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Development of e-logbook System for Undergraduate Students of the Faculty of Arts and Social Science (FAS), University Tun Abdul Rahman (UTAR)

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Abstract: The e-logbook System is a web-based system and was specially developed for third year students of the Faculty of Arts and Social Sciences (FAS) at University Tun Abdul Rahman (UTAR). The users for this proposed system including students, supervisors, and coordinators. This project aims to assist third year students final year projects. Students will be more comfortable and the weekly activities report can be done systematically after discussion with the supervisor and be informed of the information announced. The coordinator can easily gather third year students and upload important information. This project is developed based on the Prototype model where improvements are made from time to time. Meanwhile, Brackets, Notepad, and XAMPP are utilized to develop this system. Additionally, phpMyAdmin is used for system databases. There are four modules in this e-logbook System, namely the login module, the user registration module, the activity report generator module, and the student group assignment to the supervisor module. The system among users is based on system function in terms of storing and manipulating user details datas, report data and notification data. Based on the test through the test plan, the result shows that the actual output is same as the expected output. As for the user acceptance test, most respondents felt very satisfied and satisfied with the system.

Keywords: *e-logbook system, weekly activities report, Prototype model*

1. Introduction

Before starting a final year project, each student in the Faculty of Arts and Social Science (FAS) needs to find a supervisor to guide throughout the development of the final project. During weekly discussion with the supervisor, students are required to record the activities of the discussion and the task list need to be done. Currently, the students need to send activity reports after discussions every week via WhatsApp group. Moreover, the students need to create an activity report template each week. However, submissions via WhatsApp groups have some drawbacks. The report may not be received by

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the supervisors. There are some possibilities for causing this problem including technical problems. There are a lot of messages received on WhatsApp which can cause an error or bug in the phone. Moreover, when there too many messages on WhatsApp to read and the work that needs to be done can caused to miss reading the reported activity. In addition, some students did not submit activity reports.

Another drawback in the current method is before students start the final year project, students need to enter a WhatsApp group where the coordinator will update all the information regarding the final year project process. Some students may not be in the group and cause some information to be inaccessible and sometimes notification of information in the group may be slow to appear.

Therefore, this system proposed an efficient platform to submit activity reports and notification of information was proposed to solve the problems faced by students, supervisors, and coordinators during the final year project. Students will have a platform to submit activity reports and get comments from supervisors. While the supervisor can manage all student report activities more systematically. Plan, organize, allocate, apply, and control time effectively so that all identified activities, projects, and procedures are implemented in a timely manner as referred to in time management [1]. Although students are provided with Whats App as a medium to record final year project log activities, it is limited to certain functions and does not offer a more effective medium of communication before the project begins.

The objectives of the project include to design an online system that can assist final year project management. The second objective of this project is to develop a system for recording project progress activities that can be used by supervisors, PSM coordinators, and students. While the third is to test the proposed e-log book system.

The rest of the paper will be arranged as follows. Section 2 will describe the related work i.e. research on the methods of current report submission activities, the proposal system, and the comparison of features between the three existing systems and the proposal system. In Section 3 we will describe the methodology used to develop the proposed system and the system development activities of this project. Section 4 will describe the analysis and design of a system that includes structural diagrams such as context diagrams and Entity Relationship Diagrams. Finally, Section 5 will discuss the conclusions and recommendations for system improvement.

2. Related Work

2.1 Existing supervisory system at FAS

Before entering the third year of study, students should prepare at least one idea to discuss with the supervisor. After the idea is prepared, students need to contact the prospective supervisor who will make an appointment for discussion by using communication applications such as WhatsApp for the delivery of documents and any related files or for emergencies and some even book an appointment in person at the college. class if on campus. After the discussion, the lecturer will give an opinion and the students will have to submit a brief proposal paper to state the project proposal via email. After reviewing, the supervisor decides whether to accept the student under supervision and notification via email response. After confirmation from the supervisor, any relevant documents and all project progress activities of PSM students will be sent via WhatsApp group for weekly review. Any correction of errors in the report will be answered via WhatsApp of the supervisor to the student. Figure 1 shows the flow chart of the existing supervisory system.

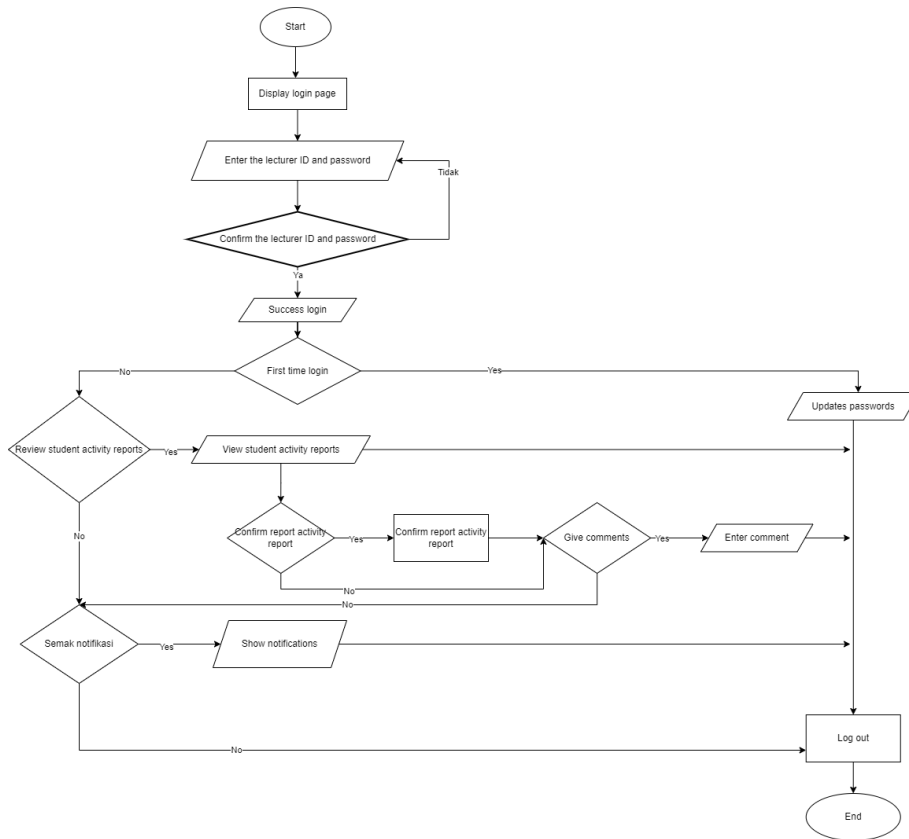


Figure 1 Flow chart of the existing supervisory system in FAS

2.2 Study existing system

Three similar systems were selected for comparison. The systems are the PSM Information Management and Evaluation System [3], the Architect Project Management System [4] and the UTHM Online e-Project System [5]. Table 1 shows a comparison between the features of the existing system with the proposed system.

Table 1: Comparison between the existing system and the proposed system

System Features	PSM Information Management and Evaluation System	Architect Project Management System	UTHM Online e-Project System	e-logbook system
1. Login by user category	✓	✗	✗	✓
2. Update the profile to login for the first time	✗	✗	✓	✓
3. Login	✓	✓	✓	✓
4. Upload and download documents	✓	✓	✓	✗

(upload feature)

only)					
5.	Comment space for supervisors	✗	✗	✗	✓
6.	Record information function	✓	✓	✓	✓
7.	Group students to their respective supervisors function	✗	✓	✓	✓
8.	Function of finding information by entering keywords	✓	✓	✓	✓
9.	Report validation function	✗	✗	✓	✓
10.	User categories i. Students ii. Supervisor iii. Coordinator	✓	✗	✓	✓

Legend: ✓ - Yes, ✗- No

Compared to the three existing systems, there are 3 features contained in 4 systems namely login, information record function, information search function by entering keywords.

3. Methodology

Prototype models are used to develop the proposed system. By following this model, prototypes are developed, tested, and reworked to the satisfaction of customers. The prototype is considered the basis of the final system being developed. First, a prototype is developed and sent to the user for initial evaluation. The feedback and suggestions of the evaluation results are then used to modify the prototype and repeated until the user is satisfied with the prototype. The final system is produced based on the final prototype received by the user. In the prototype model, there are four main phases namely the planning phase, the analysis phase, the design phase, and the implementation phase.

3.1 Prototype model

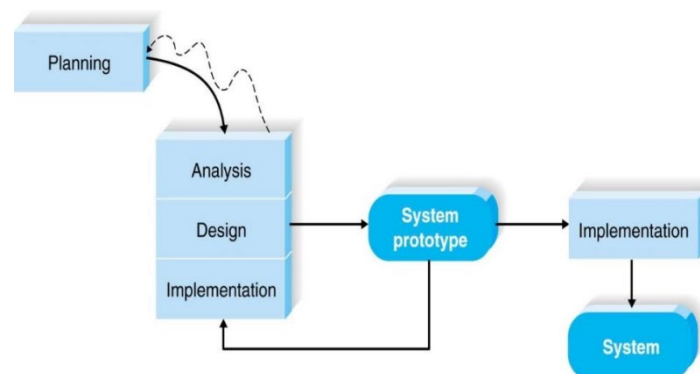


Figure 2 Prototype Model [6]

In the planning phase, problem findings when students undertake final year projects such as submission of report activities were studied. The idea of the proposed system which is the e-logbook system was prepared and converted into a proposal. Project activities are also designed into a Gantt Chart (see Appendix A). In addition, problem statements are defined, project objectives and scope are determined to develop an e-logbook system. Research and studies on related topics about the system have been done to find out more about the proposed system.

In the analysis phase, three existing systems related to the proposed system were studied. A comparison of characteristics between the three existing systems and the proposed system was analyzed. An interview with the coordinator, Dr. Gan Su Wan via Google Meet was conducted to find out the existing e-logbook system. A needs analysis was made as an interview session via WhatsApp was shared to the 3rd year students of FAS to obtain data on the proposals and requirements of the proposed system. Functional and non-functional requirements are identified to ensure the system functions properly to achieve project objectives. Software and hardware requirements are described. A flow chart is illustrated to show how the system will function and flow. Data Flow Diagrams (DFDs) are drawn to map the processes in the system. Data flow diagrams (DFDs) describe the movement of data between external entities and processes and data storage in a system [6].

In the design phase, a system database and a system prototype user interface are designed. The entity Relationship Diagram (ERD) was created to develop the database system. An entity-relationship diagram (ERD) is a drawing that shows the information created, stored, and used by a system [7]. The wireframe design for the system user interface was built using draw.io. The wireframe is produced to provide a basic initial idea for the design and arrangement for the implementation phase of the development system.

In the implementation phase, the software used to develop the proposed system and implement the coding is the PhpMyAdmin database, Bracket, Notepad, and XAMPP server. The programming languages used to implement the system are Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), PHP, and JavaScript. The prototype system is then tested to ensure the project objectives have been achieved. Improvements and modifications need to be made to correct bugs and errors to ensure the system will meet system requirements.

3.2 System Development Workflow

Table 2 shows a summary of system development activities. Each activity in each phase was listed with the output of the activities performed in each phase.

Table 2 Summary of system development activities

Phase	Activity	Result
Planning	- Prepare idea suggestions and titles for final year projects	- Project work plan
	- Prepare a project proposal report	- Gantt chart
	- Prepare a project work plan with a Gantt Chart	- Project proposal
	- Define the problem statement, objectives, project scope	
	- Do research and study on topics related to the proposed system	
Analysis	- Refer to similar system studies	- Functional requirements
	- Schedule a comparison between the 3 existing systems and the proposed system	and non-functional requirements

	<ul style="list-style-type: none"> - Prepare for an interview - Analyze the results of the interview - Determine hardware and software requirements - Describe flow charts, context diagrams and Data Flow Charts 	<ul style="list-style-type: none"> - Hardware and software requirements - Literature Research - Flow Charts, context diagrams, and Data Flow Charts
Design	<ul style="list-style-type: none"> - Design of process systems and database systems - Generate wire frame - Entity Relationship Diagram (ERD) 	<ul style="list-style-type: none"> - Wireframe - Interface Design - Database Design - Entity Relationship Diagram (ERD)
Implementation	<ul style="list-style-type: none"> - Code execution - Testing - Ratings from users 	<ul style="list-style-type: none"> - Test plan results - User rating results - Final complete system

4. System analysis and design

System Analysis is the phase of determining user needs for an application to be developed or modified. Analysis involves all tasks performed to identify the needs of various stakeholders. Thus, needs analysis means analyzing, documenting, verifying, and managing software or system requirements. In this section, system analysis and design will be discussed. However, due to the limitations of the paper, only context diagrams will be shown here for system analysis; while for system design, the user interface design for the main page will be shown. Flowcharts for students and the Entity-Relationship Diagram system can be seen in Appendix B of this paper.

4.1 System Analysis

A context diagram is a data flow diagram of an overview of an organizational system showing the boundaries of the system, the external entities that interact with the system, and the main information flow between the entity and the system [8]. Figure 3 shows the context diagram of the e-logbook System. There are three entities in the context diagram namely students, supervisors, and coordinators.

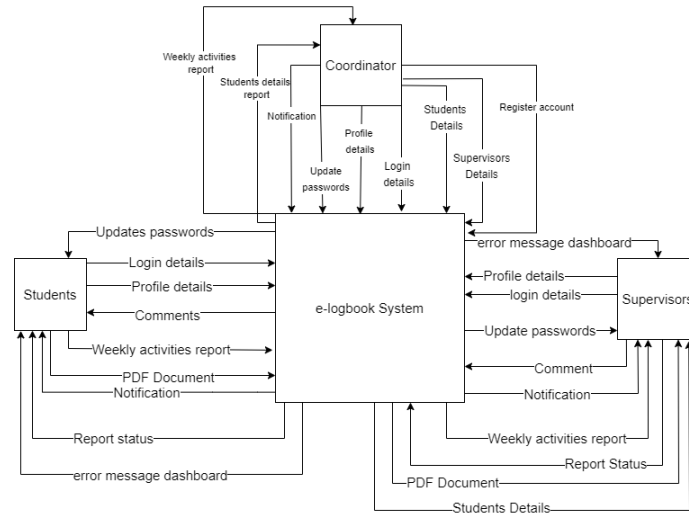


Figure 3 Context Diagram of the proposed system

4.2 System design

The design of the system can be demonstrated by constructing a wire frame for the system. A wire frame is a diagram that shows how the content and features on a page are designed. Figure 4 shows one of the user interfaces that has been designed for the system. It is a user interface design for activity reports perform student interface. The activity report format with the date, discussion, task, status and comments of the supervisor will be displayed and there is a button in this section which is the send report button and a link to the supervisor report session for review. Supervisor status input and comments will be transferred to the student report details. If the lecturer has received the report, the confirmed status will be displayed in the details section of the report.

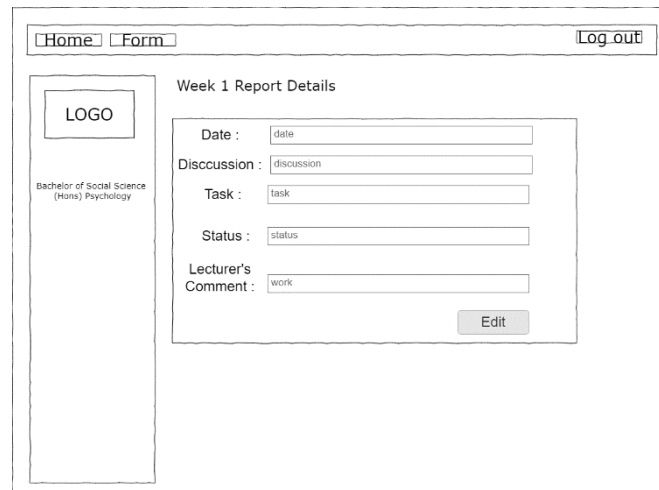


Figure 4 Design of student user interface report details

5. Implementation and testing of the system

In this section, the implementation of the system will be shown with the actual user interface and segments of the system code will be specified. System testing that includes test plans and user acceptance testing will be discussed. The e-logbook system for FAS is developed using scripting languages, for example, PHP, JavaScript, HTML and CSS. While MySQL is selected as the database.

5.1 System implementation

The system implementation in this section is shown by displaying the system interface and system code segments. Figure 5 shows the login interface for the coordinator while Figure 6 shows the code segment for the login function.

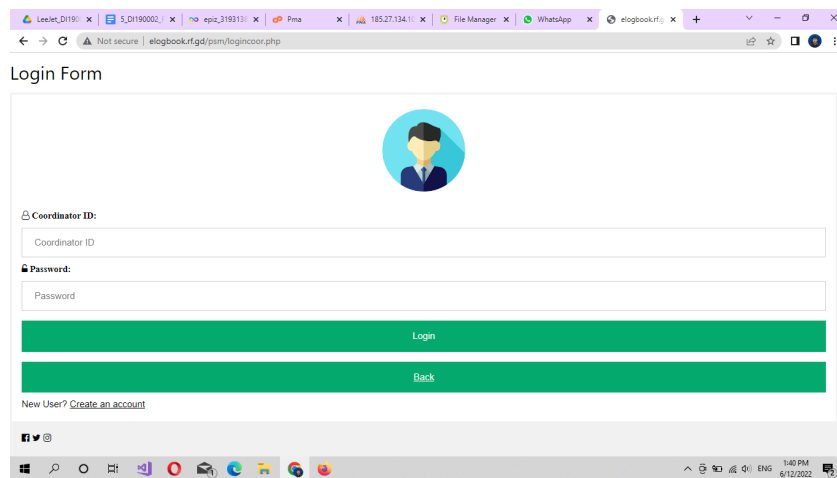


Figure 5 Login interface for the coordinator

```
<?php
include("pageserver.php");
session_start();

if($_SERVER["REQUEST_METHOD"] == "POST") {
    // username and password sent from form

    $myusername = mysqli_real_escape_string($db,$_POST['login_user']);
    $mypassword = mysqli_real_escape_string($db,$_POST['password1']);

    $sql = "SELECT Idstaff FROM coordinator WHERE Idstaff = '$myusername' and Coordinator_passwords = '$mypassword'";
    $result = mysqli_query($db,$sql);
    $row = mysqli_fetch_array($result,MYSQLI_ASSOC);
    //$active = $row['active'];

    $count = mysqli_num_rows($result);

    // If result matched $myusername and $mypassword, table row must be 1 row

    if($count == 1) {
        //echo "$myusername";
        //session_register("myusername");
        $_SESSION['login_user'] = $myusername;
        header("location: profilecoor.php");
    }else {
        $error = "Your Login Name or Password is invalid";
        header("location: wrongpass.php");
    }
}
```

Figure 6 Code segment for the login process for the coordinator

Figure 7 shows the coordinator interface for the student information registration function. The coordinator needs to enter the student’s name, matrix number and password as well as enter details for student group registration. When the submit button is clicked, the details are saved into the PhpMyAdmin database. Figure 8 shows the code segment for student registration. In this interface, the coordinator only needs to enter the student name, matrix number, email and set a default password. The student matrix number will be set as the default password and after the student first logs into the system, they can change it themselves.

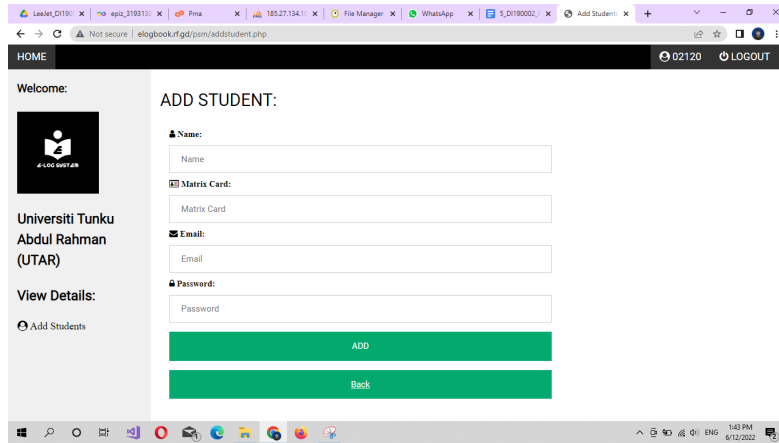


Figure 7 Coordinator interface for the student information registration function

```
<?php
$servername = "sql100.epizy.com";
$username = "epiz_31931388";
$password = "xs7rjAXjj2kd";
$dbname = "epiz_31931388_psm";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
include('sessionprofilecoor.php');
if($_SERVER["REQUEST_METHOD"] == "POST") {
    $Stud_name= $_POST ["login_user"];
    $Matrix_card= $_POST ["card"];
    $Stud_email= $_POST ["email"];
    $Stud_password= $_POST ["password"];

    $sql = "Insert INTO student (Stud_name, Matrix_card, Stud_email, Stud_password)
VALUES ('$Stud_name', '$Matrix_card', '$Stud_email', '$Stud_password')";
    if (mysqli_query($conn, $sql)) {
        echo"<script>alert('Successful Add Student')</script>";
    }
    else {
        echo "Error: " . $sql . "<br>" . mysqli_error($conn);
    }
}
$conn->close();
?>
```

Figure 8 Code segment for student information registration function

Figure 9 shows the student interface for the default password update function if the student first logs into the system. Students need to enter the default password set by the coordinator. After that, students need to enter the latest password and enter the latest password for the second time to ensure that the password to be used is correct. Figure 10 shows the code segment for the default password update function.

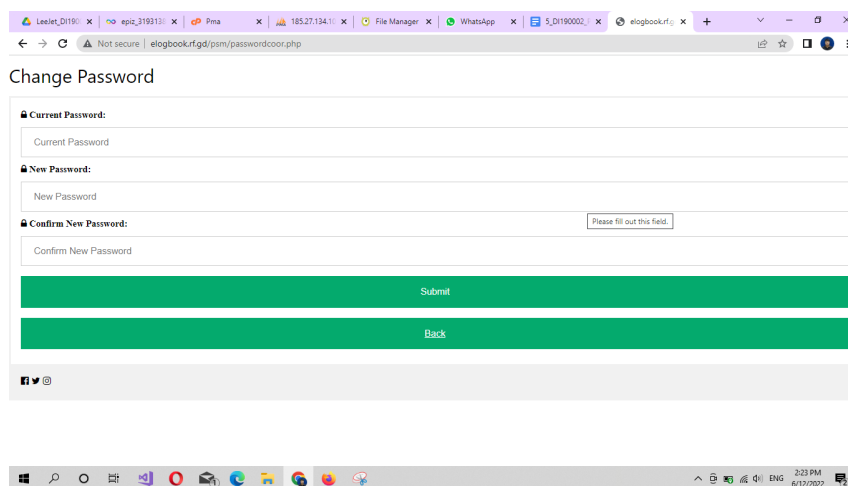


Figure 9 Student interface for the default password update function

```
<?php
include("pageserver.php");
session_start();
if($_SERVER["REQUEST_METHOD"] == "POST") {
    //Myusername=mysqli_real_escape_string($db,$_POST['kadMatrix']);
    $password = mysqli_real_escape_string($db,$_POST['password1']);
    $newpassword = mysqli_real_escape_string($db,$_POST['newpassword1']);
    $confirmnewpassword = mysqli_real_escape_string($db,$_POST['confirmnewpassword1']);
    $user= $_SESSION["login_user"];
    $sql = "SELECT coordinator_passwords FROM coordinator WHERE Idstaff = '$user'and coordinator_passwords = '$password'";
    $result = mysqli_query($db,$sql);
    $row = mysqli_fetch_array($result,MYSQLI_ASSOC);
    // $active = $row['active'];

    $count = mysqli_num_rows($result);
    if($count == 1) {
        if ($newpassword==$confirmnewpassword){
            $s = "UPDATE coordinator SET Coordinator_passwords = '$newpassword' WHERE Idstaff = '$user'";
            $result1 = mysqli_query($db,$s);
            // $row = mysqli_fetch_array($result1,MYSQLI_ASSOC);
            // $count1 = mysqli_num_rows($result1);
            if ($result1 == 1)
            {
                echo"<script>alert('Password Changed')</script>" ;
                //header("location: password.php");
            }
            else
            {
                echo"<script>alert('New password and Confirm password not match')</script>" ;
            }
        }
        else
        {
            echo"<script>alert('Old password not match')</script>";
        }
    }
}
?>
```

Figure 10 Code segment for the default password update function

Figure 11 shows an interface where students can fill in the details of the weekly activity progress report and there is a submit button to submit the report to the supervisor for further review. Students need to fill in the date, week, notes and assignments of the activity progress report. Figure 12 shows the code segment of the report interface uploaded for students.

Figure 11 Interface of student weekly activity progress report details

```

<?php
$servername = "sql190.epizy.com";
$username = "epiz_31931388";
$password = "x577jxj12kq";
$dbname = "epiz_31931388_db";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

include('sessionstudent.php');
if($SERVER["REQUEST_METHOD"] == "POST") {
    $date = $_POST["date"];
    $week = $_POST["week"];
    $matrix = $_POST["matrix"];
    $discuss = $_POST["discuss"];
    $personal = $_POST["personal"];
    $user = $_SESSION["login_user"];
    $sql = "insert into form (matrix_card, report_date, report_week, report_note, report_task)
    values ('$matrix', '$week', '$discuss', '$personal')";
    if ($conn->multi_query($sql) == TRUE) {
        if ($conn->multi_query($sql) == TRUE) {
            echo"<script>alert('New records created successfully')</script>";
        } else {
            echo"<script>alert('You insert wrong week')</script>";
        }
    }
}

$conn->close();
?>
    
```

Figure 12 Interface code segment reports student weekly activity progress

Figure 13 shows the interface where the supervisor can check the details of the student report whether accepting or rejecting while Figure 14 shows the code segment of the supervisor interface checking the details of the student whether accepting or rejecting. Figure 15 shows the supervisor interface rejects student report details and needs to provide comments to students while Figure 16 shows the code segment of the supervisor interface rejects student report details and needs to provide comments to students.

Matrix card	Report Week	Report Date	Note	Task	Reject Reason	Status	Approve	Reject
DI190002	1	2022-06-07	note week1 (edit)	task week1 (edit)		Approve	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DI190002	2	2022-06-09	bab 2 - sistem to do	bab 2 - sistem		Approve	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 13 The supervisor interface reviews the student’s weekly activity progress report

```

<?php
include "dbConn.php"; // Using database connection file here

$records = mysqli_query($db,"select * from form WHERE Matrix_card ='login_session4'"); // fetch data from database

while($data = mysqli_fetch_array($records))
{
    >>
    <tr>
    <td><?php echo $data['Matrix_card']; ?></td>
    <td><?php echo $data['Report_week']; ?></td>
    <td><?php echo $data['Report_date']; ?></td>
    <td><?php echo $data['Report_note']; ?></td>
    <td><?php echo $data['Report_task']; ?></td>
    <td><?php echo $data['Report_comment']; ?></td>
    <td><?php echo $data['Report_status']; ?></td>
    <td><i class="fa fa-check-square"></i><a href="approveform2.php?Report_week=<?php echo $data['Report_week']; ?>"> Approve</a></td>
    <td><i class="fa fa-times-circle"></i><a href="rejectform2.php?Report_week=<?php echo $data['Report_week']; ?>"> Reject</a></td>
    </tr>
<?php
}
    
```

Figure 14 Supervisor code segment reviews the student’s weekly activity progress report

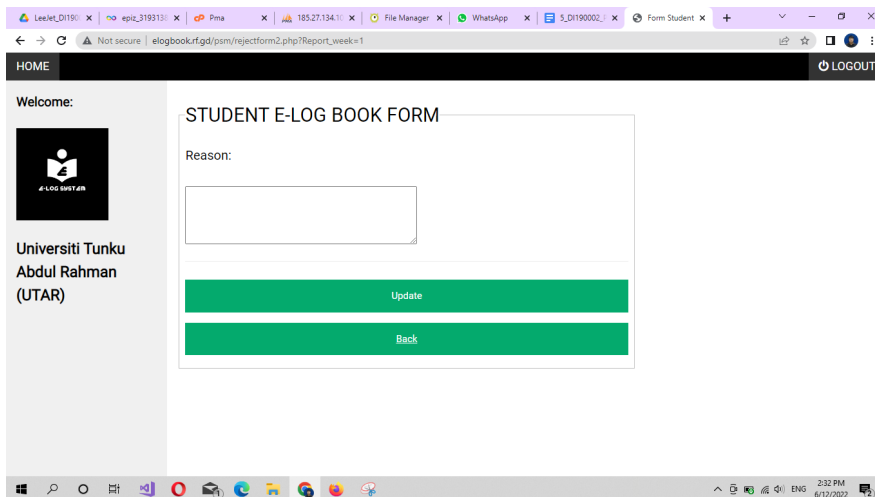


Figure 15 Interface of supervisor rejects the report and provides comments

```

<?php
include "dbConn.php"; // Using database connection file here

$Report_week= $_GET['Report_week']; // get id through query string

$query = mysqli_query($db,"select * from form where Report_week='$Report_week'"); // select query

$data = mysqli_fetch_array($query); // fetch data
include('sessionsuper.php');
if(isset($_POST['update'])) // when click on update button
{
    $Report_comment = $_POST['Report_comment'];

    $edit = mysqli_query($db,"update form set Report_comment ='$Report_comment' where Report_week='$Report_week' AND Matrix_card ='login_session4'");

    if($edit)
    {
        mysqli_close($db); // Close connection
        header("location:editformstudent2.php"); // redirects to all records page
        exit;
    }
    else
    {
        echo mysqli_error();
    }
}
}
    
```

Figure 16 Code segment Supervisor rejects the report and provides comments

Figure 17 shows the interface where the coordinator can fill in the supervisor ID and the matrix number of the student under his supervision while Figure 18 shows the interface code segment where the coordinator can fill in the supervisor ID and the matrix number of the student under his supervision. Once the coordinator successfully assigns a group of students to the supervisor, students can check the name of the supervisor in the student account interface. Figure 19 shows the interface of the student account that can check the name of the supervisor while Figure 20 shows the interface of the main page of the supervisor which contains a list of student matrix numbers.

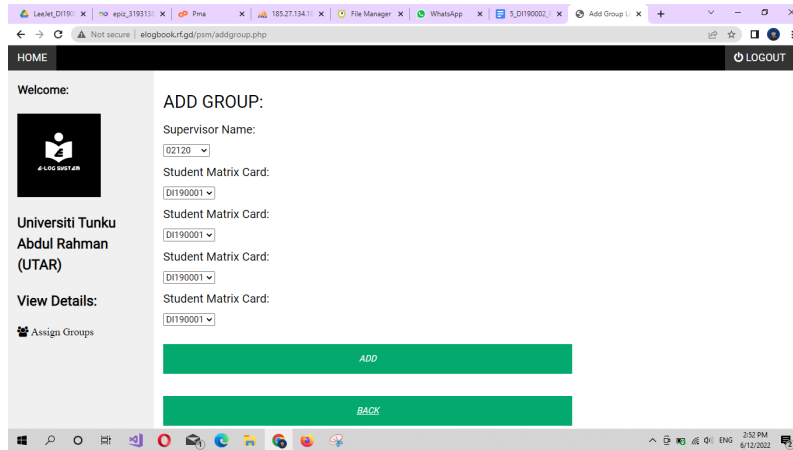


Figure 17 Interface of student group determination to supervisor

```
<?php
include('sessionaddgroup.php');
$servername = "sql100.epizy.com";
$username = "epiz_31931388";
$password = "xs7rjAXjj2kd";
$dbname = "epiz_31931388_psm";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
//include('sessionfrom.php');
if($_SERVER["REQUEST_METHOD"] == "POST") {
    // $coordination= $_POST ["coordination"];
    $supervisor= $_POST ["supervisor"];
    $studentname1= $_POST ["studentname1"];
    $studentname2= $_POST ["studentname2"];
    $studentname3= $_POST ["studentname3"];
    $studentname4= $_POST ["studentname4"];

    $sql = "insert INTO detailstudent(staffID, Stud1_Info, Stud2_Info, Stud3_Info, Stud4_Info)
VALUES ('$supervisor', '$studentname1', '$studentname2', '$studentname3', '$studentname4')";
    if (mysqli_query($conn, $sql) ) {
        echo"<script>alert('Successful Add Group')</script>";
    } else {
        echo "Error: " . $sql . "<br>" . mysqli_error($conn);
    }
}
$conn->close();
?>
```

Figure 18 Segment code of student group determination to supervisor

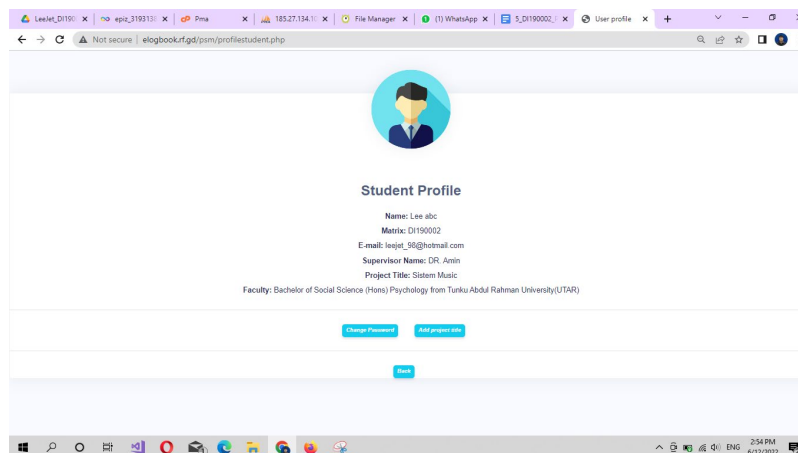


Figure 19 Student account interface containing supervisor name

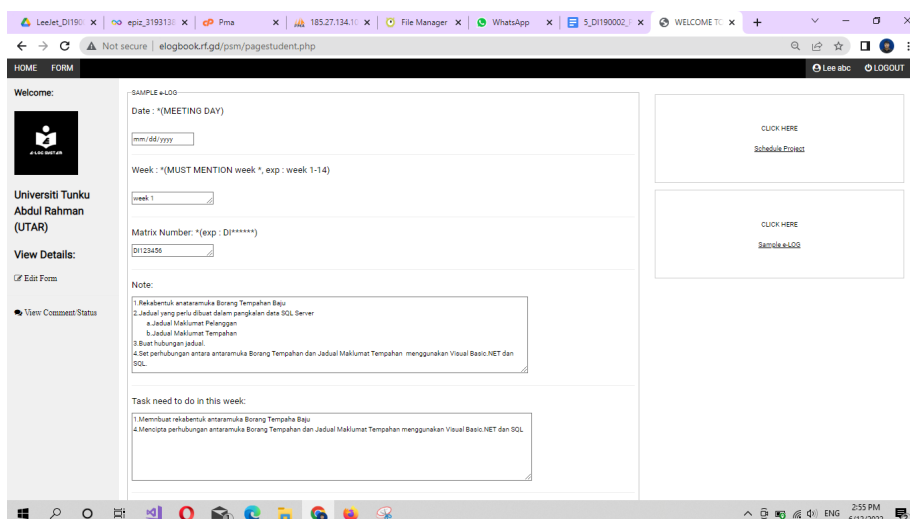


Figure 20 Supervisor page interface containing a list of student matrix numbers

5.2 System testing

In system testing, functionality testing and user acceptance testing are conducted. System testing for the e-logbook system is conducted to ensure that the system works well and smoothly and to avoid large bugs and errors while the system is in use. The system is tested to ensure that the expectations and objectives of the developed system have been achieved accordingly.

5.2.1 Functional testing

A test plan is a document that outlines the parts and actions of a system test. A test plan is used to perform tests for a developed system to check whether the system is satisfactory and obtain its design considerations and requirements. Due to the limitations of this paper, only two test plan tables will be shown and discussed. Table 3 and Table 4 show the test plans carried out for the login and report submission functions in the e-logbook System.

Table 3 Test plan for login function

No	Test Case	Expected Result	Actual Result
1.	Enter an invalid matrix number and password.	Error message display and incorrect matrix/ password number.	Error message display and incorrect matrix/ password number.
2.	Press the login button without entering a matrix number or password.	Display a warning message to fill in that specific field.	Display a warning message to fill in that specific field.

3.	Enter a valid and correct matrix number and password.	Login successful and to the dashboard.	Login successful and to the dashboard.
----	---	--	--

Table 4 Test plan for report submission function

No	Test Case	Expected Result	Actual Result
1.	Submit the PSM Progress Report without filling in all the required details in the form	Display "please fill in this field" warning message	Display "please fill in this field" warning message
2.	Submit the full PSM Progress Report with valid input.	Display the message "New record successfully created".	Display the message "New record successfully created".
4.	Check the status of the PSM Progress Report	Display the status of each report made including comments given by the supervisor.	Display the status of each report made including comments given by the supervisor.
5.	Manage student reports	Change the status of the PSM progress report from waiting to approve or reject and add comments on whether or not to reject.	Change the status of the PSM progress report from waiting to approve or reject and add comments on whether or not to reject.

The results of the test plan of the login function and the submission report function have been described as above. From the results of the test plan, it can be concluded that the actual output of the function is equal to the expected output. For example, when a supervisor enters an invalid employee ID and password, an error message will be displayed by the system.

5.2.2 User Acceptance Test

User Acceptance Test (UAT) is a type of system test in which end users evaluate and validate a developed software system. User acceptance testing is the final phase of testing in system development. User acceptance testing can ensure that system expectations have been exceeded and met from the end -user perspective [10]. Figure 21 shows the user acceptance results for the text in the interface. There were 15 respondents (83.3%) who were very satisfied while 3 (16.7%) of them were satisfied with the interface design. 13 out of 18 respondents (72.2%) felt very satisfied with the system interface and the remaining 5 (27.8%) were satisfied. From the results, there are 12 students (66.7%) as respondents are very satisfied and 6 students (33.3%) are satisfied with the ease of the system to understand. 10 out of 18 respondents (55.6%) voted to be very satisfied and 6 respondents (33.3%) voted to be satisfied with the appropriate use of navigation for the function. 6 respondents (44.4%) felt very satisfied and 10 respondents (55.6%) were satisfied with the convenience of the system to navigate.

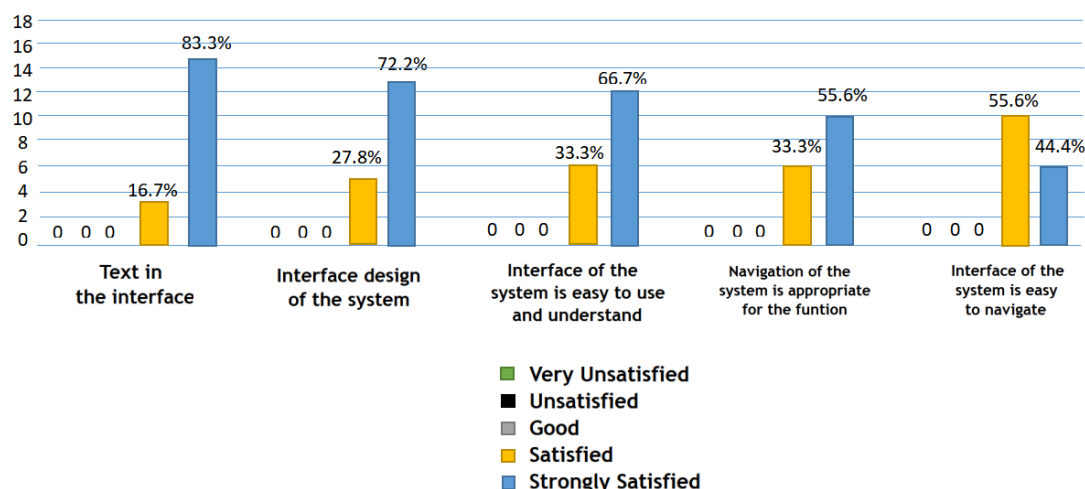


Figure 21 User acceptance test results for the system interface

Based on the results obtained from the graph, the evaluation of user acceptance of users is considered good and above for the system interface of the e-logbook system. Most respondents are very satisfied and satisfied with the system. Respondents voted 4 or 5 for the system interface which can be concluded that users have a good experience after using this system. The system interface design was preferred by 72% of the respondents who voted 5. The text used in the interface got a vote of 5 out of 83% of the respondents which can be inferred because the text used is clear and can be understood by the respondents.

5. Conclusion

The importance of doing this project is to help students improve their efficiency while doing reporting activities for final year projects. The designs that have been completed in the system are homepage for students, supervisors and coordinators, coordinator registration page, weekly report activity page filled in by students, personal account page for three users, student and supervisor information entry page. Students can fill out weekly activity reports in the system and check important notifications from the coordinator. In addition, supervisors are easier to comment and become more systematic in reviewing students' weekly activity reports. Coordinators more systematically manage student and supervisor information. Hopefully the e-logbook system can help students, supervisors, and coordinators in preparing weekly activity reports to replace the method of submission via Whatsapp. It indicates that all system requirements have been successfully met. Although this system was successfully developed, there were also some limitations. For example, coordinators cannot upload notices or information on notice boards, there is no immediate notification to students to inform them. The coordinator shall send a notification email to inform the student of the day of submission of the relevant report. Students may not upload documents in pdf or related pictures.

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