WEB-BASED STUDENT MANAGEMENT SYSTEMS

BY

DUNCAN LAU YIN SEANG

A REPORT

SUBMITTED TO

Universiti Tunku Abdul Rahman

in partial fulfillment of the requirements

for the degree of

BACHELOR OF INFORMATION SYSTEMS (HONS)

Faculty of Information and Communication Technology

(Kampar Campus)

MAY 2019

UNIVERSITI TUNKU ABDUL RAHMAN

REPORT STATUS DECLARATION FORM

Title: _____
_____
_____

Academic Session: _____

I _____

(CAPITAL LETTER)

declare that I allow this Final Year Project Report to be kept in
Universiti Tunku Abdul Rahman Library subject to the regulations as follows:

1. The dissertation is a property of the Library.
2. The Library is allowed to make copies of this dissertation for academic purposes.

Verified by,

_____ _____

(Author's signature) (Supervisor's signature)

Address:

_____

_____ _____

_____ Supervisor's name

Date: _____ **Date**: _____

WEB-BASED STUDENT MANAGEMENT SYSTEM

By

Duncan Lau Yin Seang

A REPORT

SUBMITTED TO

Universiti Tunku Abdul Rahman

in partial fulfillment of the requirements

for the degree of

BACHELOR OF INFORMATION SYSTEMS (HONS)

BUSINESS INFORMATION SYSTEMS

Faculty of Information and Communication Technology

(Kampar Campus)

MAY 2019

DECLARATION OF ORIGINALITY

I declare that this report entitled "**Web-Based Student Management System**" is my own work except as cited in the references. The report has not been accepted for any degree and is not being submitted concurrently in candidature for any degree or other award.

Signature : _____

Name : _____

Date : _____

ACKNOWLEDGEMENTS

I would like to thank to my supervisor Dr Wong Pei Voon for guiding me during the work for project 1 and 2. Besides that, I would like to thank to my lecturer Mr. Su Lee Seng for helping me to finish my project plus also patiently taking his time to teach me every new thing during the working for this project. I also would like to thank to my family for giving me support and their love throughout the course.

ABSTRACT

This project is to establishing, improvement of Student Management System for primary school. This project helps in finding the data collection of student records in primary school, to improve on delivering student report and to improve the management of student records. The creation of this project is mainly to manage student records and up-to-date information about school reports and student reports. Student information system mainly deals with much kind of student details, such as student examination results, student attendance reports and teacher reports for students. The administration is mainly deal with registration of new student, updating school news, publishing student examination results, update student attendance and also giving out student reports if is good or bad. Other than managing student records, students' parents able keep on track of their children by looking through their progress in this system. The Web-based student management system help students' parent by keeping track of their children attendance so that their children will stay in school, keep track of their children examination result to know the improvement of their children or needed more help in studies, viewing their children report given by teacher to know what activities they done and knowing the update of the school news to know if it is important to follow. Besides that, the system do help teacher to do analysis of their student grade and helping them to do prediction for their future student grade.

TABLE OF CONTENTS

TITLE PAGE **i**

ACKNOWLEDGEMENT **iii**

ABSTRACT **iv**

TABLE OF CONTENTS **v**

LIST OF FIGURES **xii**

LIST OF TABLES **xv**

CHAPTER 1 INTRODUCTION 1

1.1 Background Information 1

1.2 Problem Statement 2

1.3 Project Scope 3

1.4 Project Objective 5

1.4.1 News Module 5

1.4.2 Attendance Module 5

1.4.3 Registration Module 5

1.4.4 Class Registration Module 5

1.4.5 Info Graphic Module 6

1.4.6 Prediction 6

1.5 Instrumental Survey 6

1.6 Achieved 6

CHAPTER 2 LITERATURE REVIEW **7**

2.1 Web-Based Student Management System 7

2.2 Technology Improving 7

2.3 Comparison of Traditional Education to Computer Aided Education 7

2.4 Education Portal 8

2.5 Information graphics or infographic 9

2.6 Linear Regression as Predictive model 9

2.7 Predicting relationship between study time and grade 10

CHAPTER 3 SYSTEM DESIGN **11**

3.1 ERD Diagram 11

3.2 Use-Case Diagram 12

3.3 Activity Diagram 13

3.4 Gantt Chart 15

CHAPTER 4 PROPOSED METHOD/APPROACH **17**

4.1 Methodology 17

4.1.1 Planning Phase 17

4.1.2 Analysis Phase 17

4.1.3 Design Phase 18

4.1.4 Testing Phase 18

4.2 Online Survey 18

4.3 User Requirement 21

4.3.1 Internet 21

4.3.2 Web Browser Application 22

4.3.3 Information Technology Devices 22

4.3.4 XAMPP 22

4.4 User Interface 22

4.4.1 Login Page 23

4.4.2 Staff Home Page 24

4.4.3 News Page 24

4.4.4 News View Page 25

4.4.5 Upload News Page 25

4.4.6 Chart 26

4.4.7 Teacher Registration Page 26

4.4.8 Staff Registration Page 27

4.4.9 Student Registration Page 27

4.4.10 List of Class 28

4.4.11 Add New Class Page 28

4.4.12 Class View 29

4.4.13 Assign Student to Class Page 30

4.4.14 Student List Page 31

4.4.15 Student Edit Page 31

4.4.16 Teacher Home Page 32

4.4.17 Teacher News Page 32

4.4.18 Teacher Class Page 33

4.4.19 Insert Student Attendance Page 33

4.4.20 Update Student Attendance Page 34

4.4.21 Update Student Attendance Selected Student Page 34

4.4.22 Update Student Attendance Selected Date Page 35

4.4.23 Insert Student Grade Page 35

4.4.24 Insert Student Grade Selected Class Page 36

4.4.25 Update Student Grade Page 36

4.4.26 Update Student Grade Selected Class Page 37

4.4.27 Prediction Student Grade Class List Page 37

4.4.28 Prediction Student Grade Selected Class Page 38

4.4.29 Student Home Page 39

4.4.30 Student News Page 39

4.4.31 Student Attendance Page 40

4.4.32 Student Attendance Page 40

4.4.33 Student Grade Page 41

CHAPTER 5 TESTING PHASE **42**

5.1 Login Page 42

5.2 Student Page 43

5.2.1 Student Navigation Bar 43

5.2.2 Student Profile 44

5.3 Teacher Page 45

5.3.1 Teacher Navigation Bar 45

5.3.2 Insert Student Attendance 46

5.3.3 Update Student Attendance 47

5.3.4 Update Student Attendance Selected Student 47

5.3.5 Update Student Grade 48

5.3.6 Update Student Grade Selected Class 48

5.3.7 Insert Student Grade 50

5.3.8 Prediction of Student Grade 51

5.3.9 Student Prediction Class Selected 52

5.4 Staff Page 53

5.4.1 Staff Navigation Bar 53

5.4.2 Staff Register 55

5.4.3 Student Register 56

5.4.4 Teacher Register 57

5.4.5 Student List Page 58

5.4.6 Student Profile Page 59

5.4.7 Teacher List 60

5.4.8 Teacher Profile Selected 61

5.4.9 Staff List 61

5.4.10 Staff Profile 62

5.4.11 News List 63

5.4.12 News Upload 64

5.4.13 School Class Assign Teacher 65

5.4.14 Selected School Class List 66

5.4.15 Subject List 67

5.4.16 Update School Subject 68

5.4.17 Student Registered Graph 69

5.5 Testing on Linear Regression 70

5.5.1 Study Time and Score 70

5.5.2 Actual Score and Average Score Sessional Score 72

5.5.3 Score, Study Time and Average Sessional Score 74

CHAPTER 6 CONCLUSION 76

6.1 Summary 76

BIOGRAPHY 77

APPENDIX A ONLINE SURVEY QUESTION **A-1**

APPENDIX B POSTER **B-1**

LIST OF FIGURES

Figure Number	Title	Page
Figure 3.1	ERD Diagram	11
Figure 3.2	Use-Case Diagram	12
Figure 3.3	Activity Diagram of System and Staff	13
Figure 3.4	Activity Diagram of Teacher and Student	14
Figure 3.5	Gantt Chart of Project 1	15
Figure 3.6	Gantt Chart of Project 2	16
Figure 4.1	Online survey Question 1 Respondent	19
Figure 4.2	Online survey Question 2 Respondent	19
Figure 4.3	Online survey Question 3 Respondent.	20
Figure 4.4	Online survey Question 4 Respondent	20
Figure 4.5	Online survey Question 5 Respondent	21
Figure 4.6	Online survey Question 6 Respondent	21
Figure 4.7	Login Page	23
Figure 4.8	Staff Home Page	24
Figure 4.9	News Page	24
Figure 4.10	News View Page	25
Figure 4.11	Upload News Page	25
Figure 4.12	Chart Page	26
Figure 4.13	Teacher Registration Page	26
Figure 4.14	Staff Registration Page	27
Figure 4.15	Student Registration Page	27
Figure 4.16	List of Class Page	28
Figure 4.17	Add New Class page	28
Figure 4.18	Class View Page	29

Figure 4.19	Assign Student to Class Page	30
Figure 4.20	Student List Page	31
Figure 4.21	Student Edit Page	31
Figure 4.22	Teacher Home Page	32
Figure 4.23	Teacher News Page	32
Figure 4.24	Teacher Class Page	33
Figure 4.25	Insert Student Attendance Page	33
Figure 4.26	Update Student Attendance Page	34
Figure 4.27	Update Student Attendance Selected Student Page	34
Figure 4.28	Update Student Attendance Selected Date Page	35
Figure 4.29	Insert Student Grade Page	35
Figure 4.30	Insert Student Grade Selected Class Page	36
Figure 4.31	Update Student Grade Class List	36
Figure 4.32	Update Student Grade Selected Class Page	37
Figure 4.33	Prediction Student Grade Class List Page	37
Figure 4.34	Prediction of Student Grade Selected Class	38
Figure 4.35	Student Home Page	39
Figure 4.36	Student News Page	39
Figure 4.37	Student Attendance Page	40
Figure 4.38	Student Profile Page	40
Figure 4.39	Student Examination Page	41
Figure 5.1	Login Page	42
Figure 5.2	Student Navigation Bar	43
Figure 5.3	Student Profile Page	44
Figure 5.4	Teacher Navigation Bar	45
Figure 5.5	Insert Student Attendance	46
Figure 5.6	Update Student Attendance	47
Figure 5.7	Update Student Attendance Selected Student	47
Figure 5.8	Update Student Grade	48
Figure 5.9	Update Student Grade Selected Class	49

Figure 5.10	Insert Student Grade	50
Figure 5.11	Prediction of Student Grade	51
Figure 5.12	Student Prediction Class Selected	52
Figure 5.13	Staff Navigation Bar	53
Figure 5.14	Staff Registration	55
Figure 5.15	Student Registration	56
Figure 5.16	Teacher Registration	57
Figure 5.17	Student Info List	58
Figure 5.18	Student Info Selected	59
Figure 5.19	Teacher List	60
Figure 5.20	Teacher Profile Selected	61
Figure 5.21	Staff List	61
Figure 5.22	Staff Profile Selected	62
Figure 5.23	News List	63
Figure 5.24	News Upload	64
Figure 5.25	School Class Update or Insert	65
Figure 5.26	Class Selected List	66
Figure 5.27	School Subject List	67
Figure 5.28	School Subject Edit	68
Figure 5.29	Student Registered Graph	69
Figure 5.31	Summary Output for Figure 5.30 Table	71
Figure 5.33	Summary Output for Figure 5.32	73
Figure 5.35	Summary Output for table Figure 5.34	75

LIST OF TABLES

Table Number	Title	Page
Table 5.1	Relationship Between Study Time and Score	70
Table 5.2	Midterm Actual Score and Average Sessional Score	72
Table 5.3	Score, StudyTime and Average Score for First and Midterm	74

Chapter 1

Introduction

1.1 Background Information

Student Management System is a management information system for education. Web-Based Student Management System is a website that allows school teacher or staff to input student information to improve school management. School staffs and teachers are able to directly access to all the aspects of a student's academic progress through secure website.

Web-based student management system or in other word school portal is the web-based system allow school staff or teacher to manage their user record to those user who enroll in the current school. The primary objective for web-based student management system is to allow the school user such as teacher, staff, student, parent or headmaster or headmistress to provide rich information about their school activities or details such as student performance, school news, user attendance, student grade, and more. Besides that, it also given the user to access easily through online by surfing internet and it allow accessibility in anytime and anywhere, in other words, it is call ubiquity.

The function going to add into the system that allow the staff and teacher to look at the status of the student information and details with info-graphic function that show the graph of the student activities and information. Such as attendant status by showing percentage and name for each student per class to inform the teacher their student attendance status and if the student have low attendance percent, the teacher able to send email to the student parent. The new function that are added into the system is linear regression to predict student grade. This function allowing teacher to do analysis on their student grade and also do prediction of their student future grade.

1.2 Problem statements.

The education system is constantly evolving by each year. Managing an education system does require planning and time management. Other than that, most of the technologies do improved to become efficiency of teachers to educate their students in many different ways. With the large amount of information that requires input with such little time, the time management becomes much more crucial.

Some of the primary schools do not acquire a student management system. If the primary school does not acquire student management system, students' parents may not able to track their children progress during school activities. Most of the school news announced during assembly time. By doing this, some of the students may forget or does not understand the school announcement due to of still in the process of learning. Other than that, the school teacher may handout the school news in written document for each student to show to their parents. This will waste the amount of paper and school resources by printing each document for each students and this may also harm the ecosystem by making more paper from trees.

Children prompt tell lies to their parents about their examination results and attendance during their school. Most of the primary school does handout the examination result to students but some of the students tend to make stories about their examination results to make their parents believe. Besides that, some of the educational portal have install the common features or function into their school portal such as attendance that allows teacher to input attendance of their student, grading that show average score of the student, insert and show school news and more. The school teacher or staff might require to find out more about their student information and records but with limited function provided through the educational portal, the school staff and teacher may not able to solve the situation or getting better idea of their current student. Here is some problem that occur in primary school education:

1. Student information may get lost due to using manual system.
2. Limited function provided from the system.

    a. Info-graphic not provided for user.
3. Physical documentation that contain important information may get lost.
4. The manual system unable to provide security.
5. Some school information unable to reach to their parent.
    a. Examination Grade
    b. Attendance
6. Most of the system does not acquire any analysis function such as prediction tool.

1.3 Project Scope

The main purpose for this system is intended to manage information of student such as, personal details, examination result, attendance, providing school news and more. When the project is completed, it will provide comprehensive web-based student information system for primary school. The systems are able to store and retrieve data, sort and more. Besides that, these system able students' parents to keep on track of their children every school progress. For example, providing examination results for every student. This will help most of students' parents to keep on track of their children progress in school to ensure their children do not get in trouble in school. Other than that, to provide school news for teachers and students' parents to keep them inform whenever there is important school news such as sport day, teacher day, public holiday and more. This will help the students' parents and teachers to prepare any necessary action in the future.

This project is develop to make improvement of school portal that allow the staff or the teacher to looks through the data analysis that contain detail of student performance plus the number student registration. Other than that, it allows staff to do customization of their school data such as adding, remove or update class, student, teacher, staff and news.

Besides that, the info-graphic function will help the teacher and staff to get inform the performance of the student and also provide detail with better understanding such as bar graph of number of student register in which year, attendant status for each student in each class and statistic of the student grade that allow to do forecasting using linear regression.

Lastly, info-graphic in spotted graph that show the prediction method that is linear regression to predict the final grade for student per class together with formula and predicted grade.

1.4 Project Objective

1.4.1 News Module

The news module allow the school user to view the latest news from the school portal that provided from the school staff. The school staff allow to insert school news with editing features such as changing font style, font color, insert picture, bullet point and more. By having this features for the school staff, those who does not acquire HTML knowledge able to edit news without using HTML format such as writing paragraph using <p>.

1.4.2 Attendance Module

The attendance module allow the teacher to insert and edit student attendance while the student able to check their attendance through using the school portal. The attendance function help the teacher to insert their student attendance depend on which class the teacher are in charge. Besides that, it has an added function to send an email sender or the SMTP is to send email to student parent from the school teacher whether decision from the school teacher if the student have low percentage of attendance.

1.4.3 Registration Module

The registration module allow the staff to register student, teacher and staff that enrolled to the school. The registration function allow the staff to insert details of the person such as student name, student parent detail and more.

1.4.4 Class Registration Module

The class registration module allow the staff to register student to their class plus register one of the teacher will take in charge of one of the class. Other than that, the school staff also allow to insert new class into the system.

1.4.5 Info Graphic Module

Info graphic allow the staff to look through statistic information such as bar graph that show the number of student register for each year.

1.4.6 Prediction

Prediction by using linear regression to allow teacher to predict the student future grade. The prediction system will show the teacher the predicted value together with the other variable and spotted graph.

1.5 Instrument of survey

Survey questions are going through online platform. For the purpose for this project, Google Form is going to be distributed to primary school teachers through the internet. Google Form has the support of survey questionnaire template and also ability to easily share the form on many online platforms.

1.6 Achieved

The system are able to successfully predict user grade by using linear regression with the relationship between Score and Study Time by using programming language .php.

Chapter 2

Literature Review

2.1 Web-Based Student Management System

According to Zhibing Liu (2010), web based student management system are design to replace most of the documentation paper records. It allows education institutes to maintain records of students easily and secure. The student management system helps in establishment and maintenance database and front-end application. It is convenient application and friendly interface that help provide student information. Most of the problems are able to be solving using online student information management system thus reducing paper work such as registration form.

2.2 Technology Improving

According to Kai Liang (2016), most of the technology grow and become advance in every second pass. The usage of electronic devices increase due to application for authorization has improved and it is convenience to use in many ways. When the technology improves, most of the previous model will start following up. This is when the increasing of school seeks to incorporate the Web-based information and communication technologies.

2.3 Comparison of Traditional Education to Computer Aided Education

Some of the primary school is still using the traditional education system. Most of the traditional way of education was paper, form and report. Other than that, if the administrator is working with teacher in specific area and if that area that needing of attention, these area will be documented in an evaluation as unsatisfactory and require plan for improvement. This action is taken is to find the effective way in helping student to behave. Computer aided education tools were made for better interactive and visual. This

allows emphasizing the effectiveness of the computer aided education by written down report and post through the database to allow other teacher to look through it (Wald & Losen, 2003).

2.4 Education Portal

Most of the technology initiatives has already been introduced to many schools that aim to help the teacher and student for teaching and studying. The role for the online portal is to assist the teacher, student and staff by maintaining the school database, access to school information plus teaching using technology-based content. Online portal are developed is to ensure every citizen particularly school students to allow them to grant access to quality education presented through the digital medium that is school portal. The design and implementation of the education portal are design to eliminate the usage of school paper records to save cost plus environment, (Kalmegh, 2016). If the school staff are require to check the student or teacher record from the paper records, it will be difficult for them to manage and track the record if they acquire thousands of records.

Every public school are require to have a school portal by the year of 2020 (Vision 2020) in order to produce knowledgeable and skilled workforce for Malaysia and most of the language teacher are ready for teaching and learning by using computer-based (RAZAK, 2004). Most of the educational portal are very accessible to anywhere and anytime with internet or in other term called ubiquity. According to Bram (2011), the number of usage of education portal grown significance portal in many country such as Glow in Scotland, Kennisnet in Holland, and the National Educational Portal in Kenya.

There are two ways that user able to utilizing the education portal as their supporting tools is either by retrieving information from the database or share knowledge and information to other user. The benefit of using the education portal for teacher or staff are allowing them to keep track of their school record and as for the teacher is the student records. However, teacher are able to share information through education portal to student as well

as to staff and teacher. According to Kankanhalli (2005), sharing information through education portal or school portal do help to leverage the knowledge resource to the school user is a key form of which are electronic knowledge repositories (EKRs). This help to prevent knowledge drain or in other word loss of knowledge from the other user.

2.5 Information graphics or infographic

Information graphic (infographic) usually used to convert text into high-level intended message such as bar chart, pie chart, line graph and more. Besides that, infographic consist of multiple color to represent each content or point to ensure not clash with other information and making confusion to user if it only represent one color. The infographic is great to present to the reader for better absorption of knowledge and information quickly by looking through the graphic, this is because "picture is worth thousands of words" plus containing multitude of information (Zhuo Li, 2015).

The infographic able to use query to get the information that needed and present using graphic and text. As for the web-based student management system, we able to use SQL query to get the information from the database and convert into graphical and text form. But it was depend on what kind graph or chart does the user require such as, using bar graph require two relationship that is x-axis and y-axis to present a data like student name for x-axis and the percentage of attendance for the y-axis.

2.6 Linear Regression as Predictive model

Majority of school have occupied numbers of student and sometime teacher may have hard time knowing which student are having trouble with their studies. Usually teacher determine student understanding by looking through their student grade for each different year of student such as English Language grade for year 4, Mathematic grade year 2 and more. Besides that, teacher may conduct test to their student ensure their student are

improving their education but with the large number of student at school, it is impossible for teacher to go through each grade and keep track of the each student performance.

The predicting method for student learning performance in advance able to help the student and their teacher to keep track of student progress. One of the prediction method that is called linear regression able to help to predict the grade of final examination in particular subject (Patel, 2017). According to Patel (2017), there are many prediction method such as linear regression, ANN and decision tree but linear regression model is the best method to predict the future value for predicting final grade examination.

Each of prediction model are useful but is depend on what scenario. The decision tree are usually suit for large amount of data due to it allow to divide data into small sub-spaces to allow user to capture better division. ANN model able to learn, complex relationship and non-linear. The ANN model able to inter with many unseen relationship plus data to allow user make prediction on unseen data. The simple linear regression usually predicting performance, risk parameter and more. But usually this model use for analyze small amount of data and it is suit for this system due to each of school classes has small amount of student data that consist of 30 to 50 students to make prediction of student grade.

2.7 Predicting relationship between study time and grade.

There are some researcher explain that the length of study time do affect student academic by differentiate the short duration of study time and long duration of study time. Professor Palm Beach of the University of California in year 1864 do explain that study time is the best tool for predicting. Both study time and grade has their strong relationship and able to predict their academic performance (George, 2013). Besides that, some of the researcher do point out that relationship between student study hours with grade point has the weak or unreliable to do prediction due to the prediction may not be clear (Howard Schuman, 1985). The prediction between relationship of study time and grade may not be good but it still allow user to use this prediction if they find it useful (E. Ashby Plant*, 2005).

Chapter 3

System Design

3.1 ERD Diagram

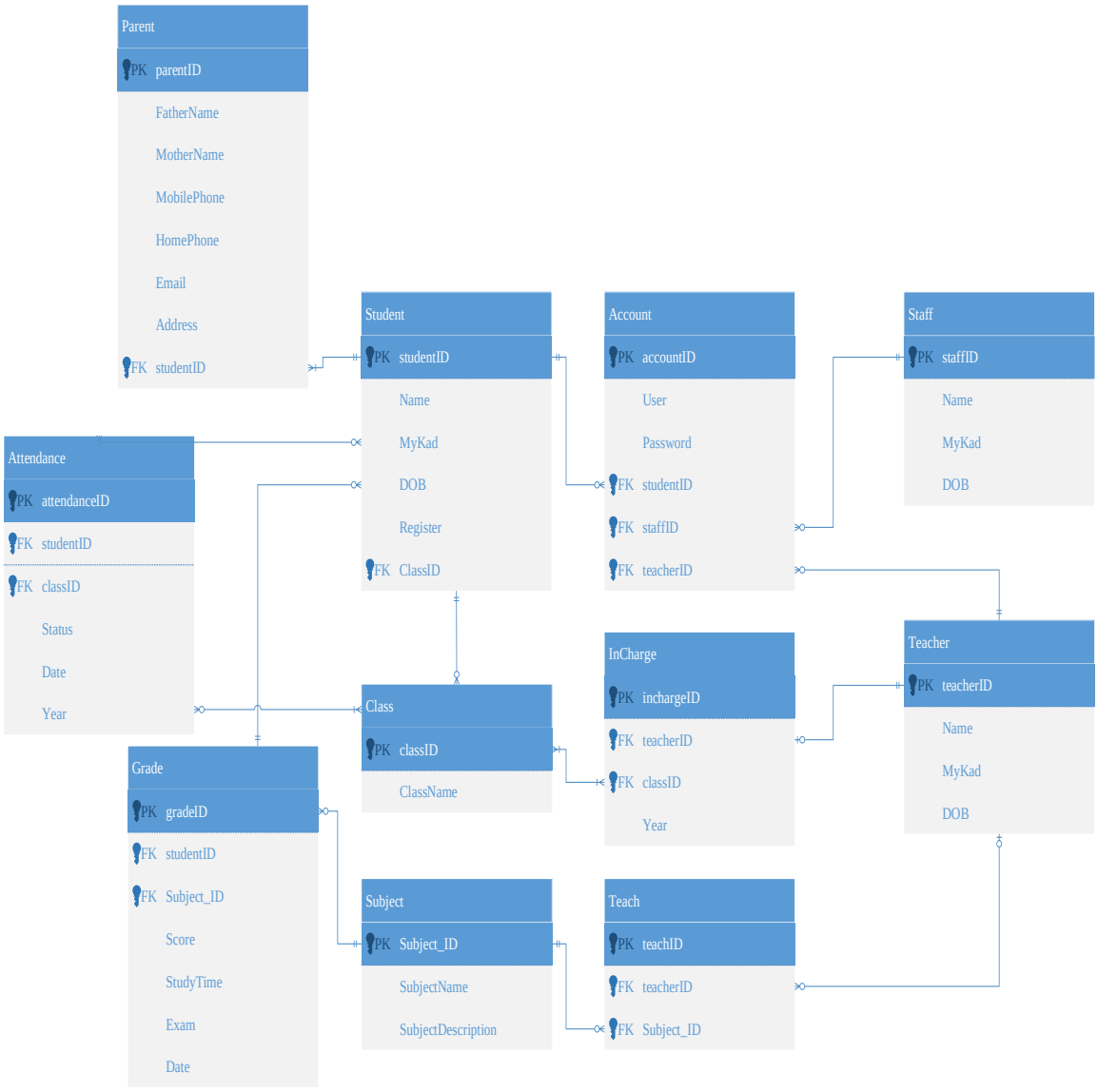


Figure 3.1 ERD diagram

3.2 Use-Case Diagram

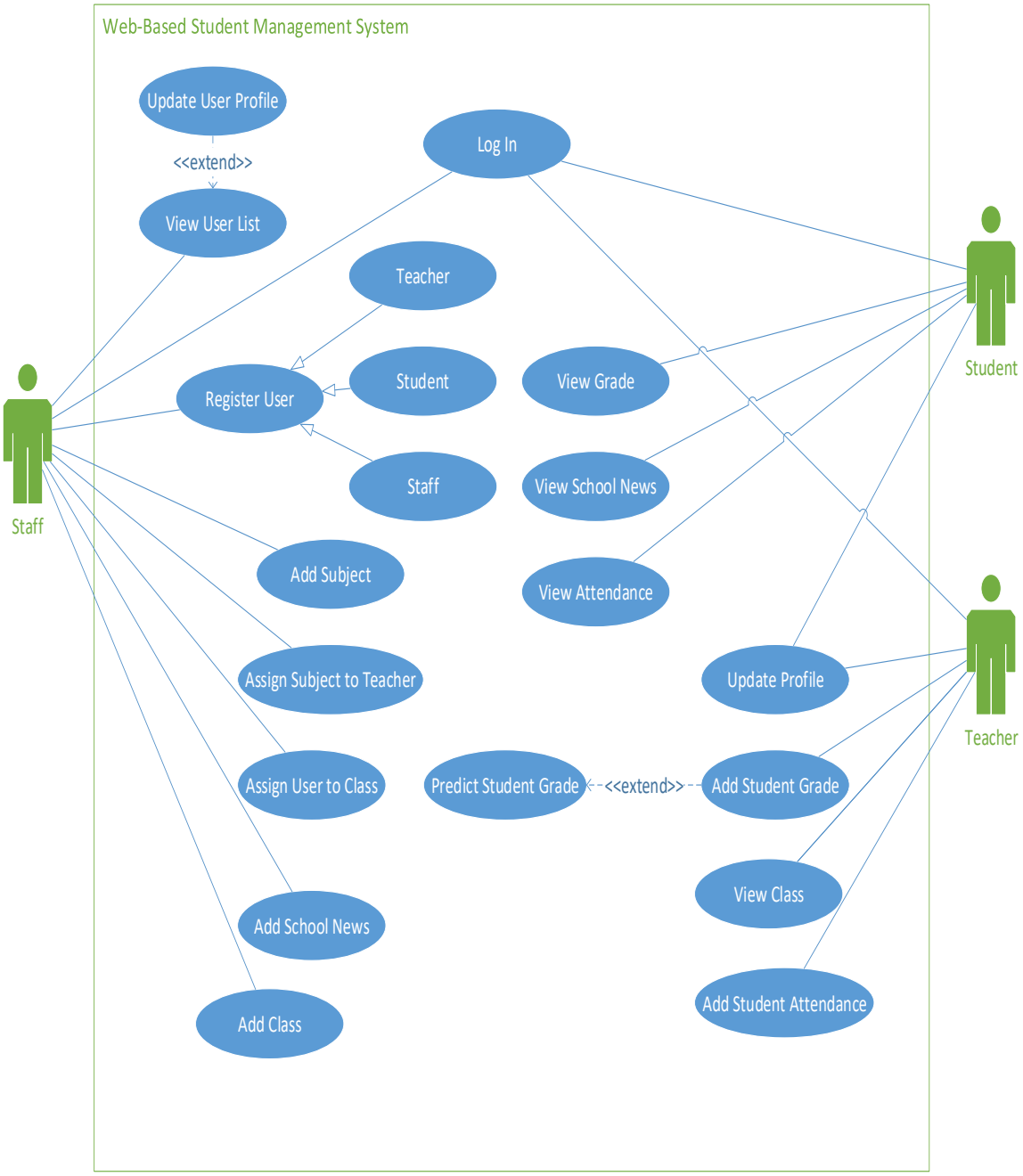


Figure 3.2 Use-Case Diagram

3.3 Activity Diagram

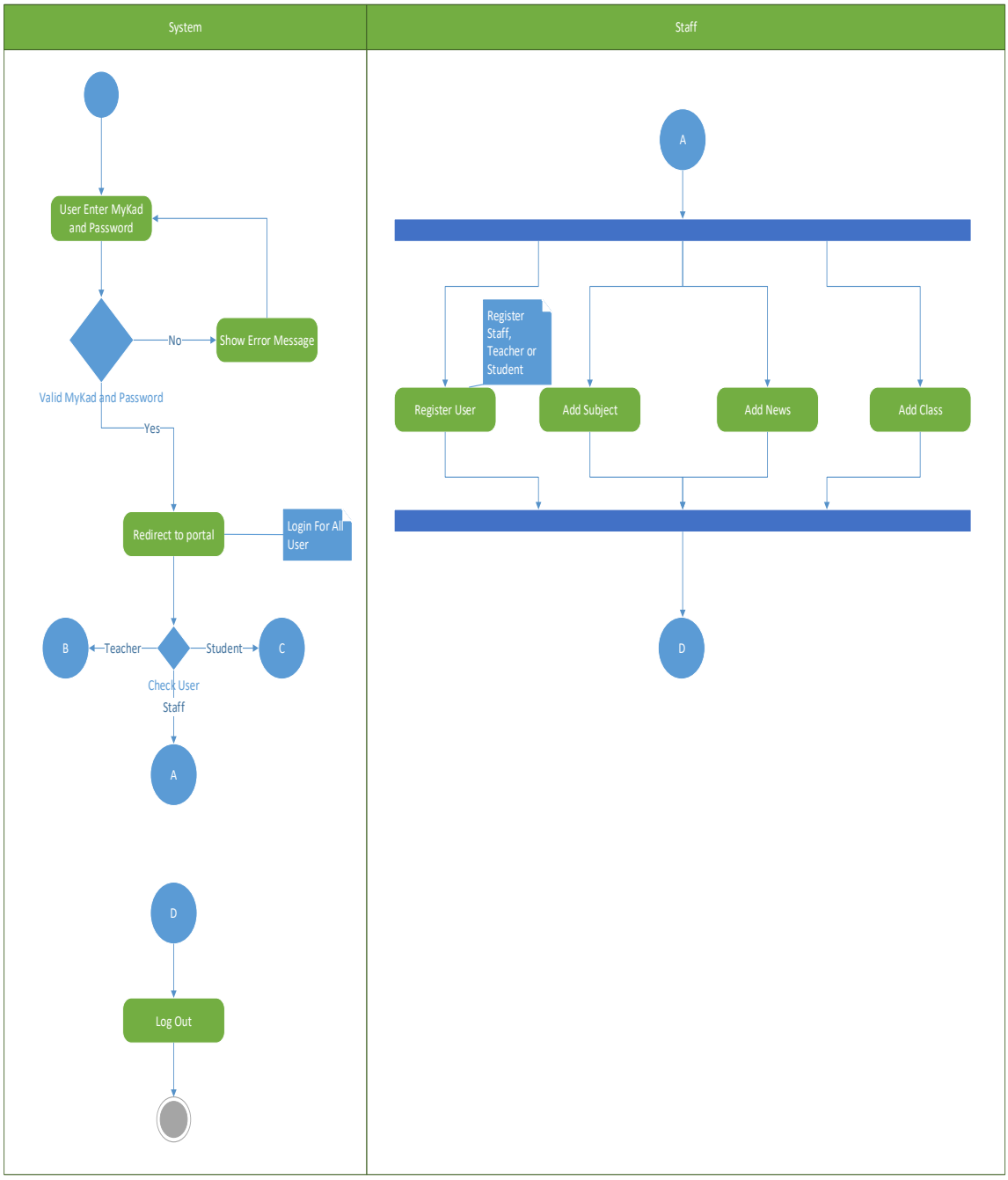


Figure 3.3 Activity Diagram of System and Staff

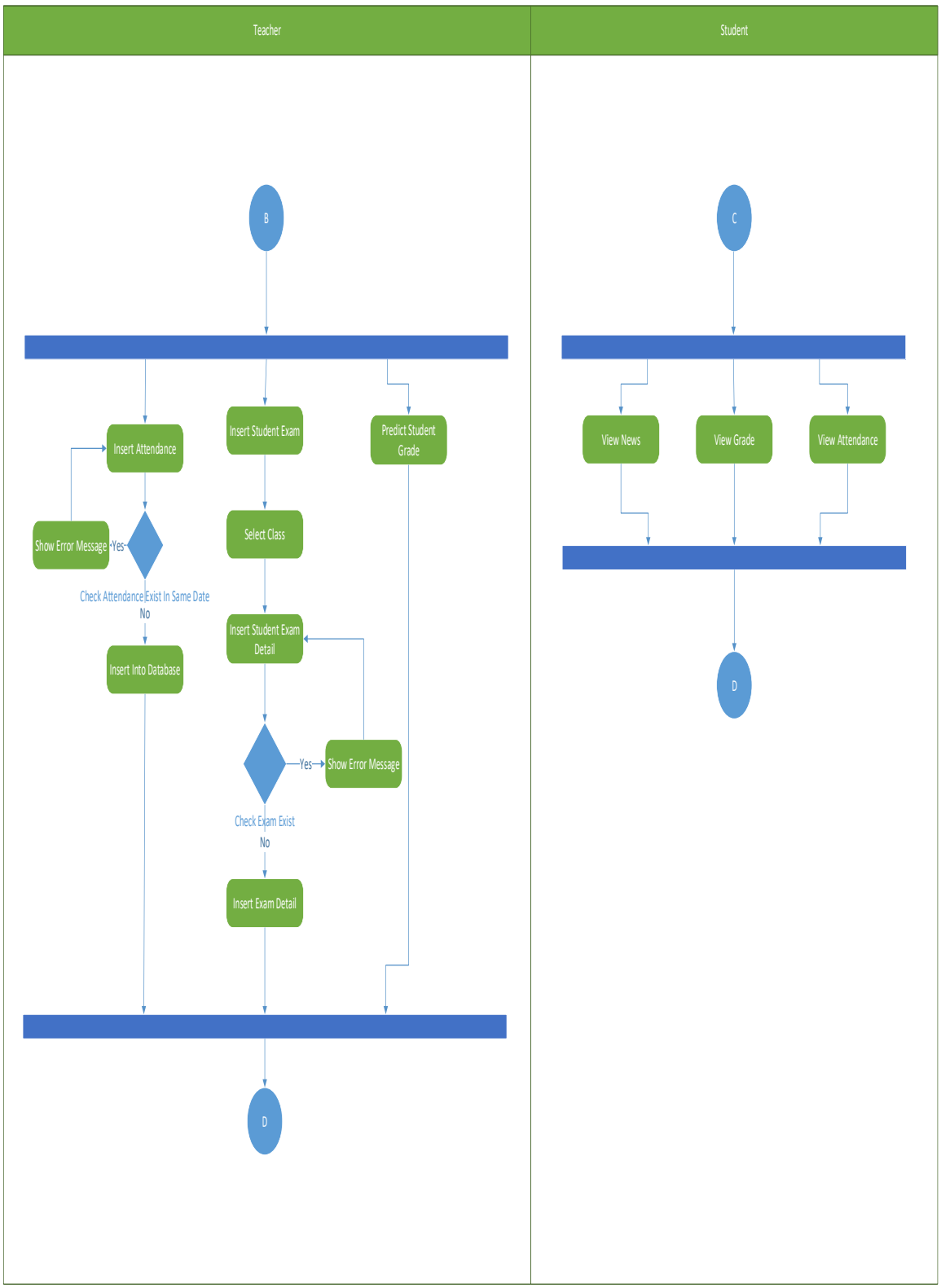
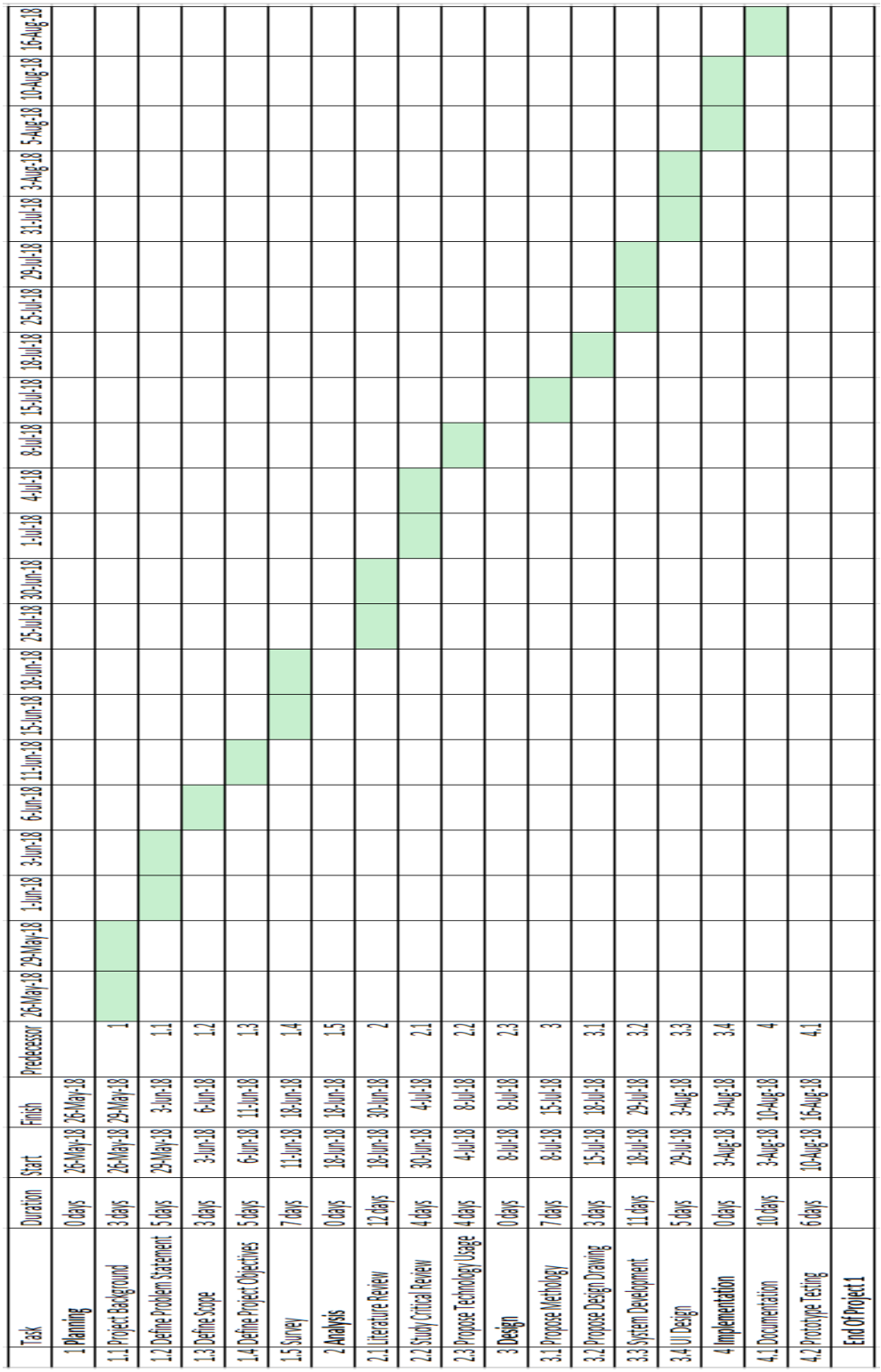


Figure 3.4 Activity Diagram of Teacher and Student

3.4 Gantt Chart



Task	Duration	Start	Finish	Predecessor	26-May-18	29-May-18	1-Jun-18	3-Jun-18	6-Jun-18	11-Jun-18	15-Jun-18	18-Jun-18	25-Jun-18	30-Jun-18	1-Jul-18	4-Jul-18	8-Jul-18	15-Jul-18	18-Jul-18	25-Jul-18	29-Jul-18	31-Jul-18	3-Aug-18	5-Aug-18	10-Aug-18	16-Aug-18
1 Planning	0 days	26-May-18	26-May-18																							
1.1 Project Background	3 days	26-May-18	29-May-18	1																						
1.2 Define Problem Statement	5 days	29-May-18	3-Jun-18	1.1																						
1.3 Define Scope	3 days	3-Jun-18	6-Jun-18	1.2																						
1.4 Define Project Objectives	5 days	6-Jun-18	11-Jun-18	1.3																						
1.5 Survey	7 days	11-Jun-18	18-Jun-18	1.4																						
2 Analysis	0 days	18-Jun-18	18-Jun-18	1.5																						
2.1 Literature Review	12 days	18-Jun-18	30-Jun-18	2																						
2.2 Study Critical Review	4 days	30-Jun-18	4-Jul-18	2.1																						
2.3 Propose Technology Usage	4 days	4-Jul-18	8-Jul-18	2.2																						
3 Design	0 days	8-Jul-18	8-Jul-18	2.3																						
3.1 Propose Methology	7 days	8-Jul-18	15-Jul-18	3																						
3.2 Propose Design Drawing	3 days	15-Jul-18	18-Jul-18	3.1																						
3.3 System Development	11 days	18-Jul-18	29-Jul-18	3.2																						
3.4 UI Design	5 days	29-Jul-18	3-Aug-18	3.3																						
4 Implementation	0 days	3-Aug-18	3-Aug-18	3.4																						
4.1 Documentation	10 days	3-Aug-18	10-Aug-18	4																						
4.2 Prototype Testing	6 days	10-Aug-18	16-Aug-18	4.1																						
End Of Project 1																										

Figure 3.5 Gantt chart of Project 1

Task	Duration	Start	Finish	Predecessor	31-May-19	2-Jun-19	7-Jun-19	10-Jun-19	15-Jun-19	27-Jun-19	4-Jul-19	11-Jul-19	15-Jul-19	23-Jul-19	30-Jul-19	4-Aug-19	7-Aug-19	13-Aug-19
1 **Planning**	0 days	31-May-19	31-May-19															
1.1 Project Background	3 days	31-May-19	2-Jun-19	1														
1.2 Define Problem Statement	5 days	2-Jun-19	7-Jun-19	1.1														
1.3 Define Scope	3 days	7-Jun-19	10-Jun-19	1.2														
1.4 Define Project Objectives	5 days	10-Jun-19	15-Jun-19	1.3														
2 **Analysis**	0 days	15-Jun-19	15-Jun-19	1.4														
2.1 Literature Review	12 days	15-Jun-19	27-Jun-19	2														
2.2 Study Prediction Method	7 days	27-Jun-19	4-Jul-19	2.1														
2.3 Compare Predicted Data	7 days	4-Jul-19	11-Jul-19	2.2														
3 **Design**	0 days	11-Jul-19	11-Jul-19	2.3														
3.1 Design Back End Code	12 days	11-Jul-19	23-Jul-19	3														
3.2 Design Linear Regression	7 days	23-Jul-19	30-Jul-19	3.1														
3.3 UI Design	5 days	30-Jul-19	4-Aug-19	3.2														
4 **Implementation**	0 days	4-Aug-19	4-Aug-19	3.3														
4.1 Documentation	3 days	4-Aug-19	7-Aug-19	4														
4.2 Prototype Testing	6 days	7-Aug-19	13-Aug-19	4.1														
End Of Project 2																		

Figure 3.6 Gantt chart of Project 2

Chapter 4

Proposed Method/Approach

4.1 Methodology

For this web-based student management system development process, the agile development methodology under extreme programming is the best approach or suit for web-based development. This is because agile development allow to improve the quality of application if there is anything wrong or mismatch the requirement of the application. But the disadvantage of this approach is the probability of getting off-track.

Extreme programming are suit for small project such as website development and does not require large group to develop the system. Comparing with waterfall model process, the process for building the system able to save a lot of time due to is easy to understand plus easy testing and analysis. The waterfall model usually use for large scale project with lots of planning phase before begin development. The disadvantage for waterfall model is that they unable to move back after they done one of the phase and it takes longer period to finish.

4.1.1 Planning Phase

Sending out survey plus interview some teacher to get the understanding plus idea of how the school portal work in primary school. During the interview session, the question will be prepare for interviewer plus voice recording. The voice recording are use because to avoid miss heard any sentences during interview. The survey are send out through internet by using google form. After that, analysis will be study from the survey answer result.

4.1.2 Analysis Phase

Analysis the survey answer plus the interview answer to get clear understanding of how the system work. After that, the requirement to improve will list out of what should improve and which new feature and function will be added. Other than that, going through journal and article to get extra information about the existing project for further understanding plus comparing the existing systems.

4.1.3 Design Phase

In the design phase, the backend coding will begin before the designing the user interface for the web-based student management system. As for UI design, HTML and CSS template will be used for the system with few changes. Other than that, database will implement into the system to store data by using mysqli format.

4.1.4 Testing Phase

Alpha testing will take place after for each part of system that has been complete.

4.1.5 Delivery Phase

As for the delivery phase, we might able to send through by softcopy in CD together with SQL, website file (.php) and document.

4.2 Online Survey

Online survey has send out to the teacher that work in primary and secondary school in order to get information of what should be provided for school portal. Furthermore, an interview to one of the primary school teacher that work in S.J.K. (C) Keng Koon primary

school that located in Penang. The figure below shows the online survey with the number participant that answer the online survey with pie chart percentage.

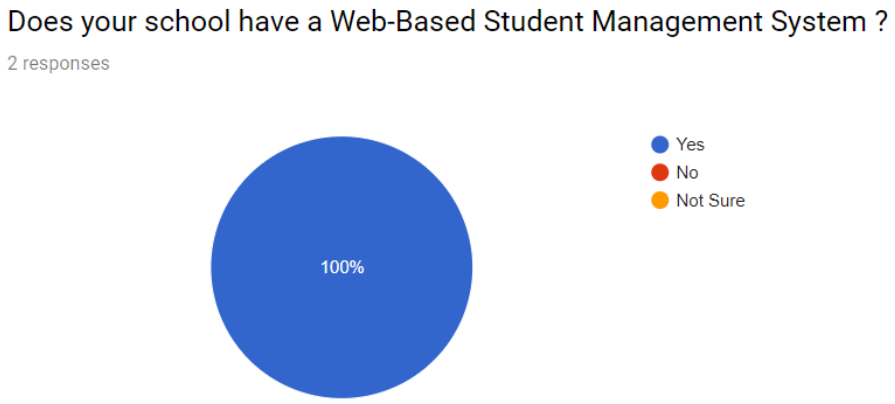


Figure 4.1 Online survey Question 1 Respondent

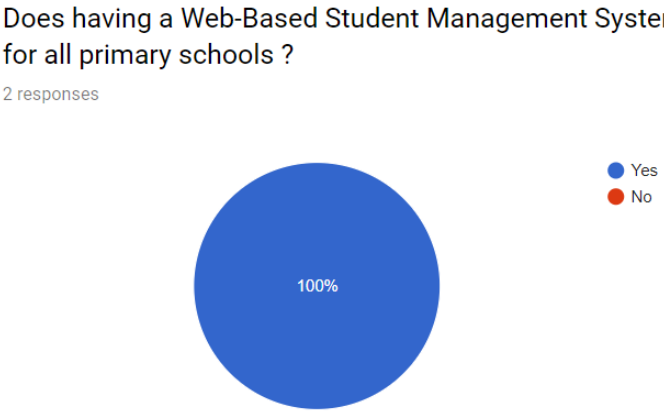


Figure 4.2 Online survey Question 2 Respondent

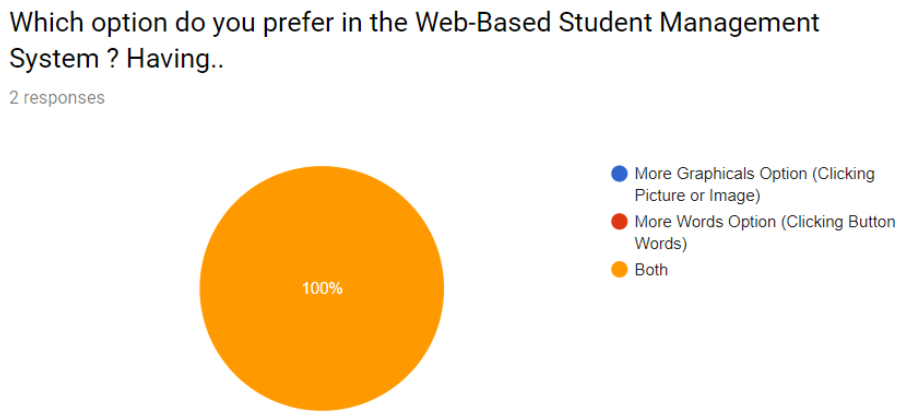


Figure 4.3 Online survey Question 3 Respondent

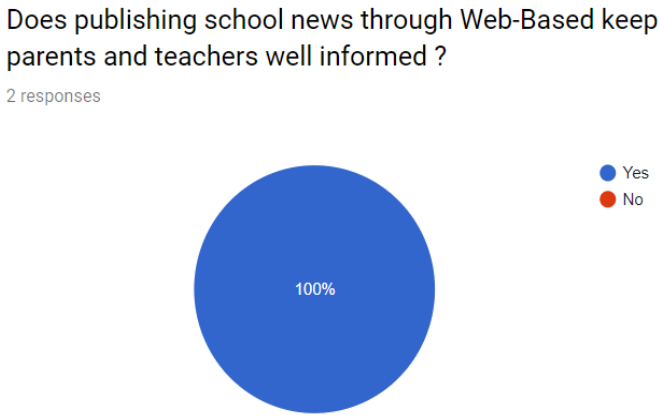


Figure 4.4 Online survey Question 4 Respondent

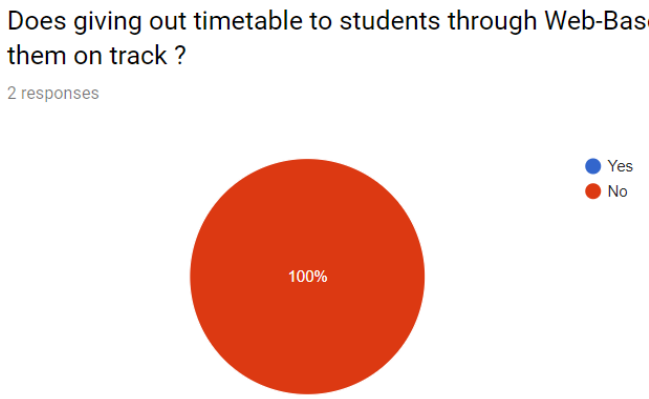


Figure 4.5 Online survey Question 5 Respondent

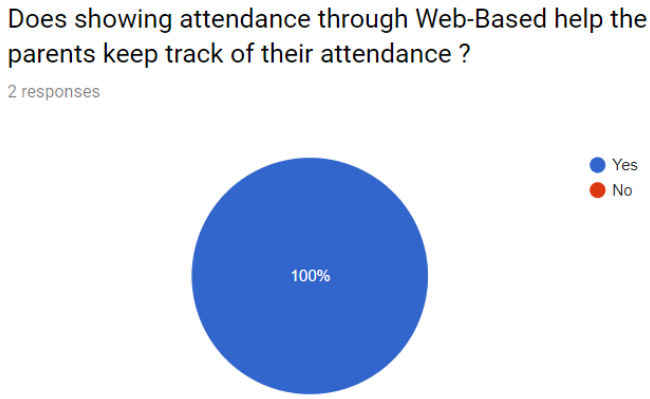


Figure 4.6 Online survey Question 6 Respondent

4.3 User Requirement

4.3.1 Internet

Internet is require in order to gain access to the website.

4.3.2 Web Browser Application

Web browser application are require in order to surf or browse internet. Without web browser, the user unable to gain access to the portal plus internet. Example of internet browser are Google Chrome, Firefox, Internet Explorer or Edge.

4.3.3 Information Technology Devices

User require to have any kind of IT devices such as computer, laptop, tablet, phone and more that support using internet browser such as Safari for IOS, Chrome, Internet Explorer or edge, Firefox and more.

4.3.4 XAMPP

XAMPP is an application that allow user to run server plus it able to read .php file format. Other than that, it came along with Apache and MySQL. The MySQL is important due to allow user to store information in database.

4.4 User Interface

4.4.1 Login Page

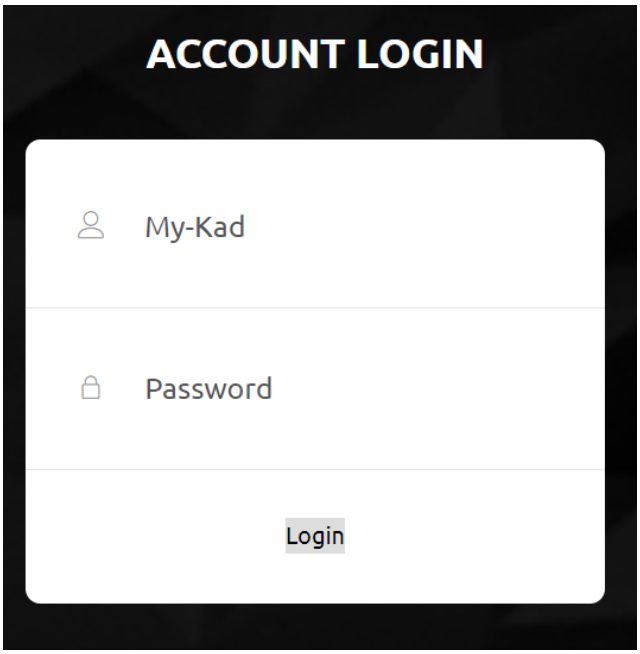


Figure 4.7 Login Page

Login Page is a page where require user to login using their MyKad and their password. Once the user the user insert their mykad and password and it was valid, the server will bring the user to the home page depend of which position are there. Such as student will go to student home page, same goes with teacher and staff.

If the user login to their home page but wish to go to other page such as teacher page by input the URL, it will transfer the user back to login page and require them to login before proceeding.

4.4.2 Staff Home Page

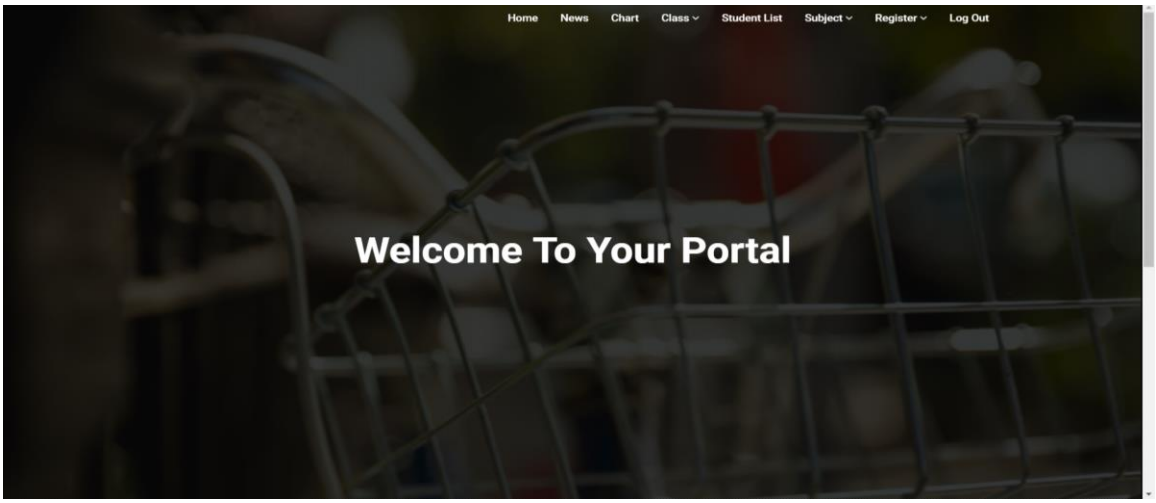


Figure 4.8 Staff Home Page

Once the user login and valid as staff, the server will transfer user to the staff home page.

4.4.3 News Page

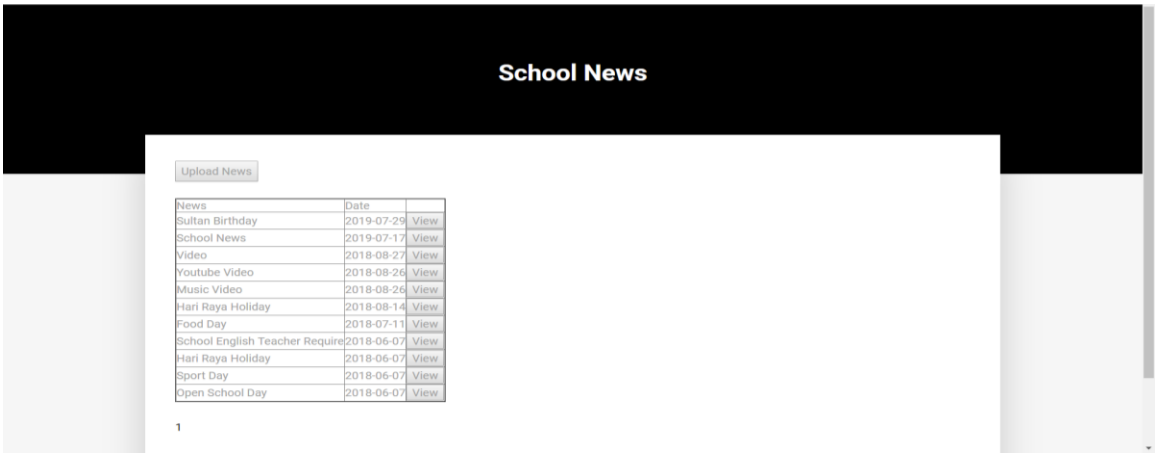


Figure 4.9 Staff News Page

The News page allow staff to view the news by clicking the view button and upload latest news by clicking upload news button.

4.4.4 News View Page

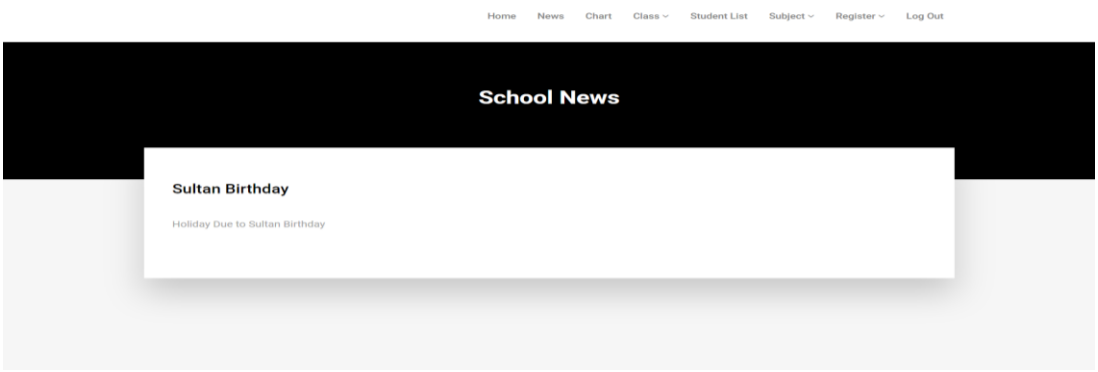


Figure 4.10 News View Page

Once the user click on view button, it will bring the user to view the chosen news. The user able to read the news or remove the news if it necessary. Only staff able to remove one of the news from the News page

4.4.5 Upload News Page

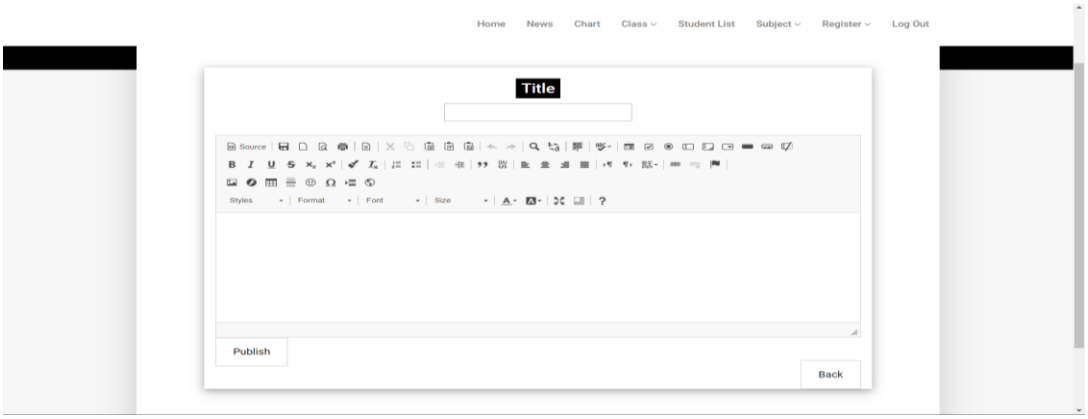


Figure 4.11 Upload News Page

After the staff click on upload news button, it will bring the user to news upload page where user able to insert latest news. Staff able to insert picture, bullet point, font style and more as they wish to design the news before upload to the server.

4.4.6 Chart Page

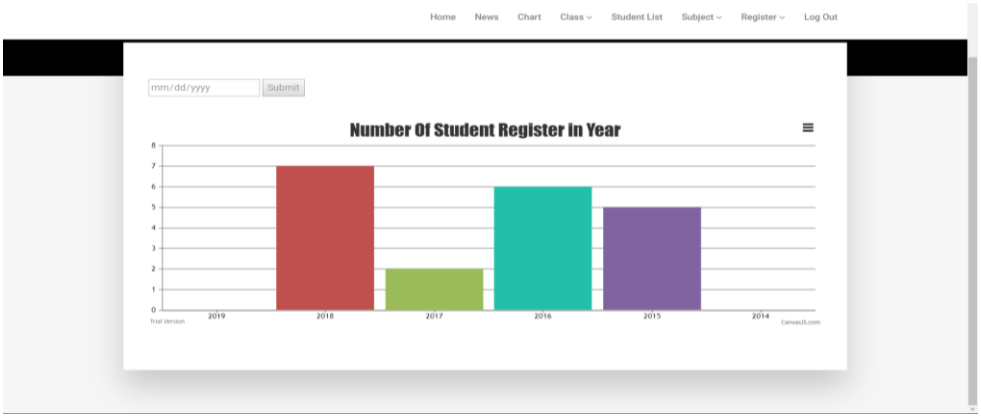


Figure 4.12 Chart Page

The chart show the user the number of student register in year. The chart will able to show 6 years with amount of student register within that year. The staff able to view other year by select the date and click on submit button.

4.4.7 Teacher Registration Page

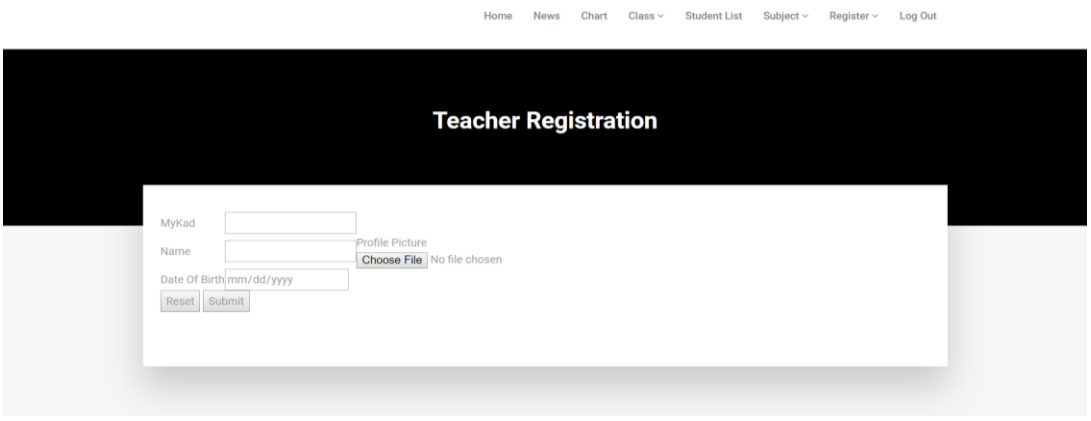


Figure 4.13 Teacher Registration Page

In teacher registration page, staff able to register new teacher account into the server and allow the teacher to access the school portal after the registration is complete.

4.4.8 Staff Registration Page

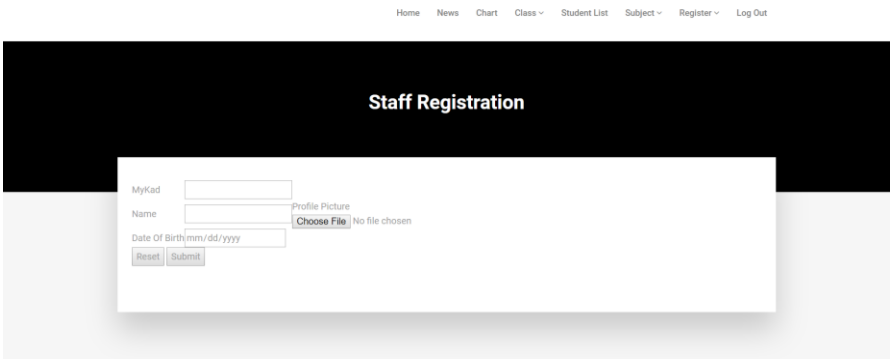


Figure 4.14 Staff Registration Page

Staff registration page allow the staff to register new staff account into the server and allow the staff to access the school portal after the registration is complete.

4.4.9 Student Registration Page

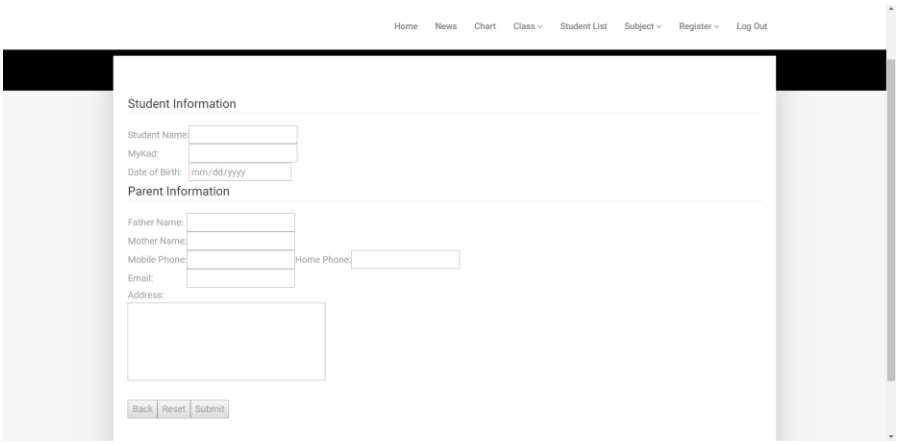


Figure 4.15 Student Registration Page

Student registration page allow the staff to register new student account into the server and allow the staff to access the school portal after the registration is complete. Staff are require to input every detail of student together with their parent or guardian details.

4.4.10 List of Class Page

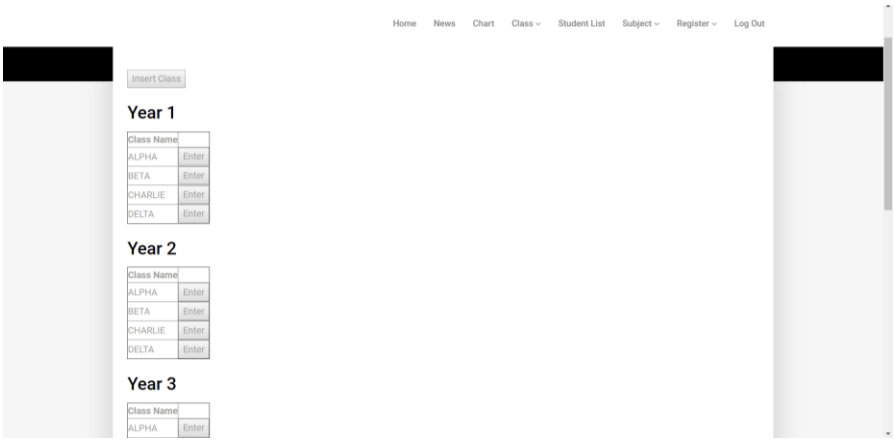


Figure 4.16 List of Class Page

The class page allow staff to insert new class into the system by clicking on insert class button or view the class that contain information of student which are assigned to be in that class plus the class teacher.

4.4.11 Add New Class Page

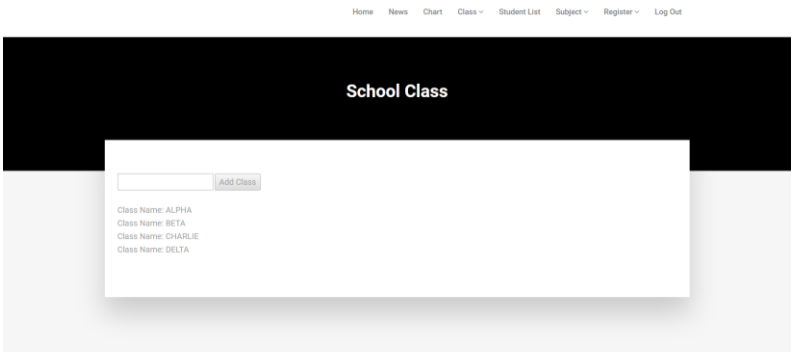


Figure 4.17 Add New Class Page

If the user click on insert class button, it will bring the user to register new class page. This page allow the staff to add new class by input the name of the class and click the add class button. After that, it will show the class name at the bottom.

4.4.12 Class View

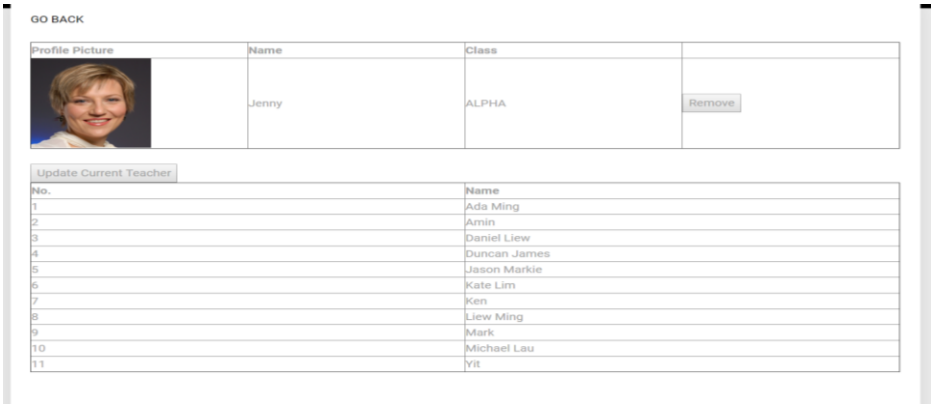


Figure 4.18 Class View Page

At the class view page, the staff able to view the chosen class information that is student and which teacher are in charge of that class. Staff able to update teacher by clicking update current teacher button and it will direct the staff to another page which allow the staff to change teacher if there are teacher is available. Other than that, the staff also able to remove the teacher from the class by clicking remove button.

4.4.13 Assign Student to Class Page

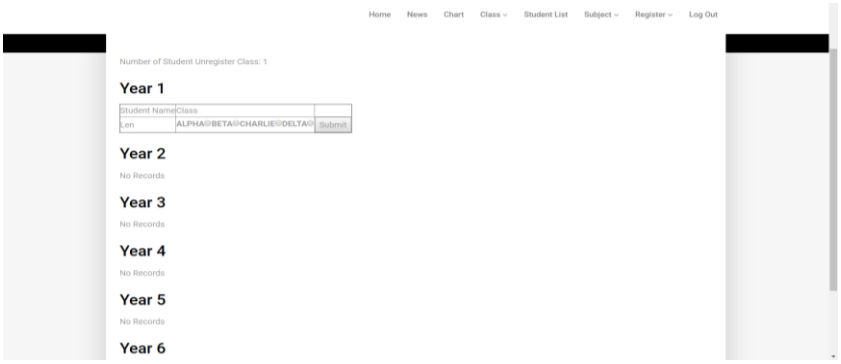


Figure 4.19 Assign Student to Class Page

It show the staff which of the student has not register to the class yet. The student name will form by following their year and staff just require to click the button to register the student into one of the classes.

4.4.14 Student List Page

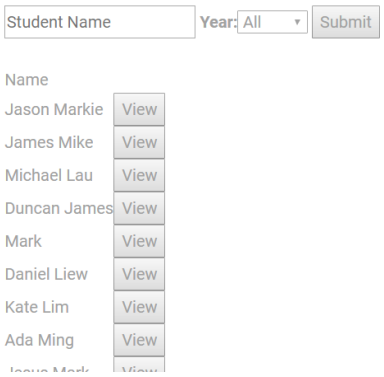


Figure 4.20 Student List Page

The student list page allow the staff to search the student name together with the year. Staff able to use the search box to search student name and click on submit button to get the closest name that the staff has in the search box input. If the staff wish to edit the student information, they allow to click view button from one of the student and they will proceed to student edit page.

4.4.15 Student Edit Page

Figure 4.21 Student Edit Page

Student edit page allow the staff to view or edit the student information and details if there is any changes require.

4.4.16 Teacher Home Page

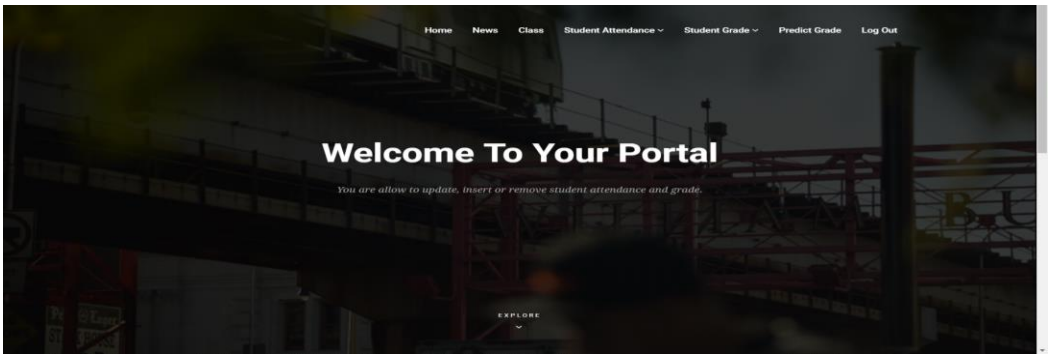


Figure 4.22 Teacher Home Page

After the user login as the teacher, the server will bring the user into the teacher home page.

4.4.17 Teacher News Page

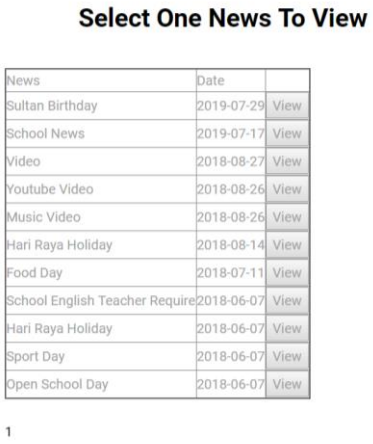


Figure 4.23 Teacher News Page

The news page show the news that posted from the school staff to inform user the news about their school. The teacher able to view the news from the news page by clicking view button.

4.4.18 Teacher Class Page

Figure 4.24 Teacher Class Page

Teacher class page show the list of student that are under the teacher class. After the staff register the teacher to become one of the class teacher, that teacher able to see the list of student that registered in his or her class. Teacher able to update student attendance by clicking the update attendance button and it will bring the user to insert student attendance page.

4.4.19 Insert Student Attendance Page

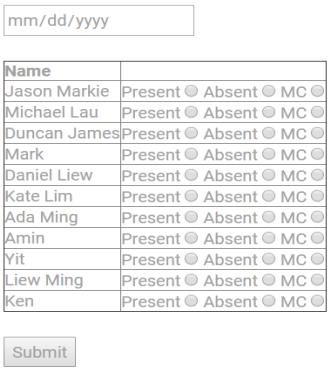


Figure 4.25 Insert Student Attendance Page

The insert student attendance page, the teacher allow to insert his or her student attendance by input the date, click the radio button and click on submit button.

4.4.20 Update Student Attendance Page

Name	
Jason Markie	Edit
Michael Lau	Edit
Duncan James	Edit
Mark	Edit
Daniel Liew	Edit
Kate Lim	Edit
Ada Ming	Edit
Amin	Edit
Yit	Edit
Liew Ming	Edit
Ken	Edit

Figure 4.26 Update Student Attendance Page

This page allow teacher to edit selected student to update their attendance by clicking edit button to one of the student name.

4.4.21 Update Student Attendance Selected Student Page

Student Name: Jason Markie

June

Attendance	Date	
Present	2019-06-01	Update
Absent	2019-06-02	Update

July

Attendance	Date	
Absent	2019-07-03	Update
Absent	2019-07-04	Update
Absent	2019-07-07	Update
Present	2019-07-09	Update
Present	2019-07-28	Update
Present	2019-07-29	Update
Present	2019-07-29	Update
Absent	2019-07-30	Update
Present	2019-07-31	Update

Figure 4.27 Update Student Attendance Selected Student Page

Once the user has selected a student to edit, the system will show the list of attendance from the selected student. The user allow to look for specific date of attendance and update it by clicking update button.

4.4.22 Update Student Attendance Selected Date Page

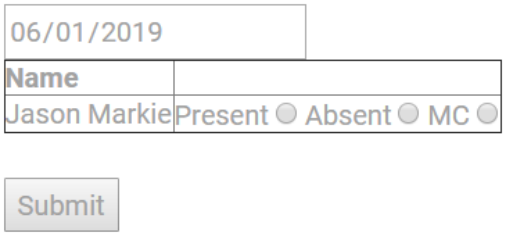


Figure 4.28 Update Student Attendance Selected Date Page

This page allow user to update the selected date for the student attendance.

4.4.23 Insert Student Grade Page

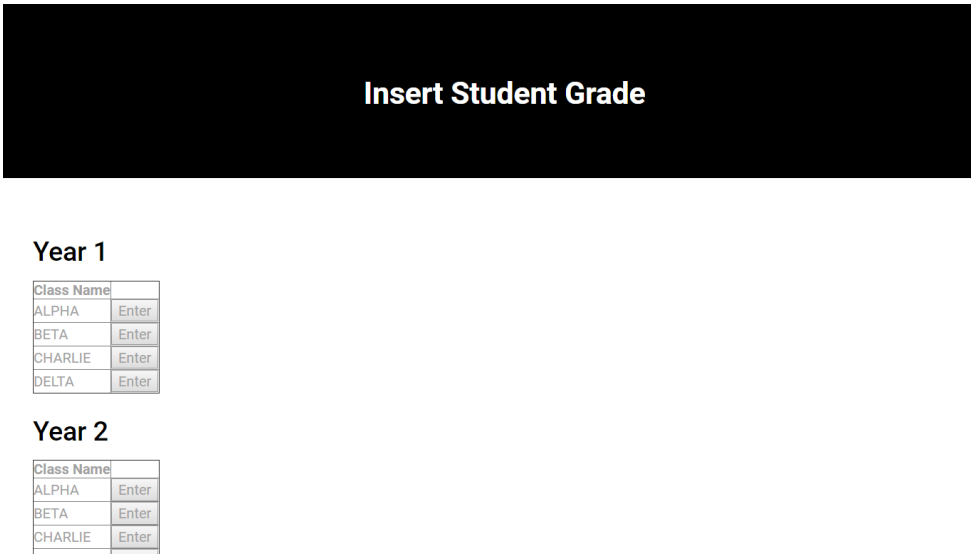


Figure 4.29 Insert Student Grade Page

User allow to choose a specific class to insert the student grade. The grading system are only allow user to insert if they already been assigned a subject by the staff.

4.4.24 Insert Student Grade Selected Class Page

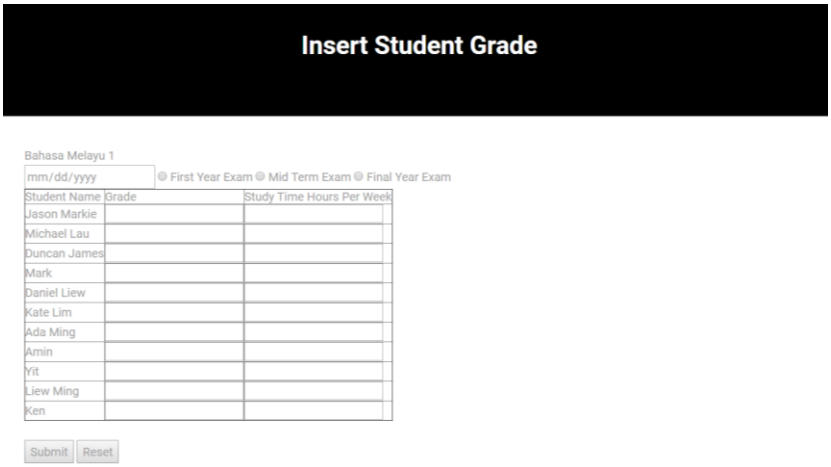


Figure 4.30 Insert Student Grade Selected Class Page

After user has chosen a class, the system will list out the student list and user are allow to enter grade, study time and date into the system. If the user does not fill up a blank, it will prompt an error message.

4.4.25 Update Student Grade Page

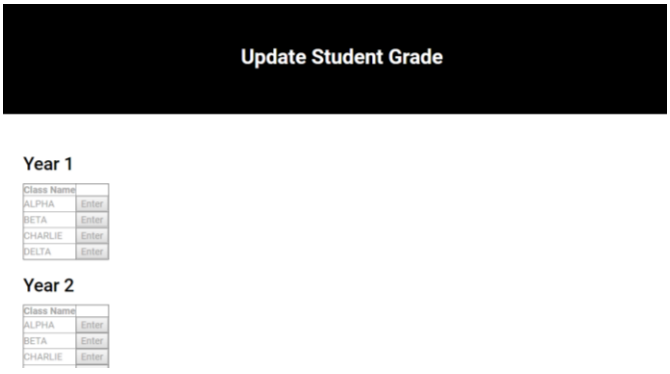


Figure 4.31 Update Student Grade Class List

This page allow user to update student grade by selecting one of the class to update.

4.4.26 Update Student Grade Selected Class Page

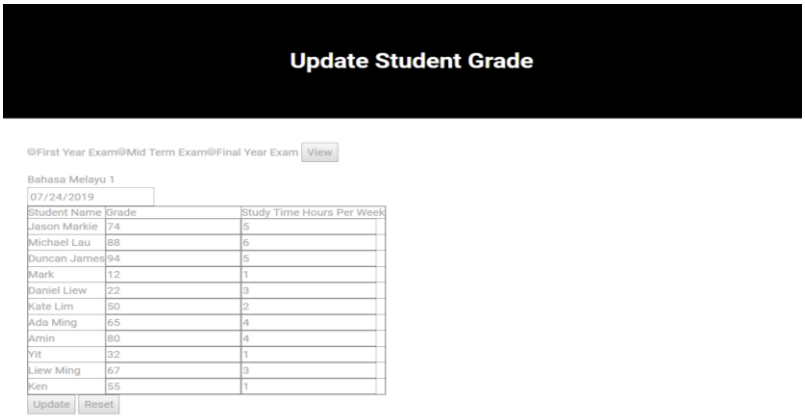


Figure 4.32 Update Student Grade Selected Class Page

This page allow user to update grade in the selected class. If the user wish to update or save the grade, user require to click update button.

4.4.27 Prediction Student Grade Class List Page

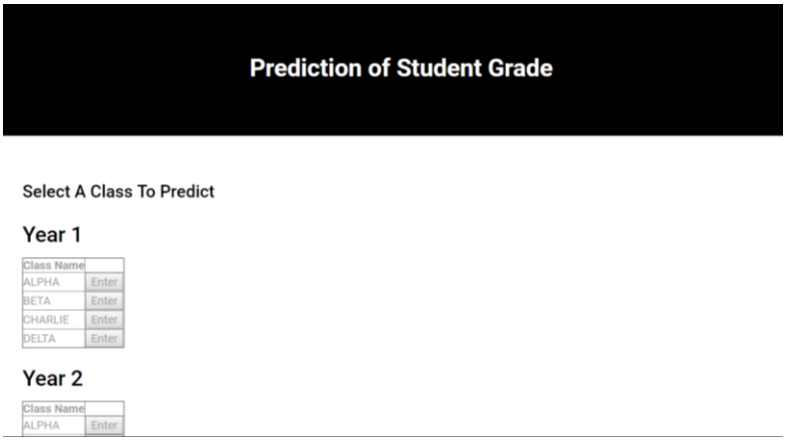
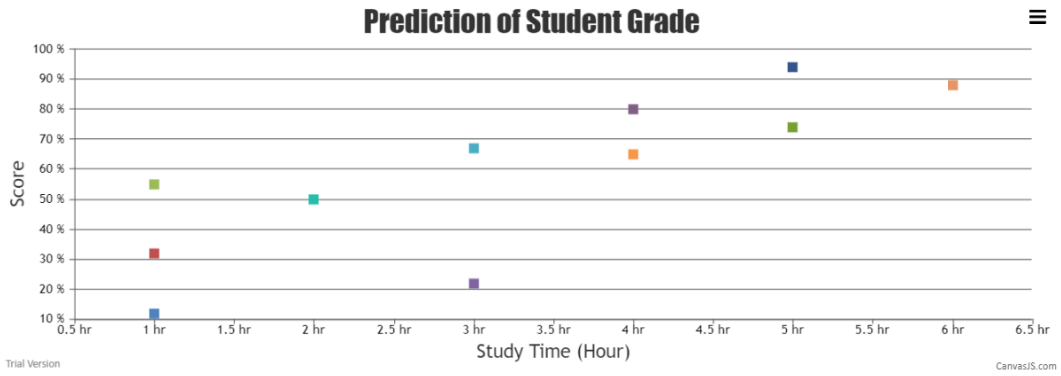


Figure 4.33 Predict Selecting Class List Page

This page allow user to select one of the class to do prediction for their grade.

4.4.28 Prediction of Student Grade Selected Class



Select Type of Exam to Predict: First Year Exam Mid Term Exam Final Year Exam

View

Formula

	StudyTime (x)	Score (y)	xy	x - x̄	y - ŷ	(x - x̄)(y - ŷ)	(x - x̄) ^ 2	(y - ŷ) ^ 2
	5	74	370	1.82	15.91	28.9562	3.3124	253.1281
	6	88	528	2.82	29.91	84.3462	7.9524	894.6081
	5	94	470	1.82	35.91	65.3562	3.3124	1289.5281
	1	12	12	-2.18	-46.09	100.4762	4.7524	2124.2881
	3	22	66	-0.18	-36.09	6.4962	0.0324	1302.4881
	2	50	100	-1.18	-8.09	9.5462	1.3924	65.4481

Figure 4.34 Prediction of Student Grade Selected Class

This page allowing user to look through the prediction graph together with the formula that the system already list out.

4.4.29 Student Home Page

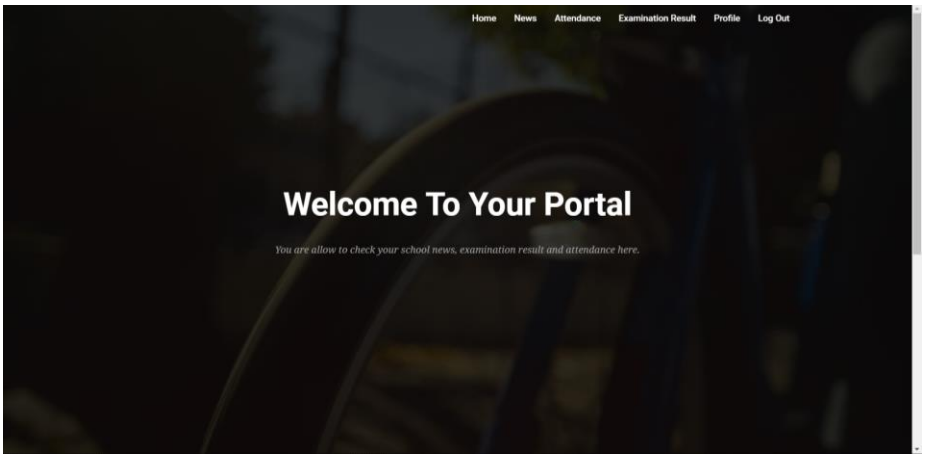


Figure 4.35 Student Home Page

Once the user login as student, the server will direct the user to Student home page. In student home page, student allow to navigate pages through navigation bar.

4.4.30 Student News Page

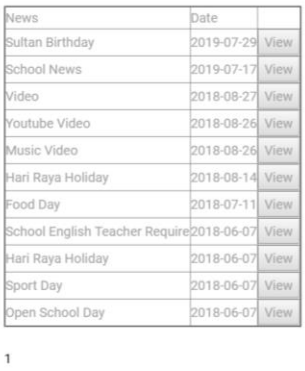


Figure 4.36 Student News Page

In the student news page, the student able to look through the list of news after being posted by the school staff. The student able to view school news by clicking view button.

4.4.31 Student Attendance Page

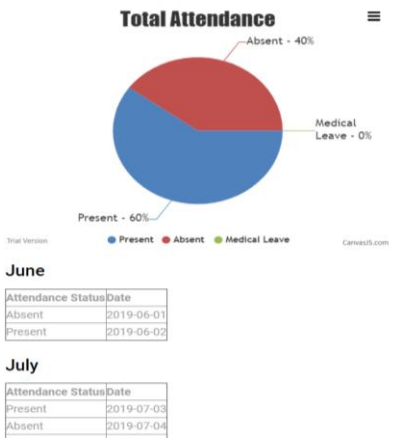


Figure 4.37 Student Attendance Page

The student attendance page show the attendance of the user after input by their school teacher.

4.4.32 Student Profile Page

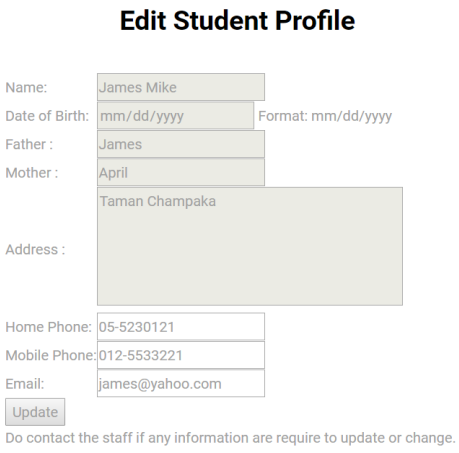


Figure 4.38 Student Profile Page

This page allow student to check their profile page.

4.4.33 Student Grade Page

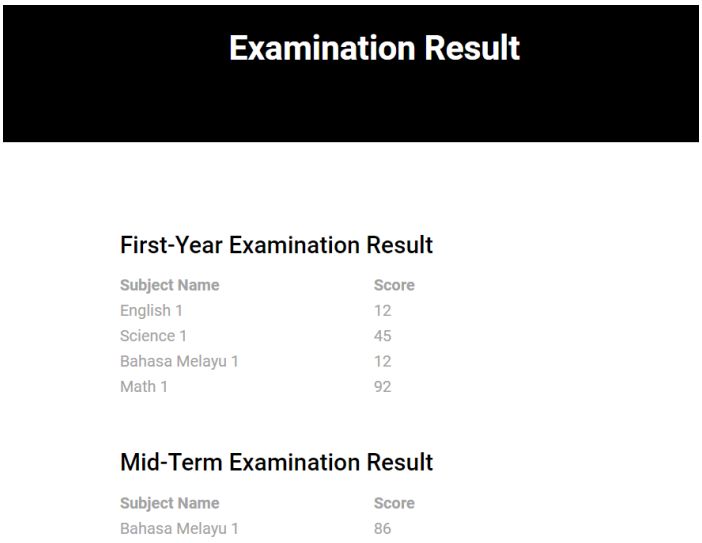


Figure 4.39 Examination Result

This page allow student to check their examination result.

Chapter 5

Testing Phase

5.1 Login Page

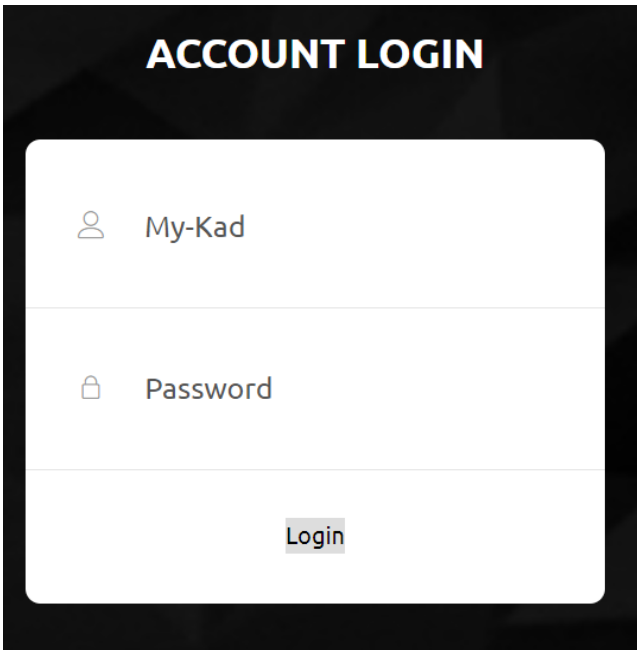


Figure 5.1 Login Page

ID	Description	Input	Output	Success
1	To login user account	Enter correct login details.	Redirect user to user home page.	Yes

5.2 Student

5.2.1 Student Navigation Bar

Figure 5.2 Student Navigation Bar

ID	Description	Input	Output	Success
1	Go to Home Page	Click on Home	Redirect user to home page	Yes
2	Go to News Page to view school news	Click on News	Redirect user to news page	Yes
3	Go to Attendance page to check attendance	Click on Attendance	Redirect user to attendance page	Yes
4	Go to Examination Result page to check examination grade	Click on Examination Result	Redirect user to examination result	Yes
5	Go to Profile to check user profile	Click on Profile	Redirect user to profile page	Yes
6	To log out the current account	Click on Log Out	Redirect user to login page and terminate user session.	Yes

5.2.2 Student Profile

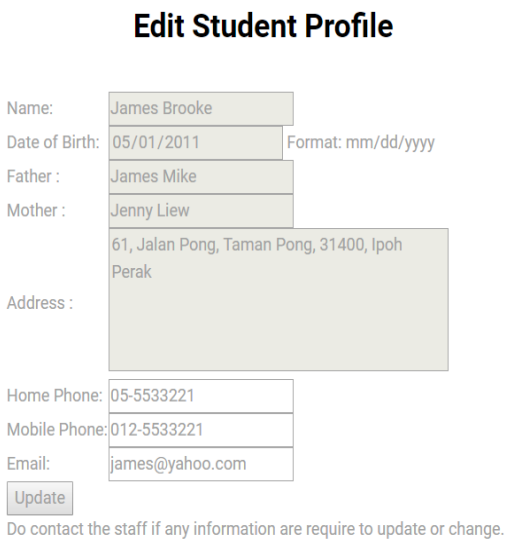


Figure 5.3 Edit Student Profile

ID	Description	Input	Output	Success
1	Update current student profile.	Click Update Button	System update the info and refresh the current page.	Yes

5.3 Teacher

5.3.1 Teacher Navigation Bar

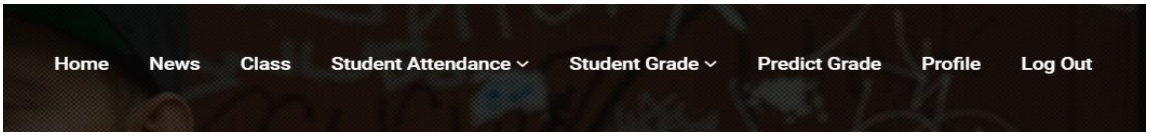


Figure 5.4 Teacher Navigation Bar

ID	Description	Input	Output	Success
1	Go to Home Page	Click Home Button	Redirect user to home page	Yes
2	Go to News Page or read school news	Click News Button	Redirect user to news page	Yes
3	Go to Class Page to check class list	Click Class Button	Redirect user to class page	Yes
4	Go to Update student attendance page	Hover at Student Attendance and click on Update Attendance	Redirect user to update attendance page	Yes
5	Go to Insert student attendance page	Hover at Student Attendance and click on Insert Attendance	Redirect user to insert attendance page	Yes
6	Go to Update Student Grade	Hover at Student Grade and click on Update Student Grade	Redirect user to update student grade page	Yes
7	Go to Insert Student Grade	Hover at Student Grade and click on Insert Student Grade	Redirect user to insert student grade page	Yes

8	Go to user profile	Click on Profile Button	Redirect user to profile page	Yes
9	Log Out from the system	Click on Log Out Button	Redirect user to login page and terminate user session.	Yes

5.3.2 Insert Student Attendance

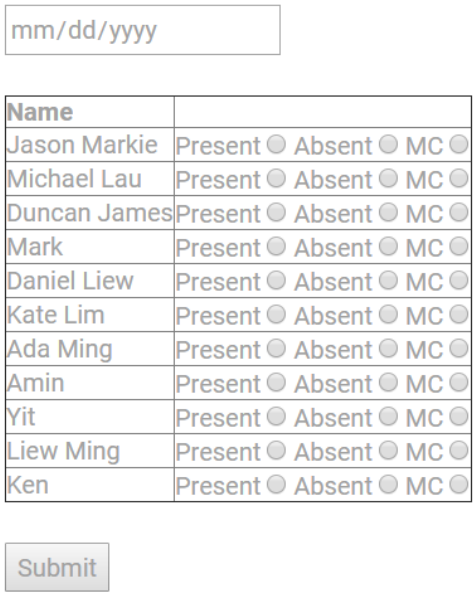


Figure 5.5 Insert Student Attendance

ID	Description	Input	Output	Success
1	To insert attendance	Click Submit	System show success message and insert data into database	Yes

5.3.3 Update Student Attendance

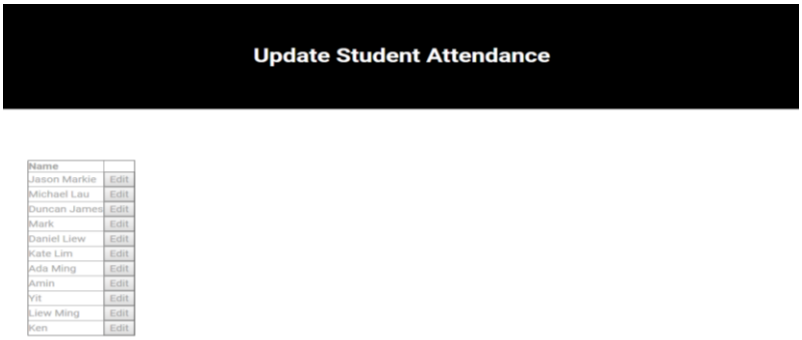


Figure 5.6 Update Student Attendance

ID	Description	Input	Output	Success
1	To select one of the student to update attendance	Click Edit Button	Redirect user to selected student attendance page	Yes

5.3.4 Update Student Attendance Selected Student

Figure 5.7 Update Student Attendance Selected Student

ID	Description	Input	Output	Success
1	Select the selected date to update attendance	Click Update Button	Redirect to selected class grade page	Yes

5.3.5 Update Student Grade

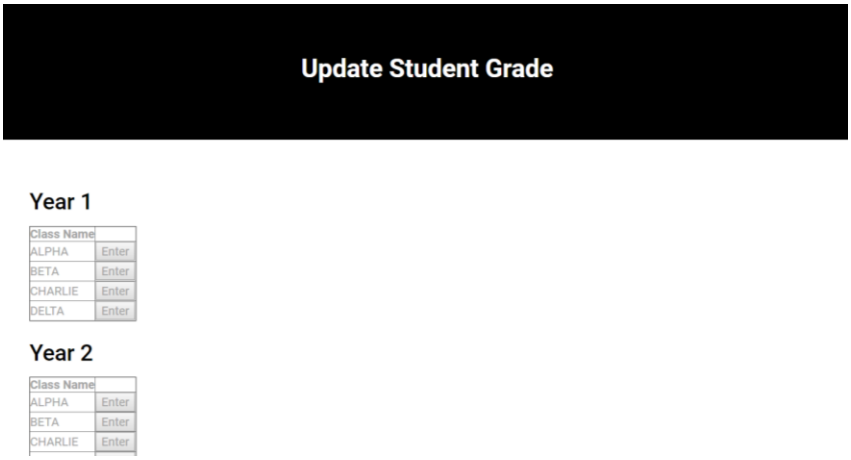


Figure 5.8 Update Student Grade

ID	Description	Input	Output	Success
1	Select the selected date to update grade	Click Enter Button	Redirect to update page	Yes

5.3.6 Update Student Grade Selected Class

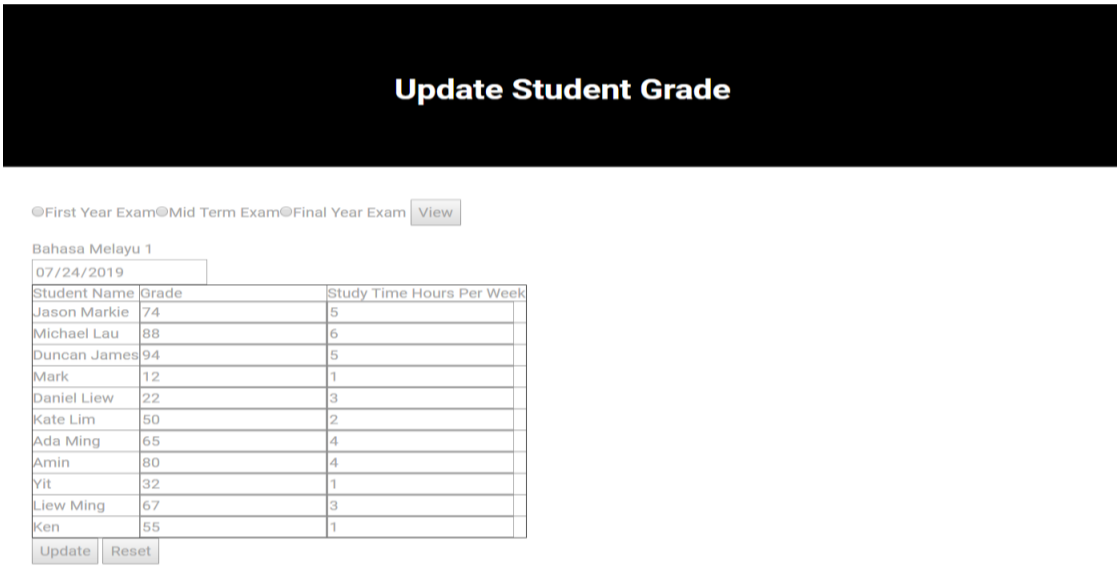


Figure 5.9 Update Student Grade Selected Class

ID	Description	Input	Output	Success
1	Update student grade	Click Update Button	Update Grade Data	Yes
2	Reset student grade	Click Reset Button	Reset all blank	Yes
3.	View other exam season	Click View Button	Show the list of grade from other exam season	Yes

5.3.7 Insert Student Grade

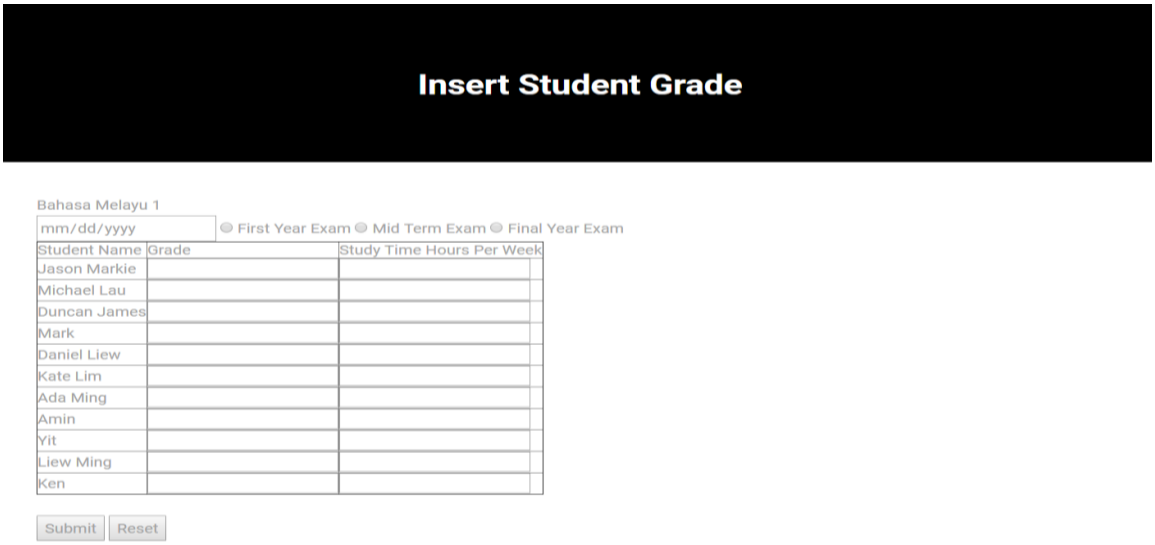


Figure 5.10 Insert Student Grade

ID	Description	Input	Output	Success
1	Insert student grade	Click Submit Button	Insert Grade Data	Yes
2	Reset student grade	Click Reset Button	Reset all blank	Yes

5.3.8 Prediction of Student Grade

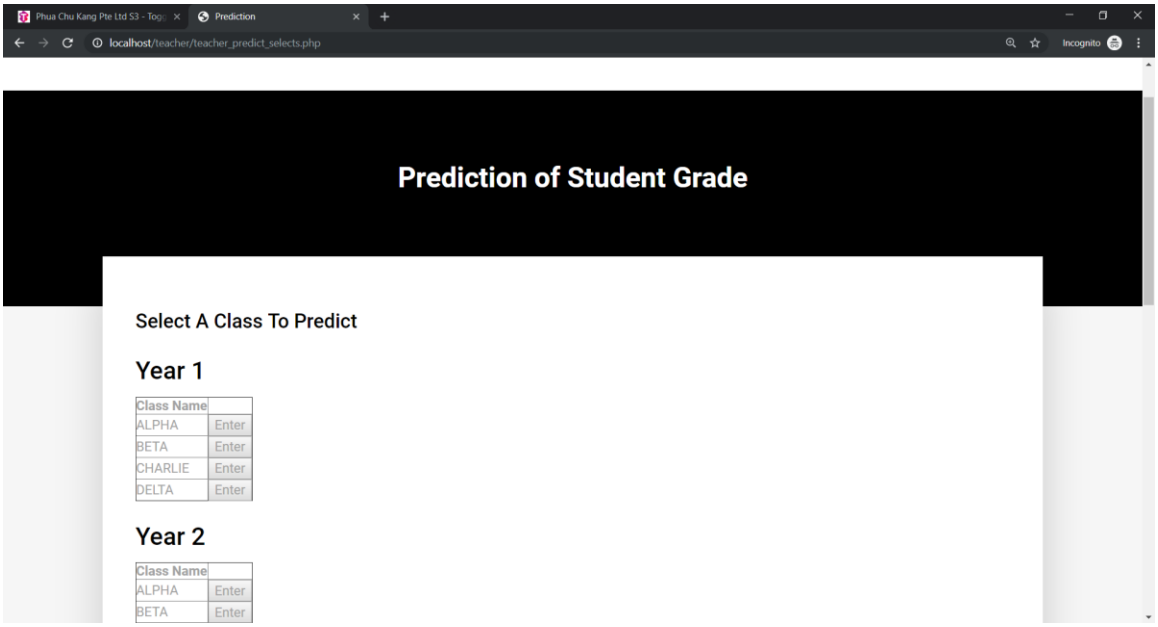
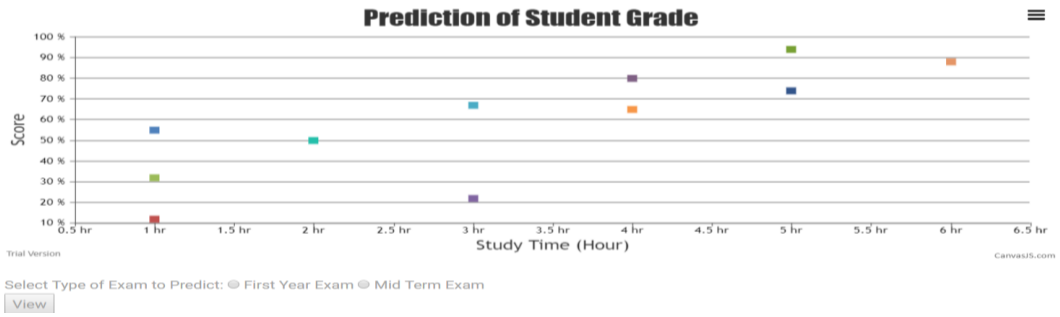


Figure 5.11 Prediction of Student Grade

ID	Description	Input	Output	Success
1	To select a class to predict their examination grade	Click Enter Button	Redirect you to selected prediction page	Yes

5.3.9 Student Prediction Class Selected



Select Type of Exam to Predict: First Year Exam Mid Term Exam

View

	StudyTime (x)	Score (y)	xy	x - x̄	y - ȳ	(x - x̄)(y - ȳ)	(x - x̄) ^ 2	(y - ȳ) ^ 2
	4	65	260	0.82	6.91	5.6662	0.6724	47.7481
	4	80	320	0.82	21.91	17.9662	0.6724	480.0481
	3	22	66	-0.18	-36.09	6.4962	0.0324	1302.4881
	5	94	470	1.82	35.91	65.3562	3.3124	1289.5281
	5	74	370	1.82	15.91	28.9562	3.3124	253.1281
	2	50	100	-1.18	-8.09	9.5462	1.3924	65.4481
	1	55	55	-2.18	-3.09	6.7362	4.7524	9.5481
	3	67	201	-0.18	8.91	-1.6038	0.0324	79.3881
	1	12	12	-2.18	-46.09	100.4762	4.7524	2124.2881
	6	88	528	2.82	29.91	84.3462	7.9524	894.6081
	1	32	32	-2.18	-26.09	56.8762	4.7524	680.6881
Total:	35	639	2414	0.02	0.01	380.82	31.6364	7226.9091

Mean of StudyTime = 3.1818181818182
Mean of Score = 58.090909090909
Sx = 1.78
Sy = 26.88
Sxy (Covariance) = 38.08
Rxy (Correlation Coefficient) = 0.8
β1 = 19.79
β2 = 12.04
y = 19.79 + 12.04(x)

Student Name	Predicted Grade
Ada Ming	67.94
Amin	67.94
Daniel Liew	55.9
Duncan James	79.98
Jason Markie	79.98
Kate Lim	43.86
Ken	31.83
Liew Ming	55.9
Mark	31.83
Michael Lau	92.01
Yit	31.83

Figure 5.12 Student Prediction Class Selected

ID	Description	Input	Output	Success
1	To predict other examination session	Click View Button	Redirect you to result page	Yes

5.4 Staff

5.4.1 Staff Navigation Bar

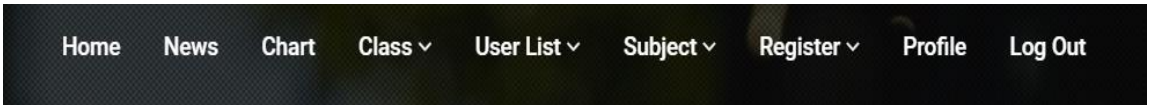


Figure 5.13 Staff Navigation Bar

ID	Description	Input	Output	Success
1	Go to Home Page	Click on Home	Redirect user to home page	Yes
2	Go to News Page to add or read school news	Click on News	Redirect user to news page	Yes
3	Go to Chart Page to check number of student registered in year	Click on Chart	Redirect user to chart page	Yes
4	Go to Class List Page to check the list of class	Hover on Class and choose Class List	Redirect user to class list page	Yes
5	Go to Register Student Class Page to register student to one of the class	Hover on Class and choose Register Student Class	Redirect user to register student class page	Yes
6	Go to Student List Page to check the list of student	Hover on User List and choose Student List	Redirect user to student list page	Yes
7	Go to Teacher List Page to check the list of teacher	Hover on User List and choose Teacher List	Redirect user to teacher list page	Yes
8	Go to Staff List Page to check the list of staff	Hover on User List and choose Staff List	Redirect user to staff list page	Yes

9	Go to Subject Page	Hover on Subject and click on Subject	Redirect user to subject page	Yes
10	Go to Assign Subject page to assign teacher a subject	Hover on Subject and click on Assign Subject	Redirect user to assign teacher page	Yes
11	Go to Student Register Page to register new student	Hover on Register and click Student	Redirect user to register student page	Yes
12	Go to Teacher Register Page to register new teacher	Hover on Register and click Teacher	Redirect user to register teacher page	Yes
13	Go to Staff Register Page to register new staff	Hover on Register and click Staff	Redirect user to register staff page	Yes
14	Go to Profile Page to check user profile	Click on Profile	Redirect user to profile page	Yes
15	Log Out from the system	Click on Log Out	Redirect user to login page and terminate user session.	Yes

5.4.2 Staff Register

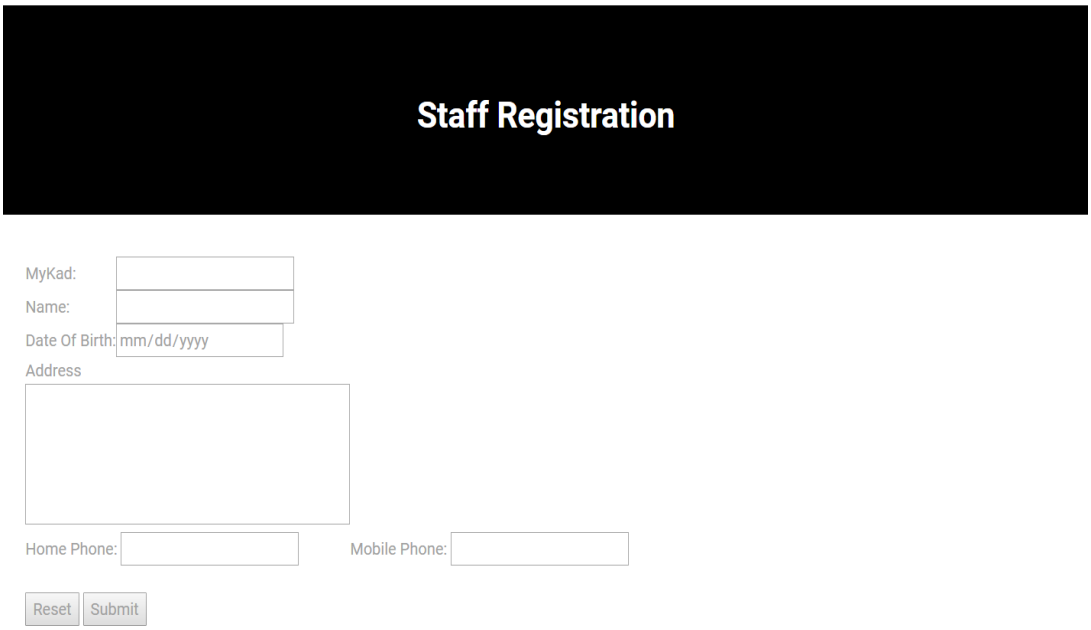


Figure 5.14 Staff Registration

ID	Description	Input	Output	Success
1	Reset everything to blank	Click Reset Button	Make everything blank	Yes
2	Register Staff into database	Click Submit Button	Insert Staff info	Yes

5.4.3 Student Register

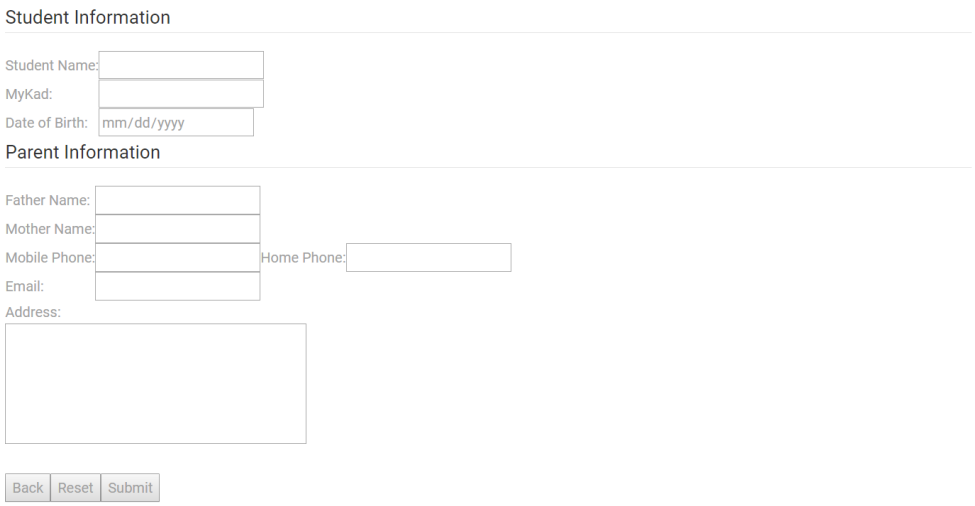


Figure 5.15 Student Registration

ID	Description	Input	Output	Success
1	Reset everything to blank	Click Reset Button	Make everything blank	Yes
2	Register student and parent into database	Click Submit Button	Insert student and parent data	Yes

5.4.4 Teacher Register

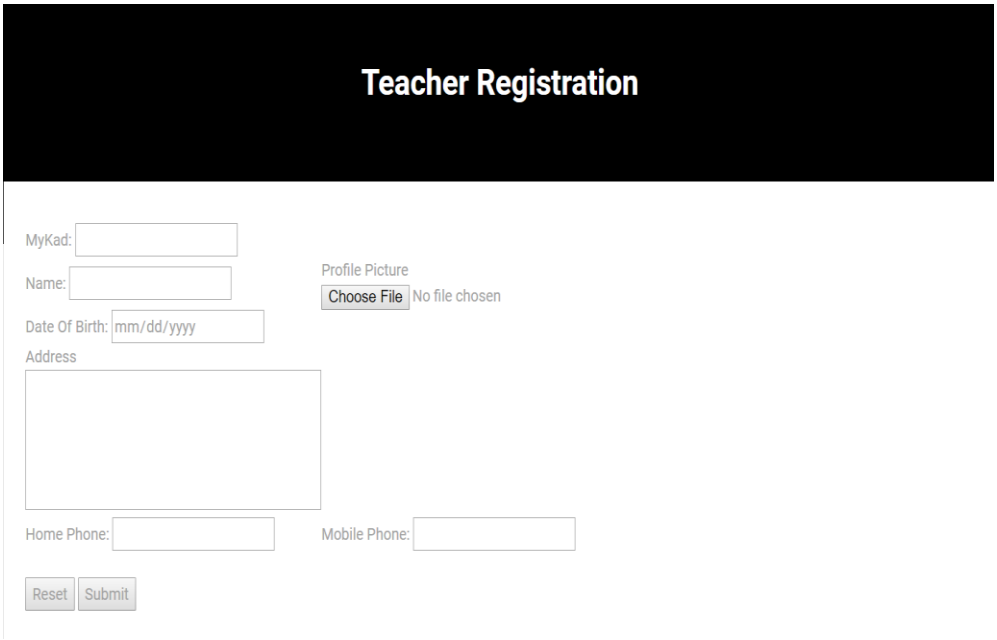


Figure 5.16 Teacher Register

ID	Description	Input	Output	Success
1	Reset everything to blank	Click Reset Button	Make everything blank	Yes
2	Register Teacher into database	Click Submit Button	Insert teacher data	Yes

5.4.5 Student List Page

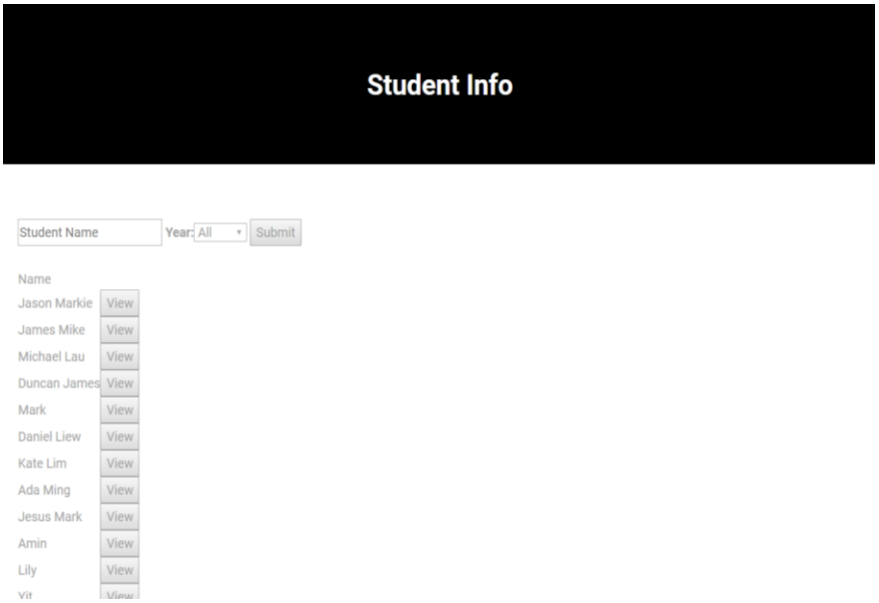


Figure 5.17 Student Info List

ID	Description	Input	Output	Success
1	Find specific student	Click Submit Button	List out all student with query	Yes
2	Select specific student	Click View Button	Proceed to another page with selected student	Yes

5.4.6 Student Profile Page

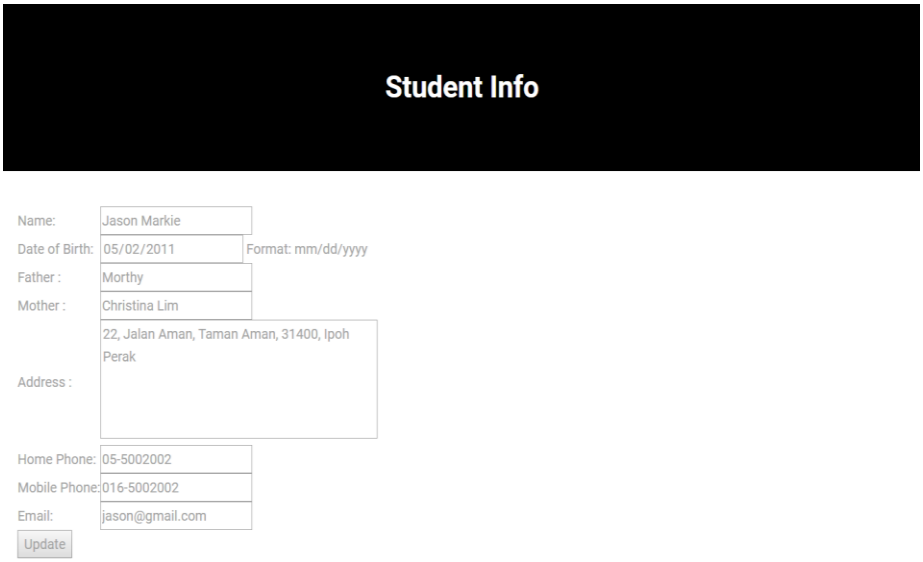


Figure 5.18 Student Info Selected

ID	Description	Input	Output	Success
1	Update current student profile.	Click Update Button	System update the info and refresh the current page.	Yes

5.4.7 Teacher List

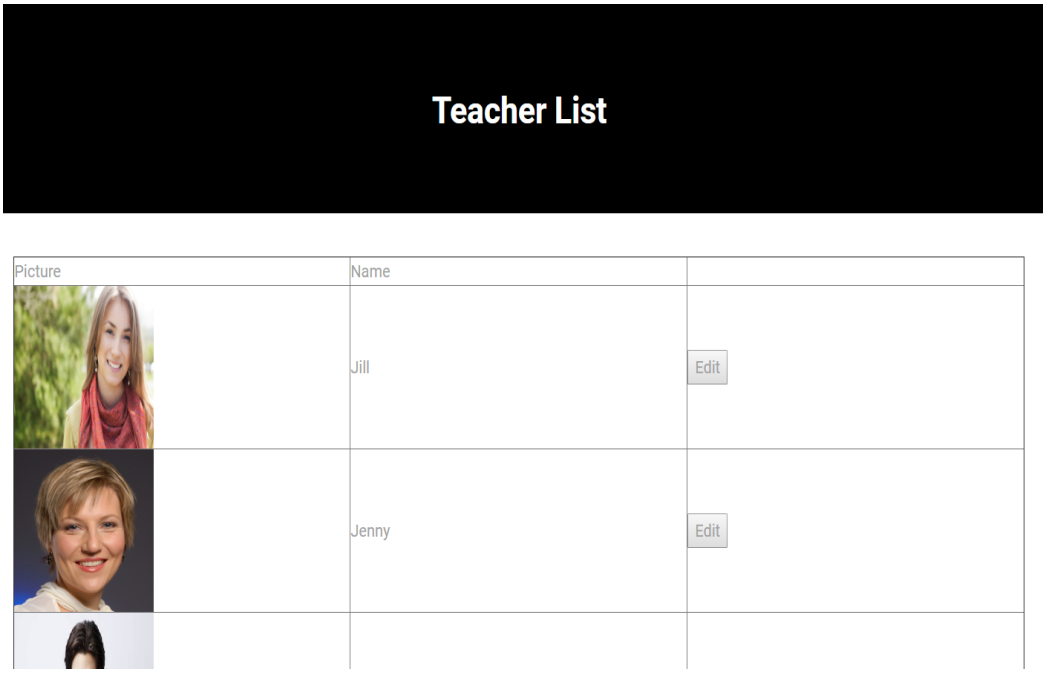


Figure 5.19 Teacher List

ID	Description	Input	Output	Success
1	Select specific teacher	Click Edit Button	Redirect user to teacher profile	Yes

5.4.8 Teacher Profile Selected

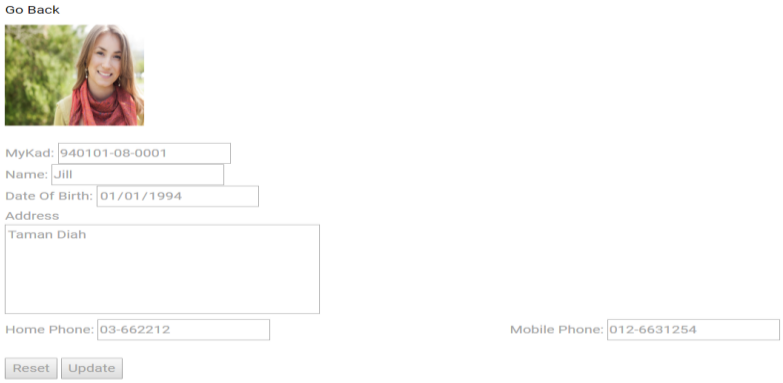


Figure 5.20 Teacher Profile Selected

ID	Description	Input	Output	Success
1	Update current teacher profile.	Click Update Button	System update the info	Yes
2	Reset the info	Click Reset Button	System reset the info in text field	Yes

5.4.9 Staff List

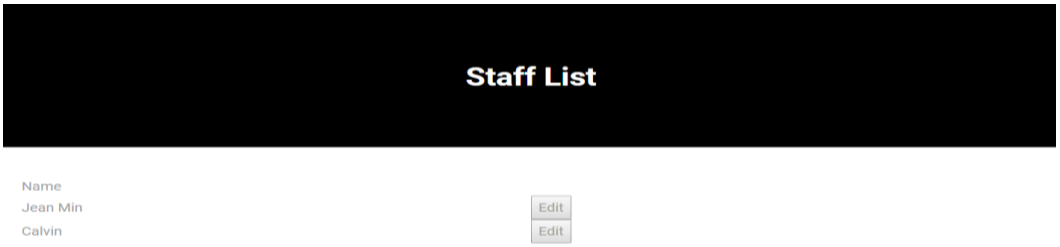


Figure 5.21 Staff List

ID	Description	Input	Output	Success
1	Select specific staff	Click Edit Button	Redirect user to staff profile	Yes

5.4.10 Staff Profile

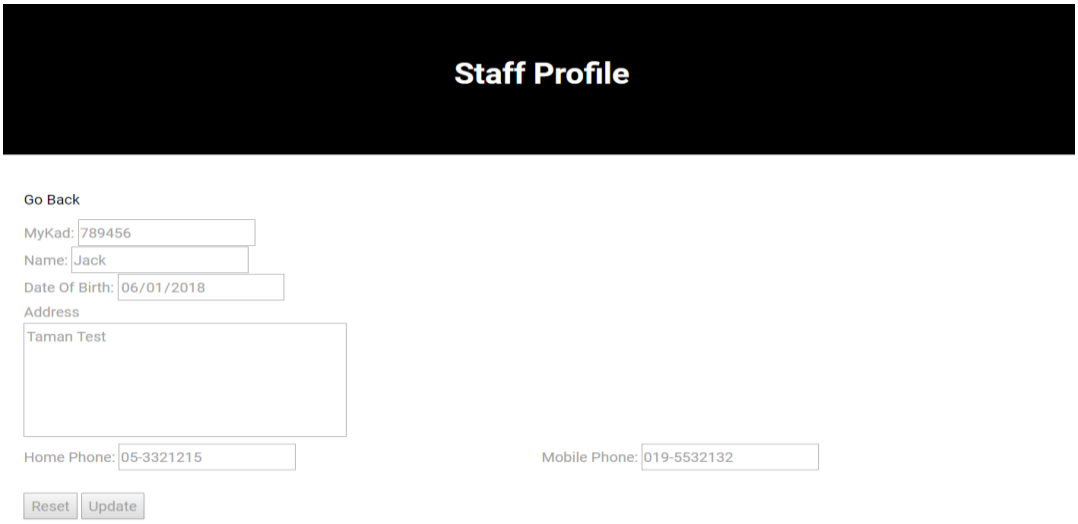


Figure 5.22 Staff profile selected

ID	Description	Input	Output	Success
1	Update current staff profile.	Click Update Button	System update the info	Yes
2	Reset the info	Click Reset Button	System reset the info in text field	Yes

5.4.11 News List

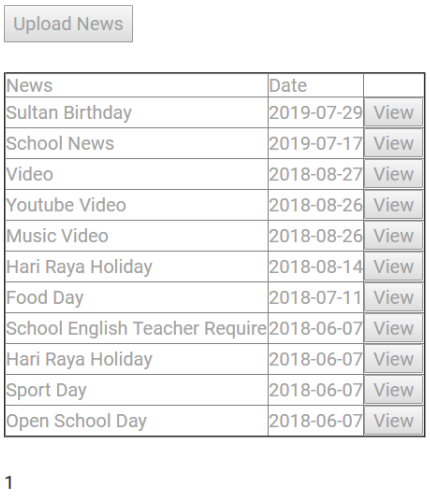


Figure 5.23 News List

ID	Description	Input	Output	Success
1	To view the selected school news	Click on View button	Redirect to another page and show the result to user.	Yes
2	To upload latest school news	Click on Upload News button	Redirect user to news edit page.	Yes

5.4.12 News Upload

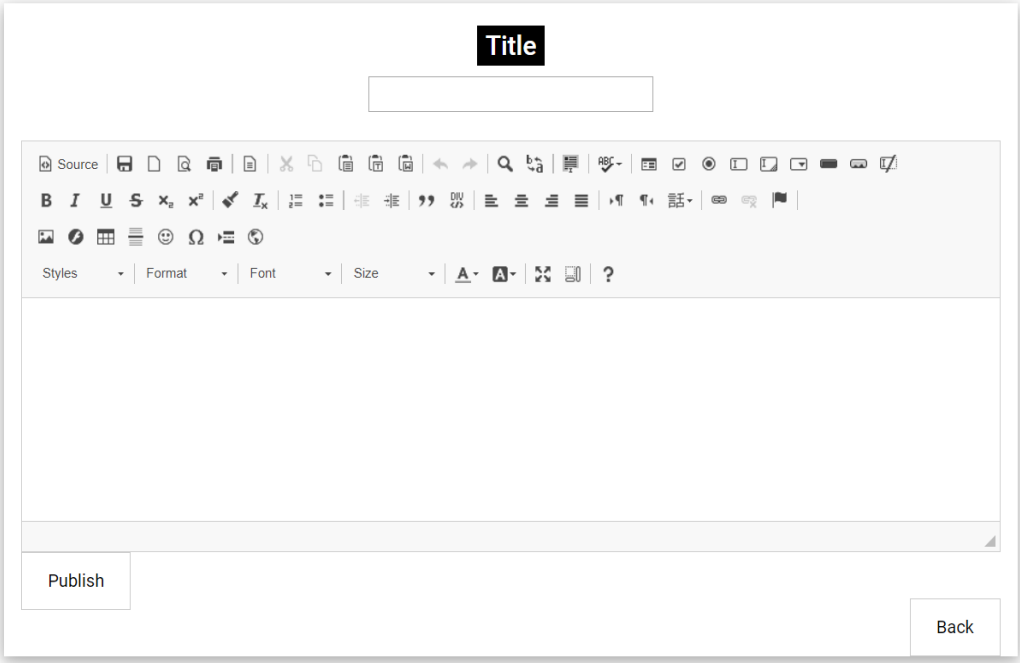


Figure 5.24 News Upload

ID	Description	Input	Output	Success
1	To publish school news	Click Publish	Insert into database	Yes
2	Back to list of school news	Click Back	Return to list of school news	Yes

5.4.13 School Class Assign Teacher

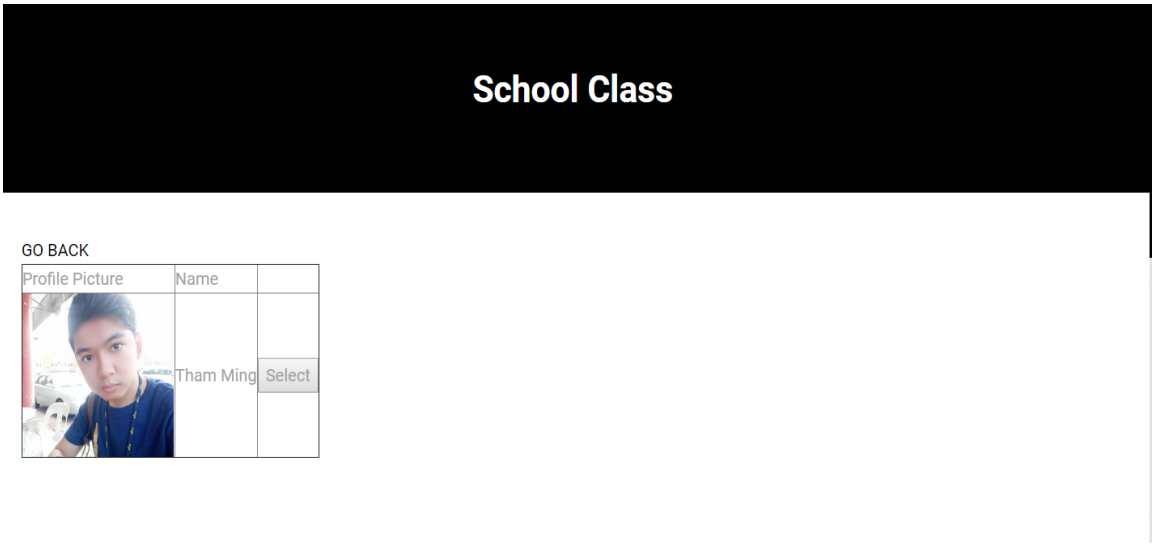


Figure 5.25 School Class Update or Insert

ID	Description	Input	Output	Success
1	Go back to current class list	Click GO BACK	Return to class list	Yes
2	Insert or Update current teacher	Click Select Button	Insert or Update teacher	Yes

5.4.14 Selected School Class List

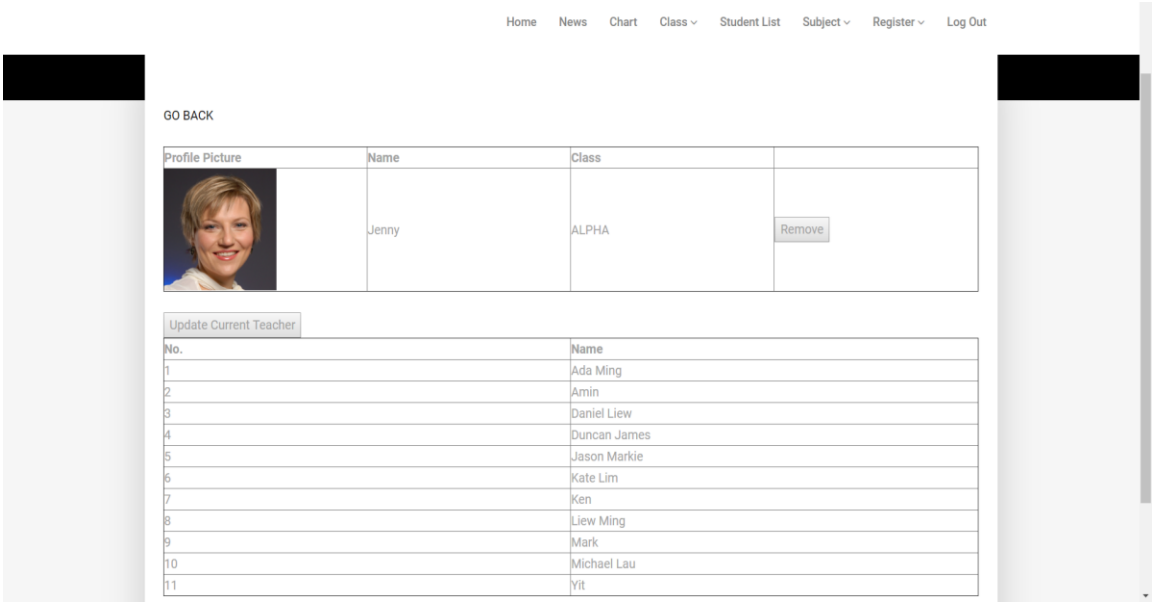


Figure 5.26 Class Selected List

ID	Description	Input	Output	Success
1	Go back to class selection	Click GO BACK	Return to class list	Yes
2	Remove teacher from current class	Click Remove Button	Remove current teacher	Yes
3	Update teacher from class	Click Update Current Teacher Button	Go to list of available teacher to choose	Yes

5.4.15 Subject List

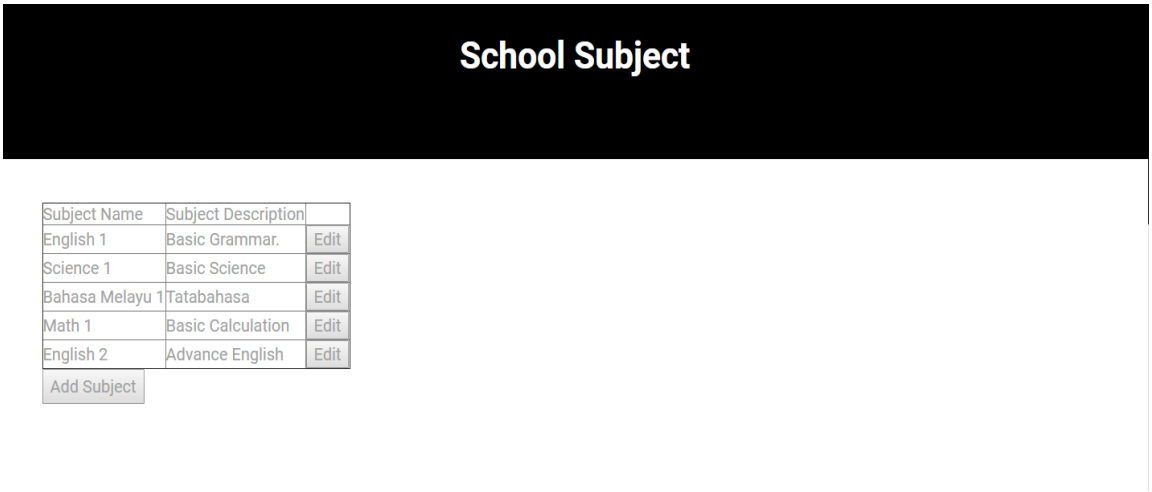


Figure 5.27 School Subject List

ID	Description	Input	Output	Success
1	Choose a subject to edit	Click Edit Button	Proceed to another page to edit	Yes
2	Add new subject	Click Add Subject Button	Proceed to another page to add new subject	Yes

5.4.16 Update School Subject

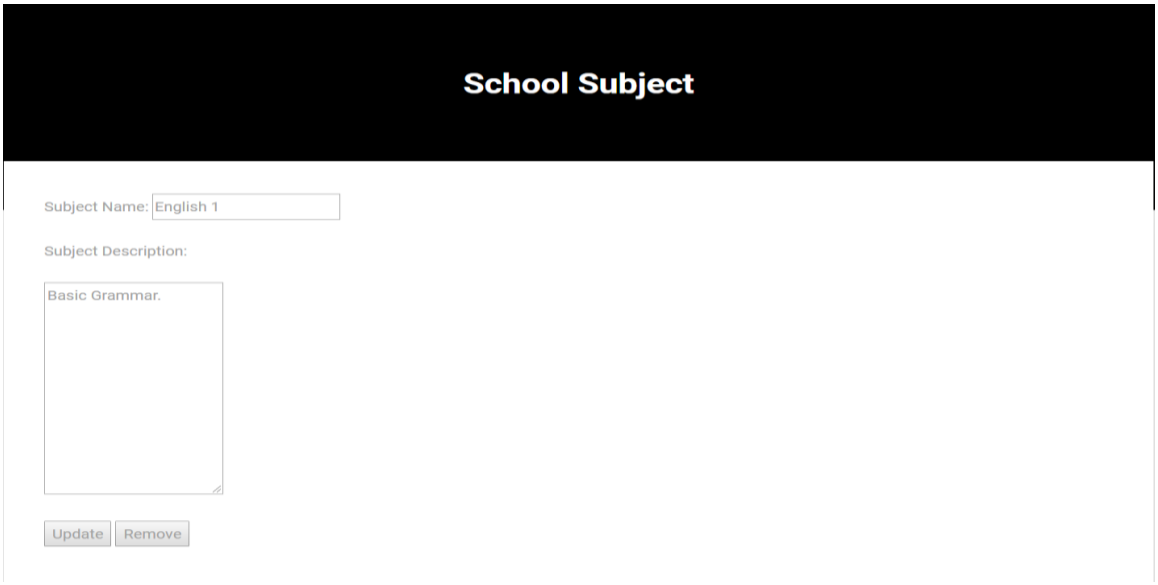


Figure 5.28 School Subject Edit

ID	Description	Input	Output	Success
1	Update current subject	Click Update Button	Update the subject data	Yes
2	Remove current subject	Click Remove Button	Remove the subject data	Yes

5.4.17 Student Registered Graph

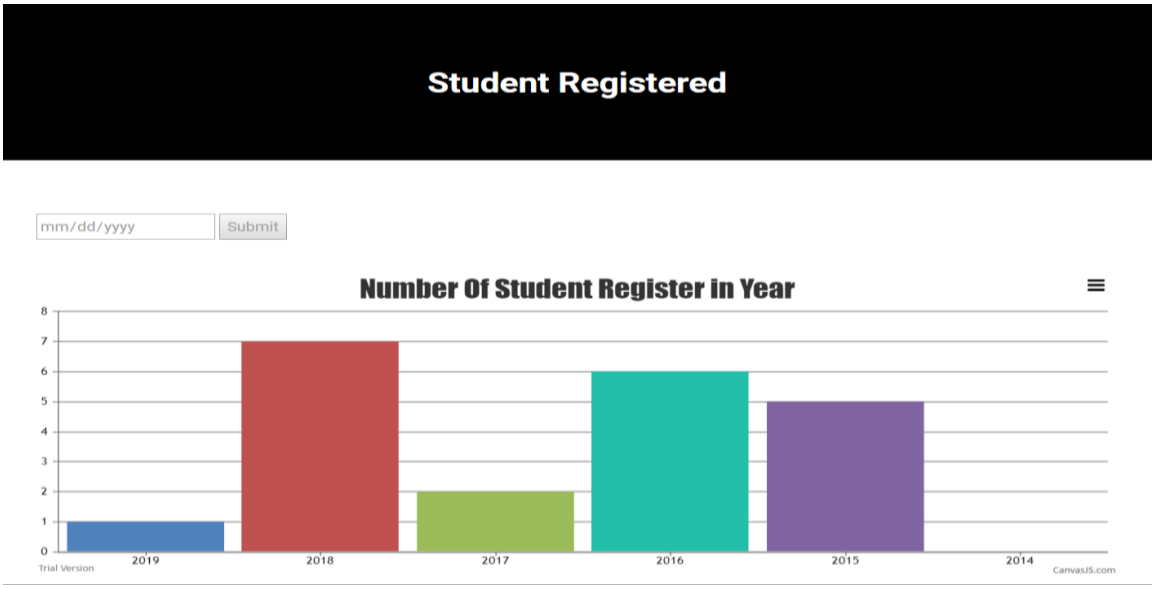


Figure 5.29 Student Registered Graph

ID	Description	Input	Output	Success
1	To Search for specific year of student register	Input the date and click submit button	Redirect to result page	Yes

5.5 Testing on Linear Regression

5.5.1 StudyTime and Score

StudyTime	Score
9	99
7	85
4	35
6	86
2	33
1	10
1	22
3	65
2	35
4	74
4	55

Figure 5.30 Table of Relationship between Study Time and Score

This table on figure 6.1 are the score for student in mid-term examination and will be predicted by using linear regression. The summary output are shown below at figure 6.2.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.906632196
R Square	0.821981938
Adjusted R Square	0.802202154
Standard Error	13.08239588
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	7112.385536	7112.385536	41.5566678	0.000118634
Residual	9	1540.341737	171.1490819		
Total	10	8652.727273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.53501401	7.4733641	1.811100573	0.1035541	-3.37091012	30.44093813	-3.37091012	30.4409381
StudyTime	10.46778711	1.623807427	6.446446136	0.00011863	6.794479512	14.14109472	6.794479512	14.1410947

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*	*Standard Residuals*
1	107.745098	-8.745098039	-0.704621906
2	86.80952381	-1.80952381	-0.145799408
3	55.40616246	-20.40616246	-1.644193013
4	76.34173669	9.658263305	0.778198697
5	34.47058824	-1.470588235	-0.118490231
6	24.00280112	-14.00280112	-1.128252694
7	24.00280112	-2.00280112	-0.16137241
8	44.93837535	20.06162465	1.616432445
9	34.47058824	0.529411765	0.042656483
10	55.40616246	18.59383754	1.49816791
11	55.40616246	-0.406162465	-0.032725873

Figure 5.31 Summary Output for Figure 5.30 Table

5.5.2 Midterm Actual Score and Average Sessional Score

Average Score First and Mid (x)	Actual Score (y)
86	99
86	85
64	35
49	86
27	33
30	10
43	22
72	65
33	35
70	74
55	55

Figure 5.32 Table of Midterm Actual Score and Average Sessional Score

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.788690603
R Square	0.622032867
Adjusted R Square	0.580036519
Standard Error	19.06260597
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5382.280756	5382.280756	14.8115942	0.003914786
Residual	9	3270.446517	363.3829464		
Total	10	8652.727273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-6.147846795	16.76283353	-0.366754629	0.72227651	-44.0680107	31.77231714	-44.0680107	31.7723171
Average Score First and Mic	1.083945227	0.281647846	3.848583407	0.00391479	0.446813535	1.72107692	0.446813535	1.72107692

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*	*Standard Residuals*
1	87.07144275	11.92855725	0.659605691
2	87.07144275	-2.071442747	-0.114543225
3	63.22464775	-28.22464775	-1.560720033
4	46.96546934	39.03453066	2.158467114
5	23.11867434	9.88132566	0.546401253
6	26.37051002	-16.37051002	-0.905229471
7	40.46179798	-18.46179798	-1.020870064
8	71.89620957	-6.896209565	-0.381335226
9	29.6223457	5.377654296	0.29736466
10	69.72831911	4.271680889	0.236208366
11	53.4691407	1.530859297	0.084650933

Figure 5.33 Summary Output for Figure 5.32 Table

Other than that, the r-square in figure 6.2 are higher than figure 6.4. If the r-square is lower than 70% it show that the performance is medium or weak correlation. Else it has strong correlation that show every line movement explain of index movement.

By comparing the both analysis that in figure 6.2 and figure 6.4, we can see the standard error in figure 6.2 are less than figure 6.4. Standard error are calculated to know the distance of predicted line score from the actual score.

5.5.3 Score, StudyTime and Average Sessional Score

Score (y)	StudyTime (x)	Average Score First and Mid (x)
99	9	86
85	7	86
35	4	64
86	6	49
33	2	27
10	1	30
22	1	43
65	3	72
35	2	33
74	4	70
55	4	55

Figure 5.34 Table of Score, StudyTime and Average Score for First and Midterm

This table show the prediction of score by having two x-variable that is Study Time and Average Score. By having both x-variable, we are able to compare both variable to know which predictor are prefect to use.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.914263372
R Square	0.835877514
Adjusted R Square	0.794846892
Standard Error	13.32341506
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	7232.620162	3616.310081	20.37204125	0.000725558
Residual	8	1420.107111	177.5133889		
Total	10	8652.727273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	5.614902382	12.26944896	0.457632808	0.659388898	-22.67849765	33.90830242	-22.678498	33.90830242
StudyTime	8.712699266	2.698625267	3.228569513	0.012082876	2.48965824	14.93574029	2.48965824	14.93574029
Average Score First and Mid	0.264373992	0.321232523	0.822998835	0.434353474	-0.476389535	1.005137519	-0.4763895	1.005137519

RESIDUAL OUTPUT

Observation	*Predicted Y*	*Residuals*	*Standard Residuals*
1	106.7653591	-7.765359126	-0.651629886
2	89.33996059	-4.339960595	-0.364187668
3	57.38563496	-22.38563496	-1.878489909
4	70.84542361	15.15457639	1.271695839
5	30.17839871	2.82160129	0.23677459
6	22.25882142	-12.25882142	-1.028698644
7	25.69568332	-3.695683324	-0.310123159
8	50.78792764	14.21207236	1.192605641
9	31.76464267	3.235357335	0.271494917
10	58.97187892	15.02812108	1.261084345
11	55.00626903	-0.006269031	-0.000526066

Figure 5.35 Summary Output for table Figure 5.34

R Square = 83.5%; Taken as a set, the predictor Study Time and Average Score for First and Mid account for 83.5% of the variance in Grade. But this summary output are multi-linear regression due to it has two x-variables, we have to look through adjusted R square that is 79.4%.

The p-value for Study Time is significance predictor for grade than Average Score that obtain p-value of 0.47. This is because, the average score p-value has value more than 0.05, it show that average score was not significance predictor. That is why we have to reject the average score predictor.

Chapter 6

Conclusion

6.1 Summary

This study has presented a method for improving the Web-Based Student Management System for primary school that allows easing the problematic for school staff, teacher and parents by keeping track of students during school time. This enables to improve the education system to ensure that school allow to keep track of student, teacher and staff performance and details.

Biography

Bram Pynoo a, *., 2012. Teachers' acceptance and use of an educational portal. *Computers & Education,* pp. 1309-1317.

E. Ashby Plant*, K. A. E. L. H. K. A., 2005. Why study time does not predict grade point average across college students: Implications of deliberate practice for academic performance. *Contemporary Educational Psychology,* pp. 96-116.

George, D. E. U. &. I. N., 2013. Length of Study-Time Behaviour and Academic Achievement of Social Studies Education Students in the University of Uyo. *International Education Studies,* Volume 6, pp. 172-178.

Howard Schuman, E. W. C. O. a. B. E., 1985. Effort and Reward: The Assumption That College Grades are Affected by Quantity of Study. *Social Forces,* Volume 63, pp. 945-966.

Kalmegh, M. P. A., 2016. Student Information System with Working. *International Journal for Research in Applied Science & Engineering Technology (IJRASET),* 4(3), pp. 923-929.

Patel, M. G. a. D. C., 2017. Student Final Grade Prediction Based on Linear Regression. *Indian Journal of Computer Science and Engineering,* 8(3), pp. 274-279.

RAZAK, N. A., 2004. A Framework of IT Competency for English Language Teachers. *Internet Jorunal of e-Language & Teaching,* Issue 1, pp. 1-14.

Zhuo Li, S. C. H. F. K. F. M. K. P. M. S., 2015. A novel methodology for retrieving infographics utilizing structure and message content. *Data & Knowledge Engineering,* Volume 100, pp. 191-210.

Kankanhalli, A, Tan, BCY & Wei, K-K 2005, 'Contributing knowledge to electronic knowledge repositories: An empirical investigation' *MIS Quarterly: Management Information Systems*, vol 29, no. 1, pp. 113-143.

Kai Liang, Sanxing Cao, "Design and implementation of micro cinema management system based on OTO", Computer and Communications (ICCC) 2016 2nd IEEE International Conference on, pp. 887-890, 2016.

Zhibing Liu, Huixia Wang, Hui Zan "Design and implementation of student information management system." 2010 International symposium on intelligence information processing and trusted computing. 978-0-7695- 4196-9/10 IEEE.

Wald, J. & Losen, D. (2003), Deconstructing the School-to-Prison Pipeline: New Directions for Youth Development.

Appendices A

Online Survey Question

Age

- 21-30
- 31-40
- 41-50
- 51-60

Gender

- Male
- Female

Does your school have a Web-Based Student Management System?

- Yes
- No
- Not Sure

Does having a Web-Based Student Management System a good option for all primary schools?

- Yes
- No

Which option do you prefer in the Web-Based Student Management System? Having...

- More Graphical Option (Clicking Picture or Image)
- More Word Option (Clicking Button Word)
- Both

Does publishing school news through Web-Based keep the students, parents and teachers well informed?

- Yes
- No

Does giving out timetable to students through Web-Based help keep them on track?

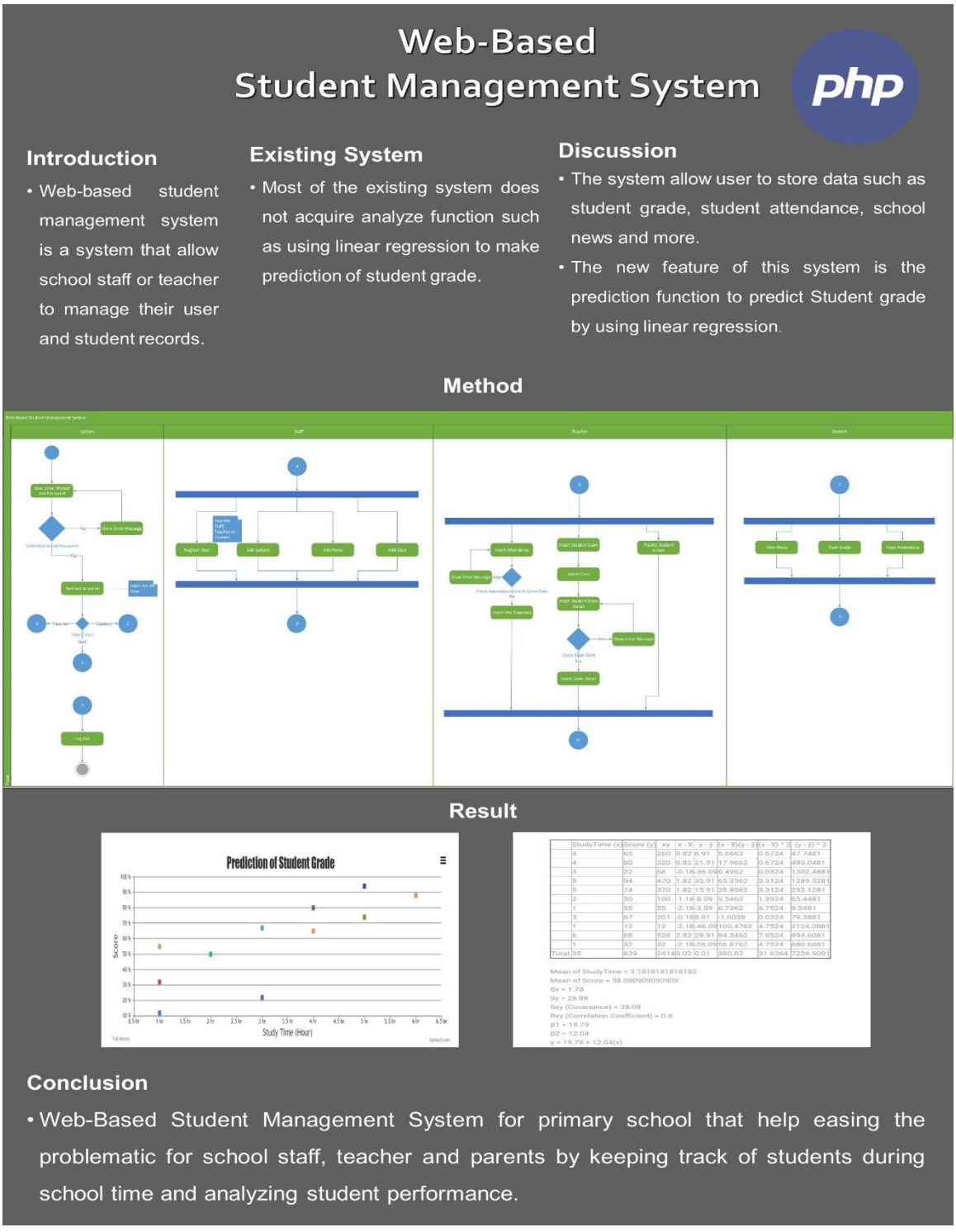
- Yes
- No

Does giving out examination results through Web-Based help the students' parents keep track of their grades?

- Yes
- No

Does showing attendance through Web-Based help the students' parents keep track of their attendance?

- Yes
- No

Appendices B

Poster