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Theme:
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PROCEEDINGS
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Theme: Technical and Vocational Education and Training for Sustainable Societies

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FOREWORD

Welcome for all respected scholars, researchers, post graduate students and especially Keynote Speakers to the 4 ICTVET. The theme of the conference focus on Technical and Vocational Education and Training for sustainable societies and consist of six subthemes. i.e Development of learning model on TVET, Workplace Learning and entrepreneurship, Innovation on applied engineering and information technology, Management and Leadership on TVET, Vocational and Technical Teachers education, and Assessment and Evaluation on TVET.

Sustainable society should be followed by the improvement of various factors that have impacts to the quality of vocational and technical education and training, particularly to overcome the competitiveness of the world business. As we have already known the rapid change of technology as well as the change of demography, having a great effects to the life of peoples in this world. The competitiveness need a collaborativeness to survive the life of millions peoples who lost their jobs. Young peoples as productive generation have to be creative and innovative to face the competitiveness. So this proceeding contents consist of various findings of research in the field of vocational and technical education as well as applied technology and mainly based on the subthemes of the conference.

Finally, we would like to thank a million for all participants of this conference and all parties who support the success of this conference. Hopefully the seminars and scientific work of this seminar can be a reference material for basic education and elementary school teacher education in Indonesia.

Padang, July 2, 2018

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INTEGRATED SERVICES SYSTEMS ELECTRONIC DEVELOPMENT FACULTY OF ENGINEERING PADANG STATE UNIVERSITY BASED ON JAVA DESKTOP

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ABSTRACT: Before students complete their education, students must have an interest in correspondence, for example to take care of the advisors' interests, seminar letter, final project or final project. Before getting the letter the student must follow a number of procedures first and bring the terms for the completeness of the letter. Student of Department of Electronics Engineering Faculty of Engineering, State University of Padang, before getting a letter they must take a blank of letter that has been provided in the department, then filled manually to be submitted to the department along with the attachment of requirements requested to be signed by the department chairman. Prior to signing the head of department, the letter and its attachment are verified by the Secretary of the Department after it is signed by the Head of Department. This process can last for 2-7 days if it has constraints. The constraints in question are such as the difficulty of collecting the files because they have to be photocopied or printed first, the number of queues making the letter while the officers who take care of the letter is limited so that takes a long time, waste of paper and map, chairman of majors who are not always in the department because they have to teach and or is performing the task. Thus required a system that can assist the acceleration in the process of making the letter to be more effective and efficient. This is what prompted the author to develop Integrated Service System Department of Electronics Faculty of Engineering, State University of Padang Based Java Desktop Client-Server, which is expected with this system will overcome the weaknesses of service system to students of Engineering Department of Engineering Faculty of Engineering State University of Padang that already exist.

Keywords: Integrated Services Systems, Java Desktop

1. INTRODUCTION

Education has a very important role in life. The development of a nation cannot be separated from the education system, because a good education system will bring progress for the nation. Education is an absolute necessity for all mankind, with human education having knowledge, values and attitude in doing to support the growth and development needed by itself, society, nation and state.

Students are a term for people who are studying at a college consisting of high schools, colleges, institutes and the most common are universities. According KBBI student is someone who study college.

Before students complete their education, students must have an interest in correspondence. For example to take care of the interests of mentors, seminar letters, final project or final project. Before getting the letter the student performs a number of procedures in advance and carries the terms of interest of the letter.

Electronic Engineering is one of the majors in Engineering Faculty State University of Padang. This department has 3 study program namely Computer Information Technology Education, Electronic Engineering Education and Electronics Engineering. The Department has not yet implemented an integrated service system in the management of letters.

Based on the results of an interview with one of the students majoring in Electrical Engineering Faculty of Engineering, State University of Padang, before getting a letter they must take a blank letter that has been provided in the department, then filled manually to be submitted to the department and attachment requirements required to be signed by the chairman of the department. Prior to the signing of the head of department, the letter attached to the attachment was verified by the secretary of department after it was signed by the department chairman.

This process can last for 2-7 days if it has constraints. The constraints in question are such as the difficulty of collecting the files because they have to be photocopied or printed first, the number of queues making the letter while the officers who take care of the letter is limited so that takes a long time, waste of paper and map, department chairman who is not always in the department for having to teach and or is performing the task.

Thus needed a system that can assist the acceleration in the process of making a letter in the department to be more effective and efficient. This is what encourages the authors to develop Integrated Service System of Electronics Faculty of Engineering State University of Padang Based Java Desktop Client-Server, which is expected with this system will overcome the weaknesses as mentioned above.
2. LITERATURE REVIEW

In Big Indonesian Dictionary (KBBI) system is an elemental device that is regularly interconnected to form a totality. The system is derived from the Latin (systēma) and the Greek (sustēma) is a unity consisting of components or elements connected together to facilitate the flow of information, matter or energy to achieve a goal. This term is often used to describe a set of interacting entities, in which a mathematical model can often be made.

Service according to Big Indonesian Dictionary (KBBI) is as an attempt to help prepare or take care of what is needed by others. Meanwhile, according to Moenir (2010: 26) service is an activity undertaken by a person or group of people on the basis of material factors through certain systems, procedures and methods in order to meet the interests of others in accordance with their rights. Its essential service is a series of activities, therefore service is a process. As a process, service takes place on a regular and continuous basis, covering the whole life of people in society.

Whereas in Law No. 25 of 2009 concerning public services, it defines that public service is an activity or series of activities in the context of fulfilling the needs of services in accordance with the laws and regulations for every citizen and citizen of the goods, services and or administrative services provided by public service providers.

Netbeans

In its website, Netbeans explains "The NetBeans Platform is a broad Java framework on which you can base large desktop applications. NetBeans IDE itself is one of the hundreds of applications based on the NetBeans Platform. The NetBeans Platform contains APIs that simplify the handling of windows, actions, files, and many other things typical in applications."

This Netbeans is one of the Integrated Development Environment (IDE) applications used to compile code from the source code we have typed and make it a directly executable application.

Client-Server

Quoted from Wikipedia, the notion of client-server is, "A distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients."

In the implementation, this client-server model uses a server computer that is classified according to the services they provide. For example, a web server presents a web page and the file server presents a computer file. The resources can be computer software and server electronic components, from programs and data to processors and storage devices.

3. RESEARCH METHODS

This research belongs to Research and Development research type. R & D in question is the design of Integrated Service System application Department of Electronics Faculty of Engineering, State University of Padang based on Java Desktop.

4. RESULTS DESIGN AND DISCUSSION

a. Design Results Integrated Services System Application

Based on the result of interface design that has been designed then result of interface design Integrated service system can be described as follows:

![Image of Design Results Display System Login Page](image_url)

On the login page, the student must enter the NIM account and password, while the operator enter the operator id account and password. At login time if NIM, id operator or password wrong, then error message will appear.

The script to display the login form as follows:

```java
import java.awt.event.KeyEvent;
import java.sql.*;
import javax.swing.JOptionPane;
public class Login extends javax.swing.JFrame {
    @SuppressWarnings("OverridableMethodCallInConstructor")
    public Login() {
        initComponents();
        setExtendedState(MAXIMIZED_BOTH);
    }
    Mahasiswa nimUser = new Mahasiswa();
    Petugas idPeg = new Petugas();
    @SuppressWarnings("UseSpecificCatch")
    private void proses() {
        try {
            String sql = "select * from mahasiswa where nim = \""+txtUser.getText()+\"\" and password = \""+String.valueOf(txtPassword.getPassword())+\"\";
            ResultSet rs = Koneksi.KoneksiDB.executeQuery(sql);
            String sql2 = "select * from petugas where id_petugas = \""+txtUser.getText()+\"\" and password = \""+String.valueOf(txtPassword.getPassword())+\"\";
            ResultSet rs2 = Koneksi.KoneksiDB.executeQuery(sql2);
```
The script snippet above will work to display the login form. Where user must enter NIM and password or id operator and password.

b. The Design of the Registration Page

Registration page is a page that must be visited by students to create an account, without account student cannot access the system. The account used in this system is the Parent Number (NIM). By registering the NIM to the system, the student concerned can access this system. To register the NIM the student must click the list button.

By clicking on the list, the student will be directed to the registration page. Implementation of the register page can be seen from the following figure:

Figure 2. Registration page

The picture above is the student account registration page. The script to display the registration form as follows:

```java
package SIA;
import java.awt.Dimension;
import java.awt.Toolkit;
import java.sql.ResultSet;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;
public class L_Pendaftaran extends javax.swing.JFrame {
    public L_Pendaftaran() {
        initComponents();
        Dimension screenSize, frameSize;
        int x, y;
        screenSize = Toolkit.getDefaultToolkit().getScreenSize();
        frameSize = getSize();
        x = (int) ((screenSize.width - frameSize.width) / 1.9);
        y = (screenSize.height - frameSize.height) / 1;
        setLocation(x, y);
    }

    String SQL;
    @SuppressWarnings("UseSpecificCatch")
    private void simpanData() {
        if (btnSimpan.isEnabled()) {
            int jwb = JOptionPane.showConfirmDialog(this, "Anda Yakin Data Sudah Benar?", "Konfirmasi", JOptionPane.YES_NO_OPTION);
            if (jwb == 0) {
                try {
                    SQL = "Select * from mahasiswa where nim = " + txtNim.getText() + "'";
                    ResultSet rs = Koneksi.KoneksiDB.executeQuery(SQL);
                    if (rs.next()) {
                        JOptionPane.showMessageDialog(this, "NIM yang anda entrikan sudah pernah terdaftar. Silahkan hubungi Sekretaris jurusan untuk menyelesaikan masalah ini! ", "PERINGATAN", JOptionPane.WARNING_MESSAGE);
                        txtNim.setText(" ");
                    } else {
                        if (txtNim.getText().equals("")) ||
                                txtNama.getText().equals("")) ||
                                txtPassword1.getPassword().toString.equals("")) ||
                                JOptionPane.showMessageDialog(this, "NIM yang anda entrikan sudah pernah terdaftar. Silahkan hubungi Sekretaris jurusan untuk menyelesaikan masalah ini! ", "PERINGATAN", JOptionPane.WARNING_MESSAGE);
                        txtNim.setText(" ");
                    }
                } catch (Exception e) {
                    JOptionPane.showMessageDialog(null, "Error " + e);
                }
            }
        }
    }

    private void proses() {
        try {
            SQL = "Select * from mahasiswa where nim = " + txtNim.getText() + "'";
            ResultSet rs = Koneksi.KoneksiDB.executeQuery(SQL);
            if (rs.next()) {
                nimUser.setUser(txtUser.getText());
                nimUser.setVisible(true);
                dispose();
            } else if (rs2.next()) {
                idPeg.set_user_id(txtUser.getText());
                idPeg.setVisible(true);
                dispose();
            } else {
                lblSalah.setText("Username Atau Password Anda Salah");
                txtPassword.setText(" ");
                txtPassword.requestFocus();
            }
        } catch (Exception e) {
            JOptionPane.showMessageDialog(null, "Error " + e);
        }
    }
}
```
(() | () | () | () | )

JOptionPane.showMessageDialog(this, "Harap Lengkap Data!", "INFORMASI", JOptionPane.INFORMATION_MESSAGE); if(txtPassword1.getPassword().toString().equals(txtPassword2.getPassword().toString())){
SQL = "INSERT INTO mahasiswa (nim, tm, password, nama, prodi, alamat, no_telp) " + "VALUES(" + txtNim.getText() + "," + yearTm.getYear() + "," + txtPassword1.getPassword().toString() + "," + txtNama.getText() + "," + cmbProdi.getSelectedItem().toString() + "," + areaAlamat.getText() + "," + txtNoTelp.getText() + "); int status = Koneksi.KoneksiDB.execute(SQL); }

lblError1.setText("Password Tidak Sama");
lblError2.setText("Password Tidak Sama"); } } ) catch(Exception e){
JOptionPane.showMessageDialog(null, "Error"); }

5. CONCLUSION
Based on the analysis and design of Integrated Service System of Electronic Engineering Department Faculty of Engineering State University of Padang can be concluded several things as follows:
1. The integrated service application is completed in design
2. Small scale product testing needs to be done to test the application of Integrated Service System of Electronic Engineering Department of Engineering Faculty of State University of Padang.
3. Implementation of Integrated Service System Department of Electronic Engineering Faculty of Engineering State University of Padang will be continued at the next research stage.

6. BIBLIOGRAPHY

4) Task Letter of Seminar SK / TA / PA Seminar

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