

Activity Management System for Teachers and Administrators in Public Primary School

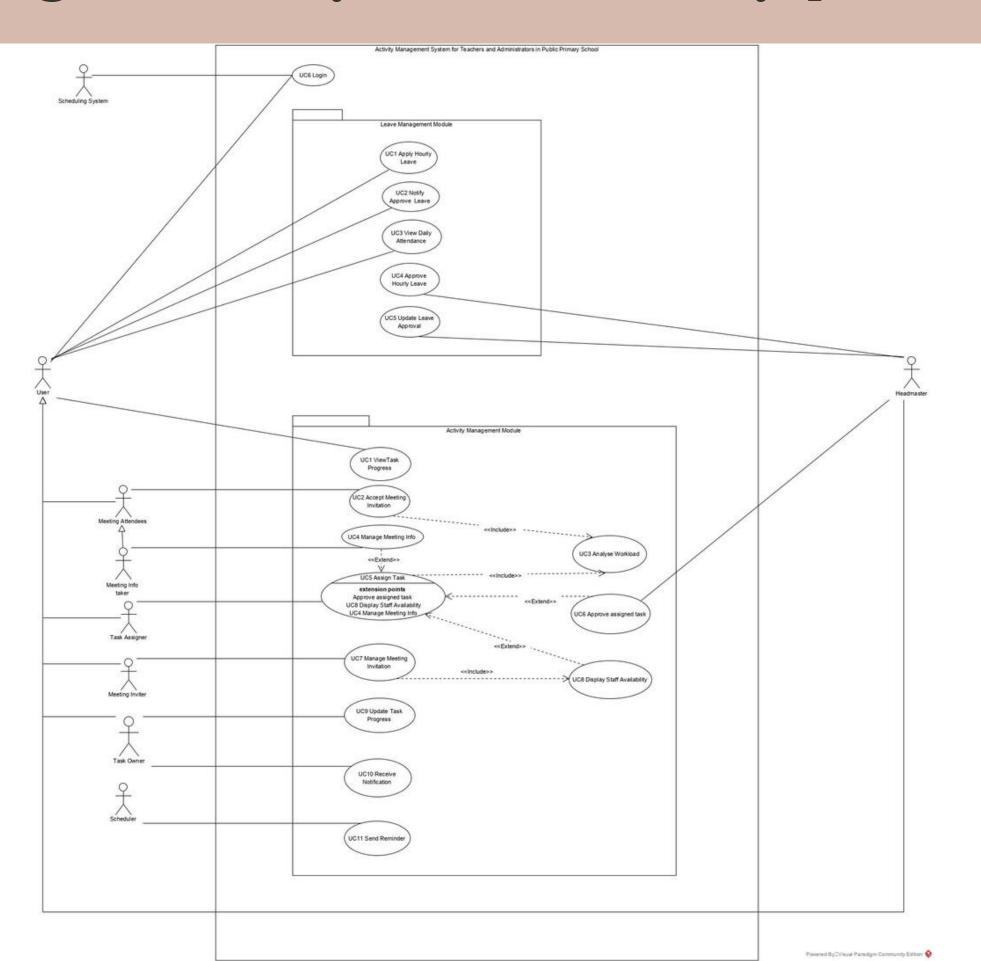
FATIN QISTINA BINTI NAHAR 17126915/1

Modules I have done

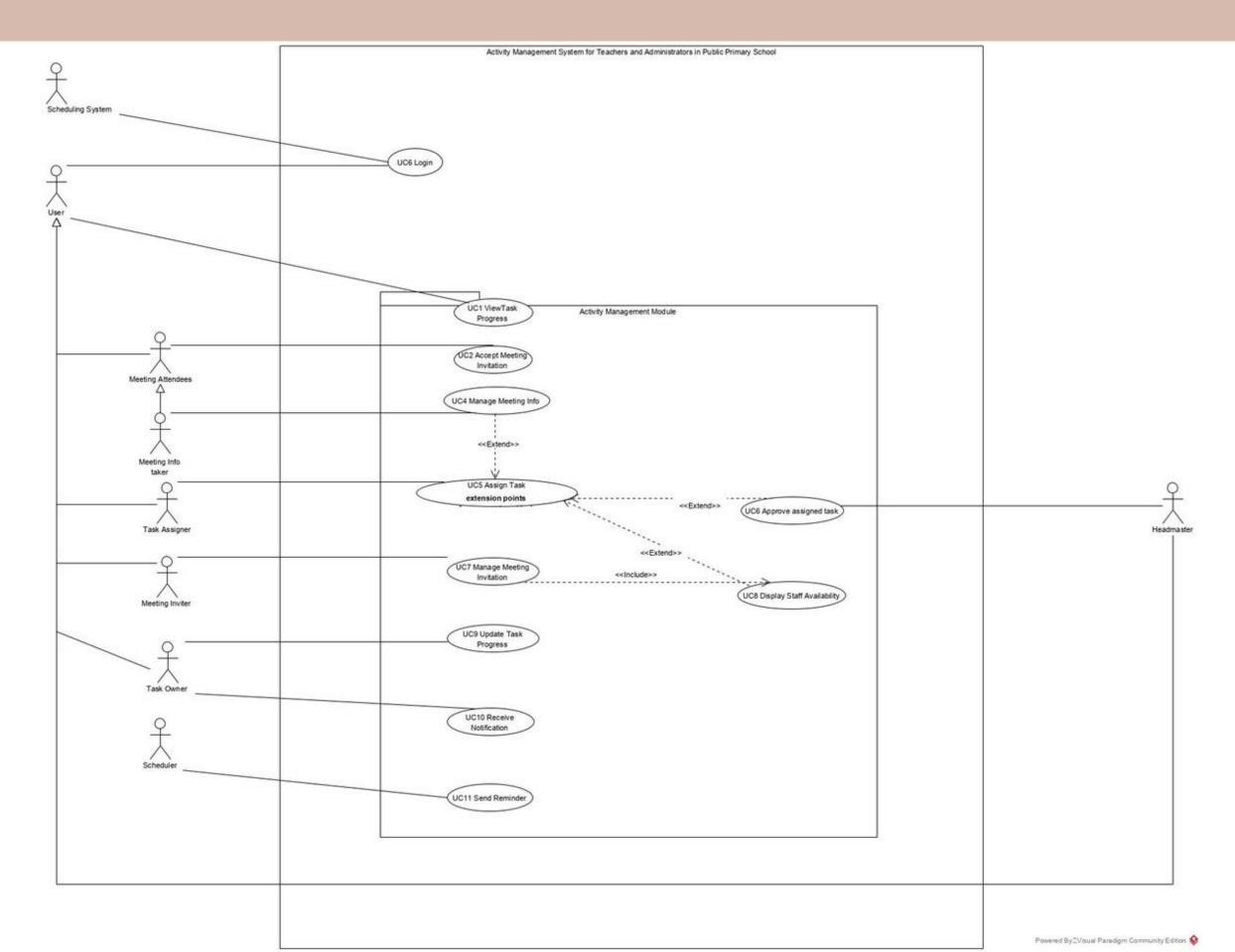
- Assign Task
- Meeting Invitation
- Meeting Info

- Create / Add
- View
- Delete

Use Case Diagram - My module & my partner's module



Use Case Diagram - My module





Presentation Outline

Project Objectives
Problem Statements
Literature Review
Methodology
Stakeholder Collaboration Proof
Requirements
Analysis & Design
Mastery of Tools
References

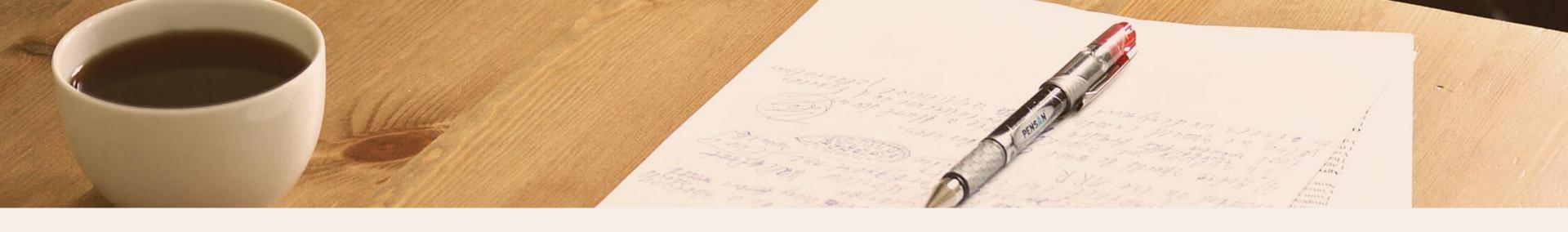
PROJECT OBJECTIVES

- To find out the workflow of activity management in primary school.
- To develop a web application that allows the staff to manage their leaves and keep track their task
- To provide a platform for staff recording either meeting or non-meeting tasks.
- To formulate an application that would help the staff prioritize their daily activities and tasks.
- To analyse the necessity of the application among staff in primary school.



- School does not have a proper platform for activity management that consist of task management, meeting management and leave management.
- Heavy traffic of messages in WhatsApp or Telegram subsequently the teacher fails to notice some of the meeting invitations.
- Current hourly leave attendance system is not reliable as it requires the teachers to manually log their attendance in the book. This interrupt meeting inviter from checking the availability of teachers due to scatter of daily attendance log.
- Unsystematic leave application as unavailable of notification to principal when leave application made by staff. Requires to manually notify the principal for approval.
- Unbalance tasks distribution among staff as the task are blindly given without considering existing number of tasks, difficulty and duration of completing the tasks.

Problem 5 tatement



LINK TO LITERATURE REVIEW

Existing System- Meetingsystem



- Free meeting scheduling software
- Sync to user's calendar to allow organizer to see participant availability.
- The scheduling is automated and has ability to send group meeting links.

Meetin.gs

- Meeting management software
- Designed to organize and manage meeting
- load with an interactive interface.
- Allow team to create and edit agenda for meeting attendee
- Send meeting reminders
- Able to create and modify action points to send meeting attendee for feedback.

magic min

- A meeting management software
- Allow user to manage meeting steps from pre meeting to post meeting.
- Lets user create an agenda, schedule meetings, invitation management, task assignment and meeting minutes management.

Existing System-Task Management



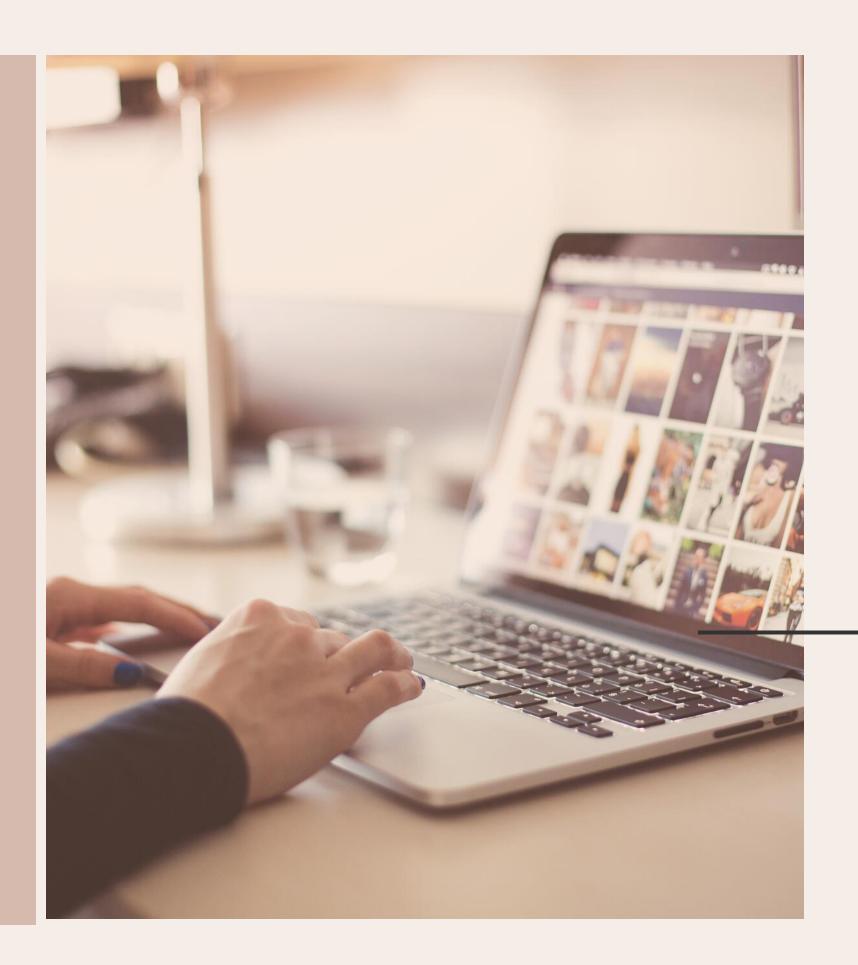
- An online task manager
- Provide a to-do list for managing personal tasks, notifications for new tasks assigned and task comments.



- . Atask manager software
- Able to monitor individual and team tasks.
- lets user to track task from beginning to end, assign task to team and set deadlines.



- Task management software
- Allow users to organize their meeting like end-to-end project management.
- Allow user to send email reminders of meetings to all team member
- Allows the organizer to share meeting info with meeting attendee
- Send meeting invitation to limitless team members
- Allow user to share their meeting materials for review by other team.



Methodology

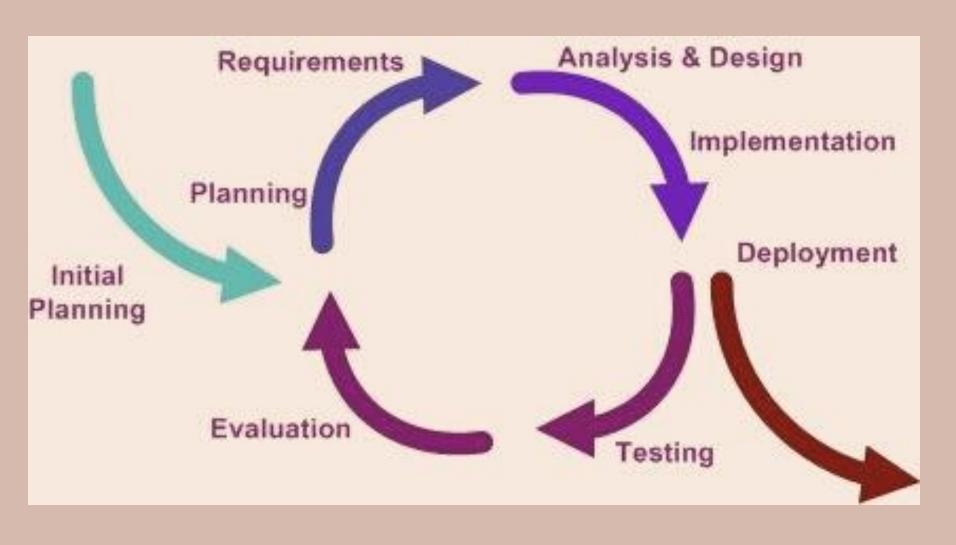
- Software Development Life Cycle
 - Iterative Model
- Requirements Elicitation
 - Survey
 - Interview
 - Prototype

SOFTWARE DEVELOPMENT LIFE CYCLE (SDLC)

- Planning and requirement analysis
- Defining requirements
- Designing the product architecture
- Building or developing the product
- Testing the product
- Deployment in the market and maintenance

ITERATIVE MODEL

- Easier to test and debug during a smaller iteration
- Risks are identified and resolved during iteration
- Provides more and more flexible and enhance based on requirements
- Limited time spent on documentation and extra time on designing.



Section 1 of 6

Survey on Meeting Management at School / Soal Selidik tentang Pengurusan Mesyuarat di Sekolah

Salam sejahtera,

Kami merupakan pelajar jurusan kejuruteraan perisian dari Fakulti Sains Komputer & Teknologi Maklumat, Universiti Malaya. Kami sedang menjalani kaji selidik mengenai pengurusan mesyuarat di sekolah rendah untuk projek tahun akhir kami (Final Year Project) 2020. Tujuan kaji selidik ini adalah untuk mengkaji tentang pengurusan mesyuarat di sekolah rendah pada masa kini. Jawapan kaji selidik anda akan digunakan untuk projek akhir tahun kami sahaja. Terima kasih atas kesudian dan usaha anda untuk menjawab soalan kaji selidik ini.

Greetings,

We are student of Bachelor of Software Engineering at Faculty of Computer Science & Information Technology, University of Malaya. We are conducting a survey on primary school regarding meeting management system for our Final Year Project (FYP) 2020. This survey is to help us study current meeting management at primary school in Malaysia. Your response will use for FYP purpose only. Thank you for your voluntary and your responses are highly appreciated.

Requirement Elicitation

SURVEY

We have conducted a survey to a group of 40 respondents who are classified as teachers or administrative from public primary schools around Malaysia

Surrey Questions

LINK



Surrey Result I

CHECK STAFF AVAILABILITY

90% of respondents are using WhatsApp & Telegram 10% of respondents are using management book

MEETING INVITATION

90% of respondents are using WhatsApp & Telegram 10% of respondents are using letter

FAIR TASK DIVISION

10% of respondents are still having problem in fair task division



Surrey Result II

ACCEPT & REJECT FUNCTIONALITY FOR MEETING INVITATION

70% of the respondents found out that accept and reject functionality would be useful to manage their meetings

REMINDER FOR MEETINGS

90% of respondents prefer to have a reminder for meetings because can help in planning activities and also to ensure full attendance



Survey Result III

MINUTES OF MEETING

90% of respondents stated that the minutes of meeting are viewed in Telegram group.

10% of respondents still using manual process which is on paper minutes of meeting distribution.



Surrey Result IV

LEAVE APPLICATION

All respondents apply leave to the government system, HRMIS and need to notify the Headmaster manually to make approval in the system.

HOURLY LEAVE APPLICATION

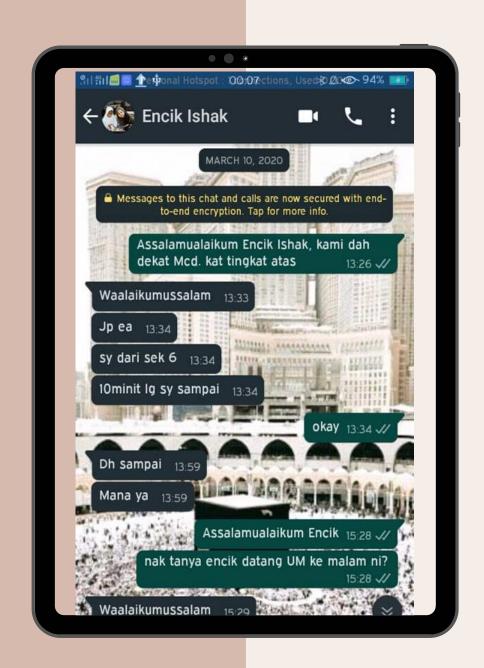
65% of the respondents apply for hourly leave manually by filling in form and some of them stated it is difficult in getting approval



Surrey Result IV

FOR FULL RESULTS PLEASE GO TO THIS LINK





Requirement -Elicitation

INTERVIEW

We have interviewed our stakeholder, Encik Ishak to understand their problems and gather requirements.

Interview Result I

WHATSAPP & TELEGRAM PLATFORM

- T check staff availability by voting one week earlier to invite to a meeting.
- To update their task progress.

TRADITIONAL & MANUAL METHOD

Using paper to sign their meeting attendance.

TASK DISTRIBUTION

Those who are unable to attend the meeting will still receive tasks. The teacher is responsible to take note on his/her tasks.



Interview Result II

TASK OUT OF SCHOOL

Clerk receive a letter from government or any organization that requiring the school to send representative to task that is not within the school. Then the clerk has to inform and get approval from headmaster. After receive the approval, the clerk needs to inform selected teacher(s).

HOURLY LEAVE APPLICATION

All staff require to apply hourly leave using logbook and notify headmaster via WhatsApp to receive approval.



Interview Result III

HOURLY LEAVE APPLICATION

All staff require to apply hourly leave using logbook and notify headmaster via WhatsApp to receive approval.



Stakeholder Collaboration

Proof

COLLABORATION LETTER LINK





Puan Ani Binti Meh Sekolah Kebangsaan Seksyen Enam Jalan Belibis 5/6 Seksyen 6 40000 Shah Alam Selangor

12 APRIL 2020

PERMOHONAN UNTUK BERKOLABORASI DENGAN SEKOLAH KEBANGSAAN SEKSYEN ENAM UNTUK TUJUAN PENYELIDIKAN

Merujuk kepada perkara di atas, saya selaku penyelia projek akademik pelajar tahun akhir di Jabatan Kejuruteraan Perisian, Fakulti Sains Komputer dan Teknologi Maklumat, Universiti Malaya ingin berkolaborasi dengan Sekolah Kebangsaan Seksyen Enam. Untuk pengetahuan puan, kami sedang menjalankan kajian mengenai penggunaan sistem pengurusan mesyuarat dan sistem kehadiran guru-guru dan staf sekolah.

- 2. Sehubungan ini, kami berharap agar pihak puan dapat membenarkan kami untuk berkolaborasi dengan sekolah ini. Pertama sekali, kami ingin membuat temubual dengan seorang wakil sekolah iaitu, Encik Ishak Ridhwan bin Che Md Nawi untuk mendapatkan maklumat berkenaan dengan kaedah sedia ada dan permasalahan semasa untuk menguruskan mesyuarat dan juga menguruskan kehadiran guru dan staf sekolah.
- 3. Berdasarkan maklumat yang kami peroleh dalam sesi temubual, kami bermotivasi untuk merekabentuk perisian yang dapat memberikan solusi dalam permasalahan semasa. Melalui kaedah survei, kami ingin mendapatkan pengesahan sekiranya reka-bentuk perisian baharu ini dapat memudahkan pihak sekolah dalam menjalankan operasi harian.

Kami amat berbesar hati sekiranya pihak puan dapat pertimbangan seterusnya meluluskan. permohonan ini. Jasa baik pihak puan didahului dengan jutaan terima kasih.

Yang Benar,

Amirah Fathiah Binti Abdullah

Pelajar

Jabatan Kejuruteraan Perisian,

Universiti Malaya

Fatin Qistina Binti Nahar

Pelajar

Jabatan Kejuruteraan Pensian,

Fakulti Sains Komputer dan Teknologi Maklumat Fakulti Sains Komputer dan Teknologi Maklumat

Universiti Malaya

Faculty of Computer Science & Information Technology University of Malays Lembah Pantai, 50603 Kuala Lumpur, MALAYSIA Tel: (603) 79676300 Fake: (603) 79579249

• Project Schedule Week 1-8

Project Gantt Chart

ACTIVITY MANAGEMENT SYSTEM FOR TEACHERS AND ADMINISTRATOR IN PRIMARY SCHOOL

		Project Start Date	Monday, 17 F	ebruary, 2020	Displa	ay Week	1	Week 1 17 Feb 2020	Week 2 24 Feb 2020	Week 3 2 Mar 2020	Week 4 9 Mar 2020	Week 5 16 Mar 2020	Week 6 23 Mar 2020	Week 7 30 Mar 2020	Week 8 6 Apr 2020
WBS	TASK		LEAD	START	END	DAYS	% DONE								6 7 8 9 10 11 12 M T W T F S S
0.0.1	Gathering information about topic	С	All	Mon 2/17/20	Sun 2/23/20	7	100%			=:					
0.1	Study project background		All	Mon 2/24/20	Sun 3/01/20	7	100%								
0.2	Identify problem statements		All	Mon 3/02/20	Sun 3/08/20	7	100%								
0.3	Identify project objectives		All	Mon 3/09/20	Sun 3/15/20	7	100%								
0.4	Search related article		All	Mon 3/16/20	Sun 3/29/20	14	100%								
0.4.1	Article analysis		All	Mon 3/23/20	Sun 3/29/20	7	100%								
0.5	Gather user requirement		All	Mon 3/30/20	Sun 4/05/20	7	100%							5	
0.6	Contact stakeholder		All	Mon 4/06/20	Sun 4/19/20	14	100%								
0.7	Distribute survey		All	Mon 4/13/20	Sun 4/19/20	7	100%								
0.8	Design system prototype		All	Sun 4/19/20	Sun 5/03/20	14	100%								
0.9	Analyse & evaluate tools selectio	n	All	Mon 4/27/20	Sun 5/03/20	7	100%								
0.10	System development		All	Mon 5/04/20	Sun 5/10/20	7	100%								
0.11	Monitoring session		All	Mon 5/11/20	Sun 5/17/20	7	100%								
0.12	Continue development		All	Mon 5/18/20	Sun 6/14/20	28	100%								
0.13	Report submission and presentati	on	All	Mon 6/15/20	Sun 6/28/20	14	100%								

• Project Schedule Week 8 - 15

Project Gantt Chart

ACTIVITY MANAGEMENT SYSTEM FOR TEACHERS AND ADMINISTRATOR IN PRIMARY SCHOOL

		Project Start Date	Monday, 17 F	ebruary, 2020	Displa	ıy Week	8	Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15 6 Apr 2020 13 Apr 2020 20 Apr 2020 27 Apr 2020 4 May 2020 11 May 2020 18 May 2020 25 May 2020
WBS	TASK		LEAD	START	END	DAYS	% DONE	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 2 4 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 2 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
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0.2	Identify problem statements		All	Mon 3/02/20	Sun 3/08/20	7	100%	
0.3	Identify project objectives		All	Mon 3/09/20	Sun 3/15/20	7	100%	
0.4	Search related article		All	Mon 3/16/20	Sun 3/29/20	14	100%	
0.4.1	Article analysis		All	Mon 3/23/20	Sun 3/29/20	7	100%	
0.5	Gather user requirement		All	Mon 3/30/20	Sun 4/05/20	7	100%	
0.6	Contact stakeholder		All	Mon 4/06/20	Sun 4/19/20	14	100%	
0.7	Distribute survey		All	Mon 4/13/20	Sun 4/19/20	7	100%	
0.8	Design system prototype		All	Sun 4/19/20	Sun 5/03/20	14	100%	
0.9	Analyse & evaluate tools selecti	on	All	Mon 4/27/20	Sun 5/03/20	7	100%	
0.10	System development		All	Mon 5/04/20	Sun 5/10/20	7	100%	
0.11	Monitoring session		All	Mon 5/11/20	Sun 5/17/20	7	100%	
0.12	Continue development		All	Mon 5/18/20	Sun 6/14/20	28	100%	
0.13	Report submission and presenta	tion	All	Mon 6/15/20	Sun 6/28/20	14	100%	

• Project Schedule Week 15 - 19

Project Gantt Chart

ACTIVITY MANAGEMENT SYSTEM FOR TEACHERS AND ADMINISTRATOR IN PRIMARY SCHOOL

		Project Start Date	Monday, 17 F	ebruary, 2020	Displa	ay Week	15	Week 15 25 May 2020	Week 16 1 Jun 2020	Week 17 8 Jun 2020	Week 18 15 Jun 2020	Week 19 22 Jun 2020	Week 20 29 Jun 2020	Week 21 6 Jul 2020	Week 22 13 Jul 2020
WBS	TASK	-	LEAD	START	END	DAYS	% DONE	25 26 27 28 29 30 31	1 2 3 4 5 6	7 8 9 10 11 12 13	14 15 16 17 18 19 20 2 S M T W T F S	21 22 23 24 25 26 27 28	29 30 1 2 3 4	5 6 7 8 9 10 11 12	13 14 15 16 17 18 19
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0.2	Identify problem statements		All	Mon 3/02/20	Sun 3/08/20	7	100%								
0.3	Identify project objectives		All	Mon 3/09/20	Sun 3/15/20	7	100%								
0.4	Search related article		All	Mon 3/16/20	Sun 3/29/20	14	100%								
0.4.1	Article analysis		All	Mon 3/23/20	Sun 3/29/20	7	100%								
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0.7	Distribute survey		All	Mon 4/13/20	Sun 4/19/20	7	100%								
0.8	Design system prototype		All	Sun 4/19/20	Sun 5/03/20	14	100%								
0.9	Analyse & evaluate tools select	tion	All	Mon 4/27/20	Sun 5/03/20	7	100%								
0.10	System development		All	Mon 5/04/20	Sun 5/10/20	7	100%								
0.11	Monitoring session		All	Mon 5/11/20	Sun 5/17/20	7	100%								
0.12	Continue development		All	Mon 5/18/20	Sun 6/14/20	28	100%								
0.13	Report submission and present	ation	All	Mon 6/15/20	Sun 6/28/20	14	100%								

PROTOTYPE

We use this prototype as one interview materials to

receive feedback from Encik Ishak



- 1. The system shall allow meeting inviter to invite staff to meeting based on their availability and workload percentage.
- 2. The system shall allow task assigner to assign task to staff based on their workload percentage.
- 4. The system shall allow Headmaster to make approval to all assigned tasks that involve out of school.
- 5. The system shall be able to provide accept or reject option for meeting attendees after receiving meeting invitation.

Functional Requirements

ACTIVITY MANAGEMENT MODULE

- 6. The system shall allow scheduler to send reminder to all task owner based on date and time.
- 7. The system shall be able to allow minute taker and organizer to manage meeting info.
- 8. The system shall allow user to view overall task progress.
- 9. The system shall allow user to update task progress.

Functional
Requirements

ACTIVITY MANAGEMENT MODULE

Non-Functional
Requirements I

Maintainability

• The system shall be able to backup data.

Accuracy

• The system shall be able to provide accurate information

Usability

• The user interface should be intuitive and easy to use

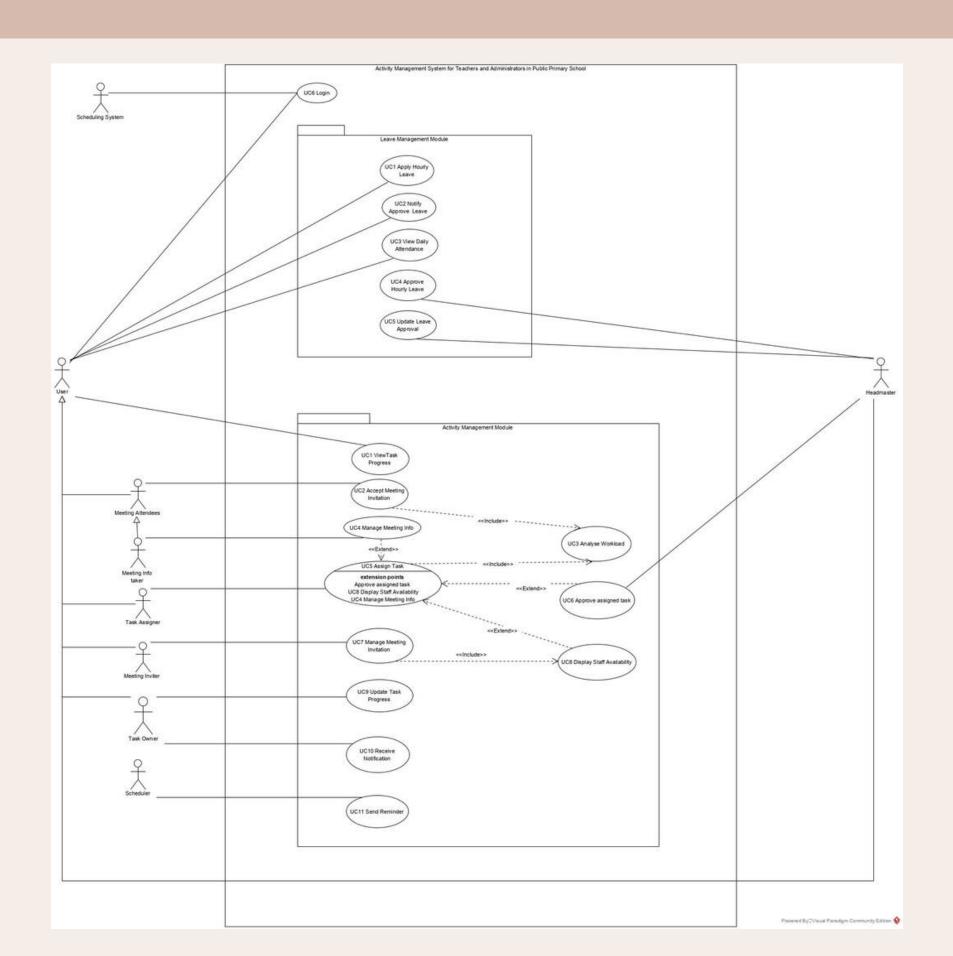


Amalysis & Design

NEXT:

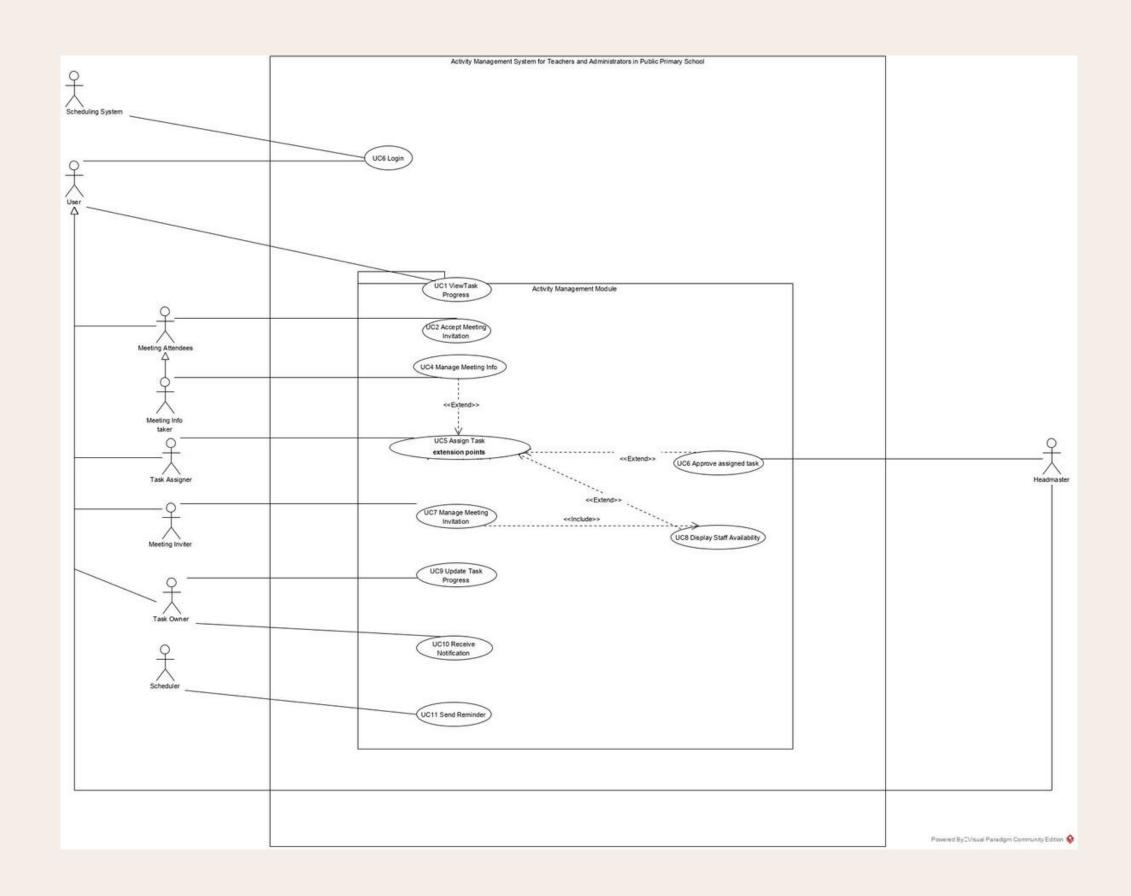
- Use case diagram
- Use case description
- Activity diagram

Use Case Diagram



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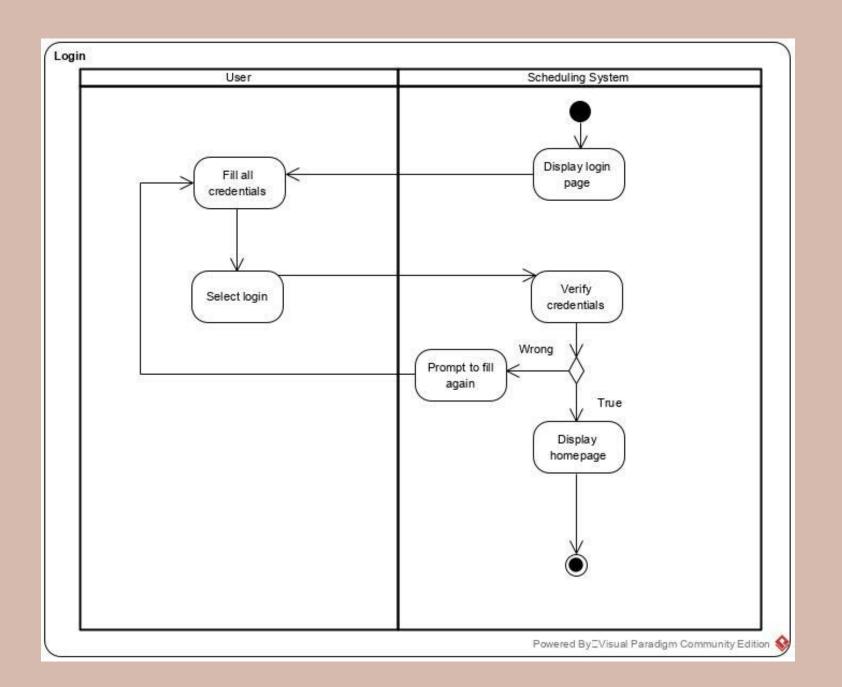
Use Case Diagram - My module



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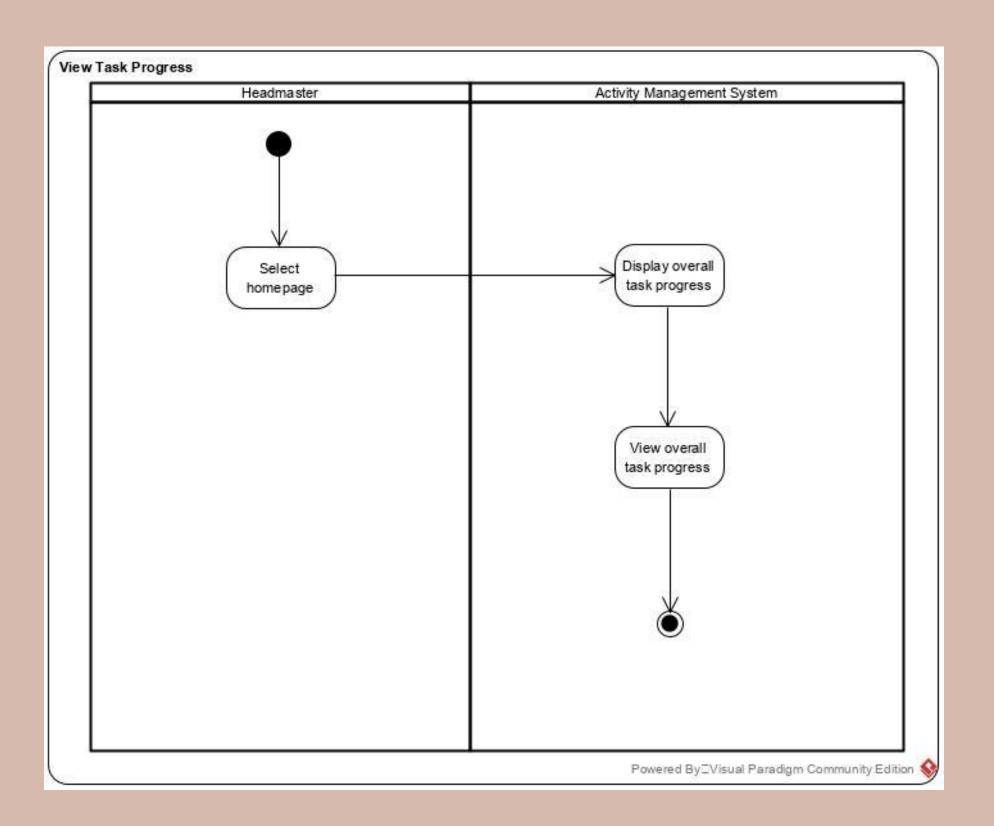
Login

Element	Description							
Use Case Name	Login							
Use Case ID	UC5							
Priority	High							
Actor(s)	Scheduling system User							
Description	Scheduling system provide login page for user							
Pre-condition(s)								
Post-condition(s)								
Flow of events	Actor Action	System Responses						
	2.Fill all credentials and select login	1.Display login page						
		3. Verify credentials						
		4.Display homepage for user account						



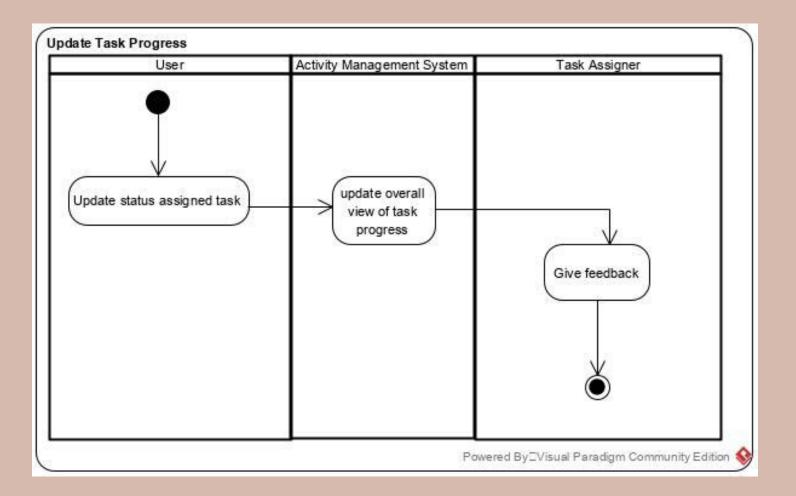
View Task Progress

Element	Description							
Use Case Name	View task progress							
Use Case ID	UC1							
Priority	High							
Actor(s)	User							
Description	User can view task name, status of completion, progress bar and collaborator.							
Pre-condition(s)	User should receive task from task assigner							
Post-condition(s)								
Flow of events	Actor Action	System Responses						
	1.Select homepage	2.Display overall task progress						
	3. View overall task progress							



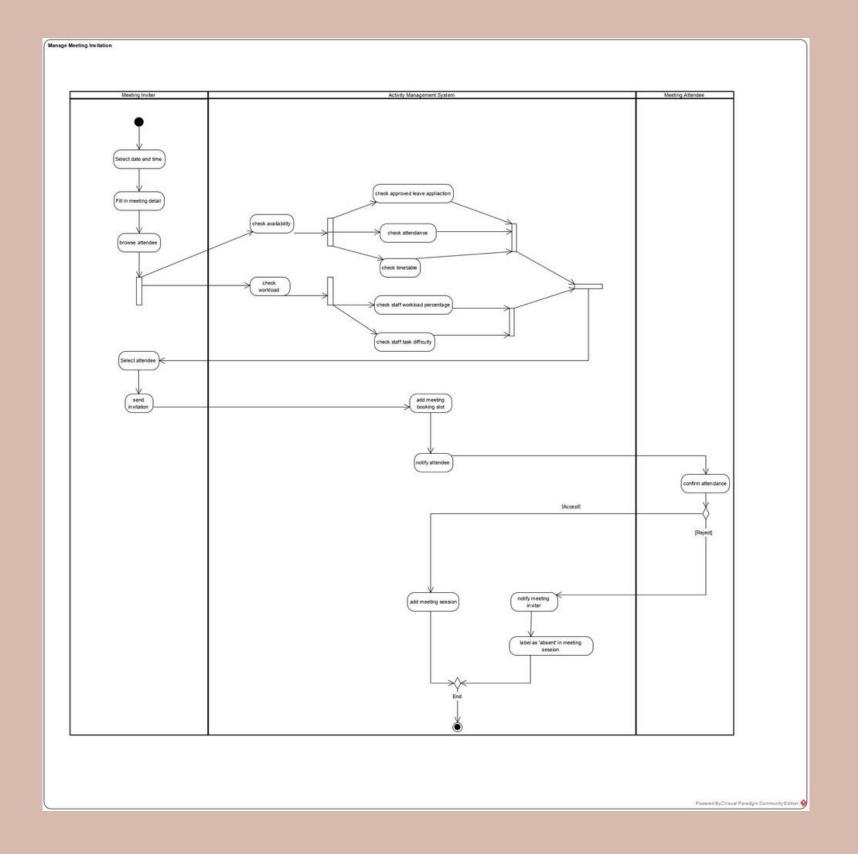
Update Task Progress

Element	Description	
Use Case Name	Update task progress	
Use Case ID	UC9	
Priority	High	
Actor(s)	Task owner	
Description	Task owner can update the status of task based on the list of tasks assigned.	
Pre-condition(s)	Task owner must receive task from task assigner.	
Post-condition(s)		
Flow of events	Actor Action	System Responses
	Select status Update status task progress.	
		3. Update status in database.4. Display updated progress on dashboard.



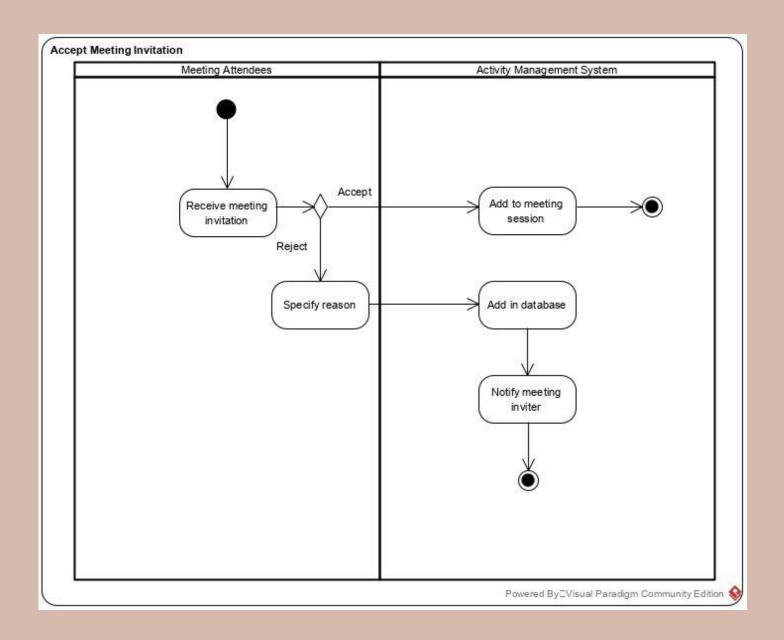
Manage Meeting Invitation

Element	Description	
Use Case Name	Manage meeting invitation	
Use Case ID	UC7	
Priority	High	
Actor(s)	Meeting Inviter	
Description	Meeting inviter can select date, time, location, attendees and their role in the meeting, view attendee availability and enter meeting title and meeting agenda.	
Pre-condition(s)	Meeting inviter must check the availability of teachers or staffs.	
Post-condition(s)	Receive confirmation of attendance from meeting attendees.	
Flow of events	Actor Action	System Responses
	1. Select date, time, location, enter meeting title and meeting agenda. 2. Check availability of attendee	Display staff attendance and availability
	3. Select available attendees4. Send meeting invitation.	5.Add meeting slot in database.6. Notify all attendees via email.



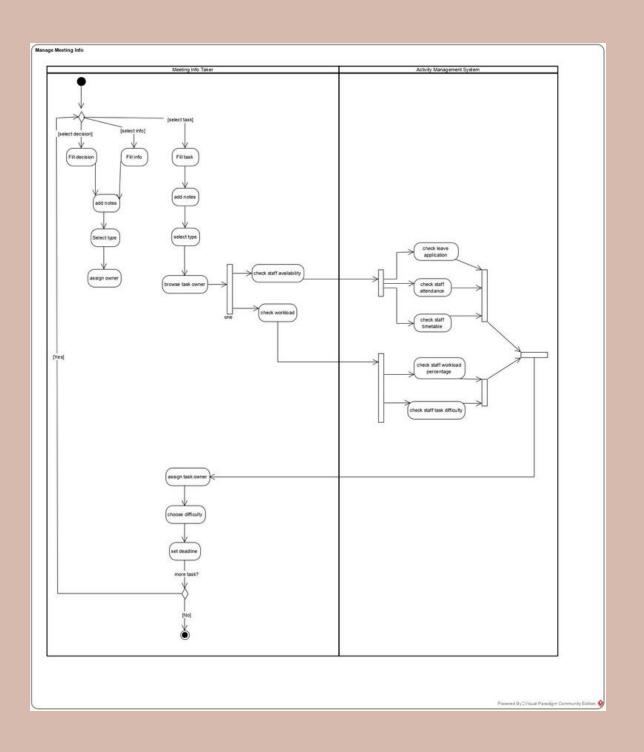
Accept Meeting Invitation

Element	Description			
Use Case Name	Accept meeting invitation			
Use Case ID	UC2	UC2		
Priority	High			
Actor(s)	Meeting attendees	Meeting attendees		
Description	Meeting attendee is able to accept or reject meeting invitation from meeting inviter.			
Pre-condition(s)	Meeting attendee received a meeting invitation from meeting inviter via email.			
Post-condition(s)				
Flow of events	Actor Action	System Responses		
	1.Receive meeting invitation 2.If accept invitation. 3.else	2.1.Add attendee to the meeting session		
	3.1.Specify reason	3.2.Add reason in database 3.3.Notify meeting inviter.		



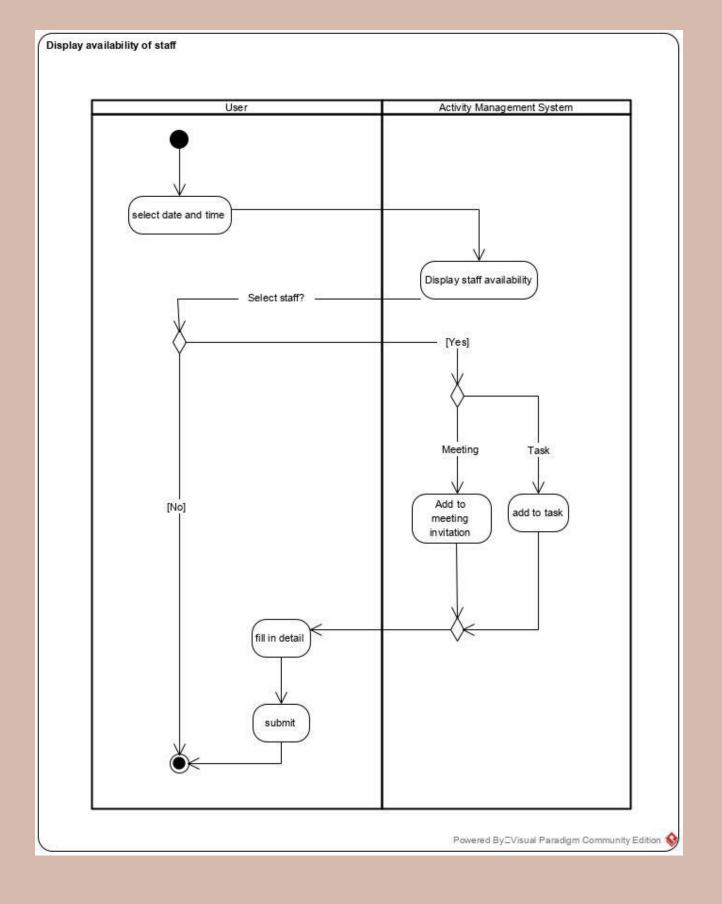
Manage Meeting Info

Element	Description		
Use Case Name	Manage meeting info		
Use Case ID	UC4		
Priority	High		
Actor(s)	Meeting Info Taker		
Description	Meeting Info Taker able to add, update and delete the info in minutes of meeting		
Pre-condition(s)	Assigned as info taker by	Assigned as info taker by meeting inviter.	
Post-condition(s)			
Flow of events	Actor Action	System Responses	
	1.If info taker select add		
	2.Else if minute taker select update	1.1.Add minutes of meeting in database	
	2.2. Update the minutes	2.1.Display the minutes of the meeting.	
	3. Else if info taker select 'Delete'	2.3 Store the updated minutes of the meeting.	
		3.1 Remove the info from minutes of the meeting from database.	



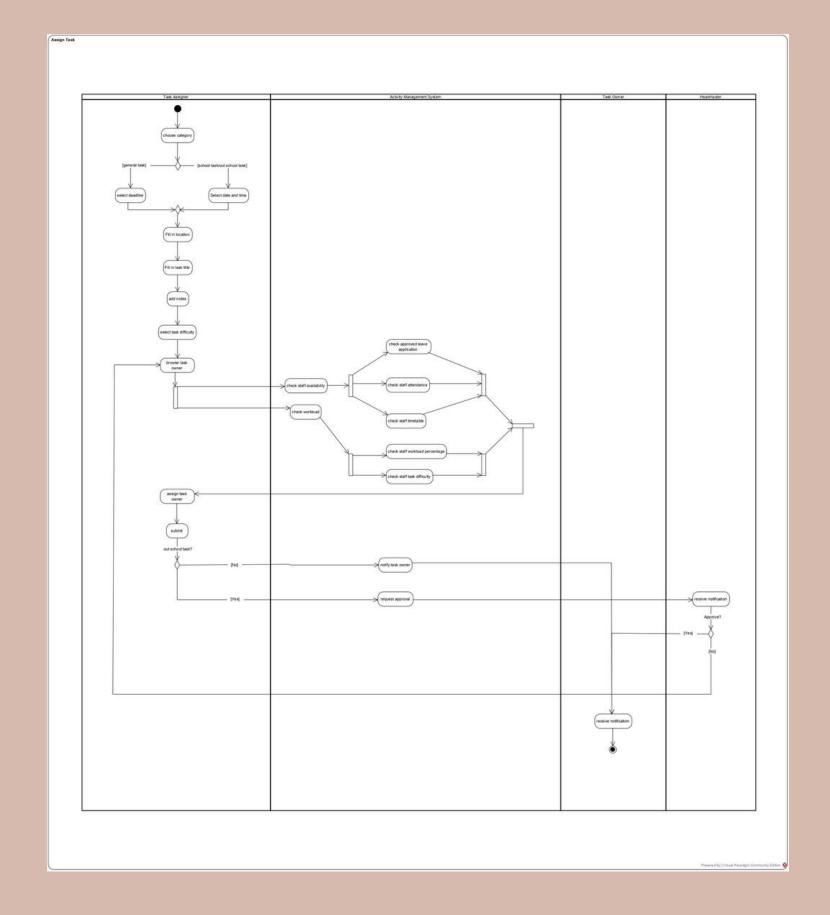
Display Staff Availability

Element	Description	
Use Case Name	Display staff availability	
Use Case ID	UC8	
Priority	High	
Actor(s)	Meeting Inviter and Task	Assigner
Description	The actors are able to view availability of staff based on date and time with reasons.	
Pre-condition(s)		
Post-condition(s)	Assign task to staff.	
Flow of events	Actor Action	System Responses
	4. View staff availability 5. if actor select add staff to task 5.1.1. If actor select task	Fetch all attendance, leave applied and task assigned with specific date and time based on date and time selected by actors in database Display availability 5.1. Display task created and 'Create New button



Assign Task I

Element	Description		
Use Case Name	Assign Task		
Use Case ID	UC5	UC5	
Priority	High	High	
Actor(s)	Task Assigner	Task Assigner	
Description	Task assigner can assign task to user either meeting or non-meeting task which divided into two categories; specific and non-specific time. For meeting, task assigners are meeting info taker and organizer. For non-meeting task, the task assigner can be anybody in the organization.		
Pre-condition(s)	Task assigner requires to check staff availability and workload.		
Post-condition(s)	Add task to selected staff's list of tasks.		
Flow of events	Actor Action	System Responses	
	Create new task Insert task detail Select button add staff	Display staff availability Display staff workload percentage	
	6.Select staff 7.Submit	8. Add task info to database.	



Assign Task II (Approve Assigned Task)

Element	Description	
Use Case Name	Approve Assigned Task	
Use Case ID	UC6	
Priority		
Actor(s)	Headmaster	
Description	Headmaster is required to approve the assigned task if the task is requiring the teacher to conduct at outside of the school which does not involve school activity or curriculum.	
Pre-condition(s)	Headmaster receive notification from task assigner (clerk) about the task.	
Post-condition(s)	i. Task owner and task assigner receive notification about the approval of the task. ii. System update on the task owner attendance.	
Flow of events	Actor Action System Responses	
	Select approval confirmation If headmaster select 'Yes' Else	3. Send notification to task owner and task assigner via email.4. Add task in task owner list5. Update task owner attendance in database.
		7. Send notification to task assigner on rejected assigned task via email.

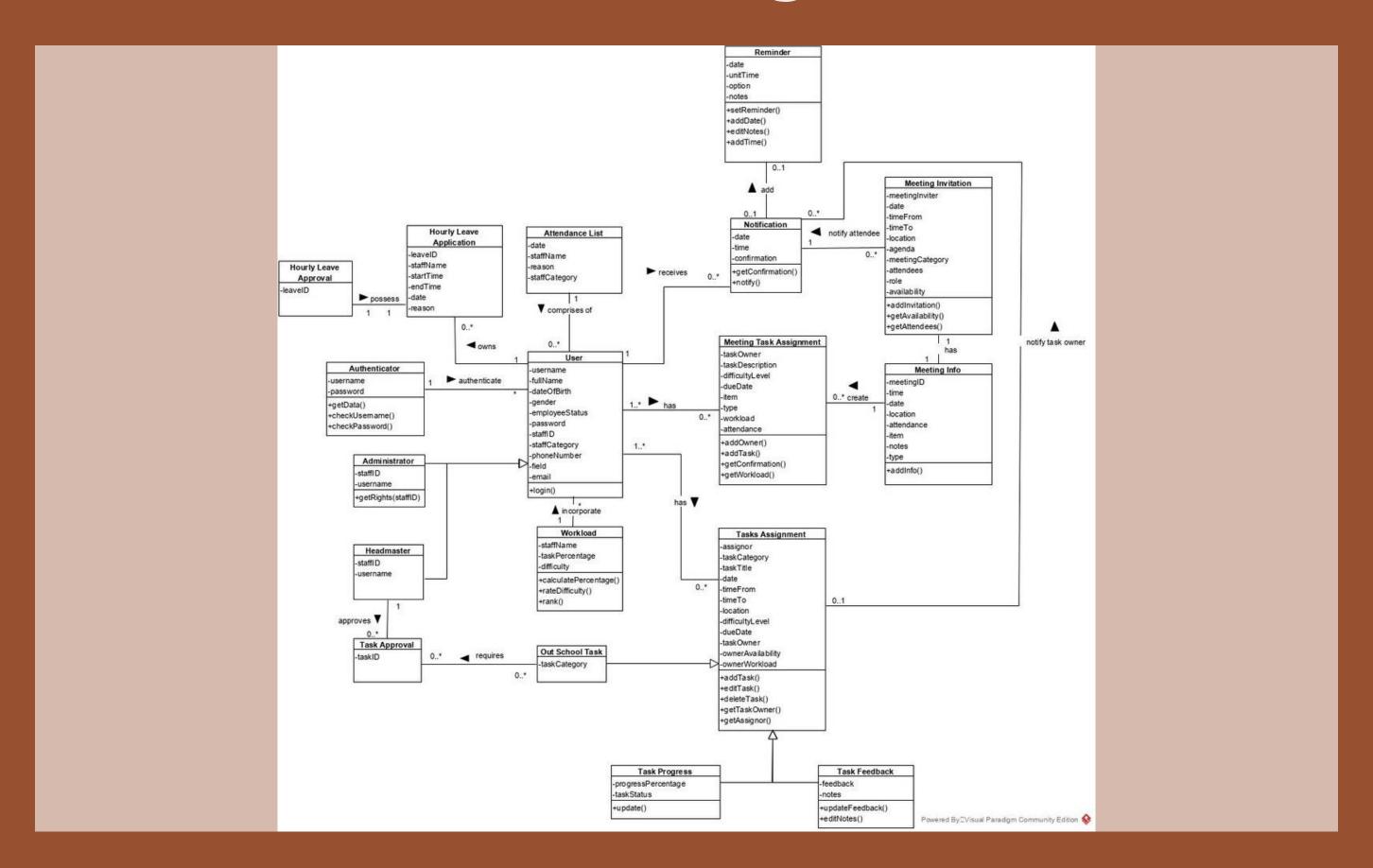
Receive Notification

Element	Description		
Use Case Name	Receive Notification	Receive Notification	
Use Case ID	UC10		
Priority			
Actor(s)	Task Owner		
Description	All Task Owner will receive notification when task assigner assigned any tasks and meeting invitation.		
Pre-condition(s)	Task Assigner assign task.		
Post-condition(s)			
Flow of events	Actor Action	System Responses	
	1. Receive notification		
	2. If select view email		
		3. Display task	
	4. If select dismiss		
		5. Clear notification.	

Send Reminder

Element	Description		
Use Case Name	Send Reminder		
Use Case ID	UC11		
Priority	High	High	
Actor(s)	Scheduler		
Description	Scheduler will send reminder to all task owner based on date and time selected by task assigner.		
Pre-condition(s)	i. Task Assigner must select date and time in scheduler. ii. Date and time are saved in scheduler.		
Flow of events	Actor Action	System Responses	
	User select date and time in scheduler	 Date and time are store in database Check date and time If date is equal to current date and time is equal to current time Send reminder Notify task owner via email 	

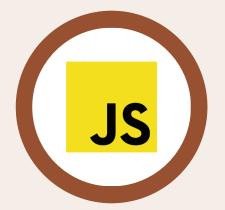
Class Diagram



MASTERY OF TOOLS



Node JS



Express JS



MongoDB Compass Community

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