**CHAPTER II**

**REVIEW OF RELATED LITERATURE/SYSTEM**

Buenavista Community College (formerly known as BCC) is a public higher educational institution in Buenavista, Bohol. It is located in Barangay Cangawa, Buenavista, Bohol. The college opened in 2001 as an extension of the Central Visayas State College of Agriculture, Forestry and Technology (CVSCAFT), presently known as the [Bohol Island State University – Bilar Campus](https://www.edukasyon.ph/schools/bohol-island-state-university-bilar-campus). It [became independent](https://www.philstar.com/region/2011/05/31/691259/buenavista-community-college-granted-authority-operate-offer-5-courses) from the university in 2009. The college also started providing its programs for free in 2018 upon the implementation of the [Universal Access to Quality Tertiary Education Act](http://nine.cnnphilippines.com/news/2017/08/04/list-SUCs-with-free-tuition-2018.html).

The Buenavista Community College (BCC) SIPP coordinator uses a manual recording, managing and monitoring the OJt’s attendance, information and other paper works, and OJT student are uses manual Attendance and processing and compiling of portfolio. This problem is very common to some schools especially tertiary education institutions require an Internship monitoring system and e-portfolio since accurate monitoring and recording information is crucial for each trainee’s academic record and for trainees’ safety. Nowadays, the students’ population is rapidly increasing and this is a big problem for the schools to have a manual transaction and operation

In order to give a solution to this problem, developing an automated recording, managing and monitoring is a great solution for the schools. This will benefit not only the school but also the students, teachers, and staff that will make the work more reliable and economical. . Hence a SIPP Coordinator Internship monitoring and E-Portfolio web app is the best solution to accommodate this requirement.

**1. FOREIGN RELATED LITERATURE/SYSTEM**

**1.1 Radio Frequency Identification (RFID) Based Employee Attendance Management System: Manado, Indonesia (G D P Maramis and P T D Rompas. (2018). IOP Conf. Ser.: Mater. Sci. Eng. 306 012045)**

According to the article of Maramis and Rompas (2018), regarding the RFID based Employee Attendance Management System, manually recorded attendance of allthe employees has produced some problems such as the data accuracy and staff performance efficiency. The objective of this research is to design and develop a software of RFID attendance system which is integrated with the database system. This RFID attendance system was developed using several main components such as tags that will be used as a replacement of ID cards and a reader device that will read the information related to the employee attendance. The result of this project is a software of RFID attendance system that is integrated with the database and has a function to store the data or information of every single employee. This system has a maximum reading range of 2 cm with success probability of 1 and requires a minimum interval between readings of 2 seconds in order to achieve an optimal functionality. By using the system, the discipline attitude of the employees and also the performance of the staff will be improved instantly.

**1.2** **Fingerprint-based Attendance Monitoring System: (C.O, Akinduyite, et al, 2013)**

Monitoring student attendance in the UK has become a verdure concern for Universities in recent months, due to a perceived lack of accuracy in reports submitted to the UK Borders Agency and political burden about broad immigration issues. This project proposes a biometric-based solution to that interest which also adapt to legislative pressures on data governance and information security, but which can grant precise, decent data for the institution to use in future reports to UKBA All biometric techniques obviate to need to carry a token or card, or to remember several passwords, and reduce the risk of lost, forgotten or copied passwords, robbed tokens or over the shoulder intrusion, This project shall focus on using fingerprint recognition, mainly due to the low-cost of devices for deployment and high user compliance.

Fingerprint recognition has commonly used for data access amongst a mobile community with increasingly portable devices, but it can also be employed for observation purposes, and this project characterized by how it could be used in this context to provide a fingerprint-based student attendance register. (C.O, Akinduyite, et al, 2013)

**2. LOCAL RELATED LITERATURE/SYSTEM**

**2.1 Biometric Attendance Monitoring System: Cagayan State University – Lasam Campus, Philippines (Jake G. Maggay. (2017)).**

Based on the study of Maggay J. (2017) regarding Biometric Attendance

Monitoring System of Cagayan State University. The goal of the study is to develop a

Fully customized Biometric Attendance Monitoring System (BAMS) of Cagayan State

University – Lasam Campus, Philippines (CSU - Lasam) using a biometric fingerprint reader to facilitate the monitoring of employees’ attendance. This study followed the framework of Design Science Research for Information Systems, thus, the researcher identified the problems and issues encountered in the monitoring of attendance, defined the objectives of the study, designed and developed the system, deployed and tested, and presented the result of the study. A combination of Visual Basic 6.0 as the programming language and MS Access as the Database Management Systems were used in the development of the system. Thus, the overall functionality of the BAMS enables the users to enter data, change and manipulate the data, get information, and store the data and the information. Username and password is no longer needed since all transactions use a unique fingerprint to validate users. Furthermore, the BAMS greatly contributes in giving employees’ ease and improving work values. Likewise, the

BAMS is essential in achieving good governance because it helps track day-to-day attendance of the employees.

**2.2 Barcode Attendance Monitoring System: (Johnson A. (2015).**

Monitoring is one of the great responsibilities of a teacher. This includes teaching lessons to his/her students, writing lesson plans, and recording the achievement of the students. Teachers have a lot of things to do in their daily routine, due to this daily task, they consume much time in doing paper work and preparing some devices as they are required to perform because they operate these tasks manually. The researchers will build an automated attendance monitoring system for students using a barcode reader. Using the barcode reader, the teacher will have a connection to the profile of each student, which will be identified by reading his or her identification card. At the same time, this system will send a message to the parents to notify them that their child is within the school-bound. Since the students will just put their ID’s directly to the barcode reader, the teacher will have no more rush in monitoring the attendance of his/her students. Furthermore, the school can assure the security of their students because it will recognize the attendance of each student. The parents are also guaranteed the presence of their children in school. There is a need to develop a new system because of the grievance of most of the teachers about their daily tasks. The new system will provide a simple process for the teachers in monitoring the students and in alerting the parents through SMS. Therefore, the number of tasks to be done by teachers will be lessened. (Alvin Johnson, 2015).

**2.3 Daily Time Record System: Tanay, Rizal (Sharina J. (2013).**

Modern technology brings efficiency to the lives of many people, especially to the workers. Technology together with devices and information systems helps us to get our work easily done. The system makes the works become paperless, together with the use of computers the information can be stored in through Database Management System which is more reliable and secured. The EASTERN Tanay Supermarket in Tanay, Rizal is a company wherein they do execute manuals for keeping the daily time record of their employees. When it comes to paper works, the establishment works in manual operation like writing the employees’ information and the Time-In, Time-Out operation in a blue record book and then putting it in file cabinets along with other forms such as planning records, events, leave assistance and more. The punctuality Employees of EASTERN Supermarket recorded in a Daily Time Record that is being confirmed at the end of the day. These are the few things that EASTERN confront in their daily work. In addition, depending on the manual procedure is not easy work for them. Because of having a lot of information, at times it points to incorrect input of employee records, unreliable and most especially, not securing confidential files. (Sharina Joy, Daily Time Record System, 2013).