



# VSB\_Plus

Scurm #3

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# Project deats

What are we doing

- An upgraded version of the Visual Schedule Builder to help user (students) to organize and build up the course schedule table wisely.

Gaps we are filling:

1. Interactive course schedule builder
2. Course advising system
3. Course detail visualization

Innovation to the world

- A web application that allow to build the desired course schedule with better time planning.



# Project & documentation review

What we have done:

1. Construct a Lo-Fi & Hi-Fi prototype for different views
2. Figure how to set difficulties
3. Coding the frontend

Demonstration:

1. Lo-Fi prototype
2. Hi-Fi prototype
3. Basic frontend pages

# Class difficulty classification

## Course Difficulty Document

### Project Name

Visual Schedule Builder Plus (VSB\_Plus)

### Generate difficulty tag for course

Using the average grade of class to generate the course difficult.

For example, if one class's average grade is under the 50, it will get the very difficult tag.

Very difficult: Average  $\leq 50$

Difficult:  $50 < \text{Average} \leq 60$

Normal:  $60 < \text{Average} \leq 75$

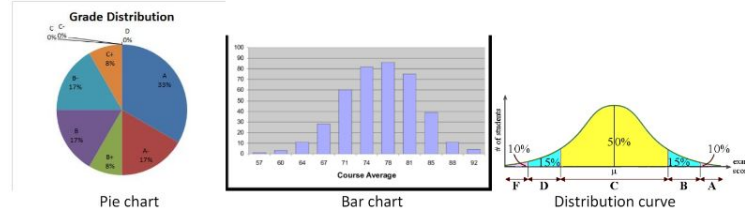
Medium:  $75 < \text{Average} \leq 90$

Easy:  $90 < \text{Average} \leq 100$

### Performance Requirements

It could be better that using the bar or pie chart graph to visualize the difficulty, grade trend or distribution.

i.e.



### Future Improvement

For the purpose of more accurate and fair course evaluation, the method of distribution classification would be improved by other methods or hybrid methods.

i.e. Classifying equation

course difficulty =  $w_0 * \text{mean of final grades} + w_1 * \text{mean of midterm grades} + w_2 * \text{attendance rates} + w_3 * \text{mid-final increasing rates} + \dots$

i.e. Unsupervised machine learning

Using features (columns) from the database for each student (rows) within the same course, and applying different weights, to predict the difficulty level. And compare the predicted level with the original classification with a bias term for error prevention.

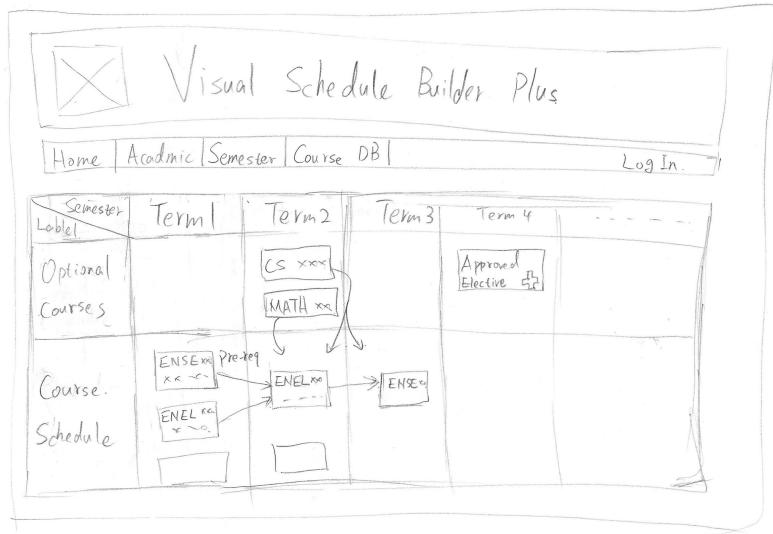


# Project Phase Planing

Project Development Phases	
<b>Project Name</b>	Visual Schedule Builder Plus (VSB_Plus)
<b>Phase 1 - Demo</b>	
<ul style="list-style-type: none"><li>- Construct all the pages. (HTML, CSS, JS, PHP)</li><li>- Build a demo database where all the data are made-up.</li><li>- Based on that demo database, debug the system.</li></ul>	
<b>Phase 2 - Accessing</b>	
<ul style="list-style-type: none"><li>- Getting respond from the IT support about database accessing.</li><li>- Based on the method of database accessing (API, partial database, etc.), fix and complete the PHP and JSON part.</li><li>- User logging, user page, advisor functionality.</li><li>- Complete all the feature of accessing actual database, fetching data.</li></ul>	
<b>Phase 3 - Writing</b>	
<ul style="list-style-type: none"><li>- Getting respind from the IT support about database writing authentication.</li><li>- Adding the course registering stuff.</li></ul>	

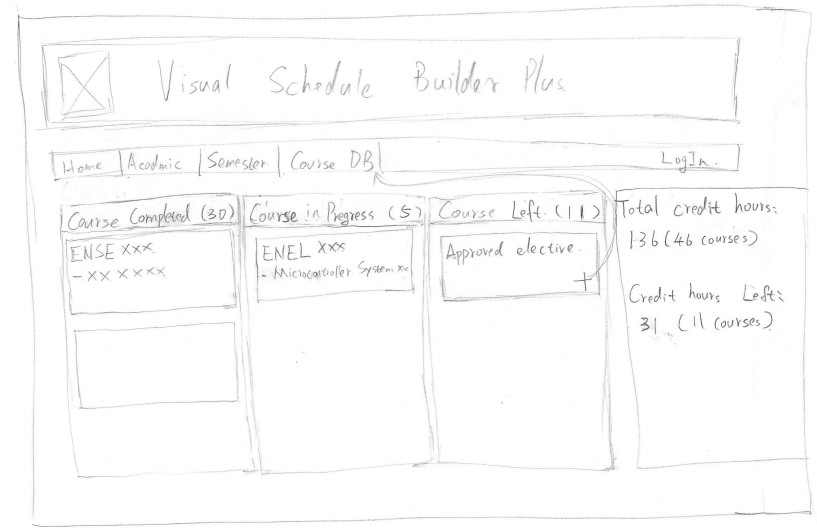
# Prototypes (Lo-fidelity) For different views

Calendar view.



Calendar View

Kanban - style view



Kanban-style View

# Prototypes (Hi-fidelity) For different views

Calendar Sc...

https://www.vsb\_plus/Academinc.com

Visual Schedule Builder Plus

Home Academic Schedule Builder Semester Schedule Builder Course List DB Login

Calendar Schedule

Semester	Term 1 2018 Fall (Finished)	Term 2 2019 Winter	Term 3 2019 Summer	Term 4 2019 Fall	Term 5 2020 Winter	
Optional Courses		ENGG 100 ENGL 100 ENEL 280	Math 115	CS 210 CS 215	Approved Elective	+ Add Semester
Course Schedule	CS 110 MATH 110 + Calculus I + Teacher Name + Pre-req	ENEL 282 + xxxxxx + Pre-req + Teacher Name	Math 115		CS 340 ENSE 281 + xxxxxx + Teacher Name + Pre-req	

Calendar View

Visual Schedule Builder Plus

Home Academic Schedule Builder Semester Schedule Builder Course List DB Login

Kanban style Schedule

Course Completed (30)

ENSE 374  
- System Engineering Design Project  
- Term: 2019 Fall  
- xxxxxxxxxx  
[Show More](#)

ENEL 387  
- Microcontroller System Design  
- Term: 2019 Winter  
- xxxxxxxxxx  
[Show More](#)

ENSE xxxxx  
- xxxxxxxx xxxxxx  
- Term: 2019 Fall  
- xxxxxxxxxx  
[Show More](#)

Course in Progress (3)

ENSE xxx  
- xxxxxxxx xxxxxx  
- Term: 2020 Fall  
- xxxxxxxxxx  
[Show More](#)

CS xxxxx  
- xxxxxx xxx xxx  
- Term: 2020 Fall  
- xxxxxxxxxx  
- xxxxxxxx  
- Distribution  
  
[Show Less](#)

Course Left (11)

ENGG 401  
- xxxxxxxx xxxxxx  
- Term: 2021 Winter  
- xxxxxxxxxx  
[Show More](#)

Approved elective  
- ENEL 489  
- xxxxxxxx xxxxxx  
[+](#)

Program

Total Credit hours:  
136 (46 courses)

Performance trend

Kanban-style View

# Web-page Demo



## Visual Schedule Builder Plus

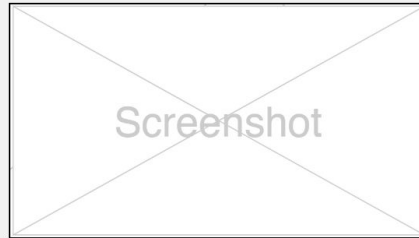
[Home](#)[Academic Schedule Builder](#)[Semester Schedule Builder](#)[Course List Database](#)[LogIn](#)[SignUp](#)

### Project Description

The purpose of this UofR Software Engineering Capstone Project is to enhance the functionality of UofR existing Visual Schedule Builder and helping future students course selection easier.

This project will be focused on the students, the building up of their classes schedule. The opinions from the professors of different faculty and the students are mainly to be considering. The Visual Schedule Builder Plus will be designed for students into the different faculty. Then through the faculty, according to the importance and limitations of classes, the Visual Schedule Builder Plus will recommend the courses to take for the students in the different semesters. After the students have chosen and built up their desired time schedule, the Visual Schedule Builder Plus can also give out some advice on their time table to help them for better time planning.

A good design of the Visual Schedule Builder Plus that will help to organize and build up the time table wisely. It is to solve the problems such as considering what courses to take first to be able to graduate in time, knowing the different limitations of each course (for example, the prerequisites in order to take the class, and when it offers, or the credit hours requires), as well to be aware of which elective classes to take that will benefit them in the future based on their faculty. The enhancing of the functionality for U of R existing Visual Schedule Builder will help the students to select the courses easier.



### Team Info

VSB Plus - HomePage - Google Chrome

### Update Log

#### Project #1

- main.html page create
  - database create
- 2020-10-28

#### Project #2

- academicBuilder.html page create
  - database create
- 2020-11-02

### Contact Us

#### GitHub

- [VSB\\_Plus](#)

#### Email

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- name@example.com





# Next Step

1. Course Data - contact with UR IT support
2. Dummy database construction
3. Organize documents in the github
4. Finishing AWS server setup (LAMP: Linux, Apache, MySQL, and PHP)
5. Continue on Phase-1



# Group reflection

Do you feel you are on track?

- Yes, completing 50% of Phase-1

Do you feel there are barriers to your success (if any)?

- Currently, some problems with server setup.

Do you need any help going forward?

- Need courses data provided by IT support



# Reference

- VSB\_Plus Github Repository