

Implementation of Student Performance Management Guidance to Improve Quality Study at Colleges

Ellen Dolan¹, Adrian Sean Bein²
Queensland University of Technology^{1,2}
Australia

e-mail: ellen.dolan@connect.qut.edu.au¹, n10132350@qut.edu.au²



Author Notification

28 April 2020

Final Revised

28 April 2020

Published

29 April 2020

(APA style, Justify, Arial 10pt) Example:

To cite this document:

Dolan, E., & Bein, A. (2020). Implementation of Student Performance Management Guidance to Improve Quality Study at Colleges. IAIC Transactions on Sustainable Digital Innovation (ITSDI), 1(2), 160-171. <https://doi.org/https://doi.org/10.34306/itsdi.v1i2.148>

Abstract

Student attendance activities can take place well and smoothly With a very active student to attend each attendance Student guidance in completing the research. With it, it takes Attentive attention to the student's attendance. Known systems that have an important role for student guidance are the Attendance assessment system and the higher education service system that is absolutely necessary for lecturers Supervisor for monitoring research at higher education. One of the media information is a very important Viewboard in the The Pen System (attendance Assessment) on the Viewboard Pen used for Assessment of attendance of students to get complete data and accuracy. However, existing Viewboard Pens do not currently have a Viewboard Performance that can be a benchmark in comparing Student attendance. There are 3 (three) issues that cause Alternative problems include the absence of information to display Reanytime Student attendance for a certain period of time. Furthermore, the absence of Performance graphs that can measure the performance of student attendance, And the absence of search filters for a certain period of time. Therefore, Designed a Viewboard using the Bootstrap template and also Using the SWOT method. Using 4 (four) methods System analysis using user requirement, design method Using Prototype, HIPO, Flowchart and UML (Unified Modelling Language). The Viewboard Pen is designed using Yii Framework and hopefully helpful in solving problems Attendance at the previous system and motivating students Guidance to be more active.

Keywords: attendance, Viewboard, Performance, Yii Framework

1. Introduction

In delivering information today it takes a quick and easy system to access online anywhere and anytime that surely the information provided should always be up to date. The system will certainly make a change from the manufacturing era to an era that is certainly more computerized in various fields of education, lectures, and others. The Era of globalization that makes the development of technology very rapidly give a huge influence for human life in every field of life. Higher education institution is a college education that is engaged in the field of information technology is a higher educational institution that excels in the city of Tangerang. Higher education institutions that continue to prioritize the development of technology where the development of the Internet is growing rapidly and are required to commit to innovate and create new breakthroughs. In improving the quality of the learning system in the lecture including the service attendance system of lecturers and students. Where the college has started the iLearning method of learning since 2009, the iLearning method of learning is 4B (study, work, pray and play). With Learning Methods 2 iLearning creates a learning atmosphere that encourages the students to become more active again.

The Viewboard planning PenA (Attendance Assessment) in the Viewboard there is detailed information on the presence of the students ' attendance, which serves to motivate the code to be diligent in the presence of guidance. Also, lecturers can monitor the student's activity. The student attendance activities can take place well and smoothly with the presence of very active students to attend each student attendance guidance in completing the research. With that, it takes good care about the student attendance 3 guidance. As known in college There is one system that has an important role for attendance of guidance students, namely the PenA System (attendance assessment).



Sumber: timur.ilearning.me

Gambar 1.1. Logo PenA (Penilaian Absensi).

PenA can be accessed online through the website very easily. PenA is a very helpful student for the student attendance, with the PenA lecturer Advisers can see the active student presence online anywhere and anytime most importantly connected to the Internet network. Results of the online student attendance displayed with a website and using the Yii Framework tools. Website is an application that contains documents Multimedia (text, images, graphics, sound, animation, and video) can be used also HTTP protocol and can access using software IE browser.

The PenA (attendance assessment) is used in colleges that are aimed at supporting the attendance system of students at the university, before the design of the Pen (attendance assessment) already there is a system running is AO (attendance Online) but on the running system there are various shortcomings such as the manual still inputting NIM and 5 digits certain passwords and not yet accessible Online can only use localhost network , where students or advisers who want to know the reactivation of the attendance must come to the campus and connect to the local network, not to mention Local networks that sometimes have trouble. Therefore, it will be designed a Viewboard Pen system (attendance assessment) so that the data in the Pen can be accessed easily by students and lecturers 5 advisers and know the activity of guidance students in detail and real.

2. Research Method

2.1 System Definitions

According to Romney and Steinbart (2015:3), "The system is a series consisting of two or more interconnected components interacting with each other to achieve the objectives in which the normal system is divided into smaller subsystems that support larger systems".

According to Djahir and Pratita (2015:7) The system is grouped into two parts that press on the procedure and some are Emphasis on its elements. These two groups are true and do not contradict, which is a different way of his approach.

According to the Hutahaeen (2015:2) The system is a network of work based on the above, it can be concluded that the System is a component or element that interconnects with each other so that it can achieve a goal that has been Planned.

According to the Swastika and the Son (2016:3) The word ' system ' contains the meaning of a collection of components that have interconnectedness between one and the other. The information system is a collection of components in a company or organization related to the process of Information creation and streaming.

According to Kadir (2014:61), the system is a set of interconnected elements that are intended to achieve a goal. Based on 5 (five) Opinions on the system from these experts can conclude that the system is a The set of various parts or elements, which are interrelated in an organized manner based on function functions, make a unity and have continuity with the title taken because as a system that provides information, Viewboard Performance PenA (Attendance assessment) can be used as a container of information delivery of the student craftsmen Attendance, long duration of guidance and appreciation for students who are diligent present in the attendance of guidance at higher education. Intertwined procedures Together to perform activities or to perform specific objectives.

2.2 Literature Review

Many previous studies have been conducted on attendance systems. In an effort to develop this attendance system literature studies need to be done as one of the applications of research methods to be carried out. Among them are identifying gaps (avoiding gaps), avoiding re-making (reinventing the wheel), identifying methods that have been done, continuing previous research, and knowing other people who specialize and the same research area in this field. There are 6 (six) Literature reviews are as follows:

1. Research conducted by Rachman Mulyandi and Cynthia Ayu Wulan Early in 2014 entitled "Application of Employee Attendance in the District of Batuceper Tangerang in Improving Information Accuracy". This study describes the Batuceper District which is a government agency whose employee attendance system is still running manually. Where in the application of this attendance system there are several things that become obstacles. The obstacles that occur are in terms of effectiveness, time efficiency and the absence process. The current form of attendance reports is still in the form of writing which can complicate the process of finding 16 data, and the possibility of missing attendance data. With the above reasons, the writer tries to provide an alternative problem solving by making an attendance system application that will record the attendance list of employees, arrival time, return time, which will be made systematically and computerized. This system eliminates the process of recording the attendance of employees who have been running manually so far, namely by reducing the error rate by inputting the employee's parent number in the attendance process. This writing will also explain the stages of work, starting from the process of analysis, planning, design using the PHP programming language (Hypertext Preprocessor) and MySQL database, to the implementation stage using the spiral method with engineering notation and object-oriented approach, UML (Unified Modeling Language) , with the aim of finding out what data is being input and output on the running system. With the attendance information system is expected to minimize the constraints that occur in the previous system.

2. Research conducted by Alfie's. Rintjap, Sherwin R.U.A, Sompie, and Oktavian Lantang in 2014 entitled "Student Attendance Application Using Fingerprints at the 17th Middle High School 9 Manado". This research explains about the development of science in all fields in the current era of globalization so rapidly, especially in the field of IT that is increasingly advancing in line with the needs of users (users). Absenteeism is one of the supports that can support or motivate every activity carried out in the world of education in Indonesia at this time, especially in every process of learning activities. The use of fingerprints for student attendance can be a better way to attend, which is expected to overcome problems and improve performance at school. The final project with the title Student Attendance Application Using Fingerprints at SMAN 9 Manado aims to improve the attendance system that is done manually. Application development is carried out using the VB programming language. Net and use the fingerprint machine as a tool to record fingerprints. From the results of the implementation of this application it can be concluded that this application provides the benefits of avoiding data manipulation, saving time in absenteeism.

3. This research was conducted by Aditya Tegar Satria in 2013 entitled "Design of Web-Based Online Employee Attendance System Using the PHP Codeigniter & Mysql Framework (Case Study: PT. Starone Mitra Telekomunikasi)". This study discusses that PT StarOne Mitra Telekomunikasi still implements a timesheet system as an attendance employee system today, implemented for each employee in the attendance form sheet provided daily. As time goes by, this system proved to be a requirement of lacking efficiency and data accuracy. This research provides designing web-based absentee online employee systems using the PHP CodeIgniter framework to build the site interface and MySQL software as a database system, also using the system development waterfall method. The online employee web-based

absence system is intended to cover the absence of a manual absence system, increase the efficiency and accuracy of attendance data, facilitate employee attendance, and also help management to monitor all employees' present & performance.

4. Research conducted by Noval Aditya Muhammad, Febriliyan Samopa and Radityo Prasetianto Wibowo in 2013, with the title "Making a Fingerprint-Based Lecture-Based Application Application (Case Study: Department of Information Systems Sepuluh November Institute of Technology Surabaya)". This study discusses the Information Systems Department of the Surabaya Sepuluh Nopember Institute of Technology (JSI ITS) today that has implemented a fingerprint-based attendance system to support 19 teaching and learning processes, as well as tackle attendance fraud in the classroom. This technology is indeed rampant and very supportive because its application is not too difficult and affordable. But JSI has not maximized the application of the fingerprint presence because it does not yet have an application that manages the presence. JSI uses VF30 fingerprint hardware that has been applied to every classroom. The system will work if the VF30 fingerprint is activated by a user's fingerprint stroke, which is then sent to the server for authentication and recording. A web-based application will be a VF30 application container with an academic presence. This application is expected to be able to help overcome the problem of attendance fraud that often occurs as well as provide convenience to recapitulate student attendance during the teaching and learning process every day.

5. This research was conducted by Untung Rahardja, Qurotul Aini, Hani Dewi Ariesanti, and Alfiah Khoirunisa years (2018), titled "THE EFFECT OF GAMIFICATION ON IDLE (ILEARNING EDUCATION) IN IMPROVING STUDENTS MOTIVATION" in the existence of a gamification system in online learning is useful to spur students into becoming a learning unit (ILEARNING EDUCATION) IN IMPROVING MOTIVATION more enthusiasm is also an alternative in organizing and conditioning the learning situation to make it more interesting.

6. This research was conducted by Mohamed Abdelfattah in (2013), Study titled "A Comparison of Several Performance Dashboards Architectures" A performance dashboard is a full-fledged business information system that is built on a business-intelligence and data-integration infrastructure. It has been one of the most hot research topics. Now many corporations have involved in the dashboard performance Architectures related techniques and many dashboard performance Architectures have been put forward. This is a favorable situation to study and application of dashboard performance related techniques. Though interesting, there are also some problems for so many Architectures forms. For to a novice or user with little knowledge about Architectures dashboard performance, it is still very hard to make a reasonable choice. What differences are there for the different dashboard performance Architectures and what characteristics and advantages each has? To answer these problems, the characteristics, architectures and applications of several popular dashboard performance Architectures are analyzed and discussed in detail. From the comparison of these Architectures, users can better understand the different performance dashboard Architectures and more reasonably choose what they want, Research on the Performance Dashboard is a complete business information system built on the design of business intelligence and data integration. The company is involved in the architectural performance dashboard related to engineering and many dashboard performance architectures have been put forward. This is a favorable situation for learning and implementing performance related dashboard techniques.

3. Findings

3.1 Research Objectives

The purpose is closely related to the formulation of the problem set and The answer lies in the conclusion of the study. Of the problems that are has been described above, then there are 3 (three) goals to be achieved The results of this research are:

1. To find out the current attendance guidance system walking is optimal for students at this time.
2. To measure the performance of student attendance guidance based on hours of attendance within a period of time certain to monitor student activity guidance.
3. To provide information in the form of a reminder to student guidance for doing attendance in the morning and evening.

3.2 Research Benefits

The benefits of research are the results of achieving research objectives and the answer to the formulation of the problem accurately and precisely as intended research to be achieved. There are 3 (three) research benefits as following:

1. Providing solutions in the absence system ongoing guidance is optimal.
2. Providing solutions to measure attendance performance student guidance based on attendance hours within a certain period of time to monitor activeness student guidance.
3. Providing solutions for information in the form of reminder to student guidance for attendance in the morning and evening.

3.3 RESEARCH METHODS

3.3.1 Proposed System Design

To analyze the proposed system, in this study UML (Unified Modeling Language) is used to describe Flowchart Diagrams, Use Case Diagrams, Activity Diagrams, and Sequences Proposed diagrams.

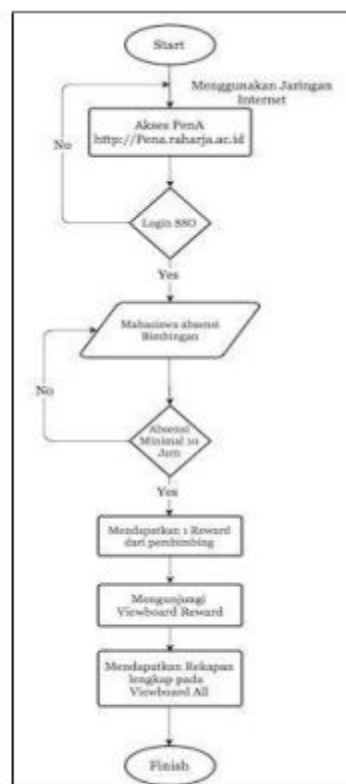
3.3.2 Proposed System Procedure

Based on the analysis and research carried out inside the current system in Higher Education namely the System Guidance Student Attendance that has a touch of gamification, then the next step is to discuss the proposal system. As for system that will be proposed on the Student Guidance Attendance having this gamification touch, there are 3 (three) proposals, namely:

1. Make the flow of the Student Guidance Attendance process that is easy done online. Where in the initial step adding the attendance guidance flow becomes easier online that does not need to be connected to the campus local network which is often obstructed.
2. Create a Viewboard All, Team Viewboard, Personal Viewboard, Viewboard Reward, and Viewboard Performance in the System PenA (Attendance Rating). Viewboard is made to improve student activities, then appreciated by displaying the name of the most active attendance student based on the number of absences the most and the longest attendance duration on the main page which is on the main page of the PenA System (Attendance Assessment).
3. Adding a touch of performance management is also gamification

in the PenA (Attendance Assessment) System that has a function for students who are loyal in attending guidance for 10 (ten) hours (per day) will get their reward always motivated in active guidance.

3.3.3 Flowchart Diagram of the Proposed System

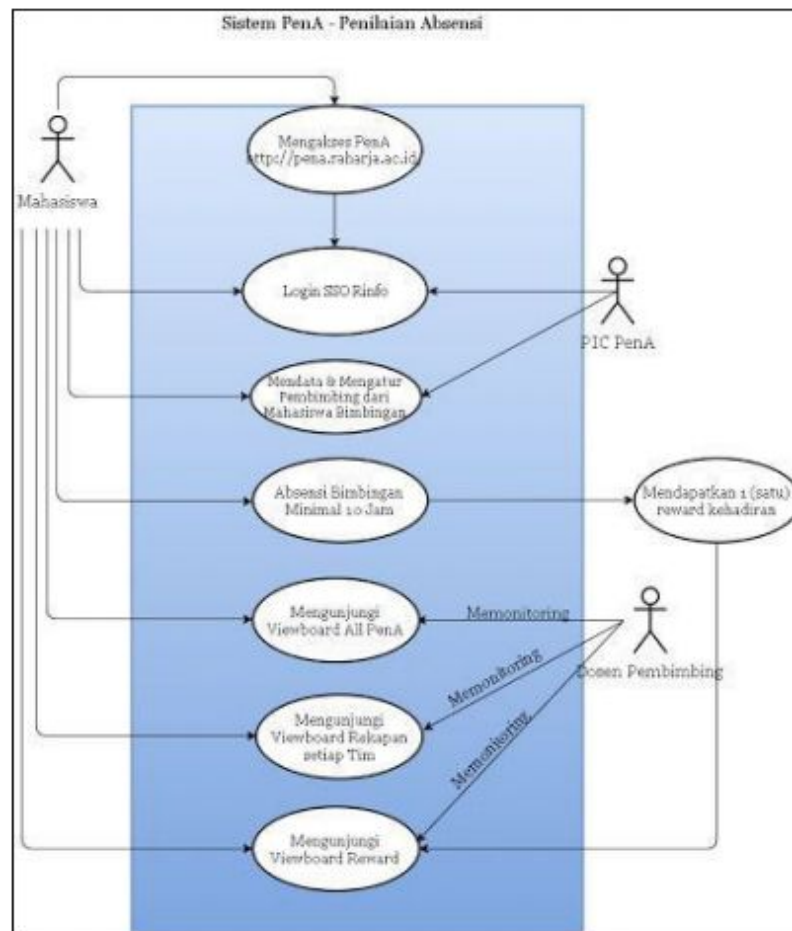


Picture 1.2 Flowchart Diagram of the Proposed System

Can be explained in the picture above is a flowchart diagram the proposed Student Attendance Guidance with a touch of gamification Higher Education, consisting of:

1. 2 (two) terminal symbols, which act as "start" and "finish" on process flowchart program flow to do attendance guidance to get a record of his attendance.
2. 4 (four) process symbols, whose role is to indicate a process Guidance Students access the PenA website <http://pena.raharja.ac.id/>, then the student conducts attendance guidance, where students in a maximum absentee for 10 hours will get appreciation with 1 reward where attendance records are easily obtained and all understood in the overall viewboard view and viewboard reward.
3. 2 (two) decision symbols, whose role is to indicate a step decision making "Attendance Confirmation" if "Yes" Attendance process the guidance continues, if absenteeism is not continued "No" attendance. And a decision making step "confirmation reward" if "Yes" the student has been absent for 10 hours it will get 1 reward, if not for 10 hours then "No" will get a reward.

3.3.4 Use Case Proposed System Diagram

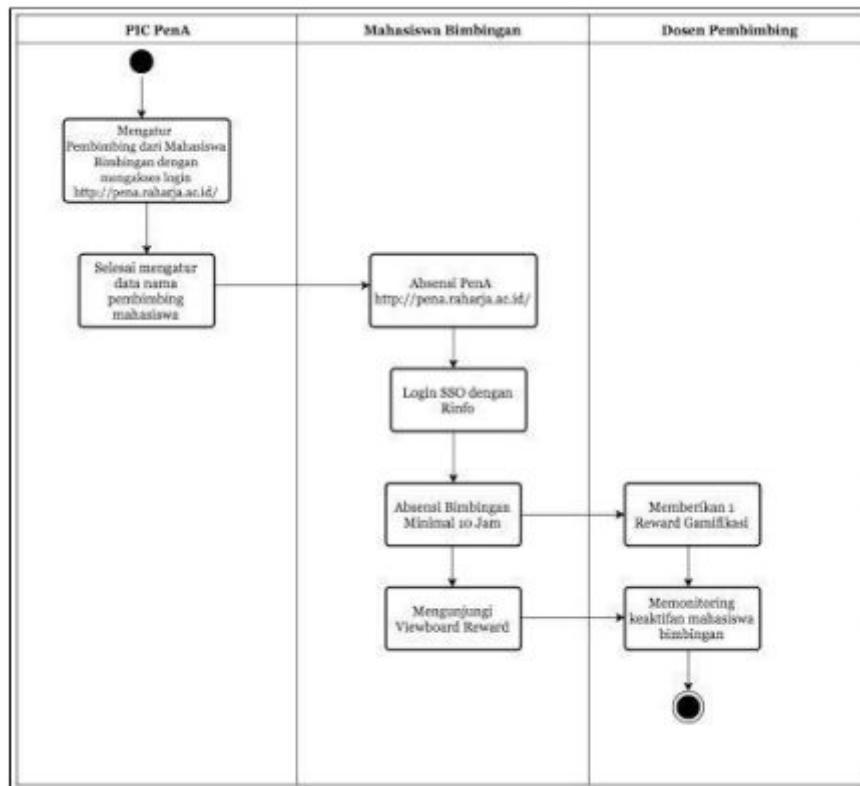


Picture 1.1.3 Use Case Proposed System Diagram

Can be explained in the picture above is a use case diagram the proposed Student Attendance Guidance by touch gamification at the Raharja College, consisting of:

1. 3 (three) Actors who carry out activities namely Students Guidance, Counseling Lecturer and PenA PIC.
2. 8 (eight) Use cases which are the processes contained in the process Student Guidance with a touch of gamification consists from the PenA PIC accessing the PenA Website (<http://pena.raharja.ac.id/>) with Login SSO Rinfo later record and input the Supervisor Name for Data Student Guidance, Successfully records Student access PenA website (<http://pena.raharja.ac.id/>) with Login SSO Info and ready to do Time Attendance Guidance a minimum of 10 hours to get 1 reward. Recap with easily accessed by in the viewboard all for overall data, Team viewboard to recap every guidance team, viewboard personal, performance viewboard that can measure levels student activeness, viewboard rewards that recap all attendance is easily and accessed online.

3.3.5 Proposed Activity System Diagram

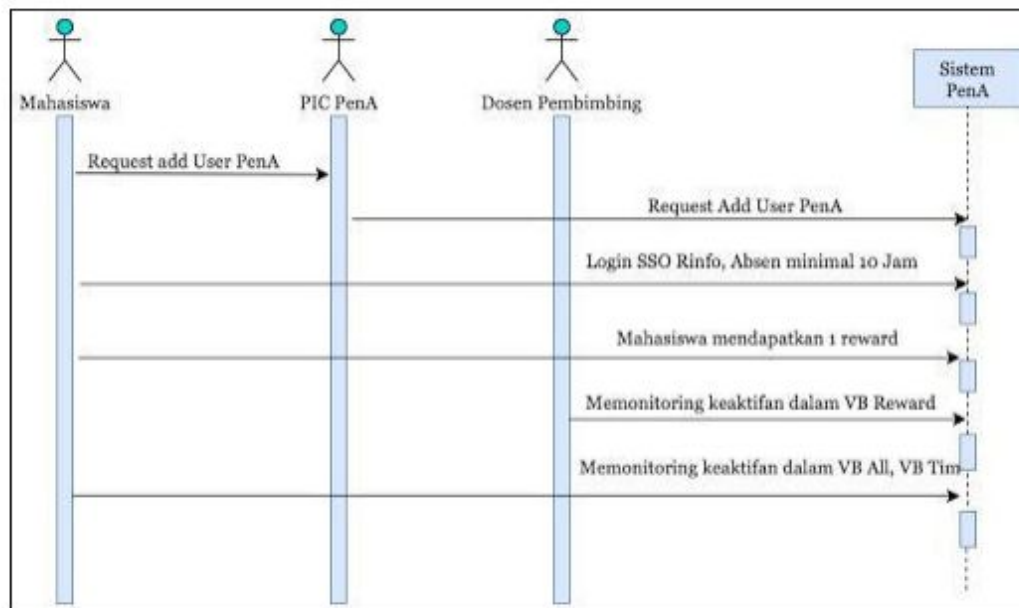


Picture 1.1.4 Proposed Activity System Diagram

Can be explained in the picture above is an activity diagram the proposed Student Attendance Guidance by touch gamification at the Raharja College, consisting of:

1. 1 (one) Initial Node as an object that starts the process.
2. 8 (eight) Activity as a state of a system that reflecting executions including:
 - PenA PIC accesses PenA Website (<http://pena.raharja.ac.id/>) with Login SSO Rinfo then record and input Name of Supervisor for Guidance Student Data, Successfully recorded Students accessing the PenA Website (<http://pena.raharja.ac.id/>) with Login SSO Rinfo and ready to conduct Time Attendance Guidance with a minimum time of 10 Hours to get 1 reward. Easy recording accessed by inside the viewboard all for overall data, Team viewboard to recap every guidance team, viewboard personal, performance viewboard that can measure levels student activeness, viewboard rewards that recap all attendance is easily and accessed online.
3. 1 (one) Final node as the ending object.

3.3.6 Proposed System Sequence Diagram



Picture 1.1.5 Proposed System Sequence Diagram

Can be explained in the picture above is a sequence the proposed diagram of Student Attendance Guidance by touch gamification at the Raharja College, consisting of:

1. 3 (three) actors who carry out activities, namely Students Guidance, PIC PenA, Supervising Lecturer.
2. 1 (one) proposed lifeline, namely from the PIC PenA access PenA website (<http://pena.raharja.ac.id/>) with SSO Login Rinfo then records and enters the Lecturer Name Advisor for Student Guidance Data, Successful data collection Students access the PenA Website (<http://pena.raharja.ac.id/>) with Login SSO Rinfo and ready to attend Guidance with a minimum time of 10 (ten) hours for get 1 (one) reward. Recap easily accessible by in view all for overall data, Team viewboard to recapitulate each guidance team, personal viewboard and Reward viewboard that records all attendance easily and accessed online, a performance viewboard for viewing student attendance performance over a period of time determined.
3. 6 (six) messages that make inter-activity occur.

4. Conclusion

Based on the results of analysis and research conducted on student attendance guidance and get information recapitulation attendance is also the supervisor can conduct management monitoring student attendance performance guidance on the Performance Viewboard PenA system (Attendance Assessment), then it can be drawn 3 (three) conclusions, including:

1. The PenA student attendance (Attendance Assessment) attendance system currently underway at the University is still not run optimally like student guidance and lecturers the supervisor must find data manually to calculate duration of attendance at a certain time period to be used as an assessment of the performance.
2. Implement a student attendance assessment system for guidance which can be monitored directly by student guidance and lecturers online mentor namely the PenA System (Attendance Assessment) by using the Yii framework. So that it can be simplified the attendance process to get inside recapitulation information Viewboard available on the PenA (Attendance Assessment) System especially for guidance students and supervisors cannot come directly to College.

References

- [1] Marshall B. Romney, dan Paul Jhon Steinbart, 2015. Sistem Informasi Akuntansi, Edisi. Salemba Empat : Jakarta.
- [2] Djahir, Yulia dan Dewi Pratita, Bahan Ajar Sistem Informasi Manajemen, CV Budi Utama, Yogyakarta, 2015.
- [3] Hutahaean, J. (2015). Konsep Sistem Informasi. Deepublish.
- [4] Putu, I. Agus Swastika., dan I Gusti Lanang A.R. 2016. Audit Sistem Informasi dan Tata Kelola Teknologi Informasi. Penerbit: Andi.
- [5] Kadir. Abdul. 2016. Dasar Perancangan Dan Implementasi Database Relasional. Yogyakarta: Andi
- [6] Mustakini. 2009. Sistem Informasi Teknologi. Yogyakarta: Andi Offset.
- [7] Ridha, M. R., Usman, U., & Prasetyo, D. Y. (2015). Desain dan Implementasi Sistem Informasi Akademik (Studi Kasus Fakultas Ilmu Agama Islam Universitas Islam Indragiri). Jurnal Buana Informatika, 6(2).
- [8] Sundari, P., Aprilliani, I., & Gunawan, H. (2014). Pengembangan Sistem Informasi Parkir Rumah Sakit Elisabeth Purwokerto, 3(1), 1–10 Issn : 2086-972x1.
- [9] Henderi, Untung Rahardja, Qory Oktisa Aulia dan Muhamad Hendri. Dashboarding Information Systems For The Education Sector: Application And 50 Methodologies. Jurnal CCIT. Tangerang. Perguruan Tinggi Raharja. Vol. 5, No. 1, September 2013.

- [10] Soleh, Oleh, Meta Amalya Dewi, Arfiah dan Asdin. 2013. Metode Peninjauan Dashboard Dari Business Intelligence Untuk Membuat Keputusan Lebih Baik. Yogyakarta: Open Journal System (SEMNASTEKNOMEDIA ONLINE). Vol.1, No.1, Diambil dari : <http://ojs.amikom.ac.id/index.php/semnasteknomedia/article/view/549/526>. (25 Desember 2016).
- [11] Dani, Anggoro, Muhamad Luthfi, Aksani. 2015. Dashboard Information System Sebagai Pendukung Keputusan Dalam Penjualan Tiket Pesawat Studi Kasus: Pt. Nurindo Tour. Jakarta Selatan. Vol.5, No.3, Diambil dari http://si.its.ac.id/data/sisfo_data/files/8_vol5no3.pdf
- [12] Rajagukguk, Ronald. 2010. "Panduan Praktis SharePoint Server 2010 Sebuah Platform Untuk Berkolaborasi Di Web". Jakarta: PT.Elex Media Komputindo
- [13] Henderi, dkk 2011. Desain aplikasi E-Learning Sebagai Media Pembelajaran Artificial Informatics. Journal CCIT Vol-4 No.3
- [14] Tiara, K., & Nurhaeni, T. (2016). Penerapan Viewboard GO+ Berbasis Yii Sebagai Media Monitoring Pembayaran Mahasiswa. Technomedia Journal, 65-77
- [15] Rahardja, U., Pratama, D., & Susanti, E. (2016). Implementasi Viewboard Dalam Mendukung Penyebaran Informasi Dengan Penyajian Artificial Informatics Pada Perguruan Tinggi.