



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

PSM 2 Project Presentation

Student Academic Management System for SMAS Muhammadiyah 1 Banda Aceh

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Acknowledgement

PROF. MADYA. TS. DR. Mohd Shahizan Bin Othman as Supervisor

Rahmawati S.Pd as Stakeholder

Introduction

Problem Background

- In the current day of modern technologies, many tasks and jobs have started to be done automatically throughout many fields of work.
- Many institutions have already made their sophisticated system that records and manage all of a student's data, but here in Aceh, Indonesia is still a step behind.
- One example of institution that still does not have a website to check/manage students' academic data is SMAS Muhammadiyah 1, a private high school located in Banda Aceh City, Indonesia.

Project Aim

- This project aims to create an effective solution to enable the institution to convert its manual student management system into a computerized system.
- Introduce the computerized system to students and teachers of SMAS Muhammadiyah
- Increase the efficiency of managing student's academic data

Objectives

The objectives of this project include:

- To identify the requirements of the student academic management system
- To design the student academic management system based on the Stakeholder's requirement
- To develop the student academic management system based on the Stakeholder's requirement
- To test the functionalities of the student academic management system according to stakeholder's requirement

Scopes

The scopes of this project are:

- This project only focused on the conversion of manually managing student data to a website that stores all of the student's data, which can be accessed by teachers, and students.
- SMAS Muhammadiyah 1 will provide the data that is needed for the system
- Users in this system are teachers, students, and admins of SMAS Muhammadiyah.

Literature Review

Manual Operation

DAFTAR NILAI SEMESTER : GANJIL TAHUN PELAJARAN : 2020/2021

 Mata Pelajaran : Fisika
 Kelas : XI

 Kelompok Mapel : IIS
 Guru Mapel : Rahmawati, S.Pd

No			Nama Siswa	L/P	Nilai Perolehan (NP)		Kompetensi	Deskripsi Kompetensi
Urut	NIS	NISN			Angka	Huruf		
1	9391	0022235491	Putri Aliffa Riesty	P	78	C	Pengetahuan	Cukup mampu menguasai materi pelajaran yang disajikan, namun perlu ditingkatkan lagi pemahaman pada materi Momen gaya dan Momen inersia.
					78	C	Keterampilan	Sudah terampil dan mandiri dalam mengerjakan tugas yang di berikan, namun perlu ketelitian dalam mengerjakan soal-soal yang diberikan dan maslhi perlu ditingkatkan juga kemahiran berhitungnya.
					-	B	Sikap	Baik, pertahankan sikap sopan dan santun terhadap guru dan diharapkan lebih disiplin dan lebih bertanggung jawab terhadap semua tugas yang diberikan.
2			Alfarisi	L	72	C	Pengetahuan	Cukup mampu menguasai materi pelajaran yang disajikan, namun perlu ditingkatkan lagi pemahaman pada materi Fluida statik khususnya sub materi Hukum pascal dan Hukum archimedes.
					75	C	Keterampilan	Cukup terampil dan mandiri dalam mengerjakan tugas yang di berikan, namun

Mark Recap

 Nama Sekolah : SMA Muhammadiyah 1 Banda Aceh
 Alamat : Jln. Lijong Batee Setuji Banda Aceh
 Nama : Sheila Faiqah Aurora
 Nomor Induk/NISN : 9460/ 0053357399
 Kelas : XI MIPA
 Semester : 1 (Satu) / Ganjil
 Tahun Pelajaran : 2021/2022

B. Pengetahuan dan Keterampilan

No	Mata Pelajaran	KKM	Pengetahuan		Keterampilan	
			Nilai	Predikat	Nilai	Predikat
Kelompok A (Umum)						
1	Pendidikan Agama dan Budi Pekerti	70	85	B	85	B
2	Pendidikan Pancasila dan Kewarganegaraan	70	85	B	85	B
3	Bahasa Indonesia	70	85	B	85	B
4	Matematika	70	83	B	84	B
5	Sejarah Indonesia	75	83	B	80	B
6	Bahasa Inggris	75	90	B	90	B
Kelompok B (Umum)						
1	Seni Budaya	75	85	B	83	B
2	Pendidikan Jasmani, Olah Raga, dan Kesehatan	75	85	B	83	B
3	Prakarya dan Kewirausahaan	80	85	B	85	B
4					
Kelompok C (Peminatan)						
1	Biologi	75	84	B	82	B
2	Kimia	70	82	B	82	B
3	Fisika	70	85	B	84	B
4	Matematika	70	82	B	80	B
5	Ekonomi	70	83	B	83	B
6					

*) : Bila ada

Tabel interval predikat berdasarkan KKM.

.....	Predikat
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Academic Report

Manual Operation

DAFTAR KEHADIRAN SISWA TAHUN PELAJARAN 2021/2022

Kelas: XI MIPA

NO	NISN	NIS	NAMA	LIP	Selatan		Utara		TANGGAL																									
					17	18	19	20	21	22	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	005196112	9416	Egita Hayatun	P	✓	✓																												
2	005100903	9416	Elisa	P	✓	✓	✓																											
3	0051748425	9417	Emi Wahyuni	P	-	-																												
4	0051544074	9418	Fajri Mufidza	L	✓	✓	✓																											
5	0043616991	9420	Muhammad Inandi	L	✓	✓	✓																											
6	0058015905	9422	Nadla Mulya Nara	P	-	-																												
7	304583720	9423	Azzahra Husna	P	-	-																												
8	0057002554	9424	Syafa Ayyah Midori	P	-	-																												
9	0058473737	9430	Harad	L	✓	✓	✓																											
10	0032237261	9433	Cut Rivina Putri Aditya	P	-	-																												
11		9440	Muhammad Ridho	L	-	-																												
12	3045811768	9450	Kade Putra Kusuma	L	✓	✓	✓																											
13	0053357399	9450	Shaila Faqih Aurora	P	✓	✓	✓																											
14	0067683477	9490	Awal Hidayat Marpaung	L	✓	✓	✓																											
15	0058233890	9510	Rauchatul Intan Rosana	P	✓	✓	✓																											
16																																		
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32																																		
33																																		

Attendance Book

Kelas: XI MIPA Th: 2021/2022 No.:

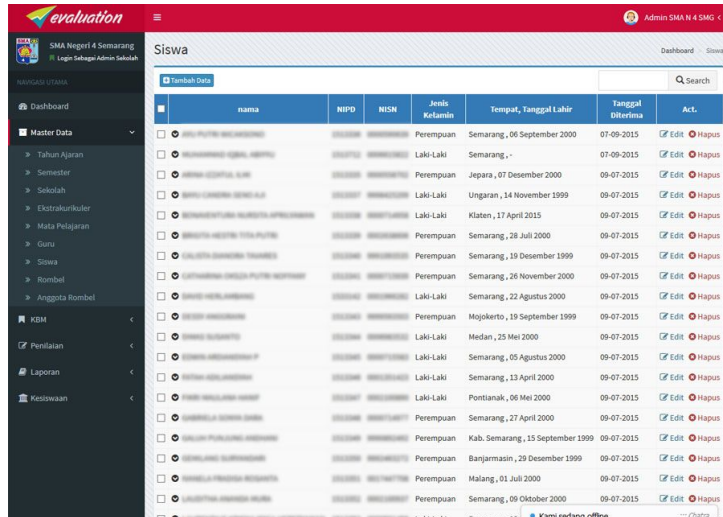
Bulan	Tanggal	SPHOSIS	Paraf Wali	Paraf Bendahara
Juli	2-12-21	NO NO		
Agustus	2-12-21			
September	2-11-21			
Oktober	2-11-21			
November	2-11-21			
Desember	2-11-21			
Januari	2-11-21			
Februari	2-11-21			
Maret	2-11-21			
April				
Mei				
Juni				

Catatan: .
 1. Pelunasan Uang SPP, OSIS dll, paling lambat tanggal 10 setiap bulan
 2. Kartu Tanda Pengenal ini berlaku selama yang bersangkutan masih aktif sebagai siswa SMA Muhammadiyah 1 Banda Aceh

Tuition Card

Similar Existing System Analysis

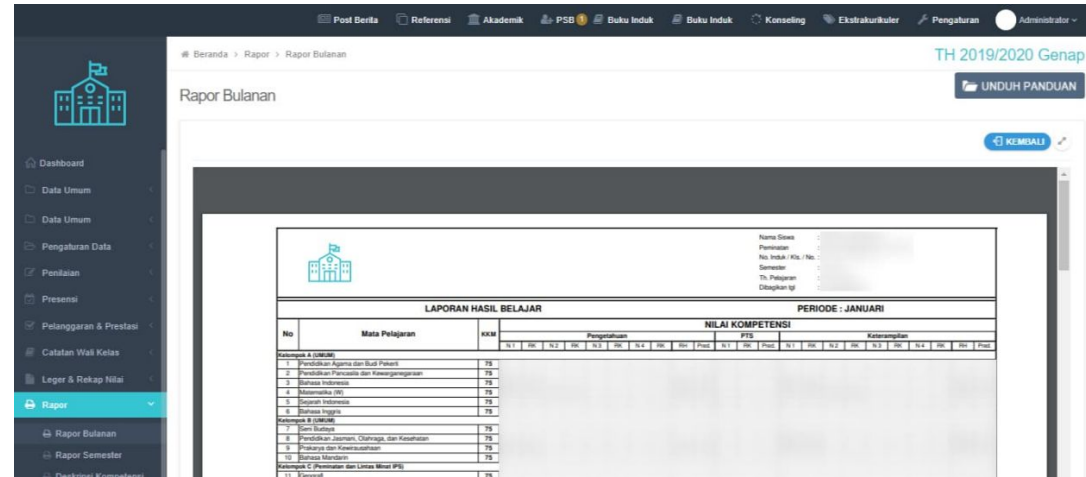
Evaluation



The screenshot shows the 'evaluation' system interface. The top navigation bar includes 'SMA Negeri 4 Semarang' and 'Admin SMA N 4 SMS'. The left sidebar contains a 'Master Data' menu with options like 'Tahun Ajaran', 'Semester', 'Sekolah', 'Ekstrikurikuler', 'Mata Pelajaran', 'Guru', 'Siswa', 'Rombel', 'Anggota Rombel', 'KBM', 'Penilaian', 'Laporan', and 'Kestiwaaan'. The main content area is titled 'Siswa' and displays a table of student data.

	nama	NIPD	NISN	Jenis Kelamin	Tempat, Tanggal Lahir	Tanggal diterima	Act.
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 06 September 2000	07-09-2015	Edit Hapus
<input type="checkbox"/>	MUHAMMAD AGAL AGAL	000000000000000000	000000000000000000	Laki-Laki	Semarang, -	07-09-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Jepara, 07 Desember 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Ungaran, 14 November 1999	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Klaten, 17 April 2015	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 28 Juli 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 19 Desember 1999	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 26 November 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Semarang, 22 Agustus 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Mojokerto, 19 September 1999	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Medan, 25 Mei 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Semarang, 05 Agustus 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Semarang, 13 April 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Laki-Laki	Pontianak, 06 Mei 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 27 April 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Kab. Semarang, 15 September 1999	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Banjarmasin, 29 Desember 1999	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Malang, 01 Juli 2000	09-07-2015	Edit Hapus
<input type="checkbox"/>	WIDYANITA WIDYANITA	000000000000000000	000000000000000000	Perempuan	Semarang, 09 Oktober 2000	09-07-2015	Edit Hapus

Sekawan Media



The screenshot shows the 'Sekawan Media' system interface. The top navigation bar includes 'Post Berita', 'Referensi', 'Akademik', 'PSB', 'Buku Induk', 'Buku Induk', 'Konseling', 'Ekstrikurikuler', 'Pengaturan', and 'Administrator'. The left sidebar contains a 'Dashboard' menu with options like 'Data Umum', 'Pengaturan Data', 'Penilaian', 'Presensi', 'Pelanggaran & Prestasi', 'Catatan Wali Kelas', 'Leger & Rekap Nilai', and 'Rapor'. The main content area is titled 'Rapor Bulanan' and displays a report for the period of January.

TH 2019/2020 Genap

UNDUH PANDUAN

KEMBALI

Rapor Bulanan

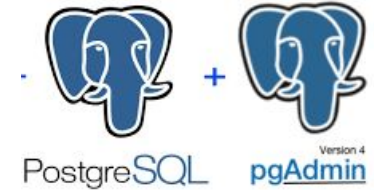
PERIODE : JANUARI

No	Mata Pelajaran	KBM	NILAI KOMPETENSI											
			Pengetahuan						Keterampilan					
			N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
Kategori A (UMUM)														
1	Pendidikan Agama dan Budi Pekerti	75												
2	Pendidikan Pancasila dan Kewarganegaraan	75												
3	Bahasa Indonesia	75												
4	Matematika IPS	75												
5	Sejarah Indonesia	75												
6	Bahasa Inggris	75												
Kategori B (UMUM)														
7	Seni Budaya	75												
8	Pendidikan Jasmani, Olahraga, dan Kesehatan	75												
9	Praktikum dan Keterampilan	75												
10	Bahasa Melayu	75												
Kategori C (Peminatan dan Lintas Minat (PLM))														
11	Kecerdasan	75												

Similar Existing System Analysis

Function/Feature	evaluation	Sekawan Media Aplikasi Rapor Online
Report Marking	Yes	Yes
Manage Academic Report	Yes	Yes
Generate Report	Yes	Yes
Tuition Record Management	No	No
Admin Dashboard	Yes	Yes
Generating Timetable	No	No
View Timetable	No	No
Centralized Database	Yes	Yes
Attendance Record Management	No	Yes

Technology Used



inertia»

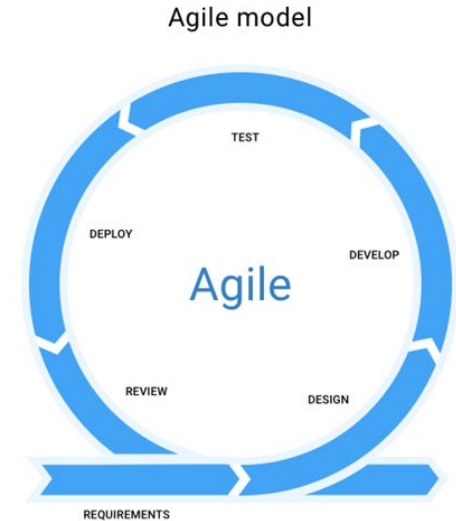


System Development Methodology

Methodology Choice and Justification

Agile methodology was chosen for several reasons:

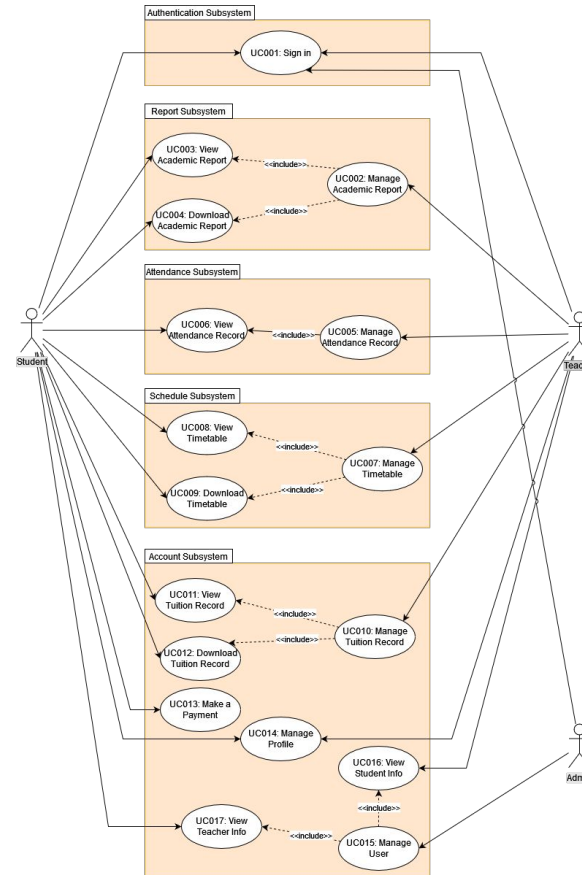
- Agile methodology is one of the most popular methodologies used in development nowadays.
- The Agile SDLC development approach emphasizes customer satisfaction, and development across several short cycles, or sprints, instead of a top-down process with a single set of steps
- In these sprints, a task or function of the system has to be done based on the time set. Because of this, the development will have a rapid delivery of the system since each sprint, there is something to show to the stakeholders.



Requirement Analysis and Design

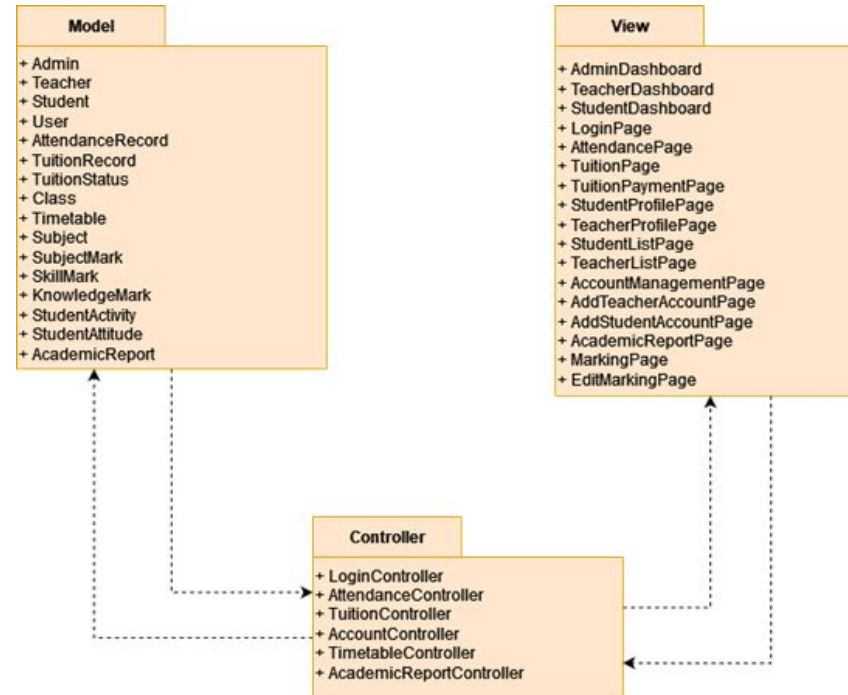
Functional Requirement

Use Case Diagram



Project Design


Architecture Model



Implementation and Testing

Implementation and Testing

User Interfaces of the main functions


**SMA MUHAMMADIYAH 1
BANDA ACEH**


Tambah Akun Siswa

User

Beranda
 Manajemen Akun
 Tambah Akun Guru
 Tambah Akun Siswa
 Tambah Akun Admin

Tambah Akun Siswa

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**SMA MUHAMMADIYAH 1
BANDA ACEH**

Rapor

User

Beranda
 Rapor
 Penilaian
 Jadwal Pelajaran
 Daftar Siswa
 SPP
 Absensi

Nama T1	NIS/NISN T1	Peminatan T1	Action
Arisya Zamntara	9443/0062226931	MIPA	<input type="button" value="Lihat"/> <input type="button" value="Buat"/> <input type="button" value="Unduh"/>
Habiburrahman	9444/0062226935	MIPA	<input type="button" value="Lihat"/> <input type="button" value="Buat"/> <input type="button" value="Unduh"/>
Gladys Putri Ferica	9443/0067402572	MIPA	<input type="button" value="Lihat"/> <input type="button" value="Buat"/> <input type="button" value="Unduh"/>
Nurhayati	9448/0054837389	MIPA	<input type="button" value="Lihat"/> <input type="button" value="Buat"/> <input type="button" value="Unduh"/>
Muna Anisa	9447/0053181420	MIPA	<input type="button" value="Lihat"/> <input type="button" value="Buat"/> <input type="button" value="Unduh"/>

<< < 1 2 3 4 5 > >> 5

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Implementation and Testing

Testing

Table 5.1 User Testing Result

User Acceptance Testing Result	
Questions	Average Satisfaction
1. Does the system effectively perform all the functions requirements?	8.5/10
2. Is the user interface of the system intuitive and easy to navigate?	9/10
3. Does the system handle errors effectively and provide meaningful error messages?	7.5/10
4. Is the system's performance satisfactory under various loads?	8/10
5. Are the system's security measures effective and reliable?	8/10

Implementation and Testing

Testing

Table 5.2 Admin Add Student Account

Tester Name	RAHMAWATI
Date	23 June 2023
Module	Account Module
Instruction	
1. Login with Admin Account 2. Click “Tambah Akun Siswa” 3. Enter the required input 4. Click “Tambah” 5. Logout by clicking the top right menu and click “Keluar” button	
Expected Result	
1. Should be able to logged in as Admin 2. Should be able to view the “Tambah Akun Siswa” Page 3. Should be able to input all the required fields 4. Should be able to create the student account with the provided input 5. Should be able to logged out from the sytem	
Actual Result	
1. Successfully logged in as Admin 2. Successfully view the “Tambah Akun Siswa” Page 3. Successfully input all the required fields 4. Successfully create the student account with the provided input 5. Successfully logged out from the system	

Table 5.4 Teacher Marking Student

Tester Name	YULIANA
Date	23 June 2023
Module	Report Module
Instruction	
1. Login with Teacher Account 2. Click “Penilaian” 3. Select the filter to view the desired student 4. Click the “Nilai” button 5. Input the required field 6. Click the “Save” button 7. Logout by clicking the top right menu and click “Keluar” button	
Expected Result	
1. Should be able to logged in as Teacher 2. Should be able to view the “Penilaian” Page 3. Should be able to view the desired student 4. Should be able to view the input mark page 5. Should be able to save the mark for the student 6. Should be able to logged out from the system	
Actual Result	
1. Successfully logged in as Teacher 2. Successfully view the “Penilaian” Page 3. Successfully view the desired student 4. Successfully view the input mark page 5. Successfully save the mark for the student 6. Successfully logged out from the system	

Conclusion

Conclusion

Achievement of Project Objectives

- The system has been successfully developed.
- The system also implements all the required function stated in PSM 1.
- The system has been implemented in a test environment such as User Acceptance Testing to ensure its proper functioning and fixing bugs as much as possible.

Conclusion

Suggestions for Future Improvement

- Integrated payment system for tuition payment, so that the payment system is more efficient and secure
- Integration with third party LMS (Learning Management System)
- Integration with email services such as notification.



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