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Web-based Development of Taska Khairiyyah Wafiq Management System

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Abstract: Taska Khairiyyah Wafiq Management System (TKWMS) is a web-based system and it is developed especially for administrators, teachers and parents of Taska Khairiyyah Wafiq. This project is being put up as a solution to the significant issue of manually entering and maintaining staff and children information using traditional method like paper, pen, and files. As a result, the study's aim is to propose and develop a new web-based management system for Taska Khairiyyah Wafiq. Therefore, the system is anticipated to record properly every crucial detail into the system so that it is easy, fast and efficient for the users to carry out their tasks into the system. The system consists of children details, children development progress, children overtime care, teacher details, teacher overtime care and payment. The project was created using an Agile software development model, which involves continuous improvement.

Keywords: web-based, management system, agile model

1. Introduction

A daycare facility called Taska Khairiyyah Wafiq (TKW) is found in Parit Raja, Batu Pahat, Johor. TKW offers childcare for children from birth to age six, and there are now 25 kids enrolled there. Six instructors and two administrators are now employed at TKW. Additionally, activities and learning sessions are offered for the children' development.

Unfortunately, TKW lacks a system to properly document every step of the child care activity or procedure. A manual system of forms and files is used to maintain a list of the children's personal information, medical history, development progress, overtime care, staff record, and payments made. Hence, this manual method leads to several issues and difficulties in the operation and management of TKW. So, the significant problem identified is that the method of storing children's information which is still recorded and managed manually by using forms and files. This traditional method becomes ineffective as the administration have to use handwriting for keeping and recording every important detail of the children.

The next issue is that, the number of forms and files are keep increasing and difficult to be maintained. Besides, this problem also leads to lost or misplace of any important piece of paper as

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sometimes the forms can be misplaced or unexpectedly mixed with any other documents kept by the management. Another problem is that it is time-consuming and difficult to find important documents, especially when it is needed right away. Apart from that, there is no system exist to manage the details of the staffs such as the teachers of TKW. Therefore, it is hard for the parents to know about, and contact the teachers of their children during any emergency. Therefore, a proper management system is required and important in order to manage every part that included in running the TKW.

The development of an effective management system will be a great solution to overcome all the problems faced by TKW. Thus, the objectives of this project are to design a TKWMS for administrator, teachers and parents of TKW. Secondly, to develop a web-based TKWMS for effective child care management. While, the third objective is to test the proposed system functionality and usability.

The rest of the paper will be organized as follows. Section 2 will discuss about the related work which is the research on the current non-computerized management of TKW and the comparison of the characteristics between four existing related systems and the proposed system. Then, section 3 will cover about the methodology used to develop the proposed system as well as system development activities of this project. Lastly, section 4 will describe the system analysis and design which includes structural diagrams such as context diagram, data flow diagram of level 0 and entity relationship diagram.

2. Related Work

2.1 Management System

A management system is a systematic method used by an organization to carry out organizational operations in order to achieve organizational goals [1]. It is based on a thorough collection of instructions and well-designed set of standards. The paper's set of instructions relates to the crucial components necessary to successfully complete organizational operational duties [1]. A management system helps an organization focus on the element of ongoing process improvement, which is essential to the success and longevity of the business [1]. In order to efficiently and properly monitor and control the Information Technology (IT) system, a set of related subsystems must work together. The deliverables and outcomes of the IT system will be easier to create, and employees of a firm will find it easier to adjust to their working environments and perform successfully, when management is properly implemented according to the required processes.

2.2 Current non-computerized management of Taska Khairiyyah Wafiq

TKW offer daycare service for children from birth to age six. However, the operation and management are still using traditional method of recording, storing and keeping important information or data related to the day-to-day functioning of TKW. A proper management system is not implemented to manage the business of TKW.

2.3 Study of existing related systems

Based on the readily constructed systems, research on similar existing systems is conducted. In the course of the study, a few readily constructed systems were analyzed, and four systems were chosen as a guide for the development of TKWMS. Illumine, Procare, myKidzDay and Alphabet House Child Care Centre are the four systems interrelated with the development of the proposed system.

2.3.1 myKidzDay

The myKidzDay is one of the daycare solutions specifically designed for teachers, parents and daycare owners and it is basically a cloud-based system. Parents and child care providers can communicate using the service of this system. Reporting, attendance tracking, daily reports,

notifications and alerts, document sharing, and classroom management are some of the most important functions of myKidzDay.

2.3.2 Illumine

Illumine is an extensive childcare management system that includes all the features needed by daycare. With the help of the child care app, directors and teachers can manage administrative reports, program planning, billing and parent communication. The system also enables teachers and parents to communicate about the shared lesson plans. Besides, parents who use Document Repository can upload their child's immunization, vaccination, and other related records to a document repository within the system.

2.3.3 Procare

Procare is excellent for running the entire daycare, enhancing parent-child interactions, and automating the payment process. For example, the parent communication plugin assists in improving classroom management, tracking in-class activities and developmental milestones, engaging parents in communication, assuring parents of their children's safety and security, and allowing them to fill required documentation digitally using the eDocuments function.

2.3.4 Alphabet House Child Care Centre

Alphabet House Child Care Centre offers daycare for kids between the ages of one to four. Additionally, there is an after-school program available for kids between the ages of 5 to 12. However, the child care facility currently lacks an effective management structure. As a result, they keep all records manually. Facebook is also utilized as a platform to publish or update any new information about how the child care facility is run, including its operating hours and the daily activities of the kids.

Table 1: Comparison with existing systems

System Features	myKidzDay	Illumine	Procare	Alphabet House Child Care Centre	Proposed System
Login	/	/	/	x	/
Admin panel	/	/	/	x	/
Parent panel	/	/	/	x	/
Health update	/	/	/	x	/
Payment panel	/	/	/	x	/
Cost effective	/	/	/	x	/
Cloud-based	/	/	/	x	x
Mobile app	/	/	/	x	x
Overtime care update	x	x	x	x	/
Development Progress update	x	x	/	x	/

According to Table 1, as compared to the four other existing systems, the features that are compared are login, admin panel, parent panel, health update module, payment, cost, type of system whether cloud-based and mobile app based, overtime care update and also development progress update. Based on the comparison, the only feature that the proposed system does not have is it is not a

cloud-based and also not in the form of mobile app. This is due to the users are more familiar and easier for them to use a web-based system at the earlier stage before migrating into a mobile app system. Besides, the developed system has its own advantages in terms of its overtime care update module. The TKWMS has overtime care module for both children as well as the teacher to calculate their overtime care payment, while, the other existing systems do not have this feature. Besides, TKWMS also have its added value in terms of the development progress module, where compared to other three existing system only Procare has this feature. TKWMS allows the teachers to update the progress of the children based on the assessments carried out and also the parents are allowed to make review about the progress of their children according to the teacher's review.

3. Methodology

Methodology is a set of guidelines known as software development process, applied to all the phases that must be addressed for software development to be successful [7]. The methodology used to develop the TKWMS is Agile Software Development. One of the finest methods for developing software is the agile software development methodology, which is utilized to create a structured software management process that permits frequent project modification [3]. Agile project management is a current concept that refers to an iterative strategy to controlling software development projects that emphasizes flexible and continuous releases and incorporates client feedback into each individual project activity [4]. Agile approaches' original objective is to lower the overhead in the software development process while enabling the adoption of changes without endangering the process or requiring unnecessary rework [2]. Agile Software Development Model which has five phases which are planning phase, design phase, develop phase, testing phase and lastly deploy phase [6]. This model is important and it is chosen in building the system in order to specify and manage the tasks efficiently as this methodology allows continuous project changes. The first sprint of the agile model includes all the phases that are required in development of TKWMS.

The planning phase involves the reason for developing and selecting the title of the system to be built based on the issue highlighted in TKW. Besides, an interview is conducted with the administrator to collect the data and identify issues that lead to the development of the system. Then, in order to propose the title to panels and obtain clearance to move further with the development, this phase also comprises proposal creation and discussion with the project supervisor. Additionally, each problem statement is carefully analyzed in order to determine the most specific goals to accomplish. Additionally, the system's scope and significant modules that will work inside it are defined and described. Later, in the design phase the sketching of storyboard for the entire system is carried out. Besides, as this project uses a structured approach, the context diagram (CD), and data flow diagram (DFD) are designed or used to display the processes that occur in the developed system. In addition, the design of database using entity relationship diagram (ERD), the relationship schemas and data dictionaries are designed in this phase in order to further visualize the flow of the system.

Next, the development phase involves the process of coding using programming languages such as Hypertext Preprocessor (PHP), Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) using Visual Studio Code. In addition, the database was created using MySQL and phpMyAdmin. At the testing phase each module and their functionality as well as usability are tested in order to make sure it is complete and to identify and fix any errors and software or hardware bug. The final stage is the deploy phase where the TKWMS will be deployed or utilized at TKW once the system has undergone testing. To make management and operation of TKW easier, the system will be used and accessed by the administrators, teachers, and parents of TKW. The second sprint of the agile model consist of the same stages as those in the first sprint, however in this second sprint, each phase that has been executed has been improved.

3.1 System Development Workflow

Table 2 shows the system development activities and their output. Each activity in each of the phase has been listed along with the output of the activities.

Table 2: System development activities and their output

Phases	Task	Output
Planning	• Collect data through interview and analyze the data in detail. • Identify the problem statements that lead to the development of the system. • Create the title of project. • List the objectives, scopes and suitable methodology for the project.	• Project proposal. • Discussion with supervisor about the proposed project. • Gantt Chart • Presenting proposed title to panels.
Design	• Sketch the storyboard of the system. • Design the CD, DFD, ERD and schema table.	• Designing storyboard and interfaces of system. • Designing CD, DFD, ERD and schema table.
Develop	• Create database. • Write the codes based on specified languages.	• Database building using MySQL and phpMyAdmin. • Codes development.
Testing	• Carry out testing on system and also user testing.	• Fixing errors. • Provide testing form to the user.
Deploy	• Implement or launch system in the prospective place for the users to use it.	• TKWMS is used for the management and operation of TKW

4. Results and Discussion

System analysis is the process of gathering verifiable facts, comprehending the processes involved, detecting issues, and making workable recommendations for enhancing the system's performance. It aims to create new, effective systems that meet user needs presently and have room for growth in the future while still operating within organizational constraints [5]. Because of this, a system requirement analysis is carried out in order to better understand their requirements and develop a TKWMS that would fulfill their needs. As a result, the functional, non-functional, CD, DFD of level 0 and ERD of the suggested system are described in detail.

4.1 Functional Requirements

Functional requirements, which are internal factors that focus on user demands, define the core system performance. It specifies what the system needs to do and how it has to act in certain circumstances. The functional requirements for TKWMS are thus shown in Table 3 for each operation that the system is capable of doing for each module, including input, processes, and output.

Table 3: Functional requirements of proposed system

Modules	Functionality
Register and login	- A user can register, login, and logout from the system.
Teacher details	- Admin can insert, update and delete details of the teachers of the child care centre. - A teacher can update their details into the system.
Children details	- Admin can insert, update and delete personal details of every child. - Teacher can update the personal details of the children. - Parents can update the personal details of the children.
Children health	- Admin can insert, update and delete health history of every child. - Teacher can view the health history of the children. - Parents can update the health history of the children.
Child development	- Admin can view the development progress of the children. - Teacher can insert, update and delete the development progress of the children. - Parents can view and make comments for their child development progress.
Overtime care	- Admin can insert, update and delete overtime care details for every child and also the teachers.
Payment module	- Admin can view details of payment made by the parents. - Parents can make the monthly payment for their child care.

4.2 Non-Functional Requirements

Non-functional requirements outline the system's behaviour, functionality, and general qualities that affect the user experience. Performance, security, usability, availability, and operational requirements are all analyzed as non-functional requirements. Table 4 show the non-functional requirements for TKWMS.

Table 4: Non-Functional requirements of proposed system

Modules	Description
Performance	The system should operate in not more than 3 user clicks.
Security	The system should only allow the user to log in if they have the correct login credentials.
Usability	The system should provide user-friendly interface to the user where it is easy for them to update every important detail needed by the system.
Availability	The system should be available 24/7, except for scheduled maintenance.

Operational	The system should only function when there is Internet connection.

4.3 Context Diagram

A Context Diagram (CD) serves as a schematic for the complete system. This diagram's objective is to display the system's anticipated inputs and outputs. It shows how a system interacts with the other external elements that it is designed to engage with. An entity is a person, group, or organization that transmits or receives data to and from the system. The administrator, teacher and the parents are the parties engaged in the proposed system. The administrator performs the task of creating, updating and deleting details of the teachers and children for their personal details and overtime care details. The admin also able to insert, update and delete health record of children as well as make the total payment update for monthly payment of every child. Meanwhile, the teachers can update their personal details as well as the children's details into the system. They can also create, update and delete children development report and just view the children health details. On the other hand, parents are allowed to update children's details and make monthly payment. They also can view and review their children's development report as well as view and verify children overtime care details. The context diagram for the suggested system is shown in Figure 1.

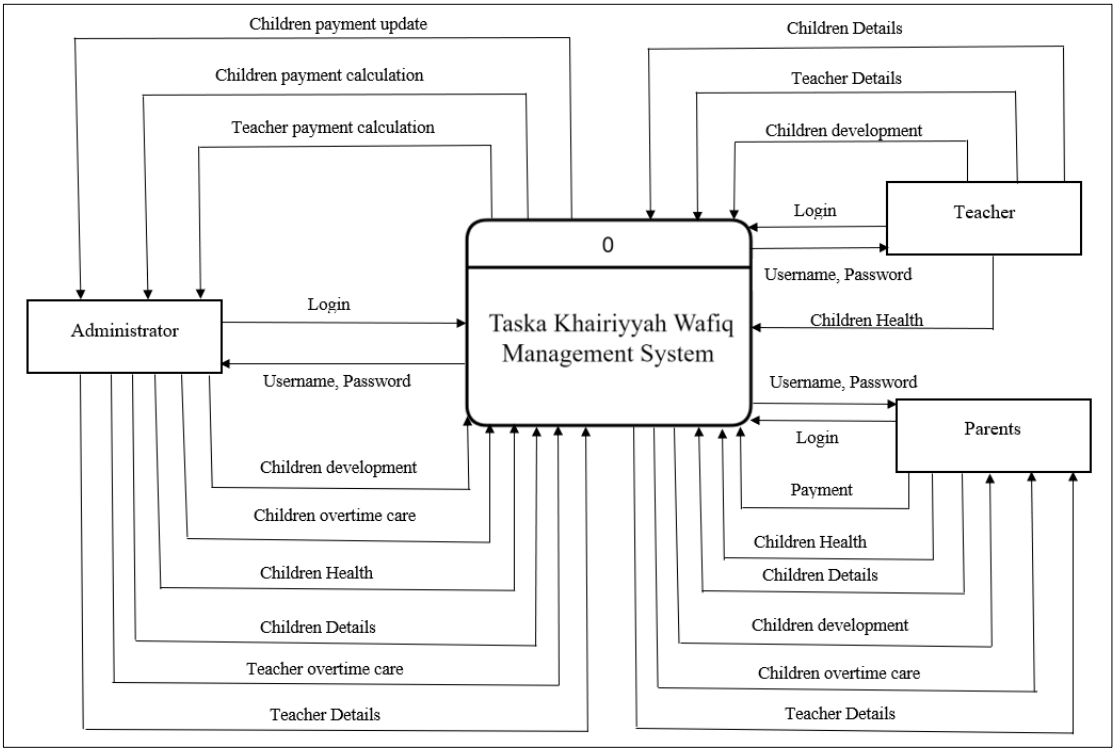

Figure 1: CD of proposed system

4.4 Data Flow Diagram Level 0

Data Flow Diagram (DFD) illustrates the information flow across a system or process. It is employed to describe the data flow throughout the suggested system. DFD provides an output and input-focused illustration of the data processing procedure. All of the processes at the first level of numbering are displayed at DFD level 0, along with data storage, external entities, and data flows between them. Figure 2 displays the proposed system's DFD level 0. The system performs the processes for managing the information of parties involved in the system, and making payment. The admin, teachers and parents are the main users involved in the system with their specific permissions to use the system.

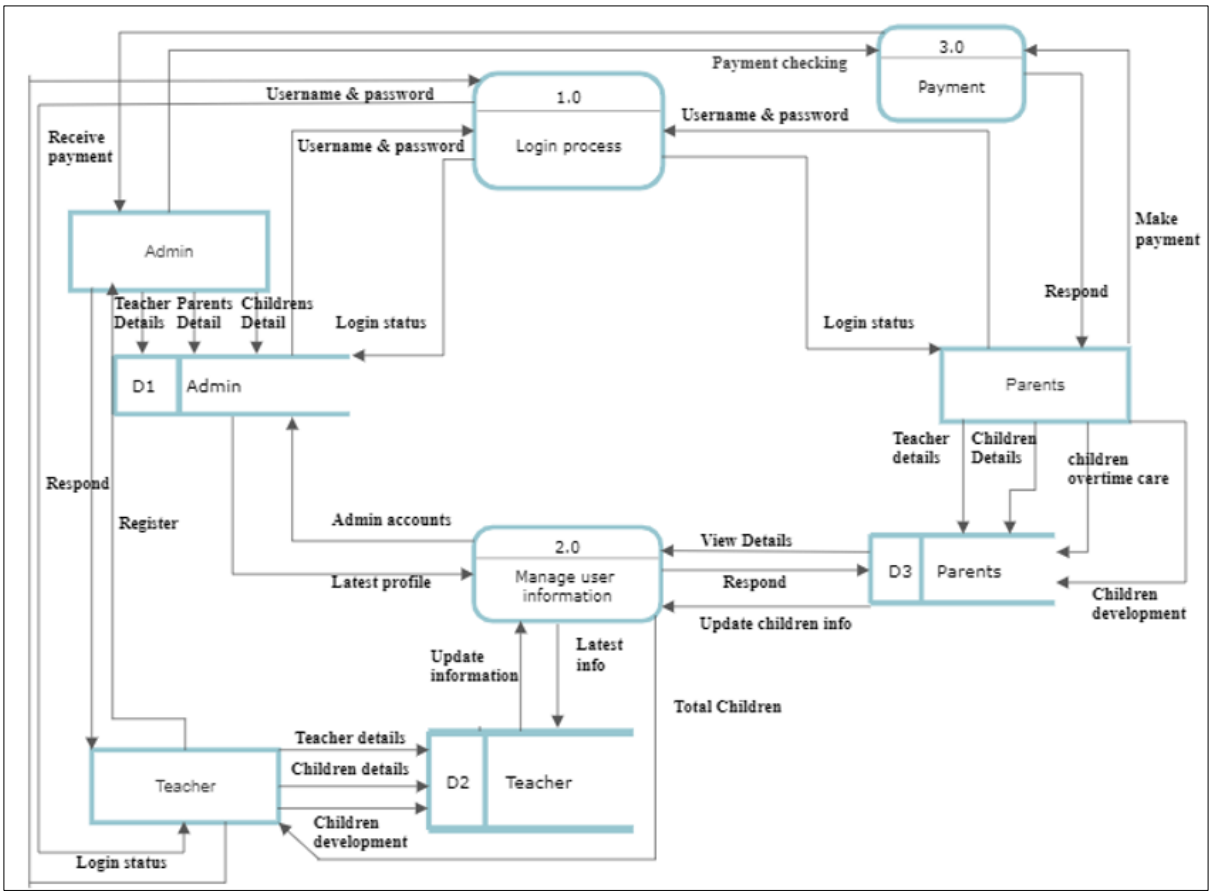

Figure 2: DFD Level 0 of proposed system

4.5 Entity Relationship Diagram

Entity Relationship Diagram (ERD) is a diagram that shows the relationships between entity sets that are recorded in a database. To put it another way, ERD assist in describing the logical organization of databases. Entities, attributes, and relationships are the three fundamental components that serve as the foundation for ERD. Relationship such as one to many is applied in this system. For example, one parent can update one or more children's details. The Figure 4.6 demonstrates the proposed system's ERD.

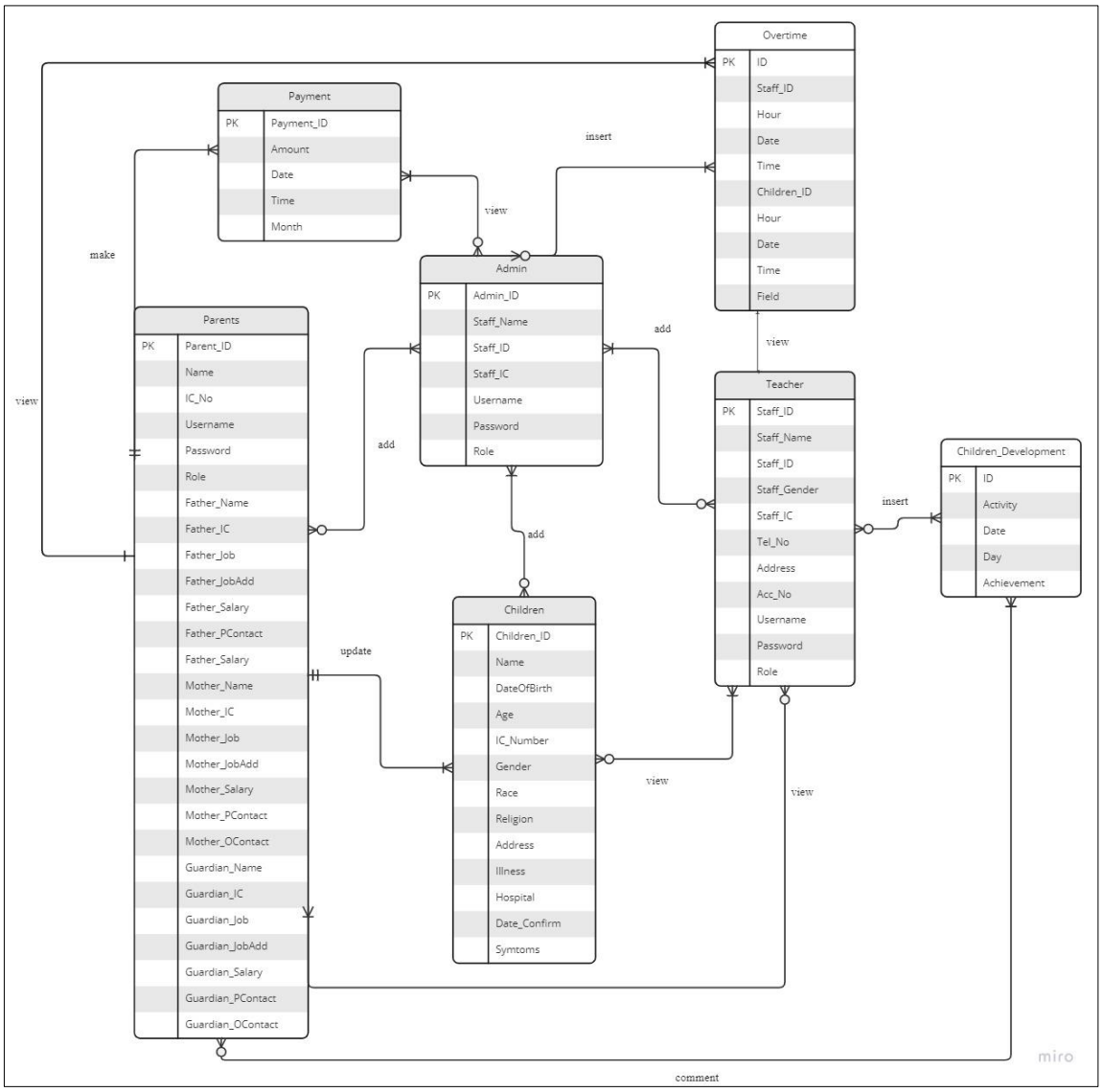

Figure 3: ERD of the proposed system

4.6 Implementation and testing

This section discusses about the implementation of the system based on the software, hardware and also programming languages that includes the system interfaces, code segments in the form of algorithms and test cases of the system.

4.6.1 Admin registration

As shown in Figure 4, this part will create a new account for the admin to use the system. The admin needs to enter all the required credentials such as role, name, staff id, IC number, username and password in order to create the account. Also, Figure 5 shows the code segment's algorithm for admin registration.

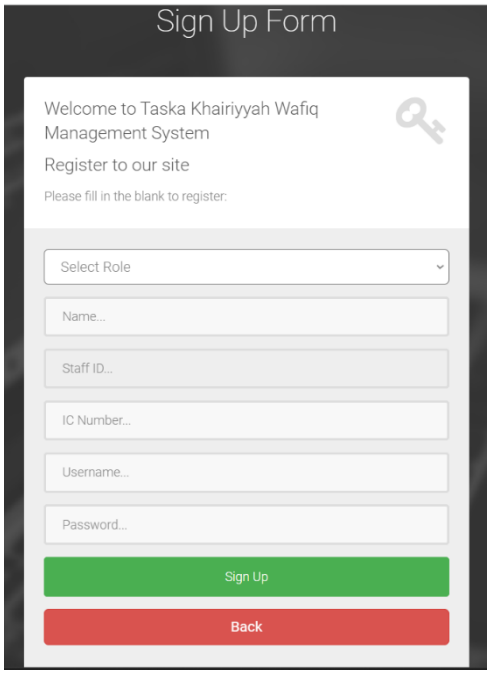

Figure 4: Admin registration interface

Algorithm 1

Start

1. Check for account registration.

```
If user have an account
        Then click 'Login'
Else
        Enter role, name, staff id, ic number, username and password, then
        click on Signup' button.
```

2. Validation check of user inputs for registration.

```
if(isset($_POST['submit']))
{
$Name=$_POST['name']; $StaffId=$_POST['staffid'];
$StaffIc=$_POST['staffic']; $Role=$_POST['role'];
$User=$_POST['username']; $Password=$_POST['password'];

if($Role == "Admin" || $Role == "Teacher")
{
    $sql1="INSERT INTO register_staff(id, Staff_Name, Staff_ID, Staff_IC,
    Username,Password,Role)VALUES('','$Name','$StaffId',
   '$StaffIc','$User','$Password','$Role')";

    $sql2="INSERT INTO login(id, Username, Password, Role)
    VALUES('','$User','$Password','$Role')";

    $sql3="INSERT INTO staff_detail(id, Staff_Name, Staff_ID, Staff_IC)
    VALUES('','$Name','$StaffId','$StaffIc')";
```

3. Create a new user in database if needed.

End

Figure 5: Algorithm for admin registration

4.6.2 Admin login

The login interface and code segment's algorithm of the interface is shown in Figure 6 and Figure 7 respectively. According to the interface, the admin needs to enter their username and password to login into the system.

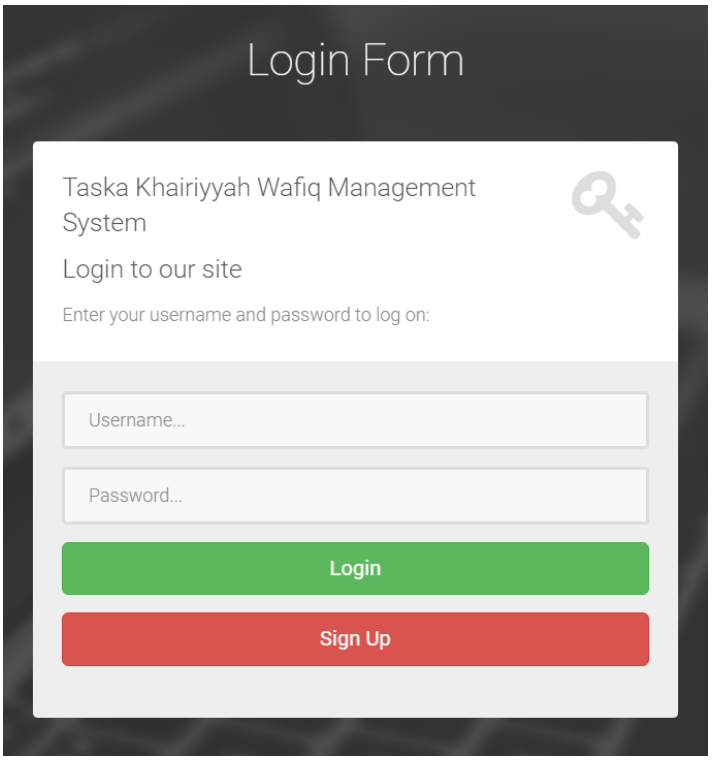

Figure 6: Login interface for admin

Algorithm 2
Start
1. Login into the system if an account already existed.
2. Check the login credentials.

```
  if(isset($_GET['Notify'])){
    if($_GET['Notify'] == "failed"){
    }else if($_GET['Notify'] == "logout"){
    }else if($_GET['Notify'] == "not_login"){
        echo "please login";
    }
}
```

3. Enter the correct username and password.
4. Click on 'Login'.

End

Figure 7: Algorithm for login interface

4.6.3 Children details

Children details are entered by admin into the system based on the interface shown in Figure 8. The algorithm of code segment for children's details is shown in Figure 9 below.

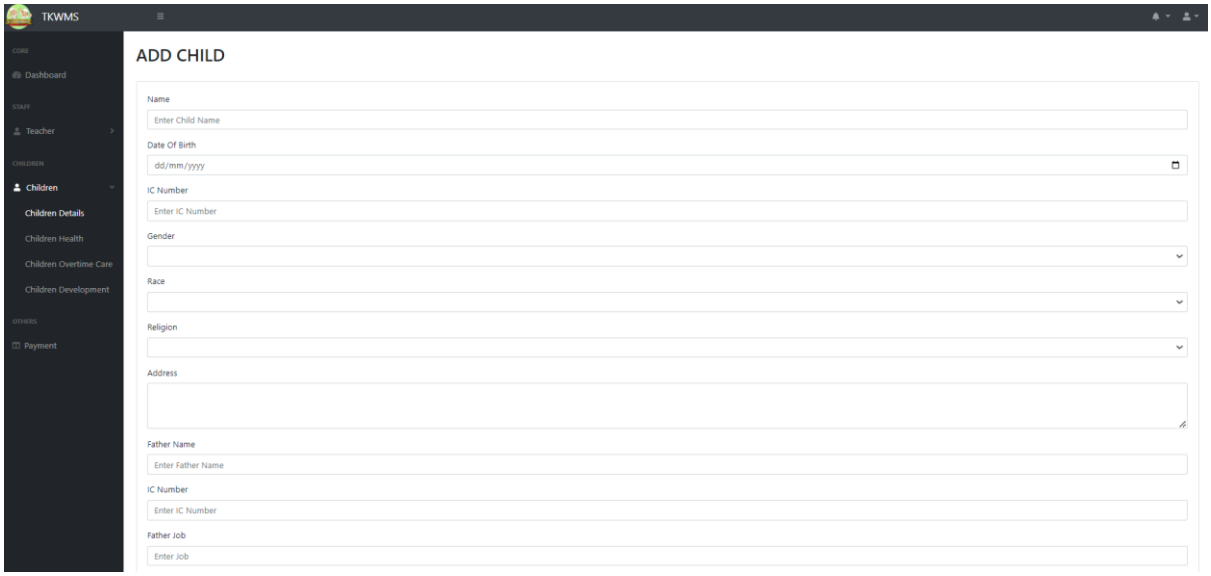

Figure 8: Interface to insert children details

Algorithm 3

Start

1. Add a new child detail into the system.

```
if(isset($_POST['submit']))
{
    $Name=$_POST['name']; $DOB=$_POST['datebirth']; $Ic=$_POST['icNo'];
    $Gender=$_POST['gender']; $Race=$_POST['race']; $Religion=$_POST['religion'];
    $Address=$_POST['address']; $FName=$_POST['fname']; $FIC=$_POST['fic'];
    $sql1="INSERT INTO children_detail(id, Name, DateOfBirth, IC_Number,
    Gender, Race, Religion, Address, Father_Name, Father_IC, Father_Job,
    Father_JobAdd, Father_Salary, Father_PContact, Father_OContact,
    Mother_Name, Mother_IC, Mother_Job, Mother_JobAdd, Mother_Salary,
    Mother_PContact, Mother_OContact, Guardian_Name, Guardian_IC,
    Guardian_Job, Guardian_JobAdd, Guardian_Salary, Guardian_PContact,
    Guardian_OContact);
```

2. Edit the details of the children in the system.

```
    if(isset($_POST['submit']))
{   $Name=$_POST['name']; $DOB=$_POST['datebirth']; $IC=$_POST['icNo'];
    $Gender=$_POST['gender']; $Race=$_POST['race']; $Religion=$_POST['religion'];
    $Address=$_POST['address'];
```

3. Click Save.

End

Figure 9: Algorithm to insert new children details

4.6.4 Teacher Details

As shown in Figure 10 below, the interface is built for teachers to view and update their details. The code written to build the teacher details interface are shown in Figure 11 below.

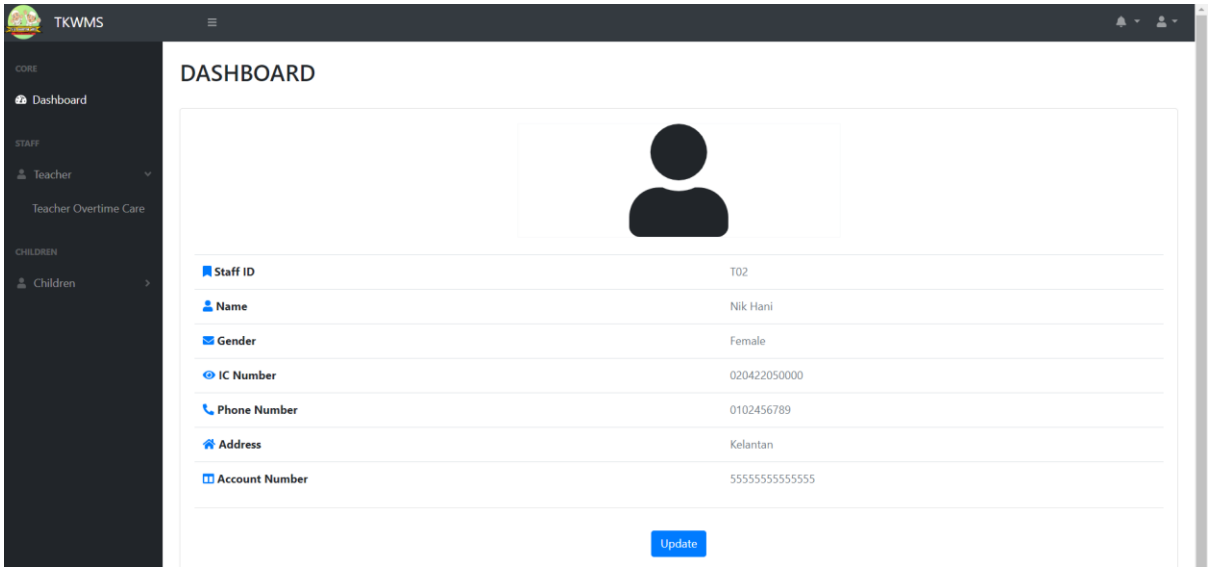

Figure 10: Interface of teacher details

Algorithm 4

Start

1. Add a new teacher detail into the system.

```
if(isset($_POST['submit']))
{
    $Name=$_POST['name']; $StaffId=$_POST['staffid']; $StaffIc=$_POST['staffic'];
    $Gender=$_POST['gender']; $PhoneNumber=$_POST['PhoneNumber'];
    $AccNo=$_POST['accNo']; $BName=$_POST['bankname']; $Username=$_POST['username'];
    $Role=$_POST['role']; $Password=$_POST['password'];
    $sql1="INSERT INTO staff_detail(id, Staff_Name, Staff_ID, Staff_IC,
    Staff_Gender, Tel_No,
    Address, Acc_No, BankName) VALUES('','$Name','$StaffId','$StaffIc',
   '$Gender','$PhoneNumber','$Address','$AccNo','$BName')";
```

2. Edit the details of the teacher in the system.

```
     if(isset($_POST['submit']))
{    $Name=$_POST['name']; $StaffId=$_POST['staffid'];
    $AccNo=$_POST['accNo']; $BName=$_POST['bankname'];
```

3. Click Save.

End

Figure 11: Algorithm of teacher details interface

4.6.5 Children health

The interface for the children's health details such as disease type, treatment place, disease confirmed date, symptoms and parents or guardian's statement is as shown in the Figure 12 below. Meanwhile, the algorithm of the code segment for the interface is shown in Figure 13.

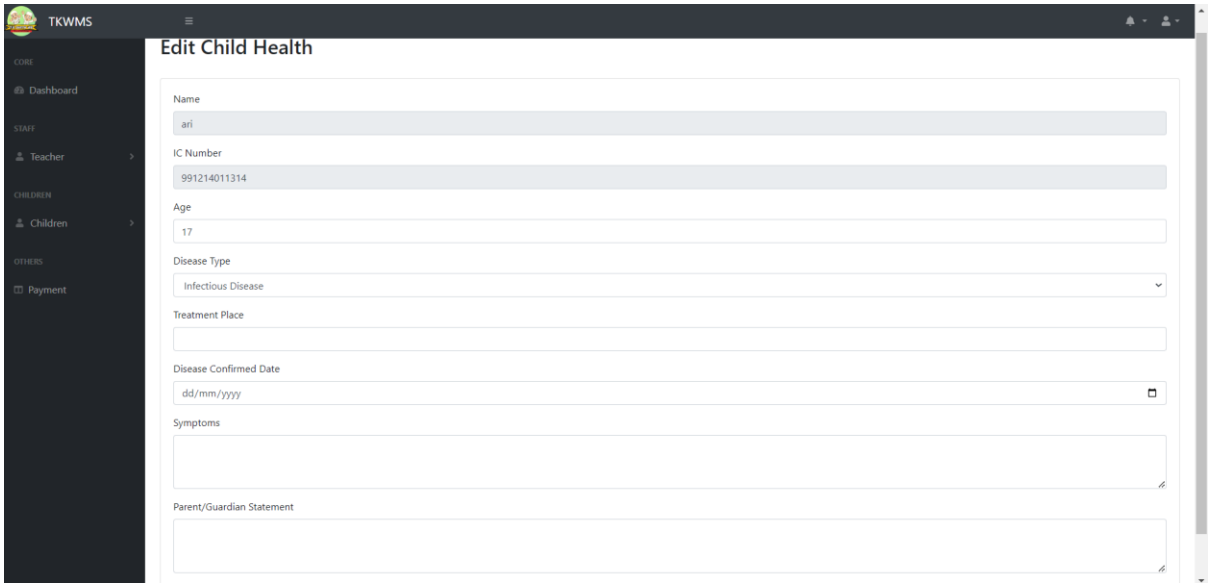

Figure 12: Interface to update children's health details

Algorithm 5

Start

1. Click on the child name appeared to enter the health details of the child.

```
<?php
$count=1;
$query="Select * from children_detail JOIN children_health ON
children_detail.IC_Number = children_health.IC_Number  ORDER BY
children_detail.id DESC";
$result=mysqli_query($connection,$query);
```

2. Edit the details of the children health in the system.

```
if(isset($_POST['submit'])){
 $Name=$_POST['name']; $Age=$_POST['age']; $IC=$_POST['ic'];
 $DType=$_POST['dtype']; $TreatPlace=$_POST['treatplace'];
 $ConfDate=$_POST['confdate']; $Symptoms=$_POST['symptoms'];
 $Statement=$_POST['statement'];

 $sql1="UPDATE children_health SET Age = '$Age', DiseaseType = '$DType',
 TreatmentPlace = '$TreatPlace', DiseaseConfirmDate = '$ConfDate',
 Symptoms = '$Symptoms', Statement = '$Statement' WHERE IC_Number =
 '$IC'";
 $query1=mysqli_query($connection,$sql1);
 if($query1>0)
```

3. Click Save.

End

Figure 13: Algorithm for entering children's health details

4.6.6 Children overtime care

Figure 14 below shows the interface to calculate and display children overtime care. Based on the interface the admin can easily calculate the total payment that need to be made by a parent for a specific month for a child. The system calculates and displays the total overtime care along with total payment to be made. Figure 15 shows the code snippet's algorithm for the respected interface.

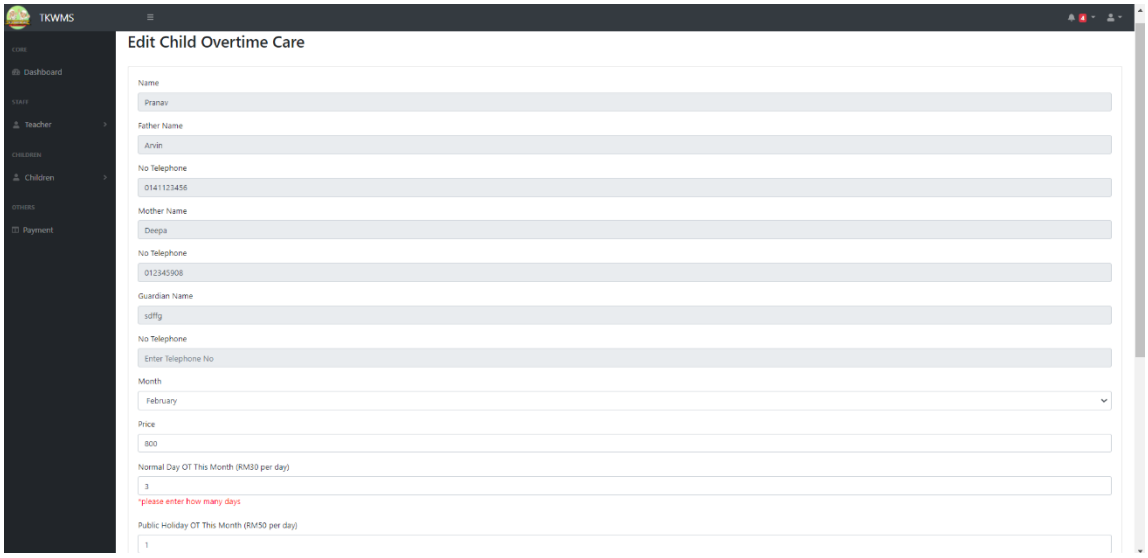

Figure 14: Interface to calculate child overtime care

Algorithm 6

Start

1. Add a new overtime care details of a child into the system.

```
if(isset($_POST['submit']))
 {  $child_id=$_POST['children_id']; $Date=$_POST['month'];
    $Price=$_POST['prices']; $NDay=$_POST['nday'];
    $PDay=$_POST['pday']; $ChargeOT=$_POST['charge'];
    $Total=$_POST['total']; $TotalPrice=$_POST['totalprice'];
    $Staff_id=$_POST['staff_id'];
    $sql1="INSERT INTO children_ot(Month, Price, NormalDay, PublicHoliday,
    HourChargeLate, TotalOT, TotalPrice, children_id, Staff_id, Notify)
    VALUES('$Date','$Price','$NDay', '$PDay','$ChargeOT', '$Total',
    '$TotalPrice', '$child_id','$Staff_id', 0)";
    <script>
     function calculateTotal(){
              let unit_price={
                perhour:7, price:1, normal:30, public:50, };
                let item_price={}
              item_price.price = ($("#price").val() * unit_price.price )
              item_price.normal = ($("#norday").val() * unit_price.normal )
              item_price.public = ($("#pubday").val() * unit_price.public )
              item_price.perhour = ($("#late").val() * unit_price.perhour )}
        </script>
```

2. Edit the details of the overtime care of the children in the system.

```
    if(isset($_POST['submit']))
    $child_id=$_POST['children_id'];
    $Date=$_POST['month']; $Price=$_POST['prices']; $NDay=$_POST['nday'];
    $PDay=$_POST['pday']; $ChargeOT=$_POST['charge']; $Total=$_POST['total'];
    $TotalPrice=$_POST['totalprice'];
    $Staff_id=$_POST['staff_id'];
    $sql1="UPDATE children_ot SET Month = '$Date', Price = '$Price', NormalDay =
'$NDay', PublicHoliday = '$PDay', HourChargeLate = '$ChargeOT', TotalOT = '$Total',
TotalPrice = '$TotalPrice', children_id = '$child_id', Staff_id = '$Staff_id', Notify
= 0 WHERE id = '".$_GET['id']."'";
```

3. Click Save.

End

Figure 15: Algorithm to calculate child overtime care

4.6.7 Payment

The interface for payment module from the parents' view is shown in Figure 16 below, meanwhile, the code snippet of algorithm for the module is shown in Figure 17 below. According to the interface the parents can click on Pay Now button to make the payment and then upload the receipt in any suitable format allowed by the system such as pdf, png or jpeg.

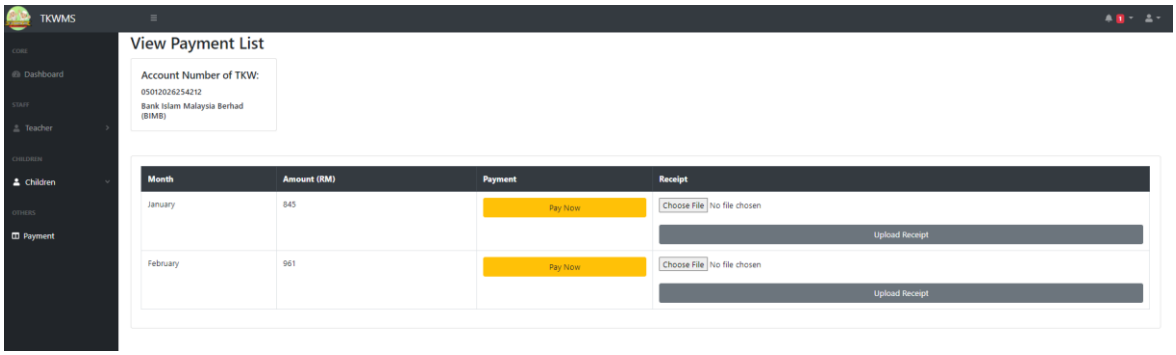

Figure 16: Payment page

Algorithm 7
Start

1. View the payment amount based on total payment displayed on screen.

```
$children_info = mysqli_fetch_assoc(mysqli_query($connection, "SELECT *
FROM children_detail WHERE IC_Number = '$ic'"));
$query = mysqli_query($connection, "SELECT * FROM `children_ot` WHERE
`children_id` = '$children_info[id]'");
$count = mysqli_num_rows($query);
if (!$count) {
echo "<tr>
```

2. Click on make payment to enter into payment making page.

```
$id=$_SESSION['username'];
$count=1;
$query1="Select IC_No from register_parent WHERE username = '$id'";
if($check > 0)
<div class="dropdown show">
<a href="parViewPayment.php?IC_Number=<?php echo
$row["IC_Number"];?>"><input type="submit" name="submit" class="btn btn-
primary btn-block" value="Make Payment"></a>
</div>
```

3. Make the payment.

```
<input type=\"text\" name=\"month\" value=\"$data[Month]\"
style=\"display:none;\">
<td>$data[Month]</td> <td>$data[TotalPrice]</td><td><div class=\"dropdown show\">
<a href=\"#\"><input type=\"submit\" name=\"save\" class=\"btn btn-warning
btn-block\" value=\"Pay Now\"></a>
block\" value=\"Upload Receipt\">}
```

4. Upload the receipt.

```
$target_dir = "upload/";
$target_file = $target_dir . basename($_FILES["upload"]["name"]);
$uploadOk = 1;
$imageFileType = strtolower(pathinfo($target_file,PATHINFO_EXTENSION));

if($imageFileType != "jpg" && $imageFileType != "png" && $imageFileType !=
"jpeg" && $imageFileType != "pdf" ) {
echo "Sorry, only JPG, JPEG, PNG & PDF files are allowed.";
$uploadOk = 0;
}
```

End

Figure 17: Algorithm for payment

4.7 System testing

A test plan is a comprehensive document that outlines the testing approach, goals, deliverables, and resources required, to complete software testing. This test plan helps developers estimate the amount of labour necessary to verify the accuracy of the application being tested. Table 5 shows the test category of the system and Table 6 shows the test plan results for the completed system.

Table 5: Test category of the system

Test Category	Description
1	Test the functionality of the proposed system by role of administrator.
2	Test the functionality of the proposed system by role of teacher.
3	Test the functionality of the proposed system by role of parents.

Table 6: Test plan result for completed system

Module	Test Category	Description	Expected Result	Actual Result
Login module	1, 2 & 3	Login to the system: i) Insert username ii) Insert password iii) Click login	System allows the user to log in if the input is valid, else it should not log the user in.	Pass
Logout module	1, 2 & 3	Logout from the system: i) Click logout	System logs out the user after the user clicks on the logout button.	Pass
User account module	1	Create new user account: i) Create new teacher.	i) New registration form appears. ii) Data stores in the database after clicking the register button.	Pass
User account module	2, 3	Manage account: i) Create and update account details.	System allows user to create or update details into existing account.	Pass
Children details module	1	Insert, update and delete children's details: i) Click on add children to insert a new child's details. ii) Click on action to update or delete information.	System allow user to perform insertion, update and deletion of children details.	Pass
Children details module	2,3	Update the details of children: i) Click on edit button to update the details.	System allows user to update the details stored in the system.	Pass
Children health module	1	Insert, update and delete children's health details: i) Click on add children to insert a new child's health details. ii) Click on action to update or delete health information.	System allow user to perform insertion, update and deletion of children health details.	Pass

Table 6: (cont)

Module	Test Category	Description	Expected Result	Actual Result
Children health module	2	Only view the health details of children: i) Click on view button to view the health details.	System allows user to view the health details stored in the system.	Pass
Children health module	3	Update the health details of children: i) Click on edit button to update health information.	System allows user to update health details stored in the system.	Pass
Children overtime care module	1	Insert, update and delete children's overtime care details: i) Click on add children to insert a new child's overtime care details.	System allow user to perform insertion, update and deletion of children overtime care details.	Pass
Children overtime care module	3	Only view children's overtime care details: i) Click on view button to view the overtime care details.	System allows user to view the overtime care details stored in the system.	Pass
Children development module	1	Only view children's development progress details: i) Click on view button to view development progress of the children.	System allows user to view the children development progress details stored in the system.	Pass
Children development module	2	Insert, update and delete children's development progress details: i) Click on add children to insert a new child's development progress details. ii) Click on action to update or delete development progress.	System allow user to perform insertion, update and deletion of development progress details.	Pass
Children development module	3	View and comment on the development progress report of the children: i) Click on view to view the development progress of the children. ii) Add comment at the comment box provided as review on viewing the development progress report.	System allow user to view and comment for the development progress report of the children.	Pass

Table 6: (cont)

Module	Test Category	Description	Expected Result	Actual Result
Payment module	1	View the payment made by parents. i) Click on view to see the payment made by parents.	System allow user to view payment details made by parents.	Pass
Payment module	3	Make the monthly payment. i) Click on the pay button to start making the payment.	System allow user to proceed with payment making.	Pass

5. Conclusion

The end result from the proposed project to develop a web-based TKWMS for administrator, teachers and parents of TKW and make it useful to the target audience by making the system function accordingly based on each module proposed is successfully achieved. The system is able to record properly every crucial detail into the system so that it is easy, fast and efficient for the users to carry out their tasks into the system. Apart from that, the issue of running a manual system which uses papers and files is overcame by developing this suitable and well-planned management system for TKW. Utilizing the benefits of the system, and new possibilities for strengthening the system may be investigated. In the future, the system should include a function that allows the administrators and teachers of TKW to upload the children's everyday activities. This would make it simpler for parents to keep track of their children's whereabouts and behaviour while also giving them peace of mind regarding their welfare. Next, the web-based system should then be converted into a mobile application. A mobile-friendly system would make it much easier for users to complete their tasks quickly and easily on a hand-held device that they can take with them wherever they go.

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