advancing at an ever-accelerating pace, as seen through the propagation of mobile and wireless technology and other technological advancements.

For the Development of Online Crime Reporting System, the theories are the following:

Computer-Based Instructions Theory

According to Pappas (2014), Computer-Based Instructions Theory began to take shape, more specifically the US government found two companies, the Control Data Corporation and Mitre Corporation, for the two different projects, the PLATO or Programmed Logic for Automatic Teaching and the TICCIT or the Time-Shared Interactive Computer Controlled Information Televisions. ²⁵ TICCIT was designed to teach higher-order concepts, while the PLATO was a computer-based training network whose system provided access to a central library of courses. Today the computer-based model is used by a myriad of learning programs that include ²⁶ the use of a computer, just like CD, ROMs, DVDs and etc. ²⁷ ... is based on this concept. ²⁸ A computer can also be used in the workplace (Keramida, 2015) to educate employees on how this will be more convenient within their professional environment. Moreover, any tasks can also be delivered via computers or allowing the instructors to educate their learners in ^{29 30} a more effective and profound way . The most common uses for Computer-based Instruction are (1) Simultaneous representation of an actual situation. (2) Enriching background knowledge. (3) Practice Increasing fluency in a new

skill. (4) Problem Solving. Computer-based Theory has advantages and limitations; the benefits of this are: (1) as a method, it is highly interactive. (2) It can motivate learners and provide immediate feedback. (3) It generally requires less time than the manual method. These advantages will help the user to gain more knowledge and improved their capability on how they will adapt this to their work and workplace, ³¹and there is some limitation on this Theory (1), not all fields can be assisted or supported by the Computer-based Instruction. (2) It might have limited modalities unless developed by experts and with the use of multimedia. (3) Their development is time-consuming and be quite costly. These are the limitations of the Computer-based Instructions Theory.

General Deterrence Theory

According to Zagare (2016), General Deterrence Theory Has been widely adopted in the study of information security management ³²and Focuses on the ³³prevention of crime, and it has been the underlying foundation for many criminal justice policies and practices throughout ³⁴the course of American history. As a guideline, countermeasures to eliminate such a threat or ³⁵at least mitigate some of the risks should the event occur. GTD focuses on the criminal decision-making process. Hence, a criminal's ³⁶personal situation (such as his ³⁷personal values, his affluence, and his need for money) and the environmental context (such as how protected is the target, how efficient is the local police, how likely are criminals to be apprehended) play critical roles in this decision-making process. The focus of GDT is not on how to rehabilitate criminals and avert future criminal behaviors but how to make illegal activities less attractive and therefore prevent crimes. To that end, "target hardening" such as installing deadbolts and building self-defense skills, legal deterrents such as eliminating parole for certain crimes, "three strikes law" (mandatory incarceration for three offenses, even if the offenses are minor and not worth imprisonment), and the

death penalty, increasing the chances of apprehension using means such as neighborhood watch programs, special task forces on drugs or gang-related crimes, and increased police patrols, and educational programs such as conspicuous notices such as “Trespassers will be prosecuted” is effective in preventing crimes.³⁸ This Theory is related to our study since this Theory is commonly used in Information management security systems that are related to our research that will increase the productivity of police and give public awareness so that criminal activities will be less attractive and therefore prevent crimes in the community.³⁹

The Information Theory

Information theory is a mathematical approach to the study of coding of information⁴⁰ along with the quantification, storage, and communication of information. It is reliable for viewing how data are being handled as it gives contribution to the system. Data are being handled properly for its activation to the system. In order⁴¹ to generate new data, it is needed to be taken into account for the activation of the plan (Carmona, 2013). This Theory is related to the study since the system will handle lots of confidential data. Information from the user should be updated⁴² to the system to maintain the integrity of the system,⁴³ and together with this data, it should be treated⁴⁴ with security and confidentiality.

Community policing Theory

It promotes organizational strategies that support the systematic use of partnership and problem-solving techniques to productively address the immediate conditions that give rise to the public safety issues such as crime, social disorder, and fear of crime. Community policing focuses on the cooperation between the police and the community (Gill et al., 2014; Kerstholt, De Vries, & Mente, 2015). There are crucial elements in community policing: (1)

Organizational transformation, and organizations are transformed to facilitate community policing by aligning the management, structure, and information system. (2) Problem solving, the processes are used by the police officers to focus on productively and systematically identifying problems and developing an adequate response.⁴⁵ (3) Community participation is about the partnerships between the police and the individual community (COPS, 2014). This Theory is related to our study since the citizens are primarily involved in policing activities as the eye and ears of the police by providing intelligence (Terpsta, 2010).

This Theory will guide the researcher in this study. It will be served as the basis for developing the proposed system. Furthermore, it will help the researchers in adhering to the set timeline and offers room for error correction.⁴⁶

Conceptual Framework

Figure 1. Conceptualize Framework for Online Crime Reporting System (O CRS)

This figure shows that academic studies and conceptualized frameworks gathered by the researchers are materials needed to develop the proposed system.⁴⁷ Researchers also concluded data from the internet and collect information from the thesis or books related to the study for further classification with regards to the study.⁴⁸ After gathering the data, the researcher will gather the necessary software requirements that will be used⁴⁹ for making the Web-based Online Crime Reporting System.

The Objective of the study

This study aims to develop an Online Crime Reporting System (O CRS) using a web platform that will assist Philippine National Police, particularly in Babatngon Municipal Police Station, in their campaign to prevent and control crimes in the Philippines.

Specifically, this study aims to:

1. Identify the demographic profile of Babatngon Municipal Police Station for the assigning of the user that will handle the system. Identify the crime incidents in Babatngon Municipal Police Station.
2. Develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting crime incidents or terrorist groups in the community.
3. Design a user-friendly interface for Babatngon Municipal Police Station, where the Police Officer can accept crime reports and update the status or progress of the crime incident reported.
4. Develop user accounts for the super admin or the chief of police that will authorize him to add an account for the Police officer in charge and view the comprehensive reports in the system. That will generate reports of the incidents by:
 5. Type of Crime
 3. Date, time & year happened.
 6. Monthly Crime Report
 4. Place of Occurrence/Incident
7. Develop a system that can predict the future crime incidents that will happen by month in Babatngon Leyte, which can be used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community.

Scope and Limitation of the Study

The study will basically focus on the essential factors of the system. The system will only cover the reporting of crime incidents and will not cover the validation of reported crimes if it is legit or not. The system will also generate monthly reports of the crime incidents reported in the method according to the type of crime, date, and time of occurrence and identifying areas of Babatngon

Leyte with a high volume of crime. Moreover, the system can also predict future crime incidents ⁵⁴that will happen by month based on the data reported in the system. Furthermore, the reporter or the complainant can upload up to three (3) attachments, including a photo/image and a short video with a maximum size of up to 50Mb per attachment. ⁵⁵Attachment ⁵⁶of evidence is not required as long as the description or the details of the crime incidents ⁵⁷that happened are stated in the description box. The study will mainly focus on Babatngon Municipal Police Station and the employees inside the organization.

Chapter II

Review of Related Literature and Systems

This chapter presents the literature that has bearing and relationship to the present study. ⁵⁸This gave the researcher a broader perspective which aids the researchers in conceptualizing and understanding the Study of Development of Online Crime Reporting System. The literature and studies cited will help the researchers in the interpretation of findings.

Related Literature

Crime persists as long as human society exists; therefore, there is a continuous effort and legitimacy to report, investigate and provide convincing evidence to prosecute individuals who perpetrate any criminal activity. The word Crime

originated from the Latin word *Crimen* dubbed charge or offense. Shodghangha (2011) projected crime as a function of the adoption of standards by the society rather than individualistic criteria; that is, the community gradually determines what is perceived as good value and immoral acts and proscribes possible consequences.

E-Crime reporting platforms have become very popular in more civilized societies. They have made reporting accessible, more manageable, verifiable, and reliable. Somehow, they have also made crime reporting faster and cost-effective. However, in Nigeria, the reverse is the case. Most of the government security agencies still find it difficult to investigate crimes to a conclusive end. Many crimes ⁵⁹are still not been investigated and reported timely because of the bureaucracy in finding attention at the police station. Security agents are not always accessible, and the process of being given attention is very discouraging and time-wasting. The perpetrators continue their escapades with impunity and disdain to the victims.

Smitt (2016) reported that the government of the United States of America (USA) created a platform for the American public to report internet-facilitated crimes. ⁶⁰The office of the Attorney general confirmed that several millions of Americans fall victims to cyber-related crime, but barely fifteen (15) percent ⁶¹report the incidents. ⁶²Having the interest of the people at the core of their service, the federal bureau of the investigation came up with the idea of an E- ⁶³cyber reporting platform (ic3.org) to make the members of the report any incident and assist with any information that could produce 28 them server them better. The platform also has explained first precautionary steps to be taken to mitigate against loss once a compromise of their property or privacy is noticed, such as blocking bank accounts, visiting the nearest FBI office, or ⁶⁴changing users' passwords. Another beautiful side of this application is that it

allows users to get feedback and juggle with information available to the public in read-only mode.

Tamboli et al. (2013), in their study “Incident Reporting System Using GIS,”⁶⁵
presented a paper about integrated application software which will be used to
report an incident or accident immediately and also keep a log of activities
which in turn helping public and authorities to deal with problems and
emergencies.⁶⁶ Among the application of the system includes notification of any incident to concerning department; thus, the concerned authorities can respond quickly to solve the problem. In summary, this application provides a communication medium for the public to indicate to the respective sources about emergencies or incidents identified.

According to Tomas U. Ganiron Jr and John Stephen Chen (2019), A Reporting System online and even offline with the active participation of the citizens help the complainant and the authority to communicate privately and efficiently with regards to the reported issue. It would be easier for the complainant to report a witnessed crime without the fear of getting involved in the problems because of the security that the only authorized user can see the report and easily accessible to people and provides proper safekeeping of data and reduces the manual work. It also tries to eliminate or minimize difficulties up to some extent.

According to Rosnizam Eusoff and Zawiyah M. Yusof (2011), the reporting management system is used for managing information in many organizations, especially in the developed countries. The benefit of reporting system could also help in information clarity, fast delivery, minimum storage space, more accessible access to data, and practical information sharing. The potential in penetrating identifies in many aspects of management and administration could improve the efficiency and effectiveness of organizational accountability

and transparency. Reporting system helps to improve decision making, improve management effectiveness, improve responsiveness to issue, and improve the efficiency of resources in the delivery of administrative services. A reporting system is a management control system that provides business information that can be⁶⁷ in the form of reports and statements.

According to Tzay-Farn Shih and Chin-Ling Chen (2019) in this study entitled “A Cloud-Based Crime Reporting System with Identity Protection”⁶⁸ will aid the convenient and secure platform for reporting and fighting crime. The study considered several system functionalities which were incorporated into the
developed system as follows: (a)User identities of informers.⁶⁹ The plan covers up the Informers must provide their real identities, and their identities must be well protected. (b) verification and data transmission. Information presents a novel reporting system using a cryptographic mechanism for improved security and identity confidentiality. (c) informers’ privacy and security. It prevents administrative difficulties such as cases being lost or removed, as well as malicious use of the reporting system (d) network online reporting mechanism,
To improve reporting and reduce policing costs.⁷⁰ (e) combined with digital certificates for authentication. To ensure that reports cannot be made anonymously. If cases reported are not accepted within a specified time, the system is equipped with an automatic upward reporting mechanism to prevent late investigations or the erasure of issues. If reported information leads to the successful resolution of a problem, a reward will be automatically remitted to the informers via the system so that the process is completely hidden and safe,
thus offering complete informer identity protection and preventing a variety of
security.⁷¹

Related Systems

Local and global systems on OCRS in connection are as follows:

The Itaga⁷² Mo Sa Bato App (PNP Reporting App)/ Police Quick Response System. This system is a mobile app that is installed in smartphones of residents in a community; they have a two-button specifically (1) is used for sending text reports via SMS (2) for auto-calling the Emergency Hotline 911. The system also provides a countermeasure for the hoax and malicious reports through the registration module and two register numbers, giving them priority over reports from unregistering that are needed (GOV, 2016).

IWF: Internet Watch Foundation. This system focuses on removing online child sexual abuse images and videos globally; the mean of⁷³ informing the police of illegal content is by tracing the range of where it is hosted. This system also works with the police directly to speed up the removal of⁷⁴ child sexual abuse images and videos. Also, working with a relevant police agency allows them to confirm to us if they are already investigating the people behind the photos and ultimately to help rescue the children pictured in the photos and videos.⁷⁵ This system also provides reporting portal service to report images and videos of child sexual abuse when a spot or seen on the internet (iwk,⁷⁶ 2020).

Design of a Standardized Crime Reporting System. This crime reporting system gathered data via mailed questionnaires and on-site surveys to establish functions within each agency that required crime data and to analyze both the⁷⁷ information requirements of these functions and the data needed or available to meet them. The data elements were then identified:⁷⁸ And the data hierarchy⁷⁹ was established:⁸⁰ it consists of data groups, data categories, data chains, data elements, and data items. Five features necessary for each event were also found: event information, personal descriptors, property descriptors, location information, and time information. Finally, a prototype crime reporting system was designed that relies on four reporting forms: a complaint/dispatch reporting form, a crime event report form, a follow-up investigation report form,

and an arrest report form.⁸¹ The system consists of three functional modules: a data capture module, a report management,⁸² and control module, and a data utilization module (America, 1973).

Android Based Crime Reporting System Using Firebase This system has two main applications (1) User application, this module assists with bearing the necessities of the overall population. Above all else, the clients should do one-time enrollment before utilizing the application. After registration, the user will be provided with the facilities like report crime, check the status. The user application consists of Register complaints, View complaints, Check status, profile, Forum, Sign up, Sign in (2) Police application,⁸³ this module will be prompting the advancement of police android application which would fill in as follows. As a matter of first importance, the police need to log in with the username and the password given to them; as this application isn't freely accessible for the general clients, the police application consists of View complaints, Update status, profile, Sign in. In this application, Firebase will be utilized for putting away the database to provide the facility of remote access.⁸⁴⁸⁵ As referenced in the police client application, the username and the secret key used by the police will be cross confirmed with the ones put away in the database (R. Dhinakara, 2020).

Chapter III

Technical Background

This chapter discussed the overview of the current system and the proposed system together with its hardware, software, and peopleware ⁸⁶ in order to develop and implement the aforementioned proposed system.

Current System

The current system of Babatngon Municipal Police Station is a manual process where individuals who have some complaints or crime reports must visit their ⁸⁷ station to ⁸⁸ give a statement about the crime incident that happened. The complainant or the reporter will report to the desk officer about the incident ⁸⁹ so they can determine if it's a crime or complaint. If the incident is a crime, the reporter is endorsed to the duty investigator. The investigator will now ask the 5w's and 1H of the incident, ⁹⁰ while the other police officer records the nature of the incident between the investigator and the reporter in the Incident Record Form (IRF). Some of the questions are as follows; (1) *Who are the involved in the incident* (2) *What happened*, (3) *Where did it happen*, (4) *When did it happen*, (5) *why it happened*, and How does the crime incident happen. After the interrogation, The Duty Investigator and reporter shall review the information entered for correction and additional data before printing the incident Record Form (IRF). The Duty Investigator and the complainant shall sign the IRF, and ⁹¹ the complainant must be furnished with a copy of the IRF. The investigator ⁹² is required to submit the Incident Record Form and narrative for the incident report as mandatory, and the IRF will now be filed into different folders according to the type of crime incident. In the INQUEST and the REGULAR FILLING vault. The inquest files are those minor incidents or crimes that can be

⁹³
solved in an hour or within the day. This folder can be considered as the file that is already done or solved incidents. While the Regular Filing is those long-term crime incidents that take more than 90 days to be solved, like murder. This folder is considered as the pending or ongoing incidents. The reported crime incidents will also be manually recorded on the Crime Incident Recording Analysis System (CIRAS) for future references. CIRAS is the current system of Babatngon Municipal Police station. This system is a recording system where the crime incidents reported are being entered manually into the system to provide an e-copy of the filed crime incident for future references. The system can add, edit, and update the crime incident by the designated officer. There are only two (2) users of the system, the officer of WCPD and the General Investigation officer.⁹⁴ WCPD or the Women and Child Protection Department is the organization that manages the reported incidents related to violence against women and their children, while the General Investigation Officer is the one who handles the crime reports related to murder and other significant cases.

This system does not include the reporting of crimes. After recording the crime incident or complaint, the police officer will inform the chief of police regarding the occurrence of such incident for further investigation. As per the instruction of the head of police, one patrolman and one investigator will be deployed to check the location of the crime incident.⁹⁵ The response time in responding to the reported crime incidents is within 15 minutes from the time⁹⁶ they received the call or report (depending on the distance where the crime is committed).

Proposed System

The proposed system entitled “Online Crime Reporting System” is a web-based software that will override the problems prevailing in the practice of manual techniques that need more workforce in receiving the crime incident mentioned

above. The Online Crime Reporting System allows people to file complaints, report crimes, report missing persons, and report terrorist groups in the community over the internet 24/7, even on holidays. To file an incident/crime report, the user/people should register in the system and provide their proper credentials. A set of instructions will be followed in the report form, explaining what types of incident/crime to be filed. The system can be accessed by the community and the designated officers of the Philippine National Police – PNP Babatngon Leyte.

After the registration in the system, the user can now log in and access the different features of the system; they can now file a criminal complaint by filling out the complaint form or the IRF in which they can attach short video clips and images as evidence to the reported crime. The user can also view the details of the most wanted persons wherein they can note that person in case of having information that can help the police in finding the most wanted persons in the community and, the user can safely report terrorist groups in the community without going to the police station.⁹⁷ Furthermore, the user of the system⁹⁸ can remotely monitor the status of their complaint by logging into the system.

The reports from the community were uploaded⁹⁹ electronically through the admin's accessibility of the system. Admin will now evaluate the reported crime incidents and classify if it is a crime that needs to be handled by the police or needs to be notified at the Barangay level only. After categorizing and evaluating the reported crime incident, the admin will now take action if the reported crime incident will be approved or be declined.¹⁰⁰ Moreover, the admin had the authority to manage profiles, upload most wanted persons or criminals, update crime status, view the full¹⁰¹ complaints by the community in the system. All reports will be considered by the super admin or the chief of police. The

super admin had the authority to add accounts and update admin accounts in the system. In addition, the proposed method reduces the risk of damaging and losing the documents by using a backup feature to back up the file or the complaint. Moreover, the system will be embedded with a machine learning algorithm using a clustering model with K-Means Algorithm to predict the future crimes incidents that will happen based on the data or the reported crime incidents recorded in the system.¹⁰² The prediction of future crimes can be used by the police in preventing or preparation for a faster and more effective response to the crime incidents in the community.¹⁰³

K-means is one of the simplest unsupervised learning algorithms that solve the well-known clustering problem. K-means algorithm is also known as a predictive analytic model, which is¹⁰⁴ a widely used method in grouping data into a specified number of clusters based on mean data values. The procedure follows a simple and easy way to classify a given data set through a certain number of groups. In predicting or forecasting future crimes, *K stands as* an input to the algorithm for predictive analysis; it stands for the number of groupings that the algorithm must extract from a dataset, expressed algebraically¹⁰⁵ ask. In the context of crime analysis, the large amount of crime data available in police databases can be considered a valuable source of big data, which we can use to gain useable new insights and knowledge on current and emerging crime trends and patterns. The application of advanced statistical methods to obtain this intelligence from big data is commonly¹⁰⁶ referred to as predictive analysis. The use of predictive analysis in criminological applications is often referred to as predictive policing (Perry, McInnis, Price, Smith, & Hollywood, 2013).

The researchers used a quantitative forecasting approach to forecast future crimes based on the historical data as a basis for recognizing data trends and

predicting what will happen next or making suggestions actions to take for optimal outcomes in the future. Typically, historical data is used to build a mathematical model that captures ¹⁰⁷important trends. Mathematical models describe the behavior of observed past values that can be used to ¹⁰⁸forecast future crime trends by projecting a time series analysis of crime trends into the future. In general, the source of quantitative time-series forecasting is the police- and victim-reported crime statistics. The simple mathematical computation in the forecasting function is available in excel. The argument of forecast function in excel is FORECAST(x, known_y's, known_x's) where x is a numeric value where we need to forecast new y value, Known y values is a dependent array or range of data, and Known x values is an independent array or range of data. ¹⁰⁹The data can be used ¹¹⁰to find new causal relationships based on new data. ¹¹¹The forecast can be continuously improved with every additional connection between data that is uncovered and utilized.

Peopleware

The system can be accessed by four user levels: The admin or the Chief of Police, the police officer of the office or the designated officer by the HR, the user or the civilian, and the guest. ¹¹²

The role of the *admin* had overall control of the system. The uniqueness of admin compared to the others, the Chief of Police can manipulate the system and access the account of the police officer-in-charge. Moreover, the police in charge focused on monitoring, updating, and classifying reports. Additionally, the police officer-in-charge can also accept or decline the information depending on the situation, while the user or the civilian can only report the incidents or other cases of the information, while the guest can only view the homepage of the system ¹¹³ ¹¹⁴for the announcement.

Software

Table 1: *Software Requirements for the Proposed System***Software****Description**

Operating System

Windows 7 and above, where the application will be developed and debugged.

PHP 5

A widely used open-source general-purpose scripting language that is¹¹⁵ especially suited for web development and can be embedded into HTML.

MySQL

It is a relational database management system based in SQL – Structured Query Language and used in managing and storing Databases.¹¹⁶

Hardware Requirements**Table 2.** *Hardware Requirements for the Proposed System.***System Minimum Requirement**

RAM

1 gigabyte or more.

Storage device

128 GB SSD (solid-state drive) or higher.

CPU

1 gigahertz or better.

Desktop Monitor

VGA is capable of 1024x768 screen resolution or larger.¹¹⁷

Either a CD/DVD drive or a USB port for the installer media.

Internet access.

Chapter IV

Methodology

This chapter dealt with the Requirements Analysis that includes Performance Requirements, Safety Requirements Security Requirements, and the research design of the study.¹¹⁸ ¹¹⁹ This also included the different diagrams that will help to understand further the flow of the system.

Requirements Analysis

Requirement analysis, or otherwise known as requirement engineering, is determined for a new or modified product. The feature requirements must be quantifiable, relevant, and detailed. Requirement analysis requires the researchers to communicate with the system used to determine specific feature expectations and to avoid conflicts and feature creep eventually and documentation of all aspects of the project, ensuring that the usability of a final system or product meets the client's expectations and reduce the project costs and shortens development cycles (Vallabhaneni, 2018)

The researchers of this study follow the *Descriptive type* of research with an application of *Quantitative analysis* in addition to this.¹²⁰ The researchers used descriptive analysis because, as part of the fundamentals of a relevant study was a survey was conducted mainly to determine on what were¹²¹ the different current issues and how to solve them, which are gathered through facts they have responded in the study. The researchers utilized it using the data being collected from the surveys, interviews, and experience about the Babatngon

Municipal Police Station Policing, and the advantage of Descriptive Research
was the researchers have no authority over the variables, but instead, they can
only detail the previous issues and the current issues and how to overcome
them through the response of clients.¹²²

Performance Requirements

Table 3. Performance Requirements

Efficiency

The system can handle video clips and images as evidence in the reported crime incidents from the users. The video clips should load in 2 minutes or less
depending on the size of the video and the speed of the internet connection of
the uploader.¹²³

Scalability

Vertical scaling -¹²⁴ The client may “scale up” by adding more power (CPU, RAM) to your existing machine as per demand.

Horizontal scaling -¹²⁵ By “scaling out” means adding more machines into your pool of resources as per demand.

Accessibility

The system will require an internet connection whenever they use the system.

Accuracy

The system performs the real-time function of reporting Crime, uploading, providing evidence such as photos, video, and files. Modifying information and other database functionality matters are on admin. The system will undergo a complete diagnostic test to check if all the functions and features are working
coherently and bug-free.¹²⁶

Hosting

The proposed system will be uploaded online using Web hosting to make it accessible to users and admin.

Safety Requirements

Table 4. Safety Requirements

Authentication

It requires the system to know who is accessing information and using the system¹²⁷ through registration and login information to prove identity to the server or client.

Authorization

After logging in, the system determines if the user or the client has permission¹²⁸ to use a resource or access a certain function¹²⁹. It is mostly¹³⁰ used in the administration page, which controls all functions¹³¹ on the website.

Security Requirements

Table 5. Safety Requirements

Using username and password

The admin is the only one responsible for creating or adding police officer accounts. With this idea, the system will not have any issues, especially on the monitoring of¹³² activating and deactivated accounts. And the system can be accessed only by the registered accounts¹³³.

Hash Function

Hashing function provides guaranteed security for the database. If by chance, any intruder attempts to access a confidential part of the system, the intruder will not be able to get the sensitive data of the user because this function¹³⁴ (hashing) encrypts the data in the system. It will be applied¹³⁵ on logging in to

their account, which is used as a security feature for their ¹³⁶accounts. With hashing function, ¹³⁷accounts are provided for securing their data by encrypting it in the system.

Data Privacy

The admin and the police officer in-charged had an audit trails feature that allowed him to monitor the activities in the system. The super admin can monitor the ¹³⁸activities of the admin, and the admin can monitor the activities of the users.

The government implemented the RA 10173, or the Data Privacy act of 2012, with the national privacy commission, which protects the privacy of every individual from the unauthorized processing of personal information that is private and identifiable.

System Designs

System Development Life Cycle

The development of the proposed system tackles the phases that need to be followed accordingly ¹³⁹in order to provide a systematic approach to developing software from the planning down to the implementation of software. The System development life cycle of SDLC is the life cycle in developing a system, also known as information system development or application development. The phase of SDLC in developing a system were requirements, design, architecture, development, and coding. Quality assurance & software testing,

implementation, and maintenance and support. The researcher used the “Sashimi Model” in developing the proposed system.” Sashimi model” was created by Peter DeGrace, as a modified version of the Waterfall model. The key features of the sashimi model are the possibility of overlapping development of different phases of the software development life cycle.

The researcher chooses the sashimi model as development methodology because the proposed system was developed¹⁴⁰ in an overlapping approach of different phases, which allows the researchers to work in various stages towards the effective implementation with no issues of the proposed system.

Figure 2. Sashimi Model of the System Development Life Cycle

Requirement Phase

This stage is one of the essential stages, which proceeds with the gathering of system requirements needed in developing the system.¹⁴¹ During this phase, all relevant information is collected from the client about the desired product. The researcher conducts interviews, observations, and survey in some police stations and communities if there were current issues existing in reporting of crimes.¹⁴²¹⁴³ The researchers discovered issues in Babatngon Police Station.

The researchers conduct an interview and survey with the current issues they have with the process of¹⁴⁴ reporting crimes and their documents. The researchers asked for the demographic profile of Babatngon Police Station and the specification of documents in reporting crime and the process of reporting crimes. From the interview that was conducted¹⁴⁵, the researchers planned for the possible features of the proposed system to make the policing and reporting crime efficient for the police and reporter and for the researchers to provide additional functions that will be beneficial to the Philippine National Police (PNP) and the community.

Design and Architecture Phase

In this phase, the researcher analyses the proposed system and ensures the systematic development of the system. The data and requirements gathered by the researcher are used as input. The researchers visualized the outcome of the product, defined what programming language is needed and how it would build the architecture of the proposed system. This phase took a long period of time to ensure the efficiency, Maintainability, and Reliability of the software.¹⁴⁷

The design of the system began from the type of methodology used in the development of the proposed method, which was the Descriptive and Quantitative type of research where the researcher conducted indeed based on facts, sashimi model and designing of the context and data flow diagram furthermore to understand the modules and functionality of the proposed system.¹⁴⁸

Development and Coding Phase

After the Design and Architecture Phase, the developer gets the design document. The software design is translated into source code. In making the system, the researcher underwent trial and error to be able¹⁴⁹ to reach a sound output. The researchers have experienced lots of difficulties in making the proposed system, but since they are cooperating cooperatively, it was done¹⁵⁰ successfully.¹⁵¹ This phase took a long period of time to ensure that the software¹⁵² will be functional and valuable to the residents and dormitory management.¹⁵³

Quality assurance and Software Testing Phase

This phase is wherein errors in the proposed system are being detected. The researcher underwent Alpha Testing and Beta testing to enable them to meet the client's requirements. All the errors found during this phase are thoroughly examined and fixed by the researchers.

Implementation Phase

During this phase, the researcher will deploy the system to the intended end user for them to use.

Maintenance and Support Phase

The maintenance phase involves making changes to software and documentation to support its operational effectiveness. It includes making changes to improve a system's performance, correct problems, enhance security, or address user requirements.

Test Plan

The proponents develop an Online Crime Reporting System for Babatngon Municipal Police Station. The interface of the system¹⁵⁴ is designed to be simple and can be easily understood by the user of the system. The purpose of this test is to help the researchers of the study determine the effort needed to validate the quality of the proposed method under test.

Table 6 *Test Plan*

Test Plan

Objectives

What to Test

Usability Testing

To identify the location of the user¹⁵⁵ where they are struggling when they are using the system and accept some feedback to improve the system.

The user's reports/incidents are filled out, and proof such as photographs and video clips are uploaded.

Interface Testing

To develop a user-friendly system that can be accessed¹⁵⁶ through the web and mobile phone.

The interface of the system if it's user-friendly and easy to understand by the users.

Security Plan

The proponents made a security measure so that the users of the proposed system can use the system with efficiency and reliability.¹⁵⁷

Table 7. Security Plan

Security Plan

Objectives

What to Test

Data Risk

To protect the information of individual users, this also ensures data reliability.

Information of the users will be limited and not expose.

Maintenance Plan

The purpose of this plan is to adapt and update the software system. The researcher will also include making changes to improve a system's performance, correct problems, enhance security, or address user requirements.

Table 8. Maintenance Plan

Maintenance Plan

Objectives

What to Test

System Setting Update

To have an accessible way of scanning through the system's source code in case of updates of the system in the future without destructing the origin of the codes^{159 158}.

Update of the user interface.

GANTT Chart

Table 9. *Gantt Chart*

Pert Chart

Figure 3. *Pert Chart*

Project Activity List

Table 10. *Summary of Activity*

CRITICAL PATH: A, B, C, D, F, H, I, K, N, O

Legend:

- ES – Early Start
- EF – Early Finish
- LS – Late Finish
- LF – Late Finish

Context Diagram

Figure 4. *Context Diagram of Proposed System*

Data Flow Diagram

Level 0

Figure 5. *DFD Level 0 of the Proposed System*

Admin Functionalities

Level 1

Figure 6 *Admin Functionalities*

Level 1 Process 1

Level 1 Process 2

Level 1 Process 3

Level 1 Process 4

Level 1 Process 5

Police Officer-in-charge

Level 1

Level 1 Process 1

Level 1 Process 2

Level 1 Process 3

Level 1 Process 4

Level 1 Process 5

User Functionalities

Level 1

Level 1 Process 2

Level 1 Process 3

Level 1 Process 4

Level 1 Process 5

System Flowchart

Main interface

Figure 7. Main Interface

Admin Interface

Figure 8 Admin Interface

Police officer Interface

Figure 8 Police Officer Interface

User Interface

Figure 9. User Interface**Figure 10. Entity Relational Diagram of the Proposed System****Figure 11. Database Design of the Proposed System**

Program Considerations and Issues

Users Skills

During the implementation of the proposed system, teaching and training on how to use the system are needed for the user, but people who are technology-oriented¹⁶⁰ can use the system with ease.

Program Tools

Web Application

- Bootstrap 4.6 is CSS Framework for developing responsive and mobile-first websites.
- JavaScript is a dynamic computer programming language that allows the developer of the proposed system to implement complex features on web pages.
- PHP version 8.0 (Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.
- Visual Studio Code 1.52.1, editor redefined and optimized for building and debugging mode modern web and cloud application.¹⁶¹

Database

- MySQL is a structured query language based on an open-source relational database management system. The application is used for a ¹⁶²wide range of purposes, including data warehousing, e-commerce, and logging applications. ¹⁶³It can be used ¹⁶⁴to store anything from a single record of information to an entire inventory of available products for an online store.

Software Requirement Specification

¹⁶⁵In order to use the Online Crime Reporting System (OCRS): An Online reporting platform for Babatngon Municipal Police Station and the community, a browser and internet are needed when accessing it via the web.

Hardware Requirement Specification

When using Online Crime Reporting System as a web platform, this requirement must be met ¹⁶⁶so that users will not experience performance issues.

- Android OS supported smartphone.
- Computer or Laptop at least 4 GB ROM.

System Evaluation Design

Instrument

The researcher created a survey questionnaire that is one of the instruments of this study. ¹⁶⁷The different employees answered the evaluation form in order to ¹⁶⁸determine the quality of the system if it is fully for implementation already. ¹⁶⁹The evaluation form was based on the ISO/IEC 25010:11.

The *ISO/IEC 25010:2011* is a foundation of the quality of a specific product. The ¹⁷⁰quality of the system is determined from the client's implied needs, and these needs are the basis of the software's ¹⁷¹quality which is categorized into different characteristics. (iso25000.com, 2019). The ¹⁷²quality in use model is composed of five (5) ¹⁷³characteristics.

These categories are the following:

- Functionality
- Efficiency
- Usability
- Reliability
- Security
- Maintainability

Validation

In the validation process, before the actual deployment of the system, the researcher conducted an evaluation in order to¹⁷⁴¹⁷⁵ determine the qualification of the system. During the validation process, the researcher conducted Alpha testing through the use of the designed evaluation form that was based on the¹⁷⁶ ISO/IEC 25010:11.

Alpha testing, as commonly known by technical terms, is an acceptance test¹⁷⁷ that is usually conducted in a development site (Craig, 2002). It is intended to scan the existing bugs or issues that may be encountered¹⁷⁸ before officially being deployed to the client. It is relatively called alpha testing because it is an initial stage before the best testing eventually (Guru99, 2019). On the other hand, beta testing is an acceptance test being¹⁷⁹ conducted at the client or recipient's site. Since beta is still on the testing part, this should involve cases like expected and unexpected results. The proposed system in this phase is allowed to be used thoroughly to check the quality and if there are major or minor¹⁸⁰¹⁸¹ issues that should be criticized in order to attain the expected outcome of the¹⁸² system (Craig, 2002). Moreover, the difference between the two aforementioned¹⁸³ testings, in terms of technicality, is that *reliability* and *security* are not included¹⁸⁴ in the alpha testing (Guru99, 2019).

Data Gathering Procedure

The researchers have prepared ten questions per evaluation form, which was distributed and answered honestly by a maximum of 50 respondents. The researchers followed a Likert scale to create a survey questionnaire in order to have an outcome that is relevant to the research. ¹⁸ A Likert scale is a number ¹⁸⁶ scale that corresponds to answer options. Likert-type questions show different options that create enormous differences in understanding the result the researcher is getting. This method of surveying uncovers the modules where your system needs improvement or adjustment to be followed (SurveyMonkey, 2019).

Figure 12. *Discussion pertaining to the Alpha Testing to be conducted.* ¹⁸⁷

The researcher conducted the evaluation among ¹⁸⁸ selected respondents of 150 citizens for alpha testing at Babatngon Leyte. The questions were categorized into four (4) categories that would determine the system's functionality, efficiency, Usability, and Maintainability that were ¹⁸⁹ based on ISO 25010/2011.

Figure 13. Introducing the system for beta testing purpose

The researcher conducted the evaluation among selected respondents of 25 Police officers for beta testing at the Babatngon Municipal Police Station - Babatngon Leyte, which was the recipient of the proposed system. The questions were categorized into six (6) categories that would determine the system's functionality, efficiency, usability, reliability, security, and Maintainability that were ¹⁹⁰ based on ISO 25010/2011.

Statistical Tools

The computation of the survey result is displayed using the tables below. Each question can be answered by numbers, and these numbers have equivalent remarks:¹⁹¹

1 – Strongly Disagree; 2 – Disagree; 3 – Neutral of Fair; 4 – Agree; 5 – Strongly Agree.

Table 11. Five Point Likert Scale with an equivalent value that serves as an indicator from the results of the evaluation.¹⁹²

Limits of Scale

Description

4.21 – 5.0

Strongly agree

3.21 – 4.20

Agree

2.61 – 3.20

Neutral

1.81 – 2.60

Disagree

1.0 – 1.8

Strongly Disagree

As part of the alpha testing, the researcher conducted the evaluation among¹⁹³ selected respondents of 30 citizens for alpha testing at Babatngon Leyte. The questions were categorized into four (4) categories that would determine the system's functionality, efficiency, Usability, and Maintainability that were¹⁹⁴ based on ISO 25010/2011.

The researchers used the Cronbach Alpha formula $a = (k/k-1) * (1-(V_x/V_y))$ in computing the percentage where:

K is the number of questionnaires.

V_x is the sum of all variances of all respondents per question.

V_y is all variance of all questions per respondent.

Chapter V

Results and Discussion

In general point of view, the researchers have fully accomplished and developed a system that is for Online Crime Reporting System for the

¹⁹⁵
Babatngon Municipal Police Station – Babatngon, Leyte. Below are the results and discussion with their respective evidence.

Objectives of the Study with the result:

*Identify the demographic profile of Babatngon Municipal Police Station for the assigning of users that will handle the system. **Figure 14.** Police officers are ¹⁹⁶assigned according to the level of accessibility.*

Result

The researchers identify the demographic profile of Babatngon Municipal Police Station for the assigning of a police officer that will handle the system. The administrator is the only person responsible for adding users in which he ¹⁹⁷can assign ¹⁹⁸a police officer according to its level of accessibility.

1. *Identify the crime incidents in Babatngon Municipal Police Station.*

Figure 15. *Summary of the crime reports.*

Result

The researchers identified the crime incidents in Babatngon municipal police station by providing a summary of crime reports. The ¹⁹⁹summary of the crime rate in Babatngon is shown in the graph ²⁰⁰to easily identify the most common crime ²⁰¹incident in Babatngon Leyte.

1. Develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting a crime ²⁰²incident in the community.

Figure 16. *Citizens can report crime incidents by filling out the report crime incident form.*

Result

The researchers develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting a crime incident in the community.²⁰³ Citizens can report crime incidents anytime through an online crime reporting system in which they can²⁰⁴ report crime incidents without going to the police station.

1. *Design a user-friendly interface for Babatngon Municipal Police Station, where the Police Officer can accept crime reports and update the status or progress of the crime incident reported.*

Figure 17. *Inspector or the admin can update the status of the crime reported.*

Result

The researcher created a user-friendly interface for the Babatngon municipal police station, allowing officers to collect crime complaints and track the status or progress of crimes reported by citizens. By updating the status²⁰⁵ of the crime report, registered users can monitor the status²⁰⁶ of their reported crime by accessing their accounts without going to the police station.

1. *Develop user accounts for the super admin or the chief of police that will authorize him to add an account for the Police officer in charge and view the overall²⁰⁷ reports in the system. That will generate reports of the incidents by type of crime, date, time & year that happened, and monthly crime report.*

Figure 18. *Generating reports according to the type of crime and date inclusion.*

Result

The researcher developed user accounts for the administrator or the chief of police that will authorize him to add an account²⁰⁸ for the Police officer in charge

and view the ²⁰⁹overall reports in the system. The system can generate crime reports according to the type of crime, date of acutance and generate the ²¹⁰monthly report. The generated report can also be printed ²¹¹for the submission of ²¹²reports in the higher department. ²¹³

1. Develop a system that can predict the future crime incidents that will happen by month in Babatngon Leyte, which can be used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community. ²¹⁴

Figure 19. *forecast of crime incidents that may happen after five years.*

Result

The researcher developed a system that can predict the future crime incidents that will happen ²¹⁵in Babatngon Leyte, which can be used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community. ²¹⁶Crime forecasting can help to ²¹⁷prevent the recurring crimes in Babantngon Leyte by identifying the patterns of crimes committed in the past.

Alpha Test Result

Table 12, under functionality, shows the result of the survey based on the ²¹⁸feedback of the respondents. The table data received an overall mean of 4.1, which is interpreted as Agree. The system is accurate in executing its functions got a mean of 4.13. If the system is doing logically and appropriately, it received a ²¹⁹mean of 4.11. Running in different user levels or account types got a mean of 4.1. System menus are arranged accordingly received a mean of 4.0. Meanwhile, the system generates a report got a mean of 4.2.

Table 12. Description and Questions on Functionality**Questions****n****Mean****Interpretation**

1. The system is accurate in executing its functions

30

4.13

Agree

1. The software does what is appropriate logically

30

4.11

Agree

1. The software runs with the different user level

30

4.1

Agree

1. The software generates a report.

30

4.2

Agree

1. The organization of menus and other information are arranged accordingly.

30

4.0

Agree

OVERALL MEAN

4.1

Agree

Table 13, under efficiency, shows the result of the survey based on the feedback of the respondents²²⁰. The table data received an overall mean of 4.1, which is interpreted as Agree. Responding to every module in real-time got a mean of 4.1. Uploading of files like photos received a mean of 4.0. The system runs over the internet got a higher mean value which is 4.3. The software displays information that is easy for the users to understand in order to²²¹ complete a task received a mean of 4.1. Meanwhile, displaying a message when an error occurs got a mean of 4.0.

Table 13. Description and Questions on Efficiency

Questions

n

Mean

Interpretation

1. The software has the capacity to respond to every module in real-time.

30

4.0

Agree

1. The software uploads and downloads files or documents in real-time

30

4.2

Agree

1. The software runs over the internet or can be used online.

30

4.4

Strongly Agree

1. The software displays commands and information that are easy for the users to understand ²²² in order to complete the task

30

4.1

Agree

1. The software displays an error message that clearly informs the user.

30

4.0

Agree

OVERALL MEAN**4.25****Strongly Agree**

Table 14, under usability, shows the result of the survey based on the feedback of the respondents. ²²³ The table data received an overall mean of 4.1, which is interpreted as Agree.

The system has a user-friendly interface got a mean of 4.3. The system ²²⁴ shows no complications, and it is easy to use received a mean of 4.0. The saving and editing option in the system got a mean of 4.3. The user's comfortability when using the system got a mean of 4.0. The system is simple enough to be used by the users who received a mean of 4.0

Table 14. Description and Questions on Usability**Questions****n**

Mean**Interpretation**

1. The software has a user-friendly interface.

30

4.3

Strongly Agree

1. The system can be easily operated²²⁵, controlled and shows no difficulty for the users to operate²²⁶ it.

30

4.1

Agree

1. The system's saved records can be updated easily.

30

4.2

Strongly Agree

1. The users feel comfortable using the system

30

4.0

Agree

1. The software was simple enough to be used by the users.

30

4.0

Agree

OVERALL MEAN**4.0**

Agree

Table 15, under reliability, shows the result of the survey based on the feedback of the respondents.²²⁷ The table data received an overall mean of 4.0, which is interpreted as Agree. The system has fully developed functionalities got a mean of 4.1. The system is available online received a mean of 4.1. The system runs smoothly regardless of small²²⁸ bugs or issues got a mean of 4.0. The system responds appropriately when failures or errors are encountered received a mean of 4.1. The system provides a message to prevent errors²²⁹ got a mean of 4.1.

Table 15. Description and Questions on Maintainability

Questions

n

Mean

Interpretation

1. The system has a database backup and restores feature.

30

4.0

Agree

2. The system's user profile can be updated efficiently

30

4.0

Agree

3. The system is flexible to changes or updates that will occur

30

4.0

Agree

OVERALL MEAN

4.0

Agree

Beta Test Results

Table 16, under functionality, shows the result of the survey based on the feedback of the respondents²³⁰. The table data received an overall mean of 4.1, which is interpreted as Agree. The system is accurate in executing its functions got a mean of 4.1. If the system is doing logically and appropriately, it received a mean of 4.2. Running in different user levels or account types got a mean of 4.2. System menus are arranged accordingly received a mean of 4.0. Meanwhile, the system generates a report got a mean of 4.1.

Table 16. Description and Questions on Functionality

Questions

n

Mean

Interpretation

1. The system is accurate in executing its functions

30

4.2

Agree

1. The software does what is appropriate logically

30

4.0

Agree

1. The software runs with the different user level

30

4.0

Agree

1. The software generates a report.

30

4.2

Agree

1. The organization of menus and other information are arranged accordingly.

30

4.4

Agree

OVERALL MEAN

4.08

Agree

Table 17, under efficiency, shows the result of the survey based on the feedback of the respondents.²³¹ The table data received an overall mean of 4.1, which is interpreted as Agree.

Responding to every module in real-time got a mean of 4.1. Uploading of files like photos received a mean of 4.0. The system runs over the internet got a mean value of 4.3. The software displays information that is easy for the users to understand in order to²³² complete a task received a mean of 4.1. Meanwhile, displaying a message when an error occurs got a mean of 4.0

Table 17. Description and Questions on Efficiency

Questions

n

Mean

Interpretation

1. The software has the capacity to respond to every module in real-time.

30

4.0

Agree

1. The software uploads and downloads files or documents in real-time

30

3.8

Strongly Agree

1. The software runs over the internet or can be used online.

30

3.9

Strongly Agree

1. The software displays commands and information that are easy for the users to understand ²³³in order to complete the task

30

4.2

Agree

1. The software displays an error message that clearly informs the user.

30

4.2

Strongly Agree

OVERALL MEAN

4.02

Strongly Agree

Table 18, under usability, shows the result of the survey based on the feedback of the respondents.²³⁴ The table data received an overall mean of 4.1, which is interpreted as Agree. The system has a user-friendly interface got a mean of 4.4. The system²³⁵ shows no complications, and it is easy to use received a mean of 4.0. The saving and editing option in the system got a mean of 4.1. The user's comfortability when using the system got a mean of 4.0. The system is simple enough to be used by the users who received a mean of 4.0

Table 18. Description and Questions on Usability

Questions

n

Mean

Interpretation

1. The software has a user-friendly interface.

30

4.3

Strongly Agree

1. The system can be easily operated,²³⁶ controlled and shows no difficulty for the users to operate it.²³⁷

30

4.1

Agree

1. The system's saved records can be updated easily.

30

4.0

Agree

1. The users feel comfortable using the system

30

4.06

Agree

1. The software was simple enough to be used by the users.

30

4.16

Agree

OVERALL MEAN

4.1

Agree

Table 19, under reliability, shows the result of the survey based on the feedback of the respondents²³⁸. The table data received an overall mean of 4.1, which is interpreted as Agree. The system has fully developed functionalities got a mean of 4.3. The system is available online received a mean of 4.3. The system runs smoothly regardless of small²³⁹ bugs or issues got a mean of 4.0. The system responds appropriately when failures or errors are encountered received a mean of 4.0. The system provides a message to prevent errors²⁴⁰ got a mean of 4.0.

Table 19. Description and Questions on Reliability

Questions

n

Mean

Interpretation

1. The system has fully developed functionalities.

30

4.0

Agree

2. The system is available is accessible online.

30

3.9

Agree

3. The system has the capacity to²⁴¹ run smoothly regardless of small²⁴² bugs or issues.

30

4.2

Agree

4. The system responds appropriately when failures or errors are encountered.

30

3.8

Agree

5. The system provides a message to prevent error

30

3.9

Agree

OVERALL MEAN

4.0

Agree

Table 20, under security, shows the result of the survey based on the feedback of the respondents.²⁴³ The table data received an overall mean of 4.0, which is interpreted as Agree. All questions and descriptions pertaining to²⁴⁴ the security of the system received a mean of 4.0.

Table 20. Description and Questions on Security

Questions

n

Mean

Interpretation

1. The system has restrictions on unauthorized users and secures data.

30

4.3

Agree

2. The system encrypts sensitive data such as the password.

30

3.9

Agree

3. The system has audit trails to track the actions being taken by all users.

30

3.9

Agree

4. The system works appropriately with its secured functionalities.

30

4.03

Agree

5. The system error/warning message is helpful and easy to comprehend

30

4.0

Agree

OVERALL MEAN

4.2

Agree

Table 21, under Maintainability, shows the result of the survey based on the feedback of the respondents. The table data received an overall mean of 4.0, which is interpreted as Agree. The system has restored the data feature received a mean of 4.0. The system's user profile can be updated efficiently got a mean of 4.1. The system is flexible to changes or updates received a mean of 4.1.

Table 21. Description and Questions on Maintainability

Questions

n

Mean

Interpretation

1. The system has a database backup and restores feature.

30

4.1

Agree

2. The system's user profile can be updated efficiently

30

4.2

Agree

3. The system is flexible to changes or updates that will occur

30

4.2

Agree

OVERALL MEAN

4.2

Agree

The table above shows the qualities to be followed by the proposed system, which is under *ISO/IEC 25010:2011*. The majority of the question received an Agree remark. The average mean of all the tables is 4.0, and it is interpreted as Agree. Based on the result, the system is able to²⁴⁶ meet the requirements of the ISO/IEC 25010:2011 in terms of qualitative characteristics.

System screenshot per user Account

OCRS Admin

1. Visual representation to easily²⁴⁷ determine the total numbers of Crimes reported.

Figure 20. PNP Dashboard total crime reported per crime type of crime

1. Visual representation list of crime reported

Figure 21. List of Crime Incidents Report page

1. Generating a list of crime incidents/summary report

Figure 22. Summary Report Page

1. Citizen's information is represented visually in this diagram.

Figure 23. Citizen's information Page

1. Type of Crime Incidents

Figure 24. Type of Crime Incidents Information Page

1. PNP Information

Figure 25. PNP Station information Page

1. System users

Figure 26. Members Page

1. Backup Database

Figure 27. Downloading Database Page

1. Adding Users in the System

Figure 28. Add Users Information Page

1. Adding Crime Report

Figure 29. Add Crime Information Page**Inspector Account / Page**

1. *Dashboard of Inspector*

Figure 30. Inspector Dashboard Page

1. *Crime Incident Reported*

Figure 31. Crime Incidents Page

1. *Registered Citizens Information*

Figure 32. Citizens Information Page

1. *Visual representation of generating reported crime*

Figure 33. Crime Incidents/Summary Report Page

1. *Inspector Account Update*

Figure 34. Update User's Data Page

1. *Visual Representation of Adding New Crime Incident*

Figure 35. Add Crime Incident Report/Blotter Information Page**Citizens Account / Page**

1. *Citizens Landing Page*

Figure 36. Landing Page

1. *Visual Representation of Citizens Login*

Figure 37. Citizens Login Page

1. *Visual representation of Reporting Crime Incident*

Figure 38. Report Crime Incident Page

1. *Visual Representation of Citizens Crime Report History*

Figure 39. Citizens Incidents Reports Page

1. *Users Change Password*

Figure 40. Citizens Change Password Page**Implementation Plan****Figure 41sc. Discussion and Installation of the System****Chapter VI****Conclusions and Recommendations**

This chapter states the conclusion and recommendation of the study. The outcome of the research undertaken will be explained here.

Conclusion

The researcher concluded that to address the citizens' fear, security, and safety in reporting crime incidents or terrorist groups in the community. And to help Babatngon Municipal Police Station in fighting against crimes. The proposed system online crime reporting system, web-based software will help to minimize this kind of problem prevailing in the community. Online crime reporting will help citizens in Babatngon Leyte in reporting crime incidents in the community without risking their safety and security. The system will also help limit the complainant's need to go to the police station, which will save the²⁴⁸ cost and time incurred in traveling to report a crime.

According to the interview and survey conducted by the researcher, the current system of Babatngon Municipal Police Station in reporting crime incidents is manual. Individual who has some complaints will work into any office of security agents (e.g., police, neighborhood corps) to inform and write in a statement on the issues that may need their attention which sometimes lead unreported crime because of the fear of getting involved, plus the cost and time²⁴⁹ incurred in travelling to report a crime.²⁵⁰ This²⁵¹ results from an environment in which crimes in the community are difficult to combat.

The Online Crime Reporting System aims to solve the problems and change the manual system into an automated one. To solve the problems experienced by the citizens in reporting and monitoring the status of the crime they reported, citizens will not have to go to the police station to report a crime. This system²⁵² can be accessed online by using a desktop or an android phone. Citizens can report crime anytime and anywhere; Online Crime Reporting System will also²⁵³ address not only the cited reasons for not reporting, but also the need of police

departments for more accurate, complete, and reusable information that may free up their time and resources to allocate them to policing the streets.²⁵⁴

Therefore, the researchers concluded that the system is very helpful²⁵⁵ because of the efficiency and security it provides for the users, plus it will lessen the time incurred in reporting a crime incident. The Babatngon Municipal Police Station can provide efficient and secure transactions for the users to access through this system. Anything against the law or violating the law will have some²⁵⁶ fear as now reporting a crime is much easier than before.

Recommendations

The proposed system was developed²⁵⁸ for the welfare and safety of the public in reporting crimes in the community and as well as to help Babatngon Municipal Police Station in their campaign in solving and preventing crimes.²⁵⁷ In this study, the researcher identified recommendations for further studies for betterment, enhancement, and improvement of the system.

In the development of the system, the researchers recommend that the system be running as an android app with GPS (geographical positioning system), giving real-time tracking of the directions and speeding up the tracking²⁵⁹ of the²⁶⁰ reporter's location. Project location-based services in mobile devices will determine the location of the crime through google map. On the user side, the researchers would also suggest having a real-time capture in inserting evidence. Since the scope of the study is specifically focused on the reporting of crimes only, the researchers subsequently would like to recommend the identification of offenders or creating profiling in which the system can check the previous offenses. Furthermore, this will make the system efficient for the responders and administrators.

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Appendices

Appendix A: Letter to Conduct Interview

Appendix B: Guide Questionnaires/Survey Questionnaires for BMPS

Appendix B: Guide Questionnaires/Survey Questionnaires for BMPS

Guide Questionnaires/Survey Questionnaires for the community of Babatngon

Leyte

Appendix C: Documentation

Data Gathering/Answering of Questionnaire in BMPS

Initial Data Gathering/ Interview with the Client

Initial Data Gathering/ In the community of Babatngon Leyte Initial Data

Gathering/ In the ²⁶⁷community of Babatngon Leyte Initial Data Gathering/ In the ²⁶⁸community of Babatngon Leyte

1.	<i>will be meted out</i>	Passive voice misuse	Clarity
2.	<i>The speed of crimes is growing daily across the country; however, much of the crimes committed were unreported to the authorities because of the fear of getting involved.</i>	Intricate text	Clarity
3.	<i>This</i>	Intricate text	Clarity
4.	<i>This figure shows that the twenty-seven (27) entire workforce of Babatngon Municipal Police Station cannot meet the approximate police-to-population ratio of one (1) policeman for every five hundred (500) persons, which means that the police will accommodate only one-third of the population.</i>	Hard-to-read text	Clarity
5.	give a statement about → state	Wordy sentences	Clarity
6.	that happened	Wordy sentences	Clarity
7.	so they can → to	Wordy sentences	Clarity
8.	<i>the complainant or the reporter must be furnished</i>	Passive voice misuse	Clarity
9.	the occurrence of	Wordy sentences	Clarity
10.	conducted a survey in → surveyed	Wordy sentences	Clarity
11.	<i>Ranks were also identified</i>	Passive voice misuse	Clarity
12.	PSSg → PSS	Misspelled words	Correctness
13.	in	Wordy sentences	Clarity
14.	Along with this, the → The	Wordy sentences	Clarity

15.	<i>These crimes incidents were reported</i>	Passive voice misuse	Clarity
16.	in order to → to	Wordy sentences	Clarity
17.	while → . In comparison,	Hard-to-read text	Clarity
18.	<i>Based on the result, 88% of the respondents strongly agreed to have an online crime reporting system, 85% strongly agreed that it is necessary that the monitoring of their reports should be done online epically this time of pandemic where movement is limited because of the health protocols that nee...</i>	Hard-to-read text	Clarity
19.	if what are	Wordy sentences	Clarity
20.	Also, 89 or respondents also	Wordy sentences	Clarity
21.	is one of the → are	Wordy sentences	Clarity
22.	in	Wordy sentences	Clarity
23.	<i>The system will help Babatngon Police Station to accommodate reports from over 25 barangays of Babangon Leyte and will lessen the workforce in receiving the information.</i>	Unclear sentences	Clarity
24.	as well as to → and	Wordy sentences	Clarity
25.	<i>According to Pappas (2014), Computer-Based Instructions Theory began to take shape, more specifically the US government found two companies, the Control Data Corporation and Mitre Corporation, for the two different projects, the PLATO or Programmed Logic for Automatic Teaching and the TICCIT or the...</i>	Hard-to-read text	Clarity
26.	the use of → using	Wordy sentences	Clarity

27.	and etc. → , etc.	Wordy sentences	Clarity
28.	<i>A computer can also be used</i>	Passive voice misuse	Clarity
29.	more effectively and profoundly	Wordy sentences	Clarity
30.	<i>Moreover, any tasks can also be delivered via computers or allowing the instructors to educate their learners in a more effective and profound way.</i>	Unclear sentences	Clarity
31.	, and there → . There	Hard-to-read text	Clarity
32.	and Focuses → . It Focuses	Hard-to-read text	Clarity
33.	the prevention of → preventing	Wordy sentences	Clarity
34.	the course of	Wordy sentences	Clarity
35.	at least	Wordy sentences	Clarity
36.	personal	Wordy sentences	Clarity
37.	personal	Wordy sentences	Clarity
38.	<i>To that end, “target hardening” such as installing deadbolts and building self-defense skills, legal deterrents such as eliminating parole for certain crimes, “three strikes law” (mandatory incarceration for three offenses, even if the offenses are minor and not worth imprisonment), and the death p...</i>	Hard-to-read text	Clarity
39.	<i>This Theory is related to our study since this Theory is commonly used in Information management security systems that are related to our research that will increase the productivity of police and give public awareness so that criminal activities will be less attractive and therefore prevent crimes...</i>	Unclear sentences	Clarity
40.	information coding	Wordy sentences	Clarity

41.	In order to → To	Wordy sentences	Clarity
42.	<i>Information from the user should be updated</i>	Passive voice misuse	Clarity
43.	system's integrity	Wordy sentences	Clarity
44.	<i>it should be treated</i>	Passive voice misuse	Clarity
45.	<i>(2) Problem solving, the processes are used by the police officers to focus on productively and systematically identifying problems and developing an adequate response.</i>	Unclear sentences	Clarity
46.	<i>Furthermore, it will help the researchers in adhering to the set timeline and offers room for error correction.</i>	Unclear sentences	Clarity
47.	<i>This figure shows that academic studies and conceptualized frameworks gathered by the researchers are materials needed to develop the proposed system.</i>	Unclear sentences	Clarity
48.	<i>Researchers also concluded data from the internet and collect information from the thesis or books related to the study for further classification with regards to the study.</i>	Unclear sentences	Clarity
49.	<i>will be used</i>	Passive voice misuse	Clarity
50.	for the assigning of → to assign	Wordy sentences	Clarity
51.	<i>Develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting crime incidents or terrorist groups in the community.</i>	Unclear sentences	Clarity
52.	<i>Develop a system that can predict the future crime incidents that will happen by month in Babatngon Leyte, which can be</i>	Passive voice misuse	Clarity

used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community.

53.	basically	Wordy sentences	Clarity
54.	that will happen	Wordy sentences	Clarity
55.	<i>Furthermore, the reporter or the complainant can upload up to three (3) attachments, including a photo/image and a short video with a maximum size of up to 50Mb per attachment.</i>	Intricate text	Clarity
56.	Attachment → Extension, Branch, Passion	Word choice	Engagement
57.	that happened are	Wordy sentences	Clarity
58.	<i>This</i>	Intricate text	Clarity
59.	are still → have	Wordy sentences	Clarity
60.	<i>Smitt (2016) reported that the government of the United States of America (USA) created a platform for the American public to report internet-facilitated crimes.</i>	Unclear sentences	Clarity
61.	report → say	Word choice	Engagement
62.	<i>The office of the Attorney general confirmed that several millions of Americans fall victims to cyber-related crime, but barely fifteen (15) percent report the incidents.</i>	Unclear sentences	Clarity
63.	the idea of	Wordy sentences	Clarity
64.	<i>The platform also has explained first precautionary steps to be taken to mitigate against loss once a compromise of their property or privacy is noticed, such as blocking bank accounts, visiting</i>	Unclear sentences	Clarity

the nearest FBI office, or changing users' passwords.

65.	<i>will be used</i>	Passive voice misuse	Clarity
66.	<i>Tamboli et al. (2013), in their study "Incident Reporting System Using GIS," presented a paper about integrated application software which will be used to report an incident or accident immediately and also keep a log of activities which in turn helping public and authorities to deal with problems ...</i>	Hard-to-read text	Clarity
67.	that can be	Wordy sentences	Clarity
68.	Protection,	Punctuation in compound/complex sentences	Correctness
69.	<i>The study considered several system functionalities which were incorporated into the developed system as follows: (a)User identities of informers.</i>	Unclear sentences	Clarity
70.	<i>It prevents administrative difficulties such as cases being lost or removed, as well as malicious use of the reporting system (d) network online reporting mechanism, To improve reporting and reduce policing costs.</i>	Unclear sentences	Clarity
71.	<i>If reported information leads to the successful resolution of a problem, a reward will be automatically remitted to the informers via the system so that the process is completely hidden and safe, thus offering complete informer identity protection and preventing a variety of security.</i>	Hard-to-read text	Clarity
72.	Itaga → Itasca	Misspelled words	Correctness
73.	the mean of	Wordy sentences	Clarity

74.	the removal of → removing	Wordy sentences	Clarity
75.	<i>Also, working with a relevant police agency allows them to confirm to us if they are already investigating the people behind the photos and ultimately to help rescue the children pictured in the photos and videos.</i>	Unclear sentences	Clarity
76.	iwk → wk, ink	Misspelled words	Correctness
77.	both	Wordy sentences	Clarity
78.	<i>The data elements were then identified</i>	Passive voice misuse	Clarity
79.	And the → The	Wordy sentences	Clarity
80.	<i>the data hierarchy was established</i>	Passive voice misuse	Clarity
81.	<i>Finally, a prototype crime reporting system was designed that relies on four reporting forms: a complaint/dispatch reporting form, a crime event report form, a follow-up investigation report form, and an arrest report form.</i>	Intricate text	Clarity
82.	a report	Determiner use (a/an/the/this, etc.)	Correctness
83.	,this → . This	Hard-to-read text	Clarity
84.	<i>Firebase will be utilized</i>	Passive voice misuse	Clarity
85.	<i>In this application, Firebase will be utilized for putting away the database to provide the facility of remote access.</i>	Unclear sentences	Clarity
86.	in order to → to	Wordy sentences	Clarity
87.	give a statement about → state	Wordy sentences	Clarity
88.	<i>The current system of Babatngon Municipal Police Station is a manual</i>	Unclear sentences	Clarity

	<i>process where individuals who have some complaints or crime reports must visit their station to give a statement about the crime incident that happened.</i>		
89.	so they can → to	Wordy sentences	Clarity
90.	, while → . At the same time,	Hard-to-read text	Clarity
91.	<i>the complainant must be furnished</i>	Passive voice misuse	Clarity
92.	is required to → must	Wordy sentences	Clarity
93.	<i>can be solved</i>	Passive voice misuse	Clarity
94.	<i>There are only two (2) users of the system, the officer of WCPD and the General Investigation officer.</i>	Unclear sentences	Clarity
95.	<i>As per the instruction of the head of police, one patrolman and one investigator will be deployed to check the location of the crime incident.</i>	Unclear sentences	Clarity
96.	the time → when	Wordy sentences	Clarity
97.	<i>The user can also view the details of the most wanted persons wherein they can note that person in case of having information that can help the police in finding the most wanted persons in the community and, the user can safely report terrorist groups in the community without going to the police st...</i>	Hard-to-read text	Clarity
98.	user of the system → system user	Wordy sentences	Clarity
99.	<i>The reports from the community were uploaded</i>	Passive voice misuse	Clarity
100.	<i>After categorizing and evaluating the reported crime incident, the admin will now take action if the reported crime incident will be approved or be declined.</i>	Unclear sentences	Clarity

101.	full → complete, total	Word choice	Engagement
102.	<i>Moreover, the system will be embedded with a machine learning algorithm using a clustering model with K-Means Algorithm to predict the future crimes incidents that will happen based on the data or the reported crime incidents recorded in the system.</i>	Unclear sentences	Clarity
103.	<i>The prediction of future crimes can be used by the police in preventing or preparation for a faster and more effective response to the crime incidents in the community.</i>	Passive voice misuse	Clarity
104.	which is	Wordy sentences	Clarity
105.	ask	Wordy sentences	Clarity
106.	<i>The application of advanced statistical methods to obtain this intelligence from big data is commonly referred to as predictive analysis.</i>	Unclear sentences	Clarity
107.	important → essential	Word choice	Engagement
108.	be used to	Wordy sentences	Clarity
109.	<i>The argument of forecast function in excel is FORECAST(x, known_y's, known_x's) where x is a numeric value where we need to forecast new y value, Known y values is a dependent array or range of data, and Known x values is an independent array or range of data.</i>	Hard-to-read text	Clarity
110.	<i>The data can be used</i>	Passive voice misuse	Clarity
111.	<i>The forecast can be continuously improved</i>	Passive voice misuse	Clarity
112.	<i>The system can be accessed by four user levels: The admin or the Chief of Police,</i>	Passive voice misuse	Clarity

	<i>the police officer of the office or the designated officer by the HR, the user or the civilian, and the guest.</i>		
113.	system's homepage	Wordy sentences	Clarity
114.	<i>Additionally, the police officer-in-charge can also accept or decline the information depending on the situation, while the user or the civilian can only report the incidents or other cases of the information, while the guest can only view the homepage of the system for the announcement.</i>	Hard-to-read text	Clarity
115.	that is	Wordy sentences	Clarity
116.	<i>It is a relational database management system based in SQL – Structured Query Language and used in managing and storing Databases.</i>	Unclear sentences	Clarity
117.	larger → more extensive, more significant, more prominent	Word choice	Engagement
118.	<i>This chapter dealt with the Requirements Analysis that includes Performance Requirements, Safety Requirements Security Requirements, and the research design of the study.</i>	Unclear sentences	Clarity
119.	<i>This</i>	Intricate text	Clarity
120.	in addition to → and	Wordy sentences	Clarity
121.	on what were	Wordy sentences	Clarity
122.	<i>The researchers utilized it using the data being collected from the surveys, interviews, and experience about the Babatngon Municipal Police Station Policing, and the advantage of Descriptive Research was the researchers have no authority over the</i>	Hard-to-read text	Clarity

variables, but instead, they can only detail the pr...

123.	<i>The video clips should load in 2 minutes or less depending on the size of the video and the speed of the internet connection of the uploader.</i>	Intricate text	Clarity
124.	<i>Vertical scaling -</i>	Ineffective or missing emphasis	Clarity
125.	<i>Horizontal scaling -</i>	Ineffective or missing emphasis	Clarity
126.	are working → work	Wordy sentences	Clarity
127.	the system → it	Wordy sentences	Clarity
128.	has permission to → can	Wordy sentences	Clarity
129.	certain → specific, particular	Word choice	Engagement
130.	mostly → mainly, primarily	Word choice	Engagement
131.	functions → parts, operations, positions	Word choice	Engagement
132.	on the monitoring of → monitoring	Wordy sentences	Clarity
133.	accounts → versions	Word choice	Engagement
134.	<i>If by chance, any intruder attempts to access a confidential part of the system, the intruder will not be able to get the sensitive data of the user because this function (hashing) encrypts the data in the system.</i>	Hard-to-read text	Clarity
135.	<i>It will be applied</i>	Passive voice misuse	Clarity
136.	accounts → performances	Word choice	Engagement
137.	accounts → funds, reports, arrangements,	Word choice	Engagement

	statements		
138.	admin's activities	Wordy sentences	Clarity
139.	in order to → to	Wordy sentences	Clarity
140.	the proposed system was developed	Passive voice misuse	Clarity
141.	<i>This stage is one of the essential stages, which proceeds with the gathering of system requirements needed in developing the system.</i>	Unclear sentences	Clarity
142.	current issues were existing	Wordy sentences	Clarity
143.	<i>The researcher conducts interviews, observations, and survey in some police stations and communities if there were current issues existing in reporting of crimes.</i>	Unclear sentences	Clarity
144.	the process of	Wordy sentences	Clarity
145.	was conducted	Passive voice misuse	Clarity
146.	period of time → period, time	Wordy sentences	Clarity
147.	<i>This phase took a long period of time to ensure the efficiency, Maintainability, and Reliability of the software.</i>	Unclear sentences	Clarity
148.	<i>The design of the system began from the type of methodology used in the development of the proposed method, which was the Descriptive and Quantitative type of research where the researcher conducted indeed based on facts, sashimi model and designing of the context and data flow diagram furthermore ...</i>	Hard-to-read text	Clarity
149.	to be able	Wordy sentences	Clarity
150.	it was done	Passive voice misuse	Clarity

151.	<i>The researchers have experienced lots of difficulties in making the proposed system, but since they are cooperating cooperatively, it was done successfully.</i>	Unclear sentences	Clarity
152.	period of time → period, time	Wordy sentences	Clarity
153.	<i>This phase took a long period of time to ensure that the software will be functional and valuable to the residents and dormitory management.</i>	Unclear sentences	Clarity
154.	system's interface	Wordy sentences	Clarity
155.	user's location	Wordy sentences	Clarity
156.	can be accessed	Passive voice misuse	Clarity
157.	<i>The proponents made a security measure so that the users of the proposed system can use the system with efficiency and reliability.</i>	Unclear sentences	Clarity
158.	<i>To have an accessible way of scanning through the system's source code in case of updates of the system in the future without destructing the origin of the codes.</i>	Intricate text	Clarity
159.	codes → regulations, principles	Word choice	Engagement
160.	technology-oriented people	Wordy sentences	Clarity
161.	<i>Visual Studio Code 1.52.1, editor redefined and optimized for building and debugging mode modern web and cloud application.</i>	Unclear sentences	Clarity
162.	a wide range of → various	Wordy sentences	Clarity
163.	<i>It can be used</i>	Passive voice misuse	Clarity
164.	be used to	Wordy sentences	Clarity

165.	In order to → To	Wordy sentences	Clarity
166.	so that users will → to	Wordy sentences	Clarity
167.	in order to → to	Wordy sentences	Clarity
168.	fully → entirely, wholly	Word choice	Engagement
169.	<i>The different employees answered the evaluation form in order to determine the quality of the system if it is fully for implementation already.</i>	Unclear sentences	Clarity
170.	system's quality	Wordy sentences	Clarity
171.	quality → rate	Word choice	Engagement
172.	quality → rate	Word choice	Engagement
173.	characteristics → parts, elements, factors, features	Word choice	Engagement
174.	evaluated	Wordy sentences	Clarity
175.	in order to → to	Wordy sentences	Clarity
176.	<i>During the validation process, the researcher conducted Alpha testing through the use of the designed evaluation form that was based on the ISO/IEC 25010:11.</i>	Unclear sentences	Clarity
177.	<i>Alpha testing, as commonly known by technical terms, is an acceptance test that is usually conducted in a development site (Craig, 2002).</i>	Unclear sentences	Clarity
178.	may be encountered	Passive voice misuse	Clarity
179.	being	Wordy sentences	Clarity
180.	should be criticized	Passive voice misuse	Clarity

181.	in order to → to	Wordy sentences	Clarity
182.	<i>The proposed system in this phase is allowed to be used thoroughly to check the quality and if there are major or minor issues that should be criticized in order to attain the expected outcome of the system (Craig, 2002).</i>	Unclear sentences	Clarity
183.	testings above, testings mentioned above, testings as mentioned above, testings as mentioned earlier	Outdated language	Clarity
184.	<i>Moreover, the difference between the two aforementioned testings, in terms of technicality, is that reliability and security are not included in the alpha testing (Guru99, 2019).</i>	Unclear sentences	Clarity
185.	in order to → to	Wordy sentences	Clarity
186.	<i>The researchers followed a Likert scale to create a survey questionnaire in order to have an outcome that is relevant to the research.</i>	Unclear sentences	Clarity
187.	pertaining to → about, of, on	Wordy sentences	Clarity
188.	evaluated	Wordy sentences	Clarity
189.	maintainability	Wordy sentences	Clarity
190.	that were	Wordy sentences	Clarity
191.	<i>Each question can be answered by numbers, and these numbers have equivalent remarks:</i>	Passive voice misuse	Clarity
192.	evaluation results	Wordy sentences	Clarity
193.	evaluated	Wordy sentences	Clarity
194.	maintainability	Wordy sentences	Clarity

195.	<i>In general point of view, the researchers have fully accomplished and developed a system that is for Online Crime Reporting System for the Babatngon Municipal Police Station – Babatngon, Leyte.</i>	Unclear sentences	Clarity
196.	assigned → set	Word choice	Engagement
197.	in which he can → to	Wordy sentences	Clarity
198.	assign → give, set, appoint, post	Word choice	Engagement
199.	summary → outline	Word choice	Engagement
200.	easily → quickly	Word choice	Engagement
201.	to identify the most common crime incident in Babatngon Leyte easily	Inappropriate colloquialisms	Delivery
202.	<i>Develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting a crime incident in the community.</i>	Unclear sentences	Clarity
203.	<i>The researchers develop an online crime reporting system that will address the fear, security, and safety of the reporter or complainant in reporting a crime incident in the community.</i>	Unclear sentences	Clarity
204.	in which they can → to	Wordy sentences	Clarity
205.	status → quality, position	Word choice	Engagement
206.	status → quality	Word choice	Engagement
207.	overall → widespread, comprehensive	Word choice	Engagement
208.	an account → an invoice, a budget	Word choice	Engagement
209.	overall → widespread, comprehensive	Word choice	Engagement

210.	<i>The system can generate crime reports according to the type of crime, date of acutance and generate the monthly report.</i>	Unclear sentences	Clarity
211.	report → information, message	Word choice	Engagement
212.	<i>The generated report can also be printed</i>	Passive voice misuse	Clarity
213.	reports → words, pieces, messages, information	Word choice	Engagement
214.	<i>Develop a system that can predict the future crime incidents that will happen by month in Babatngon Leyte, which can be used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community.</i>	Passive voice misuse	Clarity
215.	that will happen	Wordy sentences	Clarity
216.	<i>The researcher developed a system that can predict the future crime incidents that will happen in Babatngon Leyte, which can be used by the police in preventing future crimes and preparing for a more effective response to the crime incidents in the community.</i>	Passive voice misuse	Clarity
217.	prevent → avoid	Word choice	Engagement
218.	<i>Table 12, under functionality, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
219.	mean → standard	Word choice	Engagement
220.	<i>Table 13, under efficiency, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
221.	in order to → to	Wordy sentences	Clarity
222.	in order to → to	Wordy sentences	Clarity

223.	<i>Table 14, under usability, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
224.	system → design	Word choice	Engagement
225.	<i>The system can be easily operated</i>	Passive voice misuse	Clarity
226.	operate → use, handle, run, manage	Word choice	Engagement
227.	<i>Table 15, under reliability, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
228.	small → minor	Word choice	Engagement
229.	errors → the mistakes	Word choice	Engagement
230.	<i>Table 16, under functionality, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
231.	<i>Table 17, under efficiency, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
232.	in order to → to	Wordy sentences	Clarity
233.	in order to → to	Wordy sentences	Clarity
234.	<i>Table 18, under usability, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
235.	system → design	Word choice	Engagement
236.	<i>The system can be easily operated</i>	Passive voice misuse	Clarity
237.	operate → use, handle, run, manage	Word choice	Engagement
238.	<i>Table 19, under reliability, shows the result of the survey based on the</i>	Unclear sentences	Clarity

	<i>feedback of the respondents.</i>		
239.	small → minor	Word choice	Engagement
240.	errors → the mistakes	Word choice	Engagement
241.	has the capacity to → can	Wordy sentences	Clarity
242.	small → minor	Word choice	Engagement
243.	<i>Table 20, under security, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
244.	pertaining to → about, of, on	Wordy sentences	Clarity
245.	<i>Table 21, under Maintainability, shows the result of the survey based on the feedback of the respondents.</i>	Unclear sentences	Clarity
246.	is able to → can	Wordy sentences	Clarity
247.	easily → quickly	Word choice	Engagement
248.	which will save → saving	Wordy sentences	Clarity
249.	travelling → traveling	Mixed dialects of English	Correctness
250.	<i>Individual who has some complaints will work into any office of security agents (e.g., police, neighborhood corps) to inform and write in a statement on the issues that may need their attention which sometimes lead unreported crime because of the fear of getting involved, plus the cost and time inc...</i>	Hard-to-read text	Clarity
251.	<i>This</i>	Intricate text	Clarity
252.	<i>This system can be accessed</i>	Passive voice misuse	Clarity
253.	reporting → writing	Word choice	Engagement

254.	<i>Citizens can report crime anytime and anywhere; Online Crime Reporting System will also address not only the cited reasons for not reporting, but also the need of police departments for more accurate, complete, and reusable information that may free up their time and resources to allocate them to p...</i>	Hard-to-read text	Clarity
255.	very helpful → beneficial	Word choice	Engagement
256.	have some	Wordy sentences	Clarity
257.	<i>The proposed system was developed for the welfare and safety of the public in reporting crimes in the community and as well as to help Babatngon Municipal Police Station in their campaign in solving and preventing crimes.</i>	Intricate text	Clarity
258.	<i>The proposed system was developed</i>	Passive voice misuse	Clarity
259.	tracking → monitoring	Word choice	Engagement
260.	the tracking of	Wordy sentences	Clarity
261.	<i>A maturity model for mapping crime in law enforcement.</i>	Incomplete sentences	Correctness
262.	egovernment	Unknown words	Correctness
263.	extracting reusable	Improper formatting	Correctness
264.	crime reporting	Improper formatting	Correctness
265.	and classification	Improper formatting	Correctness
266.	, and	Comma misuse within clauses	Correctness
267.	community → district	Word choice	Engagement
268.	community → district	Word choice	Engagement