**CHAPTER I**

**CyberTips**

*A learning application on improving cybersecurity knowledge of senior high school student and employees of Fort Bonifacio high school*

**The Project and Its Background**

# **Introduction**

The state of cybersecurity in the Philippines is terrible due to the fact that Filipinos are experiencing it. According to the Daily Guardian (2019), a publishing firm and media outfit in Ilo-Ilo, the Philippines is the biggest attack originator for both automated and human-driven cyberattacks. The majority of cyber threats, such as phishing, malware smuggling, credential stuffing, social media account takeovers, etc., were therefore carried out in the Philippines.

The engagement of Filipino students and employees with online learning technology has several advantages for both students and teachers in terms of creating and delivering lesson plans and helping students with their homework and research. However, it is also an opportunity for attackers to steal from and exploit the Filipino students and employees. According to Catalina Ricci S. Madarang of Interaksyon under Philstar Global (2020), Angel Redoblethe, chief information security officer and first vice president at PLDT, ePLDT, and Smart, stated that attacks against workers who are working from home have been seen by cyber threat intelligence operators. Given the aforementioned circumstances, the goal of this research is to raise awareness among students and employees of Fort Bonifacio High School through the development and application of cybersecurity.

# **Project Background**

Nowadays, as the number of people who use the internet is increasing, so do the threats that they will encounter. Browsing on the internet with no awareness of danger can lead to invading privacy, having data stolen, and more.

Cybersecurity awareness is the knowledge of security hazards and responsible behavior to reduce risks. In the Philippines, cybercrime is one of the most dangerous threats on the internet. It can lead to chaos and destruction of the computer system if the threats do not seek prevention. Ignorance of cyber awareness is one of the problems in the Philippines. Ignoring the threats that can harm the computer and also possible data loss or stolen due to the threats that can be encountered. Being aware can help to avoid threats to the computer and privacy of the users. (De Ramos & Esponilla II, 2022).

The researchers conducted a preliminary investigation at Fort Bonifacio High School. The researchers are given a chance to talk about how they manage to inform their senior high school students about cybersecurity. The assistant principal, Jolivelle Magadia, stated that the school hosts an event called "ICT Month," during which senior students who specialize in ICT compete and have fun while also raising awareness about cybersecurity. When the researchers asked the assistant principal if the other senior students were aware of this event, the answer was that the other students, who specialize in other education tracks, either knew or did not know about this event.

Due to the researchers experience with web-based learning application and other online learning materials, the researchers decided to create a web-based learning application. The learning web-based application will create convenience for the students and employees. The web-based learning application can be accessed on computer, laptops and mobile devices for mobility and flexibility. Because of this, students and employees who will use this learning web-based application have their own time to learn.

The web-based learning application will be built on Visual studio code with XAMPP and GitHub, for the front end will be used HTML, CSS, and JavaScript, and for the back end, MySQL, a serverless backend-as-a-service. To supervise the website's development and make it simple for them to operate remotely, the researchers will use Github. To make organizing and tracking the website code simpler, Github also offers a tracking history for code. Once the GUI design for the web application is finished using HTML, CSS, and JavaScript, the researchers will start on back end. The back end has databases, managed local hosting and also analytics.

The purpose of this project is to improve the cybersecurity knowledge of senior students and employees. Students should be aware of the cybersecurity awareness program at all times, rather than just once a month, to raise awareness in every educational track, not only for ICT's students but also for employees too.

# **Objectives of the Project**

*General Objectives*

The general objective of this study is to develop a learning application on improving cybersecurity knowledge of senior high school students and employees of Fort Bonifacio high school.

*Specific Objectives*

* To design a learning application that has following features:
  1. Learning modules and tools
  2. User dashboard
  3. Administrator dashboard
  4. Authentication protocols
* To develop a learning application using the following technologies:
  1. Visual Studio Code
  2. MySQL
  3. XAMP
  4. GitHub
  5. HTML, CSS, and JavaScript
  6. Web Browser (Chrome, Firefox, Edge)
* To test the features of learning web-based application.
* To evaluate the Functionality, Reliability, Usability, and Efficiency of the web-based application.

# **Scope and Limitations**

CyberTips will insert modules and provide tools to help people learn more about cyber security. The modules can be managed by an admin on the admin page. CyberTips will provide tools such as a password generator and text encryption. CyberTips will have separate page for users and administrator. The user page will only show the announcement, modules, and tools. The administrator page will show the system management, where the admin can add, update, and delete a user.

The development of CyberTips will be used by the senior students and employees of Fort Bonifacio High School. Fort Bonifacio High School manages senior and junior students separately; the employees who manage the senior students are the only ones considered for the system's evaluation, while other employees with no connections to the senior students are not considered. This study will only be a way to improve the knowledge of the senior students and employees of Fort Bonifacio High School.

# **Significance of the Study**

This educational research aims to develop a learning application for improving cybersecurity knowledge of senior high school students and employees of Fort Bonifacio High School. They are the people who will benefit for this development:

Senior high school students

The senior high school students will benefit from this development by enhancing their knowledge and their curiosity. The students can explore the applications to learn what they want to learn and, at the same time, learn how to protect themselves.

Senior high school employees

The senior high school employees will benefit from this development by improving their knowledge and seeing things differently than the others. The employees can use this development to enhance their teaching.

# **References**

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