

# Development of Student Information System Portal at Widya Kartika University Surabaya

Andrew Irawan <sup>a)</sup> and Robby Kurniawan Budhi

*Department of Informatic Engineering, Faculty of Engineering, Widya Kartika University, Surabaya, Indonesia.*

<sup>a)</sup> Corresponding author: andrew060400@gmail.com

**Abstract.** Widya Kartika University as an educational institution is always committed to providing the best service for its students. Various service systems were formed gradually to address the needs that were growing over time. This development process was not only carried out by the Information and Communication Technology (ICT) unit but also involves students in the process. Therefore, each sub-system could be developed using different development tools. Besides the Academic Information System, there were other sub-systems including Student Activity Recording System, One-Stop Information Service System, SKPI Data Collection System, Moodle-based E-learning System, and several other sub-systems. Lack of system integrity becomes an obstacle in synchronization between these sub-systems. The databases built for each of these sub-systems were also different. Therefore, a portal was created as an intermediary between systems with the Single Sign On (SSO) system by changing the user interface design from the student side. The portal system modeling was made using the Unified Modeling Language (UML) with the Code Igniter framework as the application creation tool. Based on the results of the application, it was found that the making of this portal was effective in overcoming the difficulties of students in using each of the sub-systems that had not previously been integrated. Access becomes faster and easier in the login process because it uses a single user.

## INTRODUCTION

Widya Kartika University was one of the universities in Surabaya. UWIKA has hundreds of students studying there. The author finds the fact that so far the systems at Widya Kartika University were still in a fragmented and unsustainable stage. This was easiest to see with the dashboard display of each application, for example KRS UWIKA and SKK UWIKA and SKPI UWIKA already use different templates.

Apart from dashboards from different systems, students also have to log in to several system accounts from UWIKA to be able to access them. It certainly cannot be said to be practical and fast. Sometimes when they were pressed or in an important situation, students also experience panic if they have to access one by one from these accounts. In terms of databases, all existing systems still use fragmented databases so that for monitoring the data must be in each database, for example KRS must be in the KRS database, as well as others.

Based on the existing problems, the writer excited to create a UWIKA Student System Portal to accommodate existing systems so the system can synergize with each other. Some of the advantages of this application later were ; the dashboard display is presented in the same way, and the existing database system settings are unified so that the database was not wasteful.

## **LITERATURE REVIEW**

### **Previous Research**

Previous research was conducted by Muhammad Muzakhi, Department of Informatics, Maulana Malik Ibrahim State Islamic University, Malang in 2016. In his journal, he created an academic information system entitled "Design of Integrated Academic and E-Learning Information Systems". The aim of the research was expressed by the author to build an integrated academic system so as to avoid existing double entry errors. In an illustration, the author makes like a KRS system which records academic activities at the State Islamic University of Maulana Malik Ibrahim Malang. In the suggestions section listed in the author's writing, it is stated that there were several critics consists of :

1. There are still many bugs happening in this system.
2. User level access was also limited to 2 user levels, that was students and lecturers so that other staff cannot get their user level.

The next similar research was also carried out by Imam Bahrudin, student of the College of Informatics and Computer Management at AMIKOM YOGYAKARTA in 2013. He wrote his research on a publication manuscript with the title "Analysis and Development of Web-Based Academic Portals as Information Facilities at the STIQ AN-NUR BANTUL YOGYAKARTA Campus". In the background, the author was tell about the general picture that the recording of the academic system can be easier if you use a computerized system. The following are some suggestions contained in the author's publication manuscript, consists of :

1. This system still needs the addition of several other systems such as, lecture scheduling, and so on.
2. There needs to be socialization before KRS Online is implemented in the STIQ An-nur Bantul area of Yogyakarta so that users of this system are not confused.

## **RESEARCH METHOD**

The research process includes several stages, consists of:

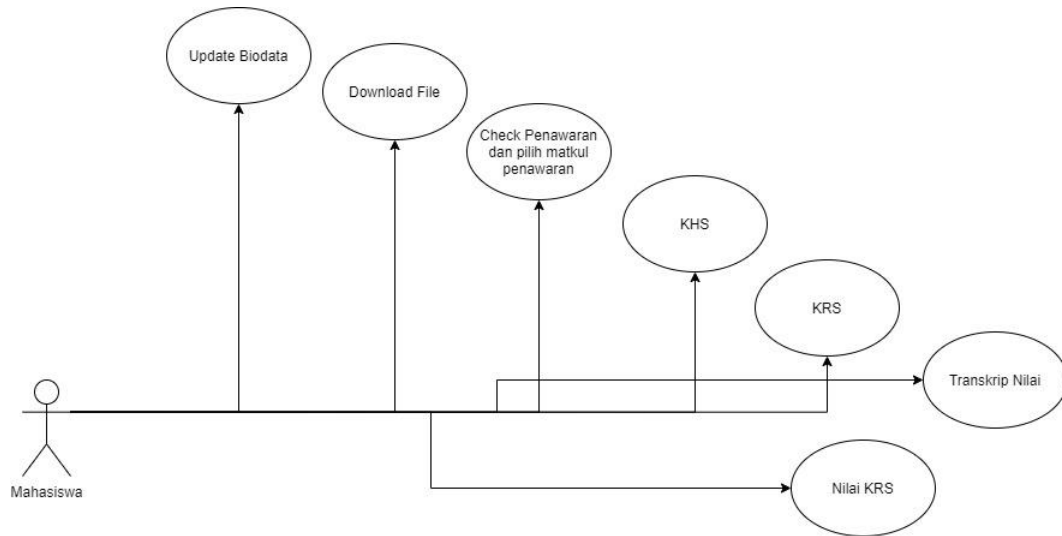
1. Data Collection  
The data was obtained Widya Kartika's ICT. Supporting theory is obtained through literature study.
2. Requirements Analysis  
Based on the data obtained, the system was analyzed to find the best solution to create a portal system
3. System Design and Implementation  
Based on the results of the analysis, a system design was made. The system design is the implementation of the design into a system built using a particular application.
4. System Testing and Evaluation  
After the system is created, the next is system testing. System testing is carried out in order to obtain an evaluation for future system development

## **RESULTS AND DISCUSSION**

### **Previous System's Use Case**

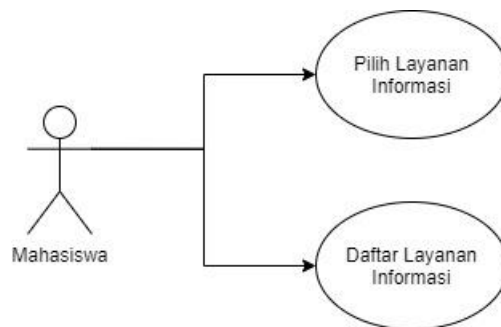
UWIKAs old systems consisted of several websites referring to access systems in different databases. The old system also still has a different website appearance. These systems consist of KRS, LISA, SKPI, SKK, Financial System. Below this was a use case of the old system.

Use case KRS was use case diagram for KRS UWIKAs. These sistem has fiture consists of (Update Biodata, Download File, Check Penawaran dan Pilih Matkul Penawaran, KHS, KRS, Transkrip Nilai, Nilai KRS). Use case KRS was drawn at Figure 1.



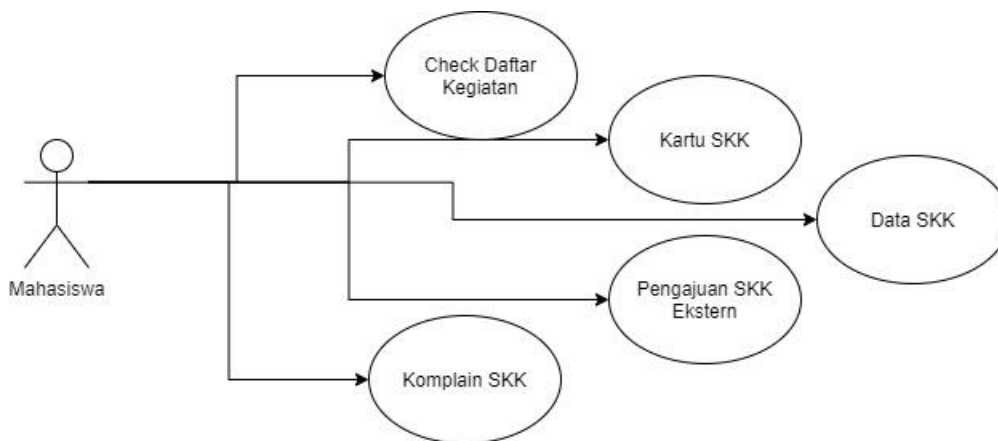
**FIGURE 1.** Use Case KRS UWIKA

Use case LISA was use case diagram for LISA UWIKA. These sistem has fitur consists of (Pilih Layanan Informasi, Daftar Layanan Informasi). Use case LISA was drawn at Figure 2.



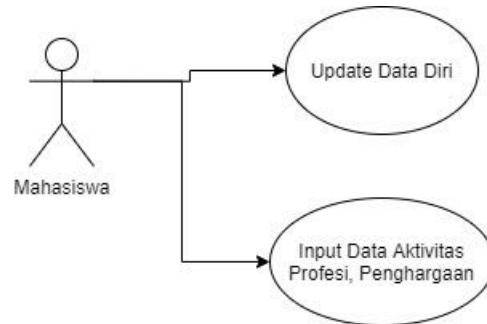
**FIGURE 2.** Use Case LISA UWIKA

Use case SKK was use case diagram for SKK UWIKA. These sistem has fitur consists of (Check Daftar Kegiatan, Kartu SKK, Data SKK, Pengajuan SKK Ekstern, Komplain SKK). Use case SKK was drawn at Figure 3.



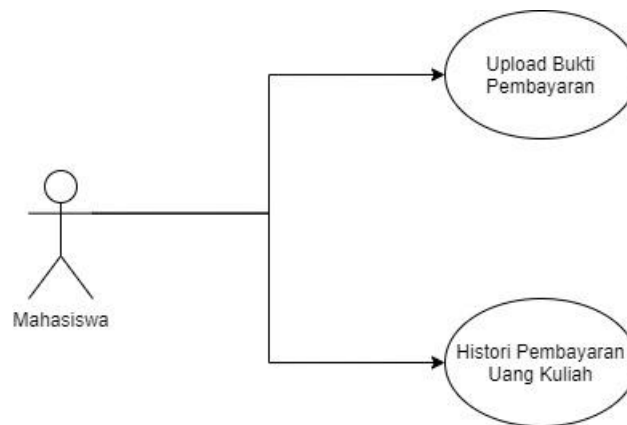
**FIGURE 3.** Use Case SKK UWIKA

Use case SKPI was use case diagram for SKPI UWIKA. These sistem has fiture consists of (Update Data Diri, Input Data Aktivitas Profesi Penghargaan). Use case SKPI was drawn at Figure 4.



**FIGURE 4.** Use Case SKPI UWIKA

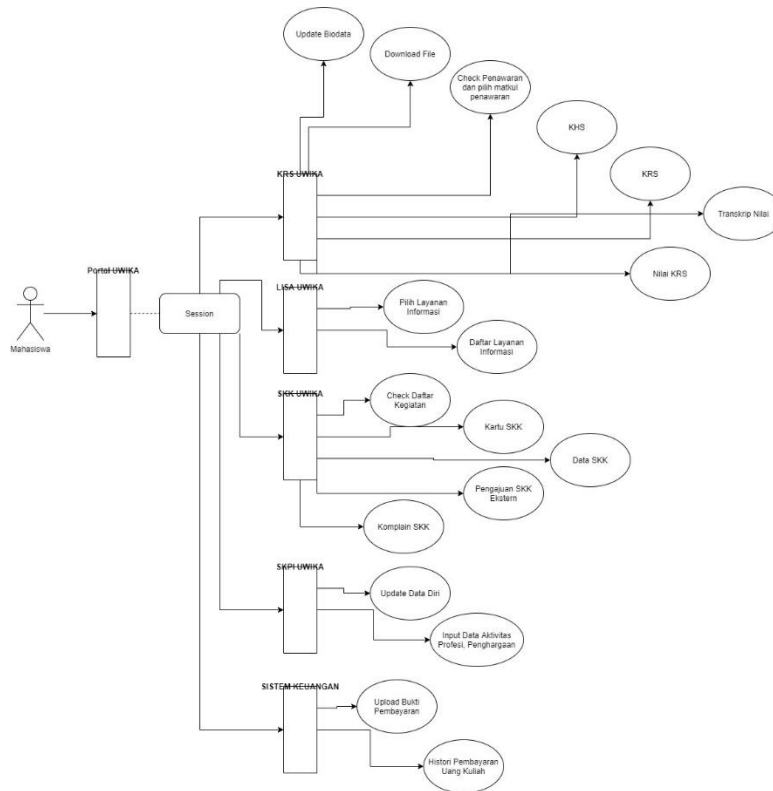
Use case Financial System was use case diagram for Finance System UWIKA. These sistem has fiture consists of (Update Data Diri, Input Data Aktivitas Profesi Penghargaan). Use case Financial System was drawn at Figure 5.



**FIGURE 5.** Use Case Financial System

### **New System ( Portal System )**

The UWIKA Portal system was a bridge Single Sign On (SSO) from existing systems, which also unites existing databases into one access, as well as uniformity in the appearance of existing website layouts. Use case PortalSystem was drawn at Figure 6.



**FIGURE 6.** Use Case Portal System UWIKA

### Portal System Program's View

This was the appearance of the New Portal System. Figure 7 was program view SKPI at new Portal System.



**FIGURE 7.** Program View SKPI

Figure 8 was program view Financial System at new Portal System

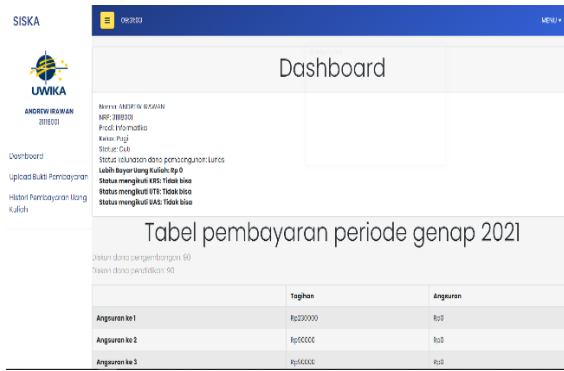


FIGURE 8. Program View Financial System

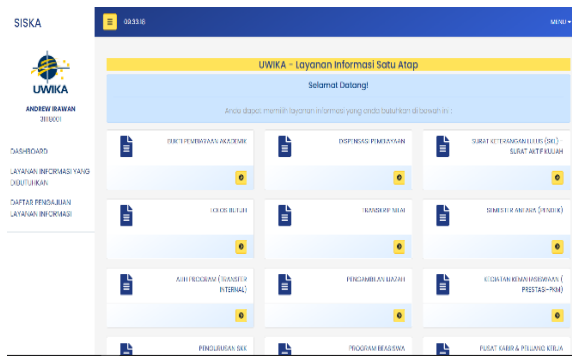


FIGURE 9. Program View LISA UWIKA

Figure 10 was program view KRS at new Portal System



FIGURE 10. Program View KRS UWIKA

Figure 11 was program view SKK at new Portal System

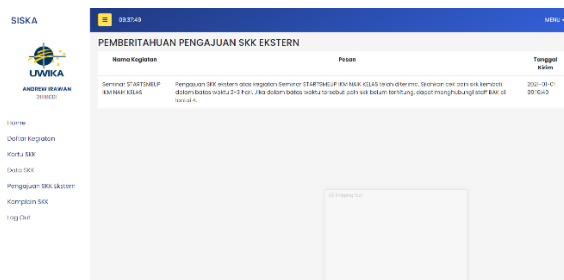
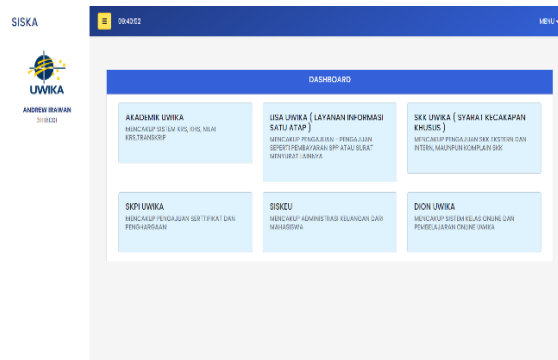


FIGURE 11. Program View SKK UWIKA

Figure 12 was program view Dashboard Portal System at new Portal System



**FIGURE 12.** Dashboard Portal System

## **CONCLUSION**

This system has been able to perform Single Sign On (SSO). This system has also been able to speed up operation time because it only uses 1 x login. The display on the UWIKA Student System Portal already become a unified display between the systems in it so that it looks more solid. This program will undergo further development based on future systems. Overall, this program has been rated as good.

## **REFERENCES**

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