Implementation of Business Intelligence Using Highlights in the YII Framework based Attendance Assessment System

Taqwa Hariguna¹, Eka Purnama Harahap², Salsabila³
¹University of AMIKOM Purwokerto, ²,³University of Raharja
e-mail: taqwa@aptisi.or.id, ekapurnamaharahap@raharja.info, salsabila@raharja.info

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Abstract

Attendance information conducted by students can now be easily accessed by a supervisor. However, there are 3 (three) difficulties faced by supervisors, one of which is presenting information with tables requiring considerable time and very high accuracy to measure the comparison of information contained within it. In order to facilitate the supervisor in recording and measuring attendance of student tutoring students handled, the Attendance Rating system will present information in the form of graphics using Highchart. Presentation of information in the form of a graph on Attendance Assessment will present information in the form of Nim (Student Registration Number), supervisor, and guidance time. Information on the guidance time in the graph can be used as a comparison to measure the level of student activity in following the guidance. The Attendance Rating System uses the YII Framework-based website because it is also easy to develop web applications and the YII Framework has a good level of security. In this study, there are 5 (five) advantages and 1 (one) deficiency in the Attendance Assessment system. With this research, it is expected that the Attendance Assessment system can improve the quality of student attendance in the tutoring process at Raharja College.

Keywords: Highchart, Business Intelligence, Attendance

1. Introduction

The need for accurate information is really needed especially for everyday life, because accurate information can be an assessment and will affect the recipient of that information. Change is really needed in all things including in the presentation of forms of information, from conventional ways to being more modern so that it can facilitate readers in understanding the information presented. Especially in today’s sophisticated life, there is a need for efficient and easily understood information delivery media in its delivery. In carrying out the recording of attendance for student tutoring conducted by the lecturer also requires the right media, because the results of the absenteeism conducted by the supervisor will be an information that can influence the assessment of the student's guidance. Enter data consisting of student names, nim (Student Identification Number), and supervising lecturers one by one into the tutoring attendance table, after which the supervisor must also recap the attendance manually by examining the tables one by one to get an assessment of student attendance his guidance. This method certainly requires a very long time, and also requires concentration to analyze the data so that it becomes easy to digest information. With new innovations, data or information on student attendance, existing guidance will be poured into the graph, with a concise, compact and attractive display that makes the
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The picture above is a display of Mind Mapping or an overview of mind mapping that explains Attendance Assessment. The following is a description of the image above.

1. **Explanation**
   Explain the Attendance Assessment function which can help attendance process for tutoring students and facilitate the supervisor in recapitating attendance and presenting information using Highchart.

2. **Login**
   The Attendance Rating System provides logins using SSO (Single Sign On / Out) with Info which means that you can only use one key, the account that is only owned by Personal Raharja as a Magic Key.

3. **User**
   There are 2 users in the Attendance Assessment system, namely supervisors and students.

4. **Aktivitas**
   Users can attend attendance at the Attendance Assessment system after which attendance will be recapitulated after which information will be presented using Highchart to make it easier to understand and also monitor student discipline.

**2. Research Method**

In designing a system there are 7 (seven) things that need to be considered to be able to overcome problems or shortcomings that exist in the system, so in the research process several methods are applied. In this study, the research method used in the first step was done, namely the Formulation of the Problem to make observations that aim to find out the problems or shortcomings in the existing system. Furthermore, the Research Design stage is intended to design a system of Time Attendance Assessment in the form of a prototype to make it easier to understand when it will be applied to the YII Framework-based website. The next step is Data Collection, which means collecting data needed in the process of designing Attendance Assessments such as Student data, Supervisor data, and Room data which will be stored in a
database. After that, it continued with Data Processing, namely integrating data in the database, using websites based on Yii Framework, with Xampp as a web server, PHP as a scripting language, and MySQL as a Database Management System (DBMS). To support website design Attendance Rating. The next step is Presentation Data from processed data will be presented as useful and easily understood information for students and also tutors, the information will be poured into a Diagram or Graph. The next stage is Data Analysis to analyze the results from the beginning of the problem formulation process and find out what are the causes of the problem. Then in the last stage of the Research Report is to report all the results of the research in detail and detail that will eventually get a good solution to the problems.

**Problem**

Presentation of guidance attendance data at Raharja College is quite good, but with the recording of attendance guidance data students use tables and search data one by one is considered less efficient because it requires a long time. So that it makes it difficult for lecturers to do the recording and also to display the percentage of activities of each student who is guided.

![Figure 3. Use Case System diagram that runs](image)

The system that runs on the attendance of tutoring, which begins with the absence of students manually to the supervisor until the presentation of attendance record information can be seen and understood by students. From the picture above there are 2 actors who have different roles, starting with students who attend attendance to the supervisor after that the supervisor records back into the table, in a certain period the supervisor will recap attendance by sorting the data in one by one. After the process the supervisor will present attendance information in the form of tables to be given as information to students where the method is certainly not efficient because it requires accuracy and a long enough time.

![Figure 4. Student Attendance Data Table](image)

It can be seen from the picture above, the large number of student data in the table can make it difficult for the supervisor to do the recording of existing attendance data. The table above is the attendance data from students who login to the Attendance Assessment system, so from the many attendance data of tutoring students that there are lecturers, they have to do manual recording and ranking so that it takes a long time to become easily understood information.
Research and Finding

From the explanation of the problems that exist in the way in which the attendance process of tutoring is currently available is very detailed, therefore there is a system that can reduce the existing problems. With Assessment Attendance data attendance will be easier to input, recap, and also presented in a way that is easier and with a more attractive appearance.

Figure 5. Query for Displaying Data

The appearance of the query above serves to display Pie Chart, from the above queries consisting of 2 tables combined based on the primary key, Nim.

Figure 6. Query to display data

The picture above is a display of 3 javascript queries taken from the Highchart web.

Figure 7. Query for Entering Graphs

The picture above is a script for making Pie Chart using Highchart, to make it use the insert table method as the data to be visualized.

Figure 8. Query in JavaScript
In the picture above there is a JavaScript query to create Pie Chart and give color to Pie Chart.

The picture above is an html display to display the Pie Chart that has been created.

The application of the Attendance Assessment system is attempted to help the online attendance process in tutoring from the attendance input process, attendance recap, to the delivery of online attendance information ranking students who most often do guidance in a way that is certainly easier and a more attractive appearance.

The following is the main page display on the Attendance Rating website, namely http://pena.raharja.ac.id/.

In the picture above is the Viewboard display on the Attendance Rating website, where there are data on the number of online attendance that has been served and the data contains data that will be recapitulated by the supervisor to be presented in the graph.

The picture above explains from the online attendance data that all students who conduct guidance will be recapitulated by the supervisor and the following is the display after doing online...
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References

[1] Harahap, E. P., Rahardja, U., & Salamuddin, M. (2019). Aplikasi Panduan dan Pembayaran Tiket Masuk Mendaki Gunung Menggunakan Metodologi Sistem Multimedia Luther-Sutopo. *Satin-Sains dan Teknologi Informasi*, 4(2), 9-16.

[2] Rahardja, U., Handayani, I., & Elinda, B. D. (2019). Viewboard Jadwal Sidang Mahasiswa Pada Sistem PESSTA+ Menggunakan YII Framework di Perguruan Tinggi. *Technomedia Journal*, 3(2), 235-245.

[3] Sudaryono, S., Rahardja, U., & Apriani, D. (2019). The CICES Journal Governance Performance Improvement on Quality of Current Issues (Case Study of STMIK RAHARJA). *Aptisi Transactions On Management*, 3(1), 57-64.

[4] Aini, Q., Graha, Y.I. and Zuliana, S.R., 2017. Penerapan Absensi QRCode Mahasiswa Bimbingan Belajar pada Website berbasis YII Framework. *SISFOTENIKA*, 7(2), pp.207-218.

[5] Rahardja, U., Pratama, D. and Susanti, E., IMPLEMENTASI VIEWBOARD DALAM MENDUKUNG PENYEBARAN INFORMASI DENGAN PENYAJIAN ARTIFICIAL INFORMATICS PADA PÉRGURUAN TINGGI.

[6] Rahardja, U., Sholeh, O. and Nursetianingsih, F., 2015. PENGGUNAAN DASHBOARD UNTUK MENGONTROL KINERJA ABSENSI PEGAWAI GUNA MENINGKATKAN PROFESIONALISME PEGAWAI PADA PT. SINARMAS LAND PROPERTY. *SEMNASTEKNO MEDIA ONLINE*, 3(1).

[7] Husni, Z.N. and Mukhlash, I., 2014. Implementasi Business Intelligence Pada Manajemen Report Bank XYZ, Jurnal Sains dan Seni ITS, 3(2), pp.A16-A21.

[8] Shoewu, O. and Idowu, O.A., 2012. Development of attendance management system using biometrics. *The Pacific Journal of Science and Technology*, 13(1), pp.300-307.

[9] Handayani, I., Aini, Q. and Octaviani, F., 2016. PENERAPAN SISTEM VALIDASI JURNAL DI PESSTA+ SEBAGAI PENILAIAN ARTIKEL ILMIAH DALAM MENDUKUNG KEGIATAN CIVITAS AKADEMIKA. *CSRID (Computer Science Research and Its Development Journal)*, 8(3), pp.177-190.

[10] Rahardja, U., Fadillah, I. and Lestari, W., 2017, August. PENGGUNAAN SYSTEM SINGLE SIGN ON (SSO) DALAM MENDUKUNG KEMAJUAN PADA FORUM RHFOX DI PÉRGURUAN TINGGI RAHARJA. In SISITI: Seminar Ilmiah Sistem Informasi dan Teknologi Informasi (Vol. 5, No. 1).

[11] Rahayu, S., Yusup, M. and Dewi, S.P., PERANCANGAN APLIKASI ABSENSI PESERTA BIMBINGAN BELAJAR BERBASIS WEB DENGAN MENGUNAKAN FRAMEWORK YII.

[12] Rahardja, U., Handayani, I. and Setiani, L., 2017. Viewboard Sebagai Laporan Jumlah Keseluruhan Artikel Pada iLearning Raharja Ask and News. *Cogito Smart Journal*, 3(1), pp.42-55.

[13] Rahardja, U., Aini, Q., & Khoirunisa, A. (2017). Implementasi Business Intelligence Menggunakan Highchart pada Sistem Penilaian Absensi berbasis YII Framework. *CSRID (Computer Science Research and Its Development Journal)*, 9(2), 115-124.

[14] Rahardja, U., Aini, Q., & Khoirunisa, A. (2019). Monitoring Kinerja User Akuntan Menggunakan Dashboard Pada Web Based Accounting Online di Perguruan Tinggi. *SATIN-Sains dan Teknologi Informasi*, 4(2), 58-62.

[15] Rahardja, U., Aini, Q., Ariessanti, H. D., & Khoirunisa, A. (2018). Pengaruh Gamifikasi pada iDu (iLearning Education) dalam Meningkatkan Motivasi Belajar Mahasiswa. *Nusantara Journal of Computers and its Applications*, 3(2).

[16] Rahardja, U., Aini, Q., & Khoirunisa, A. (2019). Optimalisasi Informasi Manajemen Laporan Assignmen Pada Website Berbasis Content Management System. *Technomedia Journal*, 3(2), 213-223.

[17] Aini, Q., Dhaniarti, I., & Khoirunisa, A. (2019). Effects of iLearning Media on Student Learning Motivation. *Aptisi Transactions on Management (ATM)*, 3(1), 1-12.

[18] Rahardja, U., Aini, Q., & Khoirunisa, A. (2018). Effect of iDu (iLearning Education) on Lecturer Performance in the Lecture Process. *Aptisi Transactions on Management (ATM)*, 2(2), 140-148.
Implementation of Business Intelligence Using ...

[19] Rahardja, U., Aini, Q., & Khoirunisa, A. (2018). The Effect of Rinfogroups as a Discussion Media in Student Learning Motivation. *Aptisi Transactions on Management (ATM)*, 2(1), 79-88.

[20] Moeins, A., Sudaryono, S., & Khoirunisa, A. (2018). Utilization of Management of Writing Scientific in the Learning Process in Higher Education. *Aptisi Transactions on Management (ATM)*, 2(1), 1-8.

[21] Febriyanto, E., Handayani, I., & Suprayogi, D. (2019). Aplikasi Sistem Penilaian Penguji Berbasis YII Framework Sebagai Media Input Nilai Mahasiswa Sidang Tugas Akhir Dan Skripsi Pada Perguruan Tinggi. *CSRID (Computer Science Research and Its Development Journal)*, 10(2), 111-123.

[22] Ariessanti, H. D., Martono, A., & Suprayogi, D. (2019). SISTEM INFORMASI PROFIL MAHASISWA PADA PENILAIAN PENGUJI PESSTA+ DI PERGURUAN TINGGI. *CERITA Journal*, 5(1), 76-88.

[23] Kamil, M., Rianto, J., & Suprayogi, D. (2019). Management of Deciding Decision Making Final Project Advisor in Optimizing Learning. *Aptisi Transactions on Management (ATM)*, 2(2), 168-176.

[24] Rahardja, U., Aini, Q., & Santoso, N. P. L. (2018). Pengintegrasian YII Framework Berbasis API pada Sistem Penilaian Absensi. *SISFOTENIKA*, 8(2), 140-152.

[25] Rahardja, U., Aini, Q., Azizah, N., & Santoso, N. P. L. (2018). Efektivitas Akuntansi Online dalam Menunjang Proses Rekonsiliasi. *Nusantara Journal of Computers and its Applications*, 3(2).

[26] Aini, Q., Rahardja, U., Arribathi, A. H., & Santoso, N. P. L. (2019). Penerapan Cloud Accounting dalam Menunjang Efektivitas Laporan Neraca pada Perguruan Tinggi. *CESS (Journal of Computer Engineering, Science and System)*, 4(1), 60-64.

[27] Febriyanto, E., & Rahardja, U. (2019). Penerapan Midtrans sebagai Sistem Verifikasi Pembayaran pada Website iPanda. *Jurnal Informatika Upgris*, 4(2).

[28] Rahardja, U., Febriyanto, E., & Aldiya, M. A. (2019). Penerapan Central Event Information Untuk Mencetak Sertifikat dan Verifikasi Dengan QR Code Menggunakan Global Extreme Programming. *Jurnal Informatika Upgris*, 4(2).

[29] Rahardja, U., Sunarya, P. A., Aini, Q., & Dewi, S. R. (2019). Solusi Payment Online Berbasis Cloud Accounting Pada Manajemen Perguruan Tinggi. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan*, 3(2).

[30] Febriyanto, E., Rahardja, U., Faturahman, A., & Lutfiani, N. (2019). Sistem Verifikasi Sertifikat menggunakan Digital Image Processing pada Central Event Information. *Techno. Com*, 18(1), 50-63.

[31] Aini, Q., Alwiyah, A., & Putri, D. M. (2019). Effectiveness of Installment Payment Management Using Recurring Scheduling to Cashier Performance. *Aptisi Transactions On Management*, 3(1), 13-21.