Website-Based Personnel Information System Design in Vocational High School

To cite this article: J Widodo et al 2019 J. Phys.: Conf. Ser. 1413 012027

View the article online for updates and enhancements.
Website-Based Personnel Information System Design in Vocational High School

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Abstract. Education is a means of creating high-quality human resource. Science and Technology development, in addition to affecting industrial world, also affects education realm. A website-based personnel information system simulation application used for the learning of personnel administration management automation course in supporting learning media in Vocational High Schools throughout Ex-Surakarta Residency is designed using FAST (Framework for the Application Of System Thinking) model with object-oriented method and UML (Unified modeling language) tools. The use of FAST model made the website-based personnel information system simulation system designed more structured and more organized.

Keywords: Information System, Personnel, Website

1. Introduction

Education is a means of creating high-quality human resource. A high-quality human resource can build state and improve a nation’s quality. Education becomes an important asset to life and inseparable from life, as without education an individual will not know anything existing in this world, so that education is absolute in nature in individual, family, nation, and state’s life through science and technology development.

Science and technology development in addition to affecting industrial world also affect education world in Indonesia. Technology affects positively not only social life but also education, because technology becomes more prevalent in education organization, and educators are expected to utilize digital tools to support teaching-learning process in the class (Akyuz & Yavuz, 2015; Gan, Menkhoff & Smith, 2015). It can be seen from the infrastructures and learning media used by educators in delivering material to students. Technology advance enable educators to innovate in order to create a learning media that can support the students’ process of understanding the teaching material, either theoretically or practically (Kingsley, 2007; Norman & Furnes, 2015). The use of learning media, in addition to facilitate the delivery of material from teachers to students, can also improve students’ interest in a course (subject).

The learning appropriate to apply to the 2013 curriculum is the one emphasizing on learning by doing as an attempt of practicing the students’ competency. The competency is expected to improve problem solving and critical thinking abilities of students in the learning process. During learning process, the competencies that can be implemented through scientific approach are, among others: observing, questioning, presenting, reasoning, and trying. Those competencies can be optimized by applying student-centered learning, so that students can learn independently to solve the problems given during learning process.
Considering Focus Group Discussion (FGD) of studies in 2018 along with Office Administration teachers, it can be seen that teachers want the availability of learning source in the form of 2013 curriculum-based learning media. Office administration specialty teachers still lack of learning media to support theory through the 2013 curriculum-based learning media. Educators are expected to have an ability of improving their professionalism through the learning media development itself, so that the development conducted can answer the students’ problem in the learning process. Learning media is expected to facilitate the students in learning, so that they can learn according to their ability and their competency can be accomplished.

The objective of research is to provide a website-based personnel information system design in Office Administration Management Automation Course in Vocational High School. The presence of website-based personnel information system design is expected to help students implement learning media and to facilitate them to understand the material and the procedure of personnel administration delivered by educators corresponding to business and industrial world.

2. Methodology
The research conducted was Research and Development (R&D). The finished product expected from research and development should meet the existing criteria: a new product or a product different from the preexisting one and ready to apply and develop in the field. The product is produced through evaluation and perfecting process in order to met the criteria specified in the beginning of study.

The research procedures carried out are based on the stages proposed by Gall, Gall & Borg (2003: 570-571), in this study namely: (1) The Exploration Stage, (2) The Draft Model Development Stage, (3) The Model Testing Stage, And (4) Product Dissemination. The place of research was conducted at the Vocational School of Business and Management which has the area of office administration expertise in the Ex-Residency of Surakarta (1) Exploration, (2) Model Draft Development, (3) Model Trial, and (4) Product Dissemination. The research was conducted in Vocational High School in Business and Management field having Office Administration specialty throughout Ex-Surakarta Residency.

Data validation was conducted using source and method triangulations. Source triangulation was used to examine data validity from different source, while method triangulation was used to examine data through different method. Technique of analyzing data used in this study was mix method. Qualitative data was analyzed using interactive model of analysis (Miles & Huberman, 1992: 20), while quantitative data was analyzed using statistic descriptive technique and variance test. Mix method strategy was used in this study in order to obtain a complete analysis corresponding to the characteristics of data obtained and the need.

3. Result And Discussion
3.1 Use Case Diagram
Use Case diagram depicts how the users interact with the system used, use case was used to find out the functions contained inside an information system and who are entitled to use the functions (A.S, Rosa & Shalahuddin, 2013). In a personnel information system simulation application, the users can interact with, among others: Dashboard, Management, Report and Logout.
3.2 State Chart Diagram
State Chart Diagram depicts a design of personnel information system simulation and activity application in corresponding Company/Institution. The design of personnel information system simulation is developed as follows.

![State Chart Diagram](image)

3.3 Activity Diagram
In the model ran, Activity Diagram can be used to elaborate the operational working procedure of components existing in the system step by step. Activity Diagram depicts entire control path. The Activity Diagram of personnel information system simulation made and designed is shown in the figure below.

![Activity Diagram](image)
Figure 3. Activity Diagram of Personnel Information

Figure 3 it is explained that the user selects the personnel menu, then the system will display employee data management. In addition, users can also fill employee data in the database in managing employee data needed. In this case, the system will store the data in the database as database information on the personnel information system and if the data will be searched, then the data sought will be found on the system and will display information relating to the employee, whereas if no word is found it will not be found and the system will inform the user to repeat by entering the employee's name again.

3.4 Application Display
This desktop application display is the front display; having been by media expert, material expert, and practitioners, this will be developed into android-based online application in playstore.

Figure 4. Desktop Display of Personnel Information System Simulation

3.5 Display of Personnel Administration Material
This display is Personnel Administration Management Automation teaching material to facilitate and to enable the students to understand concept and practice of personnel information system simulation application.
Figure 5. Desktop Display of Personnel Administration Material

System is a set of interrelated, interacting, and interdependent elements or variables to achieve the objective, while information is a data that has been processed in such a way that is more meaningful to its users (Tohari, 2014).

Personnel information system is a systematic procedure to collect, to store, to maintain, to attract, and to validate data needed by an organization concerning human resource, personnel activities, and organizational unit Simamora, 2001; Septyana, 2011; Tantra, 2012). To develop a more dynamic design, website approach that is dynamic in nature is used to facilitate the design and the development of web-based personnel information system application.

FAST (Framework for the Application of System Thinking) defines the procedure used to identify and to evaluate expected problems, opportunities, constraints occurring and needs so that some corrective measures can be recommended. The procedure of FAST builds on problems and opportunities encountered with the improvement expected from the system to be developed (Whitten, 2004).

4. Conclusion
A web-based personnel information system simulation application used for the learning the Personnel Administration Management Automation course is designed using FAST (Framework for the Application of System Thinking) with object-oriented method with UML (Unified modeling language) tools. The use of FAST model makes the web-based personnel information system simulation application designed and made more structured and organized. The web-based personnel information system simulation is used in Personnel administration management automation to enable students and educators to simulate personnel job more easily and simply involving: inputting, searching for personnel data, managing personnel data, storing data in database more effectively and efficient, and preventing the inputted data from being lost. This application is used to simulate web-based personnel information system to support the learning media in Vocational High Schools throughout Ex-Surakarta Residency.

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Acknowledgement
Thank to Research institutions and community service of Universitas Sebelas Maret and Subject Teacher Discussion (MGMP) of Office Administration teachers throughout Surakarta Ex-Residency.