CHAPTER 1
INTRODUCTION

1.1. Background

Information technology (IT) has opened a new era of information for today's organization (it might be business, non-profit, educational, research etc.) and has enabled it to gather and communicate information and thus function in a more effective way. On the other hand decision-making capability of the computers has changed the pattern of authority and responsibility within the organization.

With development of such inventions like the internet, the popularity with educational technology is growing every day. Nowadays it is one of the most preferred methods of learning. Traditional lessons have been supplemented by virtual ones. Online classes include transferring files, chat rooms and even board of progress to follow the students' success. Another benefit is that students can maintain a flexible schedule that is convenient for them (anytime, anywhere learning). It helps to combine distance education and work. "Paul Smith, (23 oct 2013), great benefits of technology in education" [online] 2015, available: http://edtechreview.in/news/705-benefits-of-technology-in-education.

Education is central to development. It is one of the most powerful instruments for reducing poverty and inequality and lays a foundation for sustained economic growth. With this aim Papua New Guinea (PNG) government has given special emphasis to educational sector and school improvement activities such as continuous professional's development for teachers, training and upgrading teachers and capacitating schools with manpower and materials are among the major actions which have been taken in both primary and secondary schools. In order to facilitate and simplify these actions one of the major tool is to have automated school management system.

Automation is the utilization of technology to replace human with a machine that can perform more quickly and more continuously. However, Aiyura National High School system is not yet automated and cannot handle problems that aroused relating to absenteeism because attendance is very important in every student in which a single absent is a big difference in the school. Mostly students are prone to absences due to some reasons that they think it is a boring class, laziness to attend the class and some student cannot refuse the influence of a friend inviting them to go with them during class period that resulted in poor academic performance. The way of informing the parents about this is the traditional way which is they inviting the parents through telling the students that the parents need to come to school and communicate with the teacher about the absenteeism of the student. This takes a long process and sometimes parents are not able to come because of some reasons that the parents are busy at work; they are away from the school and have an important matter to take care of. In that regard the parents are not informed about the absenteeism of their children because the manual system of the school does not cater for the parents to view attendance of their children online to take disciplinary measures, dose not facilitate registering student and parent as a parents of a student enabling parents to have access to the automated system to view his/her children attendance report and does not facilitate someone who is responsible for recording attendance and do not allocate student classes and subjects.

In this manner, the researcher therefore proposed the Student attendance Monitoring System. The design and development of a system consists of several panels. The administration panel facilitates manage student and manage classes. And the home room teacher panel facilitates recording of absentees. A parent panel allow parent to view his/her children's status or attendance report online.

1.2. Problem Identification and Formulation

The identification and formulation of the problem is as follows;

1.2.1. Identifying the Problem

The problems can be clearly identified as:

1. Do not facilitate register student and parent as a parent of a student by the Administration offline.
2. Do not facilitate attendance record keeping by the home room teacher.
3. Do not sufficiently produce the required attendance reports to allow parents to view attendance of the students to help them participate in disciplinary measures and decision making.

1.3. Problem Formulation.

According to the above stated problems, formulation of problems can be listed as:

1. How to analyze the System.
2. How to Design the System.
3. How to Evaluate and Test the System.
4. How to Implement the System.

1.4. Research Objectives

The research Objectives are described as follows:

1.4.1. Research Purposes

1. The study is focused on the Student Attendance Monitoring System in the school through the design and development of a system providing a means of information on generating the student's attendance reports, attendance record keeping and register someone as student of a school and parents as a parent of the student offline . The study main reason of existence is to enable parents to view status of the students to help them participate in disciplinary measures and decision making.

1.4.2. The Purpose of This Research

The purpose of this study is as follows:

1. A system that will register student and a parent as a parent of a student and keeping record of student's attendance.
2. A system that has a web browser feature that will replicate the inputted data in stand-alone system.
3. A system that will allow parents to view status of the students to help them participate in disciplinary measures and decision making.
4. A web-based system that will print results.

1.5. Research Benefits

The benefits of research are as follows:

1.5.1. Practical Uses (School)

This research has limited users practically.

1. Administration

Administration is a person who is responsible for register a student and a parent as a parent of a student and can manage classes of a student.

2. Home Room Teacher

A Home Room Teacher is a teacher assigned by the school director to each class of students to follow the students closely. He/She has the responsibility of recording attendance of student and submitting.

3. Parent

A parent is a person who is registered as a parent of a student by the admin after registering his/her children and responsible to follow the student in close contact with the school. He/She can view the attendance of the student in school online.

1.5.2. Education System

In the education system, this research can be of great help in the following areas:

1. Displacing of the manual school system with automated system can improve the quality of education and learning progress of students.
2. The implementation of a fast, easy and systematic way of managing student/staff profiling, registration processes, generating transcript, report, timetable and attendance record keeping can greatly influence a school's progress in a more positive way and this may contribute towards meeting the general objectives and goals of the education system.

1.5.3. Academic Purpose

Other researchers may use this project as a reference to improve and design a more effective system related to this project or can be of reference to any other research done later.

1.6. Limitations

The limitations or restrictions involved in this project are as follows:

1.6.1. Limited Users

1. **Administration**

Provide a simple and fast access to verify that the student is eligible for registration; manage classes and giving principals better tools to make their best, most informed decisions.

2. **Home Room Teacher**

Provide an easy access to record attendance in each school day. A home room teacher must log in as the home room teacher to record attendance.

3. **Parent**

Provide fast and easy access to view the attendance of a student online. A parent must be recorded in a system as a parent of the student in order to view their children attendance report in school online.

1.6.2. Online

It is an online school system so clients or users can access through using internet.

1.7. Locations and Research Time

The location and time of the research are as follows:

1.7.1. Location of the Research

Country: Papua New Guinea

Research Location: Aiyura National High School

Address: Aiyura National High School PO BOX PMB Kainantu 443

Phone: 7373522 (+675-7373522)

Sector Code: NHS

School Code: 57810

School Level: 9

School Status: OPERATING

District Name: Kainantu

District Code: 5704

Province Name: Eastern Highlands Province

Province Code: 57

School ID: 971894

School Registered: Yes

1.7.2. Research Time

Ihe research location was set at Indonesian Computer University (Unikom), Bandung, West Java, Indonesia.

The schedule of the research is as follows:

Table 1.1 Research Time

SCHEDULE	MONTH																			
	OCTOBER 2015				NOVEMBER 2015				DECEMBER 2015				JANUARY 2016				FABRUARY 2016			
1. Identification of Needs	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
a. Observing																				
b. Interview																				
c. Collect Data																				
d. Document Analysis																				
2. Creating and Fixing Prototype																				
a. The Design Process																				
b .Design Database																				
c. Make Program																				
3.Testing the Prototype																				
a. Black Box Testing																				

1.8. Systematics Writing

The Systematics Writing is as follows:

CHAPTER 1 INTRODUCTION

Chapter 1 contains a description of the background information and the importance of the research; problem identification and formulation, the main objectives and purposes of the project, and the benefits of the research. Furthermore, this chapter includes the limitations or restrictions of the project, the location and time of the research and the systematic writing.

CHAPTER 2 LITRATURE REVIEW

This chapter indicates the theory upon which the study is based. That is, the understanding of information system, secondary education, PHP and JavaScript Programming, UML (Unified Modeling Language), Database, HTML, MySQL, Object-Oriented Analysis and Design (OOAD), etc. It contains a literature review of relevant previous work and background information relevant to this research.

CHAPTER 3 OBJECT AND METHODS

Chapter 3 describes the object of the research and the approach and methods used in this research. That includes; the object's organizational structure with job descriptions and method and system development approach used is the object-oriented the types and method of data collections (primary data source and secondary data source). The method the researcher used in systems approach is the Object-Oriented Systems Approach and is visualized with UML (Unified Modeling Language) diagrams such as Use Case Diagrams, Activity Diagrams, Sequence Diagrams, Class Diagrams, and Deployment Diagrams. Further analysis of the current system consisting of document analysis, analysis of current procedures with the use of Use Case diagram, Use Case Scenario and Activity Diagram of each use case, and the Evaluation of the current system.

CHAPTER 4 RESULTS AND DISCUSSION

This chapter describes the design and construction of the system, testing results and discussions about the designed system. That is, it includes: description of the system design and its objectives, overview of the proposed system consisting of Use Case Diagram, Use Case Scenarios, and Activity Diagrams, Class Diagram, and Deployment Diagram. Further the Implementation phase includes the software implementations, hardware implementation, database implementation, and interface implementation. Finally, is the testing that includes; testing plans, test cases and results, and conclusions of the test results.

CHAPTER 5 CONCLUSIONS AND SUGGESTIONS

This chapter contains the conclusion of the research, and the suggestions made to further review re-develop the system.