Orbital Project – Gemini

[Project README and Log]

By

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[Team xAspire - NUSPlan]

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README

Overview:

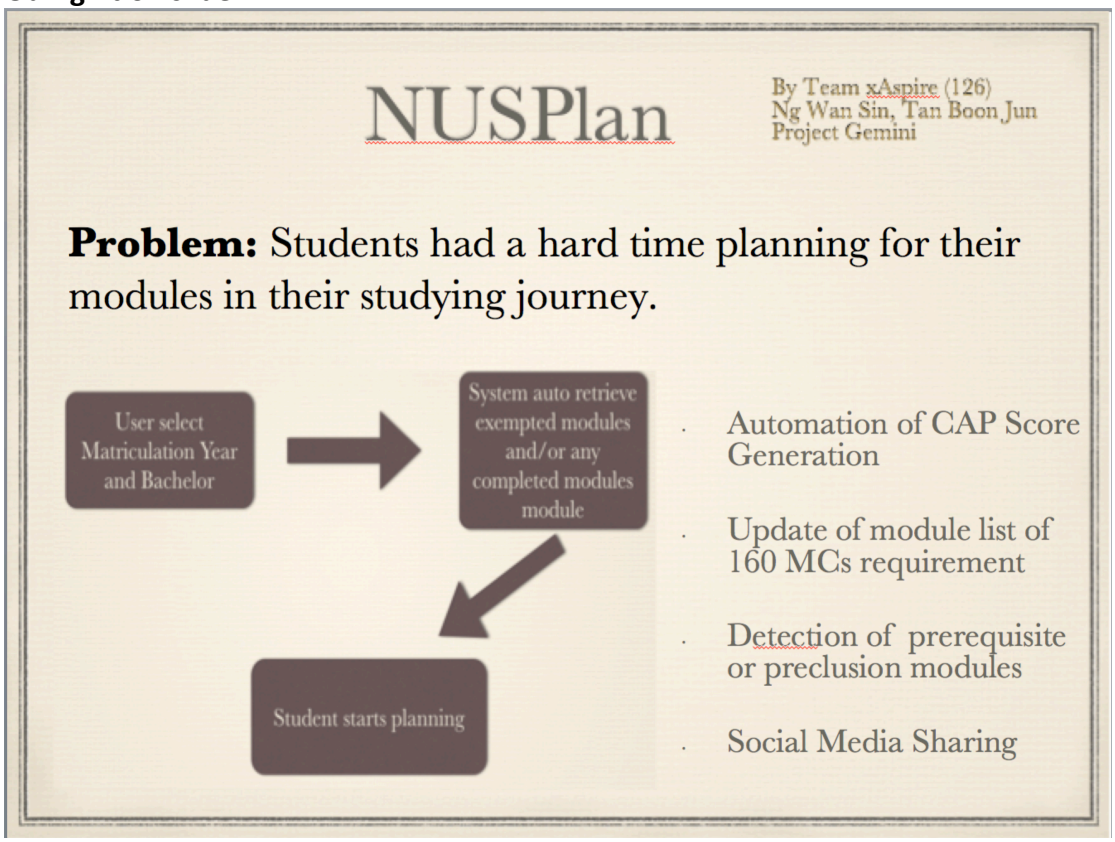
NUSPlan is a web platform for students to plan their modules throughout their studying journey. It serves as a useful utility tool for students to gauge their modules to be read in particular semester.

A student is able to toggle around each different semester and make changes accordingly to his preferences or to the module's requirement. He is able to get this course updated module list upon filling up the basic info. Moreover, NUSPlan allows the generation of CAP for students.

All in all, NUSPlan will make the student planning journey a much more pleasant journey.

We are currently aiming out project level to be Gemini.

Our ignition slide:



YouTube link to our Ignition presentation:
https://youtu.be/osQjStOAci0?t=2h17m

Milestone 2 YouTube link:
https://www.youtube.com/watch?v=lgqyCgx6mBg&feature=youtu.be

Milestone 3 YouTube link:
https://youtu.be/cP1bk2TTvGM

Link to our NUSPlan website:
https://nusplan.herokuapp.com/

1. Ideation

Evaluation #1 - 1 June: Project Ideation

- We have come up with the framework, the coding language, the database, the web hosting server, the cloud service.
- We have come up with our idea – NUSPlan, a website platform service.
    - We have come up with the project documentation tool – Trello.
- We need to learn the various development tools, NetBeans, coding language, PHP, database, web hosting server, Heroku.
- Learning of CSS and BootStrap

Evaluation #2 - 29 June: Minimum Viable Project

- Module Viewing and Description
- Automatically Update of Course List
- Social Media Integration (Google+ and FaceBook)
- Calcualation of CAP based on student input (To be put to the next Evaluation)
- Students are allowed to plan their module from Semester 1 till his last semester
- Bootstrap User Interface

Evaluation #3 – 3rd August: Extentions

- User Interface and User Experience
- Calculation of CAP
- Other Curriculum List

Splashdown – 19 August: Extensions 2

- User testing with a target group of approximately 5 people.
- Synchronization with NUSMods, if possible
- Other Curriculum List
- Social Media Sharing

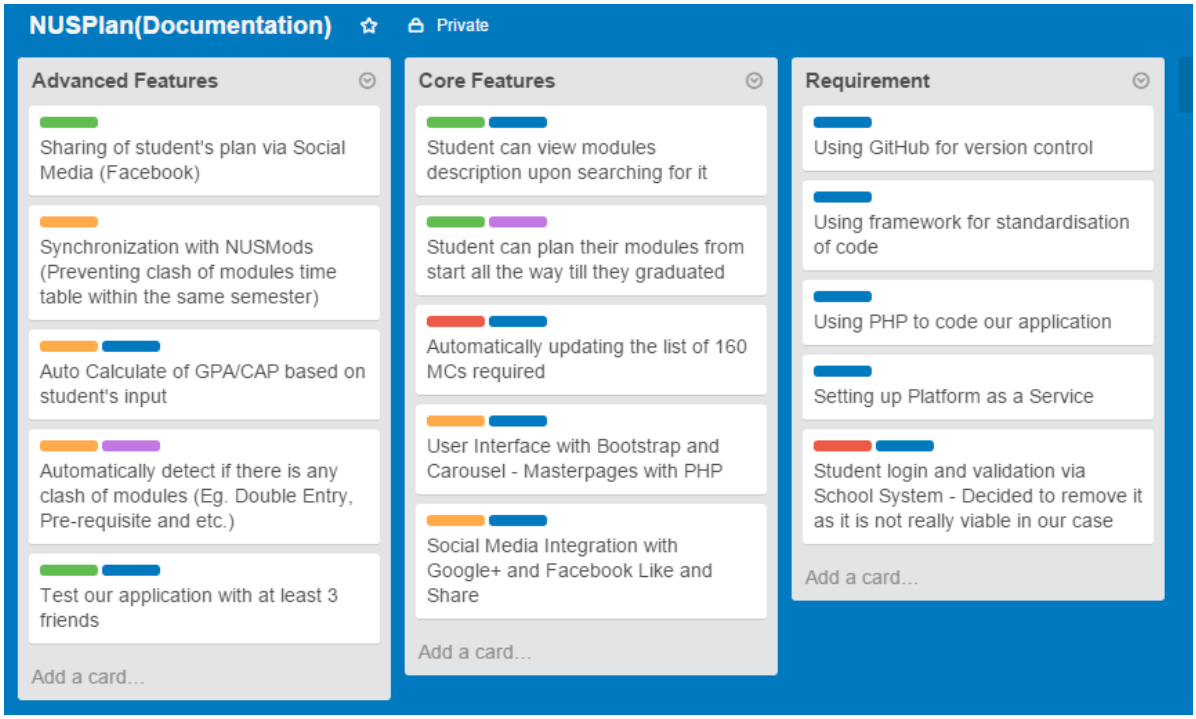
2. Planned Features

As of now, our team will be coming up with 5 core features and 5 advanced features on the Trello card board below.

Core features will be implemented so that NUSPlan is fully functional to ease student in planning their modules throughout their marticulated years. We have implemented the User Interface Design coupled with Bootstrap, student is able to view each course circumulum or even modules in details. Students are able to plan their modules now, with the exception of exclusive to the IS stream as we are opening up to cover the rest of SOC courses by the end of our next milestone. Students are also able to share and like with the integration of the social media plugins, Facebook and Google. We will be shifting the calucation of CAP to the next iteration as we will be focusing more on adding the rest of the circumulum and courses of SOC first. **– Iteration Two**

Moreover, we will be adding in some of these advanced features within our time constraint once we are done with the core features. As most of our peers have difficulties in planning our modules (eg. Modules clashes during time-table planning) throughout our marticulated years, we hope to test our application out as we realise the agile methodology also places the student "in the loop". **– Iteration Two**

As we proceed on to Iteration Three, we have successfully integrated the planning of curriculum with regards to IS/EC stream(Cohort 14/15 & 15/16 batches). We will be adding the rest of the SOC curriculum list prior to the splashdown. However, the integration of Computer Science and Computer Engineering will be not available as these 2 degree curriculum will be hard to tackle and for planning of curriculum due to huge loads of modules available for them. We have also integrated the calculation of GPA/CAP based on a student input when planning. We have been also thinking of testing application with some users to see how they feel about the website. As for the user interface, we will not be making any more changes to it.



*Blue label indicates that the task is done, green label indicates that the task is our first priority, purple label indicates that the task has been started but not been completed. orange label indicates that the task is our second priority and lastly, red label indicates that the task is our last priority.

*Right now our students are able to plan their circumulum if they are from the IS/EC stream of batch 14/15 & 15/16 and with or without specialization. We will be updating more for the rest of the SOC courses in due time, by Splashdown.

3. Proposed Level of Achievement

Project Level: **Gemini**

Justification

To complete the Vostok level, each of the two members of the project need to:

Checklist	√
Attend the Liftoff workshop	√
Log the time you spent on the programme, with a total time of at least 130 hours.	√
Participate in the end of summer showcase Splashdown.	√
Complete a basic web application (following the Google App Engine/Python framework as outlined by our programme). • Something similar to the basic Giftbook example with creation, retrieval, and deletion of record is sufficient. • If you do something different, you should argue why what you do is roughly equivalent in your final report. • **We created our website with Heroku sever, MySQL database, GIT Local Repository, using PHP as the coding language.**	√
Complete the peer-grading exercises.	√
Show progress on your project over all three evaluation milestones (late May, late June, late July).	√
Score an average of at least 2 stars (satisfactory) out of 4 on feedback given to other teams, and on own peer-graded project.	√

To complete Project Gemini, each project member must complete the milestones for Vostok, and additionally, the team must:

Checklist	√
Complete at least 4 additional extension milestones. Possible extensions include: • Use an alternative platform based Ruby on Rails, PHP, etc. instead of GAE. • **PHP is used for the coding language**	√
Social integration (see e.g. https://developers.facebook.com/docs/plugins/). • **Facebook Like, Facebook Share, Google+ were integrated.**	√
Input validation and exception handling (see e.g. https://www.udacity.com/wiki/cs253/unit_2#validation). You may also be interested to read about how validation is related to security.. • **All fields have input validation and message boxes were all generated.**	√
Communicate with some web services using JSON, XML or other communication format • **JSON is used for the plan curriculum.** • **NUSMods API was being used in searching module.**	√

Have the app displayed appropriately on different mobile clients. • **Tested with different browsers and our mobile devices.**	√
Complete 2-3 Mission Control homeworks as given by the tutor, and applied the technology learned into your project. • **Carousel was integrated.** • **JSON was integrated as well.**	√
Score an average of at least 2.5 stars (better than satisfactory) out of 4 on feedback given to other teams, and on own peer-graded project.	√

4. References Used

For learning:

- PHP (http://www.codecademy.com/tracks/php)
- Bootstrap (http://getbootstrap.com/)
- HTML/CSS(http://www.w3schools.com/)
- Jquery (http://www.codecademy.com/tracks/jquery)
- Javascript (http://www.codecademy.com/tracks/javascript)
- Facebook's Social Plugin (https://developers.facebook.com/products/social-plugins)
- NUSMods's API (https://github.com/nusmodifications/nusmods-api)
- Google's +1 Plugin (https://developers.google.com/+/web/+1button/)
- Bootstrap Fonts-Awesome(http://fortawesome.github.io/Font-Awesome/icons/)
- Stack OverFlow (http://stackoverflow.com/)
- Google(https://www.google.com/)

For creating documentation of the project:

- Trello (https://trello.com/) for feature making and card sorting.
- Github (https://github.com) for our code version control
- Google Docs (http://www.google.com.sg/docs/about/) for online collaboration of work such as like Project README and Log.

For the development of NUSPlan:

- Heroku (https://nusplan.herokuapp.com) for platform as a service
- Codeigniter (http://www.codeigniter.com) for PHP framework

5. User Stories

Describe what has been done for each of the user stories specified in the current iteration and whether it is ready for acceptance testing by the peer evaluator.

1. As a user, I am able to like and share the website with my FaceBook account.
    - It is ready for acceptance testing by the peer evaluator
    - We managed to integrate the social media plugins for our website, with the help of the Mission Control and our own research.
        - We learnt on how to configure the plugins to suit our website's needs.
    - The user is able to like the website and view the rest of his friends who have liked NUSPlan as well.
    - The user is able to share onto his FaceBook Timeline
    - The user is also able to recommend on Google+.
2. As a user, I am able to leave a feedback about the website
    - We integrated a simple form to store feedback form details, which will be kept into the database.
    - Input validation and exception handling has been covered.
    - It is ready for acceptance testing by the peer evaluator.
3. As a student, I am able to view any particular module in details, knowing the different pre-requisites, modular credits, workload, etc.
    - We integrated NUSMods API in conjunction with this.
    - We also did a simple tree diagram to show the pre-requisites leading to this particular module.
    - It is ready for acceptance testing by the peer evaluator.
4. As a student, I am able to view my SOC course curriculum in details, knowing what modules that I needed to take, the different levels of modules, the different types of module requirement to complete, the specialization(if any) that I wish to take up.
    - It is ready for acceptance testing by the peer evaluator. However only IS stream is available as of now.
    - We integrated MySQL database in order to come up with this feature.
5. As a student, I am able to plan my SOC curriculum for all my semesters and calculate an estimated CAP given my input.
    - It is ready for acceptance testing by the peer evaluator. However only IS/EC 14/15 and 15/16 stream are available as of now.
    - Do take note that the edit button needs to be refreshed in order to reflect the edited changes.

Provide 2 or more user stories to be implemented in the next (final) iteration.

1. As a student, I am able to plan my modules all the way straight to the final semester, even if I have specialization in my planning. **(Implemented)**
2. As a student, I am able to calculate the estimated CAP which I will obtain given my estimated inputs. **(Implemented)**

3. As a student, I am able to calculate the CAP of my current semester given my inputs. **(Implemented)**
4. As a student, I am able to share my module plan with my fellow classmates/peers. **(Not Implemented)**
5. As a student, I am able to see if there are any clashes with my modules in terms of timetable clashes, exam clashes. **(Not Implemented)**

Project Log

Currently, we have met about 30% (40 hrs) of the requirement of at least 130 hours spent on this Orbital project. As we are not familiar with the tools we are using, we spent quite a number of time on researching and playing around with it. Additionally, both of us are learning together as we feel that it's good to have both of us to learn and share knowledge together instead of dividing our work seperately. Hopefully, within the next 2 week we will be familiar and have developed our first full functional prototype before the second evaluation on 29 June. – **Iteration One**

As we progress on from our milestone one, we have divided the tasks among us, however, both of us will still take time to learn of what each other has been doing. Joe will be focusing on the design, consisting of the logo, masterpage, bootstrap, homepage, etc. Boon Jun will be focusing on the technical side, which consists of the planning circumulum and updating module details. As the technical portion will be quite heavy, Joe will be assisting Boon Jun when he is done for the design portion. This is what we have discussed for our next milestone. (Milestone Three) We will be also focusing on our advanced features, the calculation of GPA(which was been shifted to Iteration 3), and testing of application for our next milestone. Our total hours currently is about 90.5 hours each, on average.(70% of the requirement needed to be met) – **Iteration Two**

As we progress on from our iteration two, Joe has been helping out with the database manual entry of other curriculum list while Boon Jun has been doing the planning for the curriculum list. As such, the database has been up and for IS/EC curriculum planning and list has been up as well.. We will also be testing our application with some users to get their feedback. As for the user interface, changes have been made to the About Us page to give a more consistent look and feel with other pages. Our homepage has also some minor changes with regards to the carousel being updated. During the duration between Iteration Two and Iteration Three, some bugs were discovered during our deployment and took up some of our time, such as security issues bug and we realized that it is far too tough for us to handle both Computer Science and Computer Engineering degrees. Our total hours currently is about 144 hours each, on average. We will be focusing more on adding other curriculum planning and list prior to the splashdown. Some advanced features such as module plan share will be tackled and the detection of pre-requisites modules.

Link to our Project Log: https://goo.gl/1bH3oF

Conclusion: Our Thoughts

Throughout the duration of Orbital 'module', I have pretty gained as much as I could. I have learnt new technologies, such as PHP and Bootstrap, something that can be used for the future. I have come across new platforms/websites that can be put to use in the near future as well, this including GitHub, Trello, Slack. All these stuff are much more useful than what has been taught in school normally.

Orbital, in overall, has taught me that to be more independent in my own learning and there is always something new and something interesting out there for me to learn, not to be confined in what I have been taught in school.

Orbital has been a great initiative by the SOC staff as it allows students to pair up and do things as a team instead of an individual. Friendship can be bonded, learning has been fun with someone you know and a goal to achieve. Orbital has their own evaluation, that is not through our TA, but rather from our peers. Furthermore, we can get to evaluate other teams as well. This creates a community within the SOC Orbital peeps, and it helps in the overall learning.

Overall, Orbital has been a fun and enriching experience for me. I will look forward to other initiatives brought to our school, next time.

- **Joe Ng Wan Sin, 14/15 EC Student**

Orbital is like working out in a IT project whereby we need to generate and develop ideas, and there are bound to have many difficulties and challenges as it is a self learning module. Although guidance is provided, we are still required to practice the technology we have learnt into place. I must say that I have gained a lot of experiences and skils while developing NUSPlan. Much of the time is spent on researching relevant technology as we were new to most of them and has been really well spent as it is used in the current era, which can be of good use in the future. Using Heroku, a (PaaS) platform as a service as well as other integrated technology inside (Eg. CloudDB) has provided me a holistic insight of how each of the technology communicate with each other and its own importance in coming out a solution.

In addition, I enjoy doing Orbital as we are given the freedom to plan and manage our own time during our summer break. It is great as we can meet as and when we want easily as compared to during school term whereby we may have conflicting timetables.

In conclusion, Orbital has been a fruitful experience for me. I hope that through the friendship and experience we have gained in Orbital will bring us into greater heights in the future.

- **Tan Boon Jun, 14/15 IS Student**