A. Manuscript

Improving The Ease of Digital Marketing Learning Using Mobile Learning

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Abstract. Digital marketing is a new way of advertisement that has been in high demand by the public lately. Slowly, people are beginning to abandon conventional marketing methods and switch to digital marketing. But in general, they are self-taught. People who sell online really need digital marketing concepts to increase their understanding. If knowledge increases, marketing success increases. The main obstacle for people to get digital marketing courses is limited time and cost. Many digital marketing courses are offered but at high prices. In this study, we develop the digital marketing learning model that uses mobile technology and feedback learning method. By using this technology, people are expected to be able to increase their knowledge of digital marketing principles at any time at a very affordable cost. In this module, there are four main themes presented interactively, namely think, create, engage, and optimize. We design the mobile content using revised Bloom's concept that divided into four knowledge domains: factual, conceptual, procedure, and metacognitive. Along the learning process, the students are under monitoring, evaluating, and supervising their teacher. The results of the study show that mobile learning shows very attractive and exciting. The interesting finding in this research that the feedback part of the teaching is the most significant influence on student performance.

1. Introduction

One of the most common course materials today is digital marketing. But unfortunately, in Indonesia, the cost of this course is still high. The community requires knowledge about digital marketing because it has become a necessity to carry out business pursuits. In Indonesia, there are so many mobile devices for many backgrounds of users. It's means that, if we build an online learning system with an approach of smartphone devices is considering very suitable. If there does a digital

marketing learning system that is practical, easy, inexpensive, this will be very beneficial for the community. Mobile learning offers the convenience of carrying out learning activities anytime and anywhere without the need for classrooms [1][2]. The Android-based mobile learning system is now a tool that is widely used for teaching and learning in Indonesia [3].

This paper discusses the responses of users or participants in digital marketing lectures who use mobile devices or better known as mobile learning. In this study, mobile applications are used to facilitate online learning for people who need to learn digital marketing. The main reason for using an Android application-based system is because this tool has high flexibility and the only tool that is mostly used every day by people today. The understanding of mobile learning in this paper is mobile technology as a learning tool [4]. There are many varieties of smartphone technology for mobile learning applications. In this study, we developed based on the Android operating system. We prefer using Android rather than others, because of this already well known. Android is the most popular smartphone in the world; there are 73% Android users [5][6].

Android applications have been used successfully for various purposes, such as transportation and commerce. But for learning it is still at an early stage, so it still requires a lot of research. Smartphones have a high degree of flexibility, but if related to shopping, there are some disadvantages, including memory limitations, computational limitations, and interface convenience. This study aims to examine whether the use of mobile learning can increase the ease of participants in understanding digital marketing material. This research very important because everyone has different preferences in terms of how to process information [7]. On the other hand, each lecture material has different delivery characteristics so that the way to present it on a smartphone is also different. There are learning materials that do not require teaching media, but there are those that need learning media [8].

The results of this investigation are beneficial for the improvement of learning models, especially mobile learning. People favor to use a mobile device because of its simplicity, but in education, other factors require attention, namely the element of comfort and effectiveness. If we can extract these two elements, people will find it easier to improve their knowledge and eventually business in the digital age is growing.

2. Method
This experiment aims to measure the ease and effectiveness of using mobile learning applications. We tried the system with 85 participants in digital marketing lectures. The convenience of display demonstrated the easy of the module's operation, the effectiveness of the teacher's mentoring, and the effectiveness of the content. We collect the research data using questionary and testing. The students' accomplishments show the effectiveness of the entire system. We process data using Smartpls. Data obtained from purposive sampling to determine the characteristics of the ease of learning using applications. This trial uses purposive sampling because, in sampling based on a specific consideration [9][10], we use consideration of the similarity of learning interests and habits of using mobile

devices. We chose students who take digital marketing courses. Because the number of samples is limited, we chose to analyze the sample using SmartPLS. SmartPLS is well known as Statistical Software for the Partial Least Square Structural Equation Modeling method [11][12][13][14]. Structural equation modeling with partial least square has three components namely, structural model (inner model), measurement model (outer model), and weighting scheme (weight relation) [15][16]. With modeling like this, it is expected to know the factors that influence the ease and effectiveness of using mobile learning.

Each student is allowed to use this application for one to two months with the assistance of a lecturer. For the first time, students are required to download the material first and then proceed with the registration process. Course material for one or several chapters stored on a smartphone and students can use it to study anytime and anywhere. Tn students are online. Then, the lecturer can check what students already did and how far the students can understand the lecture. The activities were always monitored and evaluated by the lecturer. Lecturers are directed to always look for the students who are low motivated and lack of understanding. Generally, less motivation is close to low activity. We can found low student motivation from the frequency clicks during the use of the application. We can find out less understanding by the low task scores. Each learning module has a quiz so that the lecturer can know the level of effectiveness of learning.

3. System Development

Most people today always take the time to use a smartphone wherever and whenever they have time. Easy to find, in general, they use smartphones for entertainment, so it is natural to feel at the screen for hours. What should we do if this applied for learning? Of course, it requires concepts, methodologies, and technologies which a specific designed so that the learning objectives achieved. The concept is to answer the challenges of the learning culture of Indonesian people who are generally comfortable in a face-to-face manner. The methodology is a way to run a mobile device-based learning process. Technology is a characteristic of digital marketing content and mobile systems that are built to support concepts and methodologies.

3.1. Concept

This study uses the concept to provide practice facilities for students so that they are interested in using it. Practicality, we can obtain the aim by utilizing the advantages of Android smartphone applications. We can design the most important of learning elements from learning material arrangement on the smartphone screen. In this experiment, we arranged the learning material based on the knowledge domain of the revised bloom theory. The screen presents conceptual knowledge in text or image form as the central display. For factual knowledge, we presented in text or picture form in the sub-menus. Finally, the procedural and metacognitive knowledge presented in an interactive form such as video or animation. We conclude that the use of text, images, audio, video, animation, or interactive screens depends on the cognitive domain. Students will learn subject matter starting from

concepts, but they can jump to factual or procedural. The screen layout can follow what the student learning sequence wants.

3.2. Methodology

The methodology is an important part. Students willing to study independently depend on how learning methods can influence them. The methodology was chosen to overcome student learning habits. Every student in Indonesia is comfortable with a face-to-face model. The methodology used here to direct the learning process. Students can study on their own but remain under the supervision and guidance of lecturers. There are two main learning factors which using for feedback learning mechanisms, namely motivation, and understanding. These two factors we must control so that each student achieves mastery. During the student learning to use the application, all the activity data automatically stored on the smartphone device. The system will send the data in an LMS (Learning Management System) server through a synchronization process. This system provides a synchronization process to anticipate data loss due to damage or replacement of smartphone devices. All activity and score data are used by lecturers to conduct the evaluation, monitoring, and treatment (mentoring). By using the monitoring module, lecturers can contact students directly through the WhatsApp application.
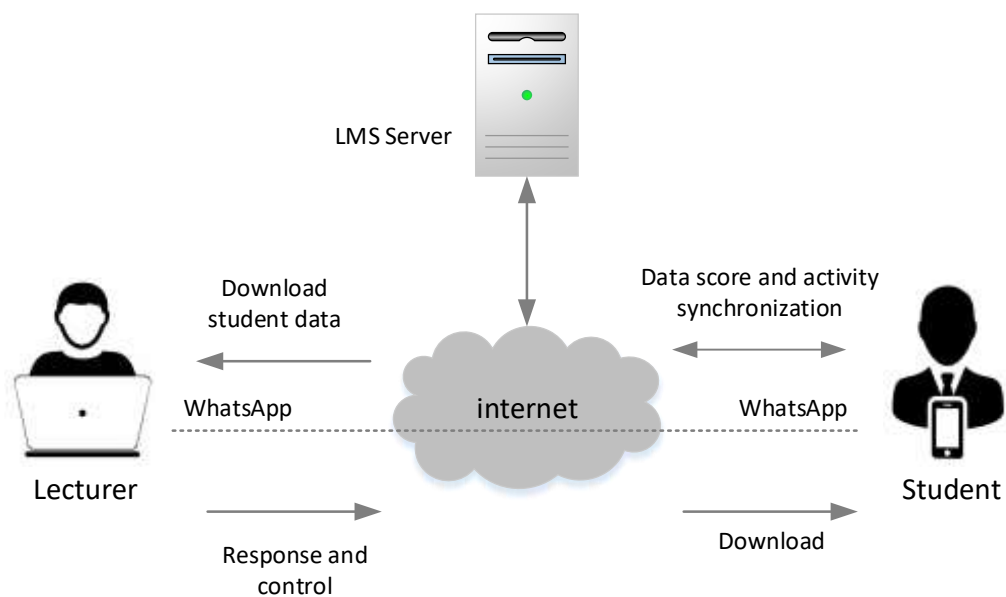
Figure 1. Monitoring, Evaluation, and Treatment

3.3. Technology

The technology was chosen and developed to overcome the cost control and internet connection. In most parts of Indonesia, the internet quality is low. In the other situation, most students still consider the price of the internet still expensive. We design technology to solve those problems and also this is easy in development. In this study, selected mobile applications based on HTML5, XML, and JavaScript.

This selection considers the time needed to develop an application module. Each module is created using CourseLab authoring tools version 2.7 and PhoneGap. We choose Moodle as a server to collect data and control each module, both the lecturer and student modules. The system was developed using architecture, as shown in **Figure 2**.
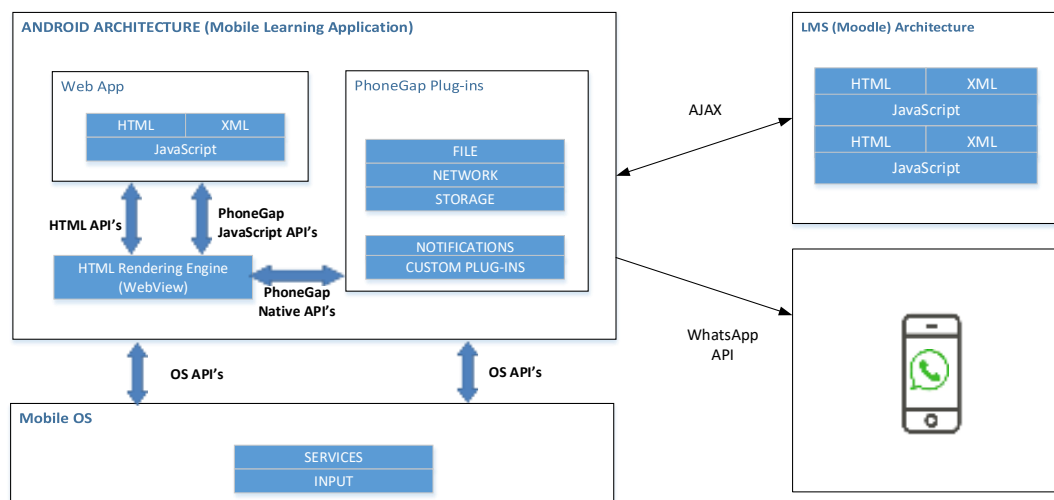
Figure 2. Mobile learning architecture for digital marketing

Figure 2 shows an architecture consisting of three blocks, Android application, LMS Moodle, and WhatsApp API. We choose the Android application module architecture that meets with the Moodle architecture so that they can communicate with each other using AJAX. We also use WhatsApp API so the communication can initiate from the monitoring module's link. This architectural design makes communication easy by combining mobile applications with Moodle without involving a web browser. The advantage of this architectural design without involving a web browser. The ease of design of this architecture to support the low-cost system learning process. Students only need one login, students can save material files into smartphone memory, and using it anytime with or without the internet. The synchronization and notifications make it easier for lecturers to monitor and control the students learning activity. The use of PhoneGap is a useful solution for building mobile applications using modern web programming languages, such as HTML, HTML5, CSS, and JavaScript rather than using other known languages such as C# or Java [17]. This design gives many benefits, especially to the development process, which an essential part of overall system development and operational [18].

4. Result and Discussion

Figure 3. SmartPLS model calculation

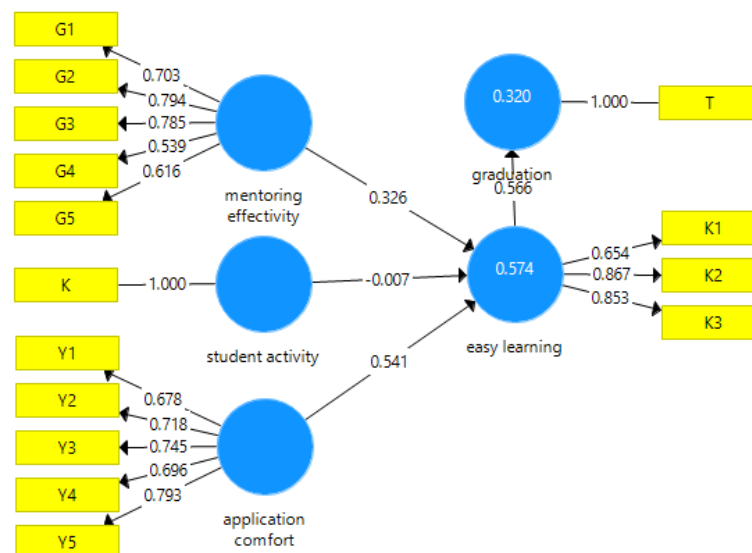From the results in **Figure 3** explain the results of calculations using the SmartPLS application. G1, G2, G3, G4, and G5 show the results of lecturer supervision, both in terms of criticism that also motivates lecturers who can pay attention, so it is beneficial in understanding the material. K is the number of clicks on the application module to measure student activity. Y1, Y2, Y3, Y4, and Y5 are the results of testing the convenience of application use; both in terms of appearance, an easily memorized menu, and a sequence of material that is easy to understand. K1, K2, and K3 are testing the ease of use of application modules, such as applications that formally can run anytime and anywhere, applications that can run on various types of smartphones and also the ease of understanding material without a lecturer explanation whereas is an indicator of the passing grade after using the digital marketing application module. Calculation results show that the model meets convergent validity because all loading factors are above 0.50 [19]. The data states that the use of this application can facilitate the learning of digital marketing material. The results that can show that the digital marketing application module can facilitate students in learning the material. The lecturer is only as a companion in charge of supervising. The final value looks quite increased after the use of digital marketing application modules.

As mentioned in the guide, the purpose of this research is to facilitate students in learning digital marketing material. The increasing of the number of smartphone users can provide widely learning manner possibility. It is meant that the concept of mobile learning has no limitations of time, space, and place [20][21].

We get the ease of learning from the results of the data obtained through a questionnaire. K1, K2, and K3 show the simplicity of the module, namely the ease of use of applications. It is mean that we can operate the module anytime and

anywhere. Also, applications can run on various types of smartphones. Finally, the student feels comfortable to understand learning materials. We can say it is better than the lecturer's explanation. The results obtained by the average student show that the use of this application can facilitate digital marketing learning. The results also supported by other data, namely G1, G2, G3, G4, and G5 as a form of mentoring for lecturers, Y1, Y2, Y3, Y4, and Y5 are testing the comfort of application use, and also K as a form of test results on the number of clicks on the application module, while T represents the passing value obtained after passing the final test contained in the module. The data obtained states that 51% of the results of this application test can facilitate students in learning the material, and 49% influenced by other variables that are not yet known. We can say that the students not yet familiar with using mobile learning.

From the above paragraph, we summarized that mobile learning has the potential to be developed as a digital marketing learning tool so that many people can use it. From the experiment, we found that learning can run well even though lecturers must proactively monitor and communicate with students. The existence of this application module greatly helps lecturers who carry out supervision activities. Lecturers do not need to collect and process data manually, so data that is synchronized automatically makes it very easy for lecturers to make assessments. The lecturer observes the data as a basis for evaluating and motivating according to student learning problems. According to the results of testing, this application can improve student grades. The application can also run well on any Android-based device, be it a smartphone or tablet. Lecturers as supervisors can also check the extent to which students understand the material. The lecturer assistance system is still very much needed to carry out the learning process using mobile learning, although theoretically the use of car learning is aimed at making it easier for students to be able to learn anytime, anywhere, and from any device. This application still needs further testing.

5. Conclussion

The use of mobile learning for digital marketing has the potential to facilitate learning communities. The use of mobile devices is also beneficial for lecturers to accompany students. Learning activities become easy because this system utilizes internet and smartphone facilities. This model very useful because we use Android smartphones that most popular in Indonesia. The digital marketing mobile learning application does not limit students to study; the students can study online or offline. The application proved to be able to run various android devices. With the use of digital marketing application modules that can run both online and offline, it helps students in easy learning anytime, anywhere, also using any Android device. Easy use anywhere and anytime also addresses the problem of students who are not comforted or not easy to catch the lecturer's explanation. So that the use of this application makes students comfortable in its use and can give a more in-depth understanding, students can improve grades with this application.

On the lecturer side, the use of this system makes it easy to communicate and provide assistance without being bound by place and time. Lecturers can see the

results of student activities and performance. Lecturers can evaluate and find learning problems. The interesting thing found in this research is the use of mobile learning still requires adaptation, first to eliminate face-to-face learning habits, overcome the habits of smartphone students as an entertainment tool, and get the lecturers to monitor and assist learning.

6. Reference

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B. Appendix
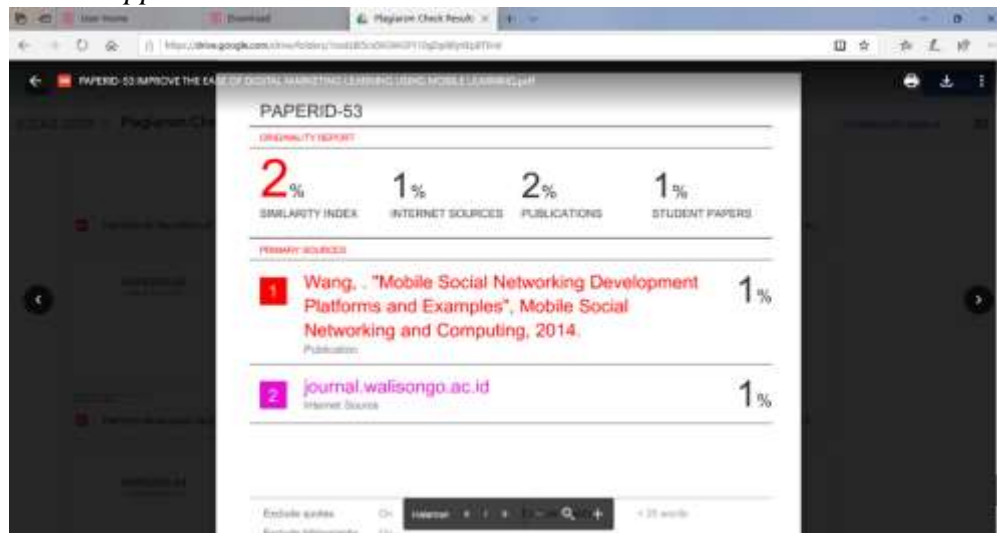
Gambar 1. Cek Plagiasi Artikel
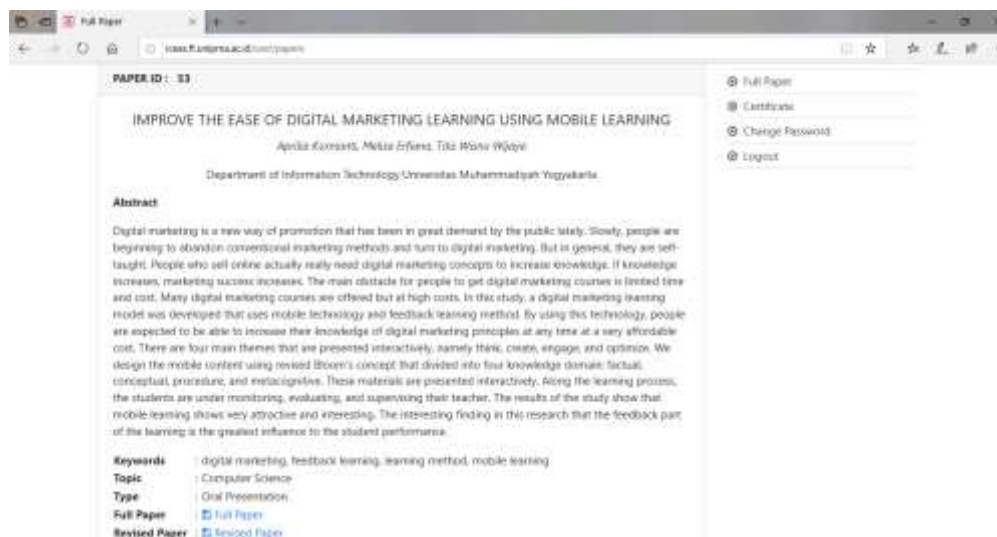
Gambar 2. Submit Artikel

Gambar 3. Artikel diterima

C. *Source Code* Module.js Modul Dosen

```javascript
// InitModule

function InitModule()

{

}


// ShutdownModule

function ShutdownModule()

{

}


var moduleID = 'Think dan Create';


var courseIDa = 'Digital Marketing Think';

var courseIDb = 'Digital Marketing Create';


var text_assign = '';

var arrBuffers = new Array(6);

var newarrBuffers = new Array(6);

var number=0;

var sNim = '';

var nError = "Network Error";

var nameSort = "<a href='#' onClick='nSort();'>Nama</a></p>";

var hpSort = "<a href='#' onClick='hSort();'>WhatsApp</a></p>";


function codenumber(){

  return 'LM001DIGITALMARKETING';

}


function url_update()
```

```
{
  var url_updt = "http://gflm.umy.ac.id/_insert_text.php";
  return url_updt;
}

function url_validation()
{
  var uurl = "http://gflm.umy.ac.id/_check_mhs.php";
  return uurl;
}

function url_send(){
  var uuurl="http://gflm.umy.ac.id/_send_onlinetext.php";
  return uuurl;
}

function url_data(){
  var surl="http://gflm.umy.ac.id/_data_mhs.php";
  return surl;
}

function url_password(){
        var passCheck = "http://gflm.umy.ac.id/_pass_post.php";
        return passCheck;
}

function callModuleID(){
  return moduleID;
}
```

```
function callCourseCode(){

        courseID=localStorage.getItem('courseid');


        if ((courseID=='Kelas
A')|(courseID=='undefined')){courseID=courseIDa;}
        if (courseID=='Kelas B'){courseID=courseIDb;}


if (courseID=='Kelas A'){courseID=courseIDa;}
   return courseID;

}


function codeh(){
   return codeIDH;
```

```
}


function nSort(){
        viewSort(1,1);
}


function hSort(){
        viewSort(2,2);
}


function read_file()
{
  try {
    return localStorage.getItem(moduleID);
  }
  catch (err) {
    return 'Course ID is not found';
  }
}


function create_newFile(moduleID,teacherId,teacherName,status){
        var string = generate_array(99);
  array = string.split(',');
  array[0]=moduleID;array[1]=teacherId;array[2]=teacherName;array[3]=status;
  var Text = array_toText(array,100);
  try
    {
                    localStorage.setItem(moduleID,Text);
        return "OK";
```

```
        }
    catch (err)
        {
            alert('File saved error');
        }


}


var myArray = new Array();


function generate_array(num){
  var text = "*";
 for (i=1;i<num;i++){
     text = text + ',';
   myArray[i] ='*';
   text = text + myArray[i];
 }
 return text;
}


function array_toText(myArray,length){
  var string = myArray[0];
  for (i=1;i<length;i++){
                string = string + "," + myArray[i];
  }
  return string;
}


function saveNext(){
```

```
    try {
  localStorage.setItem("varnext", true);
  }
catch (e) { }
};


function clearNext(){
      var data = read_file();
      var dataArray = data.split(',');
      var code = dataArray[0];
      if (code!=moduleID){localStorage.clear();}
      try {
  localStorage.setItem("varnext", false);
  }
```

```
    catch (e) {}
};


function passValidation(url,json){
        CLO['Loading'].Show({ bMaster: true });
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
                        method: 'POST',
                        dataType: 'text',
                        data: json,
                        success: function (response) {
                                if (response == "VALID"){
            updateFile();
                                        CLO['Loading'].Hide({ bMaster: true });
            CL.Navigation.GoTo({sTargetType: "slide", sTargetDir: "next" });
        }
        if (response == "INVALID"){
          alert("Username atau Password tidak sah");
                                        CLO['Loading'].Hide({ bMaster: true });
        }
                },
    error: function (error) {
                        //alert("Connection error, code: " + error.status);
                }
    });
  });
}
```

```
function ShowAllData(code){
        CLO['Reload'].Show({ bMaster: true });
        var url = url_data();
    var Course = code;
    var json= "course_code=" + Course;
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
                        method: 'POST',
                        dataType: 'xml',
                        data: json,
                        success: function (xml) {
                                var data = parseXML(xml);
                                CLO['Reload'].Hide({ bMaster: true });

            if (data==""){
                                        CLO['Reload'].Hide({ bMaster: true });
                                        alert("Data tidak ditemukan");
                                }
            else {showAll(data);}
                        },
                        error: function (error) {
                                //alert(nError);
                                //CLO['Reload'].Hide({ bMaster: true });
                        }
        });
    });
}
```

```javascript
function showAll(data){
   var array = data.split(';');
        var text =  "<body>" + css() + "<table id='data'><th>No</th>"+
           "<th>"+nameSort+"</th><th>"+hpSort+"</th><th>Jawaban</th>"+
                       "<th>Skor</th>";
   g_arVars['bufferHTML'] = text;
   for (row=0;row<(array.length-1);row++){
      var col = array[row].split(',');
      getAllAssignment(col[0],col[1],col[2],(array.length-1));
   }
}


function getAllAssignment(phone,nim,name,max){
```

```
        CLO['Reload'].Show({ bMaster: true });

        var course = g_arVars['kode'];

    var url = url_send();

    var json= "user_id=" + nim + "&" + "course_code=" + course;

        $(document).ready(function(){

                $.ajax({

                        crossDomain: true,

                        url: url,

                        method: 'POST',

                        dataType: 'text',

                        data: json,

                        success: function (response) {

                                var dom = response;

            getScore(dom,phone,nim,name,max);

                        },

                        error: function (error) {

                                //CLO['Reload'].Hide({ bMaster: true });

                                //alert(nError);

                        }

        });

    });

}


function store_data(dom,chapter,score)

{

    var array = dom.split(',');

    var counter = 0;

    for(i=4;i<99;i++)

    {
```

```
if ((array[i] == '*' ) | (array[i] == chapter)|(array[i] == 'undefined' ))

  {

    counter = i;

    break;

  }

}

var Textfilebaru = '';

array[counter + 2] = score;

for(i=0;i<array.length;i++){

  Textfilebaru += array[i] + ',';

}

try {

  localStorage.setItem('currentDom',Textfilebaru);

  return "OK";

}

catch (err) {

  alert('File saved error');

}

}


function getForUpdate(score){

      CLO['Reload'].Show({ bMaster: true });

      var NIM = localStorage.getItem('currentNim');

      var Course = callCourseCode();

  var url = url_send();

  var passvar= "user_id=" + NIM + "&" + "course_code=" + Course;

      $(document).ready(function(){

            $.ajax({

                  crossDomain: true,
```

```
                    url: url,
                    method: 'POST',
                    dataType: 'text',
                    data: passvar,
                    success: function (response){
                            localStorage.setItem('currentDom',response);
                            updateScore(score);
                    },
                    error: function (error) {
                            alert(nError);
                            CLO['Reload'].Hide({ bMaster: true });
                    }
        });
});
```

```
}

function updateScore(score){
        CLO['Reload'].Show({ bMaster: true });
        var Course = callCourseCode();
        var NIM = localStorage.getItem('currentNim');
        var dom = localStorage.getItem('currentDom');
        var thisChapter=localStorage.getItem('currentChapter');
        var saved = store_data(dom,thisChapter,score);
        var dom = localStorage.getItem('currentDom');
        if (saved=='OK'){
                var url = url_update();;
                var passvar = "onlinetext="+localStorage.getItem('currentDom');
                $(document).ready(function(){
                        $.ajax({
                                crossDomain: true,
                                url: url,
                                method: 'POST',
                                type: 'text',
                                data: passvar,
                                success: function (response) {
                                        alert('Score Updated');
                                        CLO['Reload'].Hide({ bMaster: true });
                                },
                                error: function () {
                                        alert(nError);
                                        CLO['Reload'].Hide({ bMaster: true });
                                }
                        });
```

```
                });
            }
        }


function showTugas(tugas,nim,name,phone){
        localStorage.setItem('currentNim',nim);
        localStorage.setItem('currentChapter',tugas);
        var soal = '';
        var jawaban = '';
        if (tugas=='Jawab1'){soal = soal1();jawaban=jawab1();}
        if (tugas=='Jawab2'){soal = soal2();jawaban=jawab2();}
        if (tugas=='Jawab3'){soal = soal3();jawaban=jawab3();}
        if (tugas=='Jawab4'){soal = soal4();jawaban=jawab4();}
        if (tugas=='Jawab5'){soal = soal5();jawaban=jawab5();}
        if (tugas=='Jawab6'){soal = soal6();jawaban=jawab6();}
        if (tugas=='Jawab7'){soal = soal7();jawaban=jawab7();}
        if (tugas=='Jawab8'){soal = soal8();jawaban=jawab8();}
        if (tugas=='Jawab9'){soal = soal9();jawaban=jawab9();}
        if (tugas=='Jawab10'){soal = soal10();jawaban=jawab10();}
        if (tugas=='Jawab11'){soal = soal11();jawaban=jawab11();}
        if (tugas=='Jawab12'){soal = soal12();jawaban=jawab12();}
        CLO['result'].Show({ bMaster: true });
        CLO['Score'].Show({ bMaster: true });
        CLO['Save'].Show({ bMaster: true });
        CLO['Close'].Show({ bMaster: true });
        var view = document.getElementById('result');
        var Course = courseID;
    var url = url_send();
        var WA = "<a href='https://api.whatsapp.com/send?phone=+62";
```

```javascript
var passvar= "user_id=" + nim + "&" + "course_code=" + Course;
    $(document).ready(function(){
        $.ajax({
            crossDomain: true,
            url: url,
            method: 'POST',
            dataType: 'text',
            data: passvar,
            success: function (response){
                var dataTugas='';
                var score = 0;
                var cArray = response.split(',');
                for (ci=4;ci<cArray.length-1;ci++){
                    if (cArray[ci] == tugas){
```

```
if(tugas == 'total'){
dataTugas = 'Score : ';
score = cArray[ci+1];
}
else{

dataTugas = cArray[ci+1];
dataTugas = dataTugas.replace(/~/g , ",");

score = cArray[ci+2];
}
//alert(score);
}
if ((cArray=='*')|(cArray=='undefined')){break;}
}
view.innerHTML =
"<br><br><br><p><b>"+name+" - "+nim+"</b></p><p><b>Soal:
</b></p>"+

"<p><font color='red'>"+soal+"</font></p>"+

"<p><b>Kunci:</b></p><p><font color='blue'>"+jawaban+"</font></p>"+

"<p><b>Jawaban:</b></p>" + "<p>"+dataTugas+"</p>"+

"<p><b>Skor:</b>"+score+"</p>"+"<p>WhatsApp: "+

WA+phone+"'>"+"0"+phone+"</p>";
},
error: function (error) {
```

```
                        alert(nError);
                    }
        });
    });
}


function getScore(dom,phone,nim,name,max){


        number++;
        var text = dom;
        var chapter = localStorage.getItem("thischapter");
    var array = text.split(',');
        arrBuffers[number] = ["","","","","",""];
        arrBuffers[number][0]=number;
        arrBuffers[number][1]=name;
        arrBuffers[number][2]=phone;
        var WA = "<a href='https://api.whatsapp.com/send?phone=+62";
        phone=phone.substr(1);
    g_arVars['bufferHTML'] +=   "<tr><td>" +number+ "</td>" +
                    "<td>" +name+ "</td>" +
                    "<td>"+WA+phone+"'>"+"0"+phone+"</td>";
    arrBuffers[number][3]="-";
        arrBuffers[number][4]=0;
        arrBuffers[number][5]=nim;
        if (number < max+1){
                var cArray = text.split(',');
                var cpText = '';
                var score = '';
                if (cArray.length>4){
```

```
for (ci=4;ci<cArray.length+1;ci++){
        if (array[ci] == chapter)
                {
                        if(chapter == 'total'){
                          cpText = cArray[ci];
                          score = cArray[ci+1];


                        }
                        else{
                  cpText = cArray[ci+1];
                          score = cArray[ci+2];


                        }
                        cpText = cpText.replace(/~/g , ",");


                        var awText = cpText.split(/(\s+)/);
                        var awLength = awText[0].length;
```

```
                                          if (awLength<11) {
                                                    for (i=0;i<(11-
awLength);i++)

        awText[0]+='*';//untuk menambahkan * setelah kata soal

                                                    }
                                          else
{awText[0]=awText[0].substring(0,11);}
                                          g_arVars['bufferHTML'] += ' <td><a
href="#" onclick="showTugas(\" + chapter + '\' , \" + nim + '\', \" + name + '\', \" +
phone + '\' )">'+awText[0]+'</a></td>';

                                          g_arVars['bufferHTML'] +=
"<td>"+score+"</td>";

                                          arrBuffers[number][3]=awText[0];

                                          arrBuffers[number][4]=score;

                                          break;

                                    }
                              if (array[ci] =="*" ){break;}
                              if (ci>=99){break;}

                        }
                  }
            g_arVars['bufferHTML'] += "<tr>";
      viewer.innerHTML = g_arVars['bufferHTML'];
            CLO['Reload'].Hide({ bMaster: true });
    }
      if (number==max+1){
            if (cArray.length > 4 ){
                  for (cn=4;cn<cArray.length+1;cn++){
                        if (cArray[cn] == chapter)
                              {

                              axText = array[ci+1].split(/(\s+)/);
```

```
                                        g_arVars['bufferHTML'] += ' <td><a
href="#" onclick="showTugas(\" + chapter + '\' , \" + nim + '\', \" + phone + '\'
)">'+awText[0]+'</a></td>';

                                        g_arVars['bufferHTML'] +=
"<td>"+array[cn+2]+"</td>";

                                        arrBuffers[number][3]= awText[0];

                                        arrBuffers[number][4]= array[cn+2];

                                        break;

                                }

                        if (array[cn] =="*" ){break;}

                        if (cn>=99){break;}

                }

        }

    }

}


function parseXML(xml){
        var docoment = "";
    var tabel = xml.getElementsByTagName("coloumn");
    var informasi = "";
    var baris, kolom, score;
    for (baris = 0;baris < tabel.length; baris++){
        satubaris = tabel[baris];
        isibaris=satubaris.attributes;
                buffer = [];
        for (kolom =0;kolom<isibaris.length;kolom++){
                        if (isibaris[kolom].nodeName == "Phone")
                                {buffer[0]=isibaris[kolom].nodeValue};
                        if (isibaris[kolom].nodeName == "Nim")
                                {buffer[1]=isibaris[kolom].nodeValue};
```

```
                      if (isibaris[kolom].nodeName == "Nama")
                            {buffer[2]=isibaris[kolom].nodeValue};
        }
                informasi += buffer[0]+","+buffer[1]+","+buffer[2];
        informasi += ";";
    }
    return informasi;
}


function updateCode(kode){
        //if (kode=='Kelas A'){kode = courseIDa;}
        //alert(kode);
        var text = read_file();
    var array = text.split(',');
    array[4] = kode;
        var Text = array_toText(array,array.length);
        try {
```

```
            localStorage.setItem(moduleID,Text);
        return "Validation is done";
            }
    catch(err) {
        alert('File saved error');
    }
}


function updateFile(){
    var text = read_file();
    var array = text.split(',');
    array[3]="VALID";
    var Text = array_toText(array,array.length);
    try
        {
                        localStorage.setItem(moduleID,Text);
            return "Validation is done";
        }
    catch (err)
        {
            alert('File saved error');
        }
}


function assignment(chapter)
{
    var result = "";
    var textfile = read_file();
    var array = textfile.split(',');
```

```
    var i=0;
    var counter = "true";
    while (counter=="true")
    {
        if (array[i]==chapter)
        {
            var text = array[i+1];
            break;
        }
        i++;
        if (array[i]=="*"){break;}
        if (i==99){break;}
    }
    return text;
}


function getStudentReport(NIM){
        var Course = thisChapter;
    var url = url_send();
    var passvar= "user_id=" + NIM + "&" + "course_code=" + Course;
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
                        method: 'POST',
                        dataType: 'text',
                        data: passvar,
                        success: function (response){
                                g_arVars['bufferDOM']=response;
```

```
                },
                error: function (error) {
                        //alert(nError);
                }
        });
    });
}


function getStudentData(){
        var url = url_data();
        var Course = moduleID;
        var passvar= "course_code=" + Course
        $(document).ready(function(){
                $.ajax({
```

```
                    crossDomain: true,

                    url: url,

                    method: 'POST',

                    type: 'text',

                    data: passvar,

                    success: function (response) {

                            var text = response;

                ViewerData.innerHTML = parsXML(text);

                    },

        error: function () {

                            //alert(nError);

                    }

            });

        });

}


function getAllScorer(NIM){
        var Course = moduleID;

    var url = url_send();

    var passvar= "user_id=" + NIM + "&" + "course_code=" + Course;

        $(document).ready(function(){

                $.ajax({

                        crossDomain: true,

                        url: url,

                        method: 'POST',

                        type: 'text',

                        data: passvar,

                        success: function (response) {

            findScore(response);
```

```
                },
                error: function () {
                        //alert(nError);
                }
        });
    });
}

function css() {
    var text = "";
        text += "<style>"+
        "table {border: 1px solid lightgrey; background-color: lightblue; width:
100%; font-size = 22px;}"+
        "th {border: 1px solid lightgrey; text-align: center;}"+
        "td {border: 1px solid lightgrey; background-color: white; color: black; text-
align: left;}"+
        "</style>";
    return text;
}

function startFrame(NIM){
    var sNIM = NIM.toString();
    var nim = sNIM.substring(5);
    g_arVars['bufferNIM']=nim;
    getStudentReport(nim);
}

function showStudent(nim,name){
        var text = "<p><b>"+nim+" - "+name+"</b></p>";
        var Course = callCourseCode();
```

```
var url = url_send();
var passvar= "user_id=" + nim + "&" + "course_code=" + Course;
    $(document).ready(function(){
            $.ajax({
                    crossDomain: true,
                    url: url,
                    method: 'POST',
                    dataType: 'text',
                    data: passvar,
                    success: function (resp) {
                            var dom = resp.toString();
                            dom = dom.substring(dom.indexOf(Course) + 1);
                            var view = document.getElementById("result");
                            CLO['result'].Show({ bMaster: true });
                            CLO['back'].Show({ bMaster: true });
```

```
                                var array = dom.split(',');
                                if (array.length>4){
                                        for (i=4;i<99;i+=3){
                                                if ((array[i]=='*')|(array[i]=='')){
                                                        break;
                                                }
                                                if (array[i].indexOf('undefined') >=
0){
                                                        break;
                                                }
                                                if ((array[i]!='*')|(array[i]!='')){
                                                        text +=
"<p><b>"+array[i]+"</b></p>"+array[i+1]+"</p>"+"<p>Skor:
"+array[i+2]+"</p>";
                                                }
                                        }
                                        text+= "<br></br>";
                                }
                                else {text = "<br><br><h4 align='center'>Belum
aktif</h4>"}
                                view.innerHTML = text;
                        },
                        error: function () {
                                //alert(nError);
                        }
            });
        });
}


function viewSort(vara,vabe){
        //CLO['Cari'].Hide({ bMaster: true });
```

```
var text =  "<body>" + css() + "<table id='data'>"+
                    "<th>No</th>"+
                    "<th>"+nameSort+"</th>"+
                    "<th>"+hpSort+"</th>"+
                    "<th>Jawaban</th>"+
                    "<th>Skor</th>";
var WA = "<a href='https://api.whatsapp.com/send?phone=+62";
if (vara==4){
        newarrBuffers = arrBuffers.sort(function(a,b){return a[vara] <
b[vabe]?1:-1;});
}
if (vara==1) {
        newarrBuffers = arrBuffers.sort(function(a,b){
                return a[vara] > b[vabe] ? 1 : a[vara] < b[vabe] ? -1 : 0;
        });
}
if (vara==2) {
        newarrBuffers = arrBuffers.sort(function(a,b){return a[vara] -
b[vabe]});
}
for (i=0;i<newarrBuffers.length-1;i++){

        var phone=newarrBuffers[i][2];
        phone=phone.substr(1);
        var sname = newarrBuffers[i][1]
        var snim = newarrBuffers[i][5];
        text += "<tr>"+
                    "<td>"+(i+1)+"</td>"+
                    '<td><a href="#" onclick="parent.showStudent(\" +
snim + '\', \" + sname + '\');">' + newarrBuffers[i][1] + '</a></td>'+
```

```
                              "<td>"+WA+phone+"">"+"0"+phone+"</a></td>"+

                              "<td>"+newarrBuffers[i][3]+"</td>"+

                              "<td>"+newarrBuffers[i][4]+"</td>"+

                              "</tr>";

          }
    text += "</table></body>";
          viewer.innerHTML = text;
          arrBuffers = newarrBuffers;
          number=0;
}

function load_js(){
    var head= document.getElementsByTagName('head')[0];
    var script= document.createElement('script');
    script.src= 'module.js';
    head.appendChild(script);
```

```
}

function soal1(){
        var text ="";
        return text;
}

function soal2(){
        var text ="";
        return text;
}

function soal3(){
        var text ="";
        return text;
}

function soal4(){
        var text ="";
        return text;
}

function soal5(){
        var text ="";
        return text;
}

function soal6(){
        var text ="";
```

```
        return text;
}

function soal7(){
        var text ="";
        return text;
}

function jawab1(){
        var jawab="";
        return jawab;
}

function jawab2(){
        var jawab="";
        return jawab;
}

function jawab3(){
        var jawab="";
        return jawab;
}

function jawab4(){
        var jawab = "";
        return jawab;
}

function jawab5(){
```

```
        var jawab="";
        return jawab;
}
```

D. *Source Code* Module.js Modul Mahasiswa

```
// InitModule
function InitModule()
{
}


// ShutdownModule
function ShutdownModule()
{
}


var moduleID = "Digital Marketing Create";
var text_assign = ';
var codeID  = 68;
var codeIDH = 225;


localStorage.setItem('codenumber','001DMCREATESM');


function url_update()
{
  var url_updt = "http://gflm.umy.ac.id/_insert_text.php";
  return url_updt;
}


function url_validation()
{
 var uurl = "http://gflm.umy.ac.id/_check_mhs.php";
 return uurl;
}
```

```
function url_send(){
  var uuurl="http://gflm.umy.ac.id/_send_onlinetext.php";
  return uuurl;
}

function url_password(){
        var passCheck = "http://gflm.umy.ac.id/_pass_verify.php";
        return passCheck;
}

function codeLoad(code){
        return code;
}

function callModuleID(){
  return moduleID;
}

function code(){
   return codeID;
}

function codeh(){
  return codeIDH;
}

function read_file()
{
        var nText = ";
```

```
        try {

                var cText = localStorage.getItem(moduleID);

                var hText = s_encode(cText,codeID);

                        nText = hexToString(hText);

        } catch (err){}

    return nText;

}


function updateFile()

{

    var text = read_file();

    var array = text.split(',');

    array[3]="VALID";
```

```javascript
    var Text = array_toText(array,array.length);
        var HText = stringToHex(Text);
        secureText = s_encode(HText,codeID);
    try {
                localStorage.setItem(moduleID,secureText);
                return "OK";
        }
    catch (err) {alert(err);}
}

function create_newFile(moduleID,studentId,studentName,status)
{
    var string = generate_array(100);
    array = string.split(',');
    array[0]=moduleID;array[1]=studentId;array[2]=studentName;array[3]=status;
    var Text = array_toText(array,100);
        var HText = stringToHex(Text);
        var secureText = s_encode(HText,codeID);
    try {
                localStorage.setItem(moduleID,secureText);
                return "OK";
        }
    catch (err) {
        alert(err);
    }
}

function s_encode(str,code) {
    var encoded = "";
```

```
for (i=0; i<str.length;i++) {

    var a = str.charCodeAt(i);

    var b = a ^ code;

    encoded = encoded+String.fromCharCode(b);

  }

  return encoded;

}


function g_encode(grade) {

  return (grade+174)*100;

}


function g_decode(higrade) {

  return ((higrade)/100 -174);

}


var myArray = new Array();


function generate_array(number){

      var text = "";

      for (i=0;i<=number;i++){

            if (i==number){

                  myArray[i] ='*';

                  text += myArray[i];

                  break;

            }

            myArray[i] = '*';

            text += myArray[i]+",";

      }
```

```
            return text;

}


function array_toText(myArray,length){
  var string = myArray[0];
  for (i=1;i<length;i++){
              string = string + "," + myArray[i];
  }
  return string;
}


function stringToHex (tmp) {
  var str = ",
     i = 0,
```

```
        tmp_len = tmp.length,
      c;


   for (; i < tmp_len; i += 1) {
     c = tmp.charCodeAt(i);
     str += d2h(c) + ' ';
   }
   return str;
}


function hexToString (tmp) {
   var arr = tmp.split(' '),
      str = '',
      i = 0,
      arr_len = arr.length,
      c;


   for (; i < arr_len; i += 1) {
     c = String.fromCharCode( h2d( arr[i] ) );
     str += c;
   }
   return str;
}


function d2h(d) {
   return d.toString(16);
}


function h2d (h) {
```

```
    return parseInt(h, 16);
}


function passValidation(url,json,nim){
        CLO['Loading'].Show({ bMaster: true });
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
                        method: 'POST',
                        dataType: 'text',
                        data: json,
                        success: function (response) {
                                if (response == "VALID"){
            updateFile();
                                        synchronize3();
                                        CLO['Loading'].Hide({ bMaster: true });
                                        CL.Navigation.GoTo({sTargetType: "slide",
sTargetDir: "next" });
                                        //CLO['Next'].Show({ bMaster: true });
        }
        if (response == "INVALID"){
                                        CLO['Loading'].Hide({ bMaster: true });
            alert("Username dan/atau Password tidak sah");
        }
                        },
    error: function (a,b,c) {
                                alert("Jaringan error");
                        }
        });
```

```
    });
}

function store_data(chapter, text, score)
{
    var textfile = read_file();
        var Textfilebaru = '';
    array = textfile.split(',');
    var counter = 0;
    for(i=4;i<array.length;i++)
    {
        if ((array[i]==chapter)|(array[i]=='*')){
                        counter=i;
            break;
```

```
        }
    }
            array[counter]=chapter
    array[counter+1] = text;
            array[counter+2] = score;
    for(i=0;i<=array.length-1;i++){
                    if (i==array.length-1){
                            Textfilebaru += array[i];
                            break;
                    }
                    Textfilebaru += array[i] + ',';
        }
        var HText = stringToHex(Textfilebaru);
        var secureText = s_encode(HText,codeID);
    try {
        localStorage.setItem(moduleID,secureText);
    }
    catch (err) {
        alert('File saved error');
    }
}

function insertTotal(){
    var arrays = [];

        var textfile = read_file();
        var Textfilebaru = '';
    array = textfile.split(',');
    var counter = 0;
```

```javascript
    for (i=4;i<array.length;i++) {
var value = array[i];
if (value.substring(0, 5) === "Jawab") {
        value = array[i+2];
  total = value;
            arrays.push(total);
            //alert(total);
  }
}
    var cek = arrays.reduce(getSum, 0);
var totalscore = cek / arrays.length;


    var counter = 0;
for(i=4;i<array.length;i++)
{
  if (array[i]=='total'||array[i]=='*'){

    counter = i;
    break;
            }
}
    array[counter]='total';
array[counter+1] = totalscore.toFixed(1);
for(i=0;i<=array.length-1;i++){
            if (i==array.length-1){
                Textfilebaru += array[i];
                break;
            }
            Textfilebaru += array[i] + ',';
```

```
        }
        var HText = stringToHex(Textfilebaru);
        var secureText = s_encode(HText,codeID);
    try {
      localStorage.setItem(moduleID,secureText);
    }
    catch (err) {
      alert('File saved error');
    }
}

function getSum(total, num) {
 return total + Math.round(num);
}
```

```
function find_score(chapter)
{
   var textfile = read_file();
   array = textfile.split(',');
   var counter = 0;
   var score = 0;
   for(i=4;i<99;i++)
   {
      if (array[i] == chapter)
      {
         counter = i;
                        score = array[counter + 2];
         break;
      }
   }


   return score;
}


function find_totalscore()
{
   var textfile = read_file();
   array = textfile.split(',');
   var counter = 0;
   var score = 0;
   for(i=4;i<99;i++)
   {
      if (array[i] == 'total')
```

```
        {
            counter = i;
            score = array[counter+1];
            break;
        }
    }
    return score;
}


function sendDataPost(){
        var url = url_update();
    var json = read_file();
    var passvar = "onlinetext="+json;
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
                        method: 'POST',
                        dataType: 'text',
                        data: passvar,
                        success: function() {
                        },
                        error: function() {
                        }
        });
    });
}


function synchronize3(){
```

```
    var time = new Date().toLocaleTimeString();
var date =  new Date().toLocaleDateString();
    var dom = read_file();
    var array = dom.split(',');
    var NIM = array[1];
    var Course = moduleID;
var url = url_send();
var passvar= "user_id=" + NIM + "&" + "course_code=" + Course;
    $(document).ready(function(){
            $.ajax({
                    crossDomain: true,
                    url: url,
                    method: 'POST',
                    dataType: 'text',
```

```
                    data: passvar,

                    success: function (response) {

                            try {

                                    localStorage.setItem("server",response);

                                    localStorage.setItem("localm",dom);

                            } catch(e){};

                            parent.updateBothSide();

                            parent.store_data('synchtime',time,date);

                    },

                    error: function (err) {}

        });

    });

}


function updateBothSide(){

  var sArray = localStorage.getItem("server").split(',');

  var lArray = localStorage.getItem("localm").split(',');

  var nArray = [];

  var mArray = [];

  var ntext="";

  var mtext="";

  var rtext="";

  var rArray = [];


  for (i=0;i<100;i++){

   rArray[i]="*";

  }


  nArray[0]=lArray[0];nArray[1]=lArray[1];
```

```
nArray[2]=lArray[2];nArray[3]=lArray[3];
mArray[0]=lArray[0];mArray[1]=lArray[1];
mArray[2]=lArray[2];mArray[3]=lArray[3];
rArray[0]=lArray[0];rArray[1]=lArray[1];
rArray[2]=lArray[2];rArray[3]=lArray[3];

for (s=4;s<sArray.length-1;s+=3){
  var find=false;
  for (l=4;l<lArray.length-1;l+=3){
    if ((sArray[s]=='')|(sArray[s]=='*')|(sArray[s]=='undefined')){break;}
    if (sArray[s]==lArray[l]){
      find=true;
      if (Number(sArray[s+2]) > Number(lArray[s+2])){
        nArray[s]=sArray[s];
        nArray[s+1]=sArray[s+1];
        nArray[s+2]=sArray[s+2];
      }
      else {
        nArray[s]=lArray[l];
        nArray[s+1]=lArray[l+1];
        nArray[s+2]=lArray[l+2];
      }
    }
  }
  if (!find){
    nArray[s]=sArray[s];
    nArray[s+1]=sArray[s+1];
    nArray[s+2]=sArray[s+2];
  }
```

```
}

for (count=4;count<nArray.length;count++){
 if (count>=sArray.length-2){ntext += nArray[count];break;}
 ntext += nArray[count]+',';
}

//alert("n= "+ntext);
for (i=4;i<100;i++){
 mArray[i]="*";
}
var found = true;
var indx = 4;
for (l=4;l<lArray.length-3;l+=3){
```

```
if ((lArray[l]=='')|(lArray[l]=='*')|(lArray[l]=='undefined')){found=true;break;}

for (n=4;n<nArray.length-3;n+=3){

 //if ((nArray[n]=='')|(nArray[n]=='*')|(nArray[n]=='undefined')){found=true;}

 if (lArray[l]==nArray[n]){found=true;break;}

 if (lArray[l]!=nArray[n]){found=false;}

}

 if (found==false){

  //alert('false');

  mArray[indx]=lArray[l]

  mArray[indx+1]=lArray[l+1];

  mArray[indx+2]=lArray[l+2];

  indx+=3;

  break;

 }

}


for (count=4;count<mArray.length;count++){

 if (count>=mArray.length-3){mtext += mArray[count];break;}

 if
((mArray[count]=='')|(mArray[count]=='*')|(mArray[count]=='undefined')){break;
}

 mtext += mArray[count]+',';

}


//alert("m= "+mtext);


var indx = 4;

for (ncount=4;ncount<nArray.length-1;ncount+=3){

 if
((nArray[ncount]=="*")|(nArray[ncount]=="undefined")|(mArray[count]="")){b
reak;}
```

```
  else {
   rArray[ncount]=nArray[ncount];
   rArray[ncount+1]=nArray[ncount+1];
   rArray[ncount+2]=nArray[ncount+2];
   indx+=3;
  }
 }


 for (mcount=4;mcount<mArray.length-1;mcount+=3){
  if
((mArray[mcount]=="*")|(mArray[count]=="undefined")|(mArray[count]=="")){
break;}
  else {
   rArray[indx]=mArray[mcount];
   rArray[indx+1]=mArray[mcount+1];
   rArray[indx+2]=mArray[mcount+2];
  }
 }


 for (rcount=0;rcount<rArray.length;rcount++){
  if (rcount==rArray.length-2){rtext+=rArray[rcount];break;}
  rtext += rArray[rcount]+',';
 }


var nArray = [];
var mArray = [];


 //alert("r= "+rtext);


var HText = stringToHex(rtext);
```

```
secureText = s_encode(HText,codeID);
 try {
 localStorage.setItem(moduleID,secureText);
 }
 catch (err) {alert(err);}
 sendDataPost();
}



function getStudentReport(NIM){
        var Course = moduleID;
    var url = url_send();
    var passvar= "user_id=" + NIM + "&" + "course_code=" + Course;
        $(document).ready(function(){
                $.ajax({
                        crossDomain: true,
                        url: url,
```

```
                        method: 'POST',
                        dataType: 'text',
                        data: passvar,
                        success: function (response) {
                                try {
                                        localStorage.setItem("server",response);
                                        localStorage.setItem("localm",read_file());
                                } catch(e){};
                                updateBothSide();
                        },
                        error: function (error) {
                        }
            });
        });
}

function showAssignment(){
        var data = read_file();
        var array = data.split(",");
        var text = "";
        var number = 0;
        for (i=4;i<array.length;i+=2){
                number++;
                if ((array[i]=="*")|(array[i+1]=='*')){break;}
                text += "<tr></tr>";
                text += "<td>"+number+"</td>";
                text += "<td>"+array[i].substring(3,6)+"</td>";
                var status = "";
                if (array[i+1]=='1'){status = "selesai";}
```

```
                text += "<td>"+status+"</td>";

                text += "</tr>";

        }

        return text;

}


function find_chapter(chapter){

    var chapters =  "Class";

    var textfile = dom;

    var array = textfile.split(',');

    var text =  "<body>" + css() +
"<table>"+"<tr>"+array[2]+"<tr>"+"<th>No</th>"+

            "<th>Chapter</th><th>Score</th>";

    var chapter = chapters.split(',');

    for (c=0;c<chapter.length;c++){

        var i=0;

        var counter = "true";

        while (counter == "true")

        {

            if (array[i] == chapter[c])

            {

                var score = array[i+2];

                text +=
"<tr><td>"+(c+1)+"</td><td>"+chapter[c]+"</td><td>"+score+"</td></tr>";

                break;

            }

            i++;

            if (array[i]=="*"){break;}

            if (i==99){break;}

        }
```

```
        }
    text += "</body></table>";
    ClassdanPackage.innerHTML=text;
}


function findScore(chapter){
        var score=0;
    var textfile = read_file();
    var array = textfile.split(',');
    for (c=4;c<array.length;c++){
                if (array[c]==chapter){
                        score=array[c+2];
                }
    }
        return score;
```

```javascript
}

function findAnswer(question,a,b,v){
        var answer ='';
    var textfile = read_file();
    var array = textfile.split(',');
    for (c=3;c<array.length;c++){
                if (array[c]==question){
                        if (array[c+2]>50){CLO[a].Hide({ bMaster: true
});CLO[b].Hide({ bMaster: true });}
                        var skor = array[c+2].toString();
                        answer = array[c+1].toString();
                        var view = document.getElementById(v);
                        view.innerHTML = '<p><span style="font-size: 16px;font-
color: blue">Skor: '+skor+'</span><p>';
                        break;
                }
    }
        return answer;
}

function findDate(info){
        var date='';
        var time='';
    var textfile = read_file();
    var array = textfile.split(',');
    for (c=4;c<array.length;c++){
                if (array[c]==info){
                        date=array[c+1].toString();
                        time=array[c+2].toString();
```

```
            }
    }
        return "Last Sync: " + date+" - "+time;
}


// Easy Question

function maksdist(text){
        var buffer = "";
        var loop = "TRUE";
        while(loop){
                buffer = text.replace('.','');
                if(buffer == text){
                        break;
                }
                text = buffer;
        }
        return buffer.length;
}

function clear(text){
        var cond = true;
        while (cond){
                var textLength = text.length-1;
                var endChar = text.substr(textLength,1);
                if (endChar == '.'){text=text.substr(0,(textLength));}
                else {cond=false};
        }
        var lText = text.toLowerCase();
```

```
        rText = lText.replace(',','');

        sText = rText.replace(/\s{2,}/g, ' ');

        return sText;

}


function cprParagraph(ans, key){

        var aArray = ans.split(".");

        var kArray = key.split(".");

        var kLength = kArray.length;

        var distance = 0;

        var score = 0;

        for (k=0;k<kLength;k++){

                var omega = kArray[k];

                var buffer = 1000;
```

```
                    var pointer = 0;

                    var aLength = aArray.length;

                    if (aLength==0){

                              var leftChar=0;

                              for (y=k;y<kLength;y++){

                                        leftChar += kArray[k].length;

                              }

                              distance=leftChar;

                              break;

                    }

                    for (a=0;a<aLength;a++){

                              var dist = cprSentences(omega,aArray[a]);

                              if (buffer>dist){

                                        buffer = dist;

                                        pointer = a;

                              }

                    }

                    aArray.splice(pointer,1);

                    distance += buffer;

          }

          var cKey = clear(key);

          score = ((cKey.length-distance)/cKey.length)*100;

          score = score.toFixed(0);

          if (score<0) {score=0;}

          if (score>100){score=100};

          return score;

}


function cprSentences(a, k){
```

```
var logical = true;
var distance = 0;
logical = meaning (a,k);
if (logical == true){
        var aArray = a.split(" ");
        var kArray = k.split(" ");
        var kLength = kArray.length;
        for (k=0;k<kLength;k++){
                var omega = kArray[k];
                var buffer = 1000;
                var pointer = 0;
                var aLength = aArray.length;
                if (aLength==0){break;}
                for (a=0;a<aLength;a++){
                        var dist = levenshtein(omega,aArray[a]);
                        if (buffer>dist){
                                buffer = dist;
                                pointer = a;
                        }
                }
                aArray.splice(pointer,1);
                distance += buffer;
        }
}
else {
        if (k.length < a.length) {distance = a.length;}
        else {distance = k.length;}
}
return distance;
```

```
}

function meaning(a, k){
        cond = true;
        condA = "positive";
        condK = "positive";
        var clrAns = a.replace(/\s{2,}/g, ' ');
        var clrKey = k.replace(/\s{2,}/g, ' ');
        var wordArray = ['tidak','bukan','lain','beda','belum','jangan'];
        for (cnt=0;cnt<wordArray.length;cnt++){
                if (clrAns.search(wordArray[cnt])!=-1){condA="negative"};
                if (clrKey.search(wordArray[cnt])!=-1){condK="negative"};
        }
        if ((condA=="negative") & (condK=="positive")){cond=false};
```

```
        if ((condA=="positive") & (condK=="negative")){cond=false};

        return cond;

}


function levenshtein(a, b) {
  if(a.length === 0) return b.length;
  if(b.length === 0) return a.length;
  var matrix = [];
  var i;
  for(i = 0; i <= b.length; i++){
    matrix[i] = [i];
  }


  var j;
  for(j = 0; j <= a.length; j++){
    matrix[0][j] = j;
  }


  for(i = 1; i <= b.length; i++){
    for(j = 1; j <= a.length; j++){
      if(b.charAt(i-1) == a.charAt(j-1)){
        matrix[i][j] = matrix[i-1][j-1];
      } else {
        matrix[i][j] = Math.min(matrix[i-1][j-1] + 1,
                  Math.min(matrix[i][j-1] + 1,
                      matrix[i-1][j] + 1));
      }
    }
  }
```

```
  return matrix[b.length][a.length];

}


function mainSetence(words){
        if (words!=''){
                var otext = "";
                var wArray = words.split(' ');
                var aLength = wArray.length;
                for (w=0;w<aLength;w++){
                        var itext = wArray[w];
                        itext = itext.replace(/\s/g,'');
                        itext = itext.toLowerCase();
                        var ichar = itext.substr(0,1);
                        var gchar = find_base(itext,ichar);
                        if (gchar==""){otext+=itext + ' '}
                        else {otext+=gchar + ' '}
                }
        }
        return otext;
}


function dasar_akhiran(text){
        var result = "";
        var buffer = "";
        var vari = text.substring(0,1);
        var load ="";
        try{
                load = window[vari]();
        } catch (e){result=text;return result;}
```

```javascript
var textL = text.length;

var row = load.split(';');

var dist = 100;

var found = false;

for (rb=0;rb<row.length;rb++){

        word = row[rb].split(',');

        word[0]=word[0].replace(/\s+/, "");

        if (word[0]===text){

                result = word[0];//+','+word[1];

                found = true;

                break;

        }

        if ((!found)&&(rb==(row.length-1))){

                tLength=text.length;
```

```
                        if ((text.substring(tLength-
1)=="i")&(text.substring(tLength-4)!="wati")){
                                text=text.substring(0,tLength-1);
        result = text;

                                found = true;

                                break;

                        };

                        if ((text.substring(tLength-
2)=="an")&(text.substring(tLength-3)!="wan")

                                &(text.substring(tLength-3)!="kan")){

                                text=text.substring(0,tLength-2);

        result = text;

                                found = true;

                                break;

                        };

                        if (text.substring(tLength-3)=="kan"){

                                text=text.substring(0,tLength-3);

        result = text;

                                found = true;

                                break;

                        };

                        if (text.substring(tLength-2)=="ku"){

                                text=text.substring(0,tLength-2);

        result = text;

                                found = true;

                                break;

                        };

                        if (text.substring(tLength-2)=="mu"){

                                text=text.substring(0,tLength-2);

        result = text;
```

```
                              found = true;

                              break;

                    };

                    if (text.substring(tLength-3)=="nya"){

                              text=text.substring(0,tLength-3);

result = text;

                              found = true;

                              break;

                    };

                    if (text.substring(tLength-3)=="kah"){

                              text=text.substring(0,tLength-3);

result = text;

                              found = true;

                              break;

                    };

                    if (text.substring(tLength-3)=="pun"){

                              text=text.substring(0,tLength-3);

result = text;

                              found = true;

                              break;

                    };

                    if (text.substring(tLength-3)=="lah"){

                              text=text.substring(0,tLength-3);

result = text;

                              found = true;

                              break;

                    };

                    if (text.substring(tLength-3)=="tah"){

                              text=text.substring(0,tLength-3);
```

```
result = text;
                        found = true;
                        break;
                };
                if (text.substring(tLength-4)=="wati"){
                        text=text.substring(0,tLength-4);
result = text;
                        found = true;
                        break;
                };
                if (text.substring(tLength-3)=="wan"){
                        text=text.substring(0,tLength-3);
result = text;
                        found = true;
                        break;
```

```
                };
                if (text.substring(tLength-3)=="man"){
                        text=text.substring(0,tLength-3);
        result = text;
                        found = true;
                        break;
                };
            }
        }
        return result;
    }


function find_base(text,vari){
        var result = "tidak ketemu";
        var buffer = "";
        try{
                load = window[vari]();
        } catch (e){result=text;return result;}
        var textL = text.length;
        var row = load.split(';');
        var dist = 100;
        var found = false;
        for (rb=0;rb<row.length;rb++){
                word = row[rb].split(',');
                word[0]=word[0].replace(/\s+/, "");
                if (word[0]==text){
                        result = word[0];//+','+word[1];
                        found = true;
                        break;
```

```
        }
        if ((!found)&&(rb==(row.length-1))){
                                if (text.substring(0,2)=="se"){
                text=text.substring(2);
                var fChar = text.substring(0,1);
    var dasar = dasar_akhiran(text);
                result = find(dasar,fChar);
                break;
            }
            if (text.substring(0,3)=="per"){
                text=text.substring(3);
                var fChar = text.substring(0,1);
    var dasar = dasar_akhiran(text);
                result = find(dasar,fChar);
                break;
            }
            if (text.substring(0,3)=="ter"){
                text=text.substring(3);
                var fChar = text.substring(0,1);
    var dasar = dasar_akhiran(text);
                result = find(dasar,fChar);
                break;
            }
            if
((text.substring(0,2)=="be")&(text.substring(0,3)!="ber")){
                text=text.substring(2);
                var fChar = text.substring(0,1);
    var dasar = dasar_akhiran(text);
                result = find(dasar,fChar);
                break;
```

```
        }
        if (text.substring(0,3)=="ber"){
                text=text.substring(3);
                var fChar = text.substring(0,1);
var dasar = dasar_akhiran(text);
                result = find(dasar,fChar);
                break;
        }
        if (text.substring(0,2)=="me"){
                if (text.substring(2,4)=="mb"){
                        text=text.substring(3);
                        var fChar = text.substring(0,1);
                        var dasar = dasar_akhiran(text);
                        result = find(dasar,fChar);
```

```
                            break;
                }
                if (text.substring(2,4)=="mu"){
                        text="p"+text.substring(3);
                        var fChar = text.substring(0,1);
                        var dasar = dasar_akhiran(text);
                        result = find(dasar,fChar);
                        break;
                }
                if
((text.substring(2,4)=="ru")|(text.substring(2,4)=="ra")){
                            text="r"+text.substring(3);
                            var fChar = text.substring(0,1);
                            var dasar = dasar_akhiran(text);
                            result = find(dasar,fChar);
                            break;
                }
                if
((text.substring(2,5)=="maa")|(text.substring(2,5)=="mak")){
                            text=text.substring(2);
                            var fChar = text.substring(0,1);
                            var dasar = dasar_akhiran(text);
                            result = find(dasar,fChar);
                            break;
                }
                if (text.substring(2,4)=="ns"){
                        text=text.substring(3);
                        var fChar = text.substring(0,1);
                        var dasar = dasar_akhiran(text);
                        result = find(dasar,fChar);
```

```
                    break;
            }
            if
((text.substring(2,4)=="ni")|(text.substring(2,4)=="ne")){
                    text="t"+text.substring(3);
                    var fChar = text.substring(0,1);
                    var dasar = dasar_akhiran(text);
                    result = find(dasar,fChar);
                    break;
            }
            if (text.substring(2,4)=="li"){
                    text="l"+text.substring(3);
                    var fChar = text.substring(0,1);
                    var dasar = dasar_akhiran(text);
                    result = find(dasar,fChar);
                    break;
            }
            if (text.substring(2,6)=="mper"){
                    text=text.substring(6);
                    var fChar = text.substring(0,1);
                    var dasar = dasar_akhiran(text);
                    result = find(dasar,fChar);
                    break;
            }
            if (text.substring(2,6)=="mpel"){
                    text=text.substring(6);
                    var fChar = text.substring(0,1);
                    var dasar = dasar_akhiran(text);
                    result = find(dasar,fChar);
                    break;
```

```
                                    }
                                   if
((text.substring(2,5)=="mpr")|(text.substring(2,5)=="mpe")){
                            text=text.substring(3);
                            var fChar = text.substring(0,1);
                            var dasar = dasar_akhiran(text);
                            result = find(dasar,fChar);
                            break;
                    }
                    if (text.substring(2,5)=="nas"){
                            text="n"+text.substring(3);
                            var fChar = text.substring(0,1);
                            var dasar = dasar_akhiran(text);
                            result = find(dasar,fChar);
                            break;
                    }
```

```
                          if
((text.substring(2,4)=="nu")|(text.substring(2,4)=="na")

                              |(text.substring(2,4)=="no")){
                              text= "t" + text.substring(3);
                              var fChar = text.substring(0,1);
                              var dasar = dasar_akhiran(text);
                              result = find(dasar,fChar);
                              break;

                          }
                          if (text.substring(2,5)=="nya"){
                              text="s"+text.substring(4);
                              var fChar = text.substring(0,1);
                              var dasar = dasar_akhiran(text);
                              result = find(dasar,fChar);
                              break;

                          }
                          if
(((text.substring(2,4)=="ny")&(text.substring(2,5)!="nya"))

        |(text.substring(2,6)=="nyad")|(text.substring(2,6)=="nyan")){
                              text= "s" + text.substring(4);
                              var fChar = text.substring(0,1);
                              var dasar = dasar_akhiran(text);
                              result = find(dasar,fChar);
                              break;

                          }
                          if
((text.substring(2,6)=="nyan")|(text.substring(2,6)=="manj")

        |(text.substring(2,5)=="maj")|(text.substring(2,6)=="mand")){
                              text= text.substring(2);
```

```
                                var fChar = text.substring(0,1);

                                var dasar = dasar_akhiran(text);

                                result = find(dasar,fChar);

                                break;

                    }
                    if
((text.substring(2,4)=="nj")|(text.substring(2,4)=="nz")

        |(text.substring(2,4)=="nd")|(text.substring(2,4)=="nc")

                                |(text.substring(2,5)=="ndr")){

                                text=text.substring(3);

                                var fChar = text.substring(0,1);

                                var dasar = dasar_akhiran(text);

                                result = find(dasar,fChar);

                                break;

                    }
                    if ((text.substring(2,6)=="nget")){

                                text=text.substring(5);

                                var fChar = text.substring(0,1);

                                var dasar = dasar_akhiran(text);

                                result = find(dasar,fChar);

                                break;

                    }
                    if (text.substring(2,8)=="ngemuk"){

                                text=text.substring(5);

                                var fChar = text.substring(0,1);

                                var dasar = dasar_akhiran(text);

                                result = find(dasar,fChar);

                                break;

                    }
```

```
                            if
((text.substring(2,5)=="ngh")|(text.substring(2,6)=="ngak")

        |(text.substring(2,5)=="ngg")|(text.substring(2,7)=="nging")|

                        (text.substring(2,5)=="ngi")|

        ((text.substring(2,5)=="nga")&(text.substring(2,6)!="ngag")&(text.substri
ng(2,7)!="ngand"))

        |((text.substring(2,5)=="ngo")&(text.substring(2,6)!="ngor"))|(text.substri
ng(2,5)=="ngu")){

                                text=text.substring(4);

                                var fChar = text.substring(0,1);

                                var dasar = dasar_akhiran(text);

                                result = find(dasar,fChar);

                                break;

                        }
                            if
((text.substring(2,5)=="nga")|(text.substring(2,5)=="ngi")&((text.substring(2,7)!=
"nging"))

        |(text.substring(2,5)=="ngr")|(text.substring(2,5)=="nge")|(text.substring(2
,6)!="nget")

        |(text.substring(2,6)=="ngag")|(text.substring(2,7)=="ngand")|(text.substri
ng(2,6)=="ngor")){

                                text="k"+text.substring(4);
```

```
                              var fChar = text.substring(0,1);

                              var dasar = dasar_akhiran(text);

                              result = find(dasar,fChar);

                              break;

                  }
                  if
((text.substring(2,4)=="ma")&(text.substring(2,5)!="mak")){

                              text="p" + text.substring(3);

                              var fChar = text.substring(0,1);

                              result = find(text,fChar);

                              break;

                  }
                  else {

                        text=text.substring(2);

                        var fChar = text.substring(0,1);

                        result = find(text,fChar);

                        break;

                  }

            }
            if (text.substring(0,2)=="ke"){

                  if (text.substring(2,4)=="mb"){

                  text="kem" + text.substring(3);

                        var fchar = text.substring(0,1);

                        result = find(text,fchar);

                        break;

                  }
                  if (text.substring(2,4)=="rj"){

                        text="ker".substring(3);

                        var fchar = text.substring(0,1);

                        result = find(text,fchar);
```

```
                                break;
                        }
                        if (text.substring(2,4)=="na"){
                                text="ken".substring(3);
                                var fchar = text.substring(0,1);
                                result = find(text,fchar);
                                break;
                        }
                        if
((text.substring(2,4)=="du")|(text.substring(2,4)=="ti")|(text.substring(2,4)=="em"
)

        |(text.substring(2,4)=="li")|(text.substring(2,4)=="en")|(text.substring(2,4)
=="tu")

        |(text.substring(2,4)=="de")|(text.substring(2,4)=="se")){text=text.substrin
g(2);

                                var fchar = text.substring(0,1);
                                result = find(text,fchar);
                                break;
                        }
                }
                if (text.substring(0,2)=="di"){
                        text=text.substring(2);
                        var fChar = text.substring(0,1);
                        var dasar = dasar_akhiran(text);
            result = find(dasar,fChar);
                        break;
                }
                else {
                        text = dasar_akhiran(text);
                        var fChar = text.substring(0,1);
```

```
                        var dasar = dasar_akhiran(text);
        result = find(dasar,fChar);
                                break;
                }
            }
            if (found){break;}
        }
        return result;
    }


function find(text,vari){
        var result = "tidak ketemu";
        var buffer = "";
        try{
                load = window[vari]();
```

```
        } catch (e){result=text;}
        var textL = text.length;
        var row = load.split(';');
        var dist = 100;
        var found = false;
        for (rb=0;rb<row.length;rb++){
                word = row[rb].split(',');
                word[0]=word[0].replace(/\s+/, "");
                if (word[0]==text){
                        result = word[0];//+','+word[1];
                        found = true;
                        break;
                }
                if ((!found)&&(rb==(row.length-1))){
                        found=false;
                        for (col=1;col<text.length;col++){
                                findText = text.substr(0, text.length-col);
                                for (nr=0;nr<row.length;nr++){
                                        word = row[nr].split(',');
                                        word[0]=word[0]
                                        .replace(/\s+/, "");
                                        if (word[0].length>=findText.length){
                                                var compareText = word[0].substr(0,
findText.length);
                                                if
((compareText==findText)&&(!found)){
                                                        result =
word[0];//+','+word[1];
                                                        found=true;
                                                        break;
```

```
                                }
                        }
                        if(found){break;}
                }
                if(found){break;}
        }
        if(found){break;}
    }
    if (found){break;}
}
return result;
};


function read_status(){
        var v1 = document.getElementById('ST01');
        var v2 = document.getElementById('ST02');
        var v3 = document.getElementById('ST03');
        var v4 = document.getElementById('ST04');
        var v5 = document.getElementById('ST05');
        var v6 = document.getElementById('ST06');
        var v7 = document.getElementById('ST07');
        var v8 = document.getElementById('ST08');
        var v9 = document.getElementById('ST09');
        var v10 = document.getElementById('ST10');
        var v11 = document.getElementById('ST11');
        if (Number(findScore('Jawab1'))>5){v1.innerHTML='OK'};
        if (Number(findScore('Jawab2'))>5){v2.innerHTML='OK'};
        if (Number(findScore('Jawab3'))>5){v3.innerHTML='OK'};
        if (Number(findScore('Jawab4'))>5){v4.innerHTML='OK'};
```

```
        if (Number(findScore('Jawab5'))>5){v5.innerHTML='OK'};

        if (Number(findScore('Jawab6'))>5){v6.innerHTML='OK'};

        if (Number(findScore('Jawab7'))>5){v7.innerHTML='OK'};

        if (Number(findScore('Jawab8'))>5){v8.innerHTML='OK'};

        if (Number(findScore('Jawab9'))>5){v9.innerHTML='OK'};

        if (Number(findScore('Jawab10'))>5){v10.innerHTML='OK'};

        if (Number(findScore('Jawab11'))>5){v11.innerHTML='OK'};

}


function countWords(s){
    s = s.replace(/(^\s*)|(\s*$)/gi,"");
    s = s.replace(/[ ]{2,}/gi," ");
    s = s.replace(/\n /,"\n");
    return s.split(' ').filter(function(str){return str!="";}).length;
}
```