

# **A Study about the Turnstile in the different Colleges of Pangasinan and the Applicability in Pangasinan State University**

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**Abstract** – *With the existence of many inventions these days, Pangasinan State University (PSU) is still using the Manual or Traditional practice, for which may result to some problems like Inaccurate Time Logs, Sluggish Calculation of under time and Number of Work hours. Not enough Security of Time Records, Time Consuming, and Not monitored presence of the student in the school. Given that Pangasinan State University (PSU) has experienced the use of Computerized Time in-Time out but it not take up for so long, it is suggested that they bring back the computerization. Since, different schools in Pangasinan are using Turnstile for security purposes of their students and employees; possibly it is also time for the Pangasinan State University to improve the security and services to their students and employees with the use of turnstile. Although, security guards are always there to check the people who enter and exit the campus, the turnstile will be more effective in securing their students and employees, and providing good service.*

**Keywords** – *Manual, Computerized Time in-Time out, Traditional, Turnstile*

## INTRODUCTION

The Pangasinan State University (PSU) was created by virtue of Presidential Degree 1497 which was promulgated on June 11, 1978 and took effect on July 1, 1979. Its operation was started in 1979. It had two (2) Colleges of Agriculture located in Sta. Maria and San Carlos City, two (2) Colleges of Arts and Trades situated in Lingayen and Asingan; a College of Education in Bayambang; and a College of Fisheries in Binmaley. All the collegiate courses in the afore-cited seven integrated component Colleges of the University where government –supported and was directly under the supervision of the Department of Education, Culture and Sports (DECS) (Ventayen, 2012).

Pangasinan State University (PSU) is mandated to provide advanced instruction in the arts, agricultural and natural sciences as well as in technological and professional fields. Its main campus is located in Lingayen, Pangasinan. Other campuses were located in Alaminos City, Asingan, Bayambang, Binmaley, Infanta, San Carlos City, Santa Maria, and Urdaneta City. The PSU Graduate School is located in Urdaneta City and the Open University Systems (OUS) is located in Lingayen Campus and Binmaley Campus (“Pangasinan State University”, 2014).

According to Mr. Herminio Prado, the Supervisor Officer of Human Resources Management (HRM) that time (2014), Pangasinan State University (PSU) has experienced using a Computerized Log-in-Log-out System. Pangasinan State University (PSU) requested from the Civil Service Commission (CSC) to have an automated Log-in-Log-out System. The request aims to help the employee to lessen the time in filling up his/her time record every time he/she enters and leaves the campus. The request has approved and was implemented in 2004. At first, the system was being used properly but there were problems encountered and the system was not able to last for a long time. It only lasted for a year after CSC approved the request of the HRMO. According to Mr. Prado, it is the only computer given by the CSC was obsolete and prone to damage. The problem occurred most often during brown-outs and repairing the computers for the system is very expensive and sometimes it takes a lot of time. Because of this case and incident, the administration decided to stop using the system and go back to the old and traditional way of signing in and out of the campus.

The Pangasinan State University (PSU) is one of the schools in the Philippines which desire to fully automate its business transactions. Though, some of the

processes of the said school are now automated such payroll, enrollment, assessment of fees, and library management. The attendance monitoring of the students and employees are not yet developed. The school uses a manual Log-In/Log-out process for employees and has no way of determining if the students are inside the campus premises which is very important information on the side of the parents or guardians.

The advancement of technology rapidly evolved, computerized systems were developed for the improvement and enhancement of human, as a matter of fact, most companies and institutions are using computerized system to aid some difficulties encountered in the manual process (“Courage to develop a Log-in/Log-out and payroll system integrated with biometrics”, 2012).

Automation becomes a part of the IT advancement; many developers create an application that automates manual systems. Automating a manual system has many advantages. It speeds up the process of the system, it can perform more than one process at a time, and it also reduces the error. As humans tend to think then act, it consumes time. Tends to become tired, human rests and also tends to create errors, thus, inconsistencies will exist. Since that are a lot of advantages the computer automation has to offer, it has a huge influence the way people accomplishes task, it is used by different fields such as business, hospital, government, schools and the like (Mojares, 2014).

The growing benefits of the technology are now on its full peak since more and more processes are being automated. With the increasing demand of automated system, establishments like school want to have its own system powered by the computer system. One system which plays an important role in the operation of the school is the so called attendance monitoring system which is designed basically to monitor the log-in and log-out of the students (Mojares, 2014).

According to Barredo (2011), time and attendance tracking are important for effective employee and organizational performance. Monitoring these important aspects through automation has made things better and simpler for managers. Rather than manually recording and updating time and attendance, automated tools enable managers to simply glance over a computer and know exactly when employees show up for work and how wisely they spend work hours. With the use of time and attendance tracking systems, organizations have been able to cut down costs on many different aspects. Through this system, the resources previously needed for

the tracing, monitoring, and updating information on time and attendance are brought down. Since this system records to the exact last seconds, previous errors in recording have been stamped out. Clearly, the long-term benefits of time and attendance tracking system outweigh its cost. It is then prudent of organizations to do a one-time spending on this automated system.

In most universities, teachers take attendance by calling out the names and surnames of students, and then marking them, while, in others, teachers pass around a sheet of paper, asking students to sign in attendance sheet just next to their surnames. Both practices have their drawbacks. In the first case, if numerous groups attend the lesson, checking all of these students by name or surname might take precious time of each lesson; in the second case, friends of absent students may write down their names and surnames. These practices place university teachers and their institutions at considerable disadvantages when it comes to taking attendance (Tiwari et al., 2013).

A turnstile is a mechanism that allows a location to have control over entry and exit. Most turnstiles consist of a horizontal arm that extends from a post and allows persons to pass through, given the particular condition has been met. To pass through a turnstile, it might be necessary to present an authorized identification or to make payment. Other similar structures keep a count of individuals that pass through. Turnstiles provide security, control crowds, prevent loss control, and control admission and/or access. Turnstiles discourage – and often prevent – any attempts (intentional or unintentional) at “free entry” into a site. Turnstiles provide an accurate attendance count, which provides a venue or event with an indisputable number which can be provided to sponsors. Sponsors will have accurate information on the level of exposure their message received (Luther, 2013).

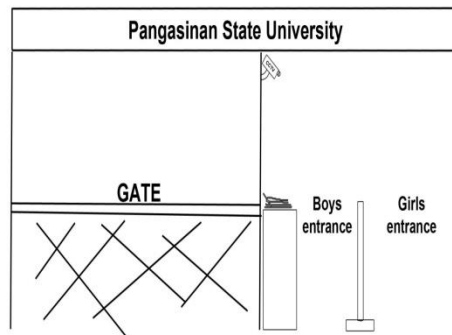
The first major use of turnstile at sporting venue was at Hampden Park in Glasgow, Scotland. The user inserts a ticket or pass into the slot, from which a barcode is read, and if access is granted, a sensor determines the speed with which the user passes through, and sets the electric motor to turn the turnstile at the corresponding speed. Clarence Saunders use turnstile on his first Piggly Wiggly store, opened on September 9, 1916 in Memphis, Tennessee. Customers entered the revolutionary store through turnstiles and walked through a narrow maze of shelves containing groceries on the walls (“An Evaluation on the Use of Turnstile in Colegio de Dagupan”, 2010).

In the Philippines, Manila Rail Transit and Polytechnic University of the Philippines are using Turnstile, to enforce one-way traffic of people and in order to keep track of how many people enter and exit. It provides data and resources for assessing and monitoring student and employee's time and attendance. From a security standpoint, they lead patrons to enter single-file, so security personnel have a clear view of each patron. This enables security to confiscate any prohibited materials. Thus, turnstiles are a tool which leads to a more safe and secure atmosphere throughout a site (“An Evaluation on the Use of Turnstile in Colegio de Dagupan”, 2010).

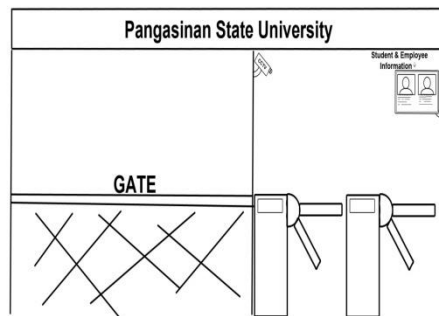
In Pangasinan, turnstile is used by different schools including Colegio de Dagupan, University of Pangasinan-PHINMA, and University of Luzon that serves as a passage way for the employees and students. The turnstiles were a result of growing concern due to some occurrences of unauthorized people entering the school. According to Engr. Bon Bryan D. Velasco, the MIS Administrator of Colegio de Dagupan, Engr. Neriza V. Bustillo, the Network Administrator of University of Pangasinan-PHINMA, and Peter C. Macaraeg, the Network Administrator of University of Luzon, the reason why the school implement the turnstile is in order to control the students entering the school including the student without ID's, student from other schools and those who's fraternities with them. Some students let their friends borrow their ID's for them to enter the school. This leads to some unwanted student fights. Turnstile is said to be a form of preventive measure to offer more security to employees and students.

From the researcher's perspective, Colegio de Dagupan, University of Pangasinan-PHINMA, and University of Luzon have the same reasons why the school implemented the use of turnstile. Therefore, the researcher have come up on this study entitled “Propose applicability of Turnstile to the Pangasinan State University” to suggest that turnstile is also a better, safer way and provides more tighter security of students and employees of Pangasinan State University in order to prevent some unwanted incidents.

Figure 1 shows the Manual Time In-Time Out of the Employees and Entrance-Exit of the Students. Although Pangasinan State University is using the Closed-circuit television (CCTV), it is enough to monitor the time in-time out of the employees and the presence of every student, as well as the visitors' entering the campus.



*Figure 1. Manual Time In-Time Out and Entrance-Exit of Students*



*Figure 2. Proposed Applicability of Turnstile*

Figure 2 shows the Proposed Applicability of Turnstile. The study tackles the time in-time out of every student and faculty as well as generating the attendance report for the guardian of the students and Daily Time Record (DTR) report of the employees. To enter and exit the campus, the student and employees are requiring to swipe on the turnstile using their ID. The swiping of the ID is a must because it indicates the students' and employees' record in the system. If the process is successful, the student or the faculty will be allowed to enter the campus. If the student or faculty leaves the campus, logging-out is required; because the logging out of every student or faculty is considered necessary it will also determine their time out in the campus.

### **Proposed Implementation of Turnstile**

The implementation of the used of turnstile will depend upon the number of population of every campus, with the maximum of two (2). Even if it expensive, it will be effectively used in the long run. The turnstile will be

place only in the main gate of every campus, since the school prohibited to open the back gate.

The security guards will remain serving the Pangasinan State University (PSU). There will be assign in monitoring the used and securing the safety of the turnstile. Other will observe the rooms, or every area of the campus to prevent unwanted incidents like bullying of students, vandalism, and prevent some bystanders in the classroom.

### **Benefits of Turnstile to Pangasinan State University (PSU)**

To the Students: The turnstile will filter the outsiders to go inside the school that can threat safety of the students.

To the Employees: It ensures the employees to a more reliable source in monitoring excessive absence. Employees can quickly and accurately enter their time in-time out, and they are not be able to submit their Daily Time Record (DTR) card anymore.

To the Human Resource Manager: It will minimize the work of the Human Resource Manager with regards to computing the daily time report of the employees because the system will automatically compute the Daily Time Record (DTR) of each employee of the school. Thus, it will also avoid human error in computation of daily time report.

To the Parents/Guardians: It gives the parents/guardians information about the attendance of their children in school by generating time in-time out if they requested to have a copy.

### **Conclusion**

The Pangasinan State University (PSU) is one of the schools in the Philippines which desire to fully automate its business transactions. Though, some of the processes of the said school are now automated such payroll, enrollment, assessment of fees, and library management. The attendance monitoring of the students and employees are not yet developed. The school uses a manual Log-In/Log-out process for employees and has no way of determining if the students are inside the campus premises which is very important information on the side of the parents or guardians.

To resolve these systematic failings, an automatic Time In and Time out in Pangasinan State University with the use of Turnstile is proposed. There are types of Turnstiles that they can decide on to use. The study tackles the time in-time out of every student and

faculty as well as generating the attendance report for the guardian of the students and Daily Time Record (DTR) report of the employees. To enter and exit the campus, the student and employees are requiring to swipe on the turnstile using their ID. The swiping of the ID is a must because it indicates the students' and employees' record in the system. If the process is successful, the student or the faculty will be allowed to enter the campus. If the student or faculty leaves the campus, logging-out is required; because the logging out of every student or faculty is considered necessary it will also determine their time out in the campus.

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