# RMIT
## UNIVERSITY

# Custom Study Plan Generator PROJECT CHARTER

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Sponsor:     Dr Santha Sumanasekara
Number:      N/A
Author:      Bret Thomas
Reviewed:    Jennifer Dousset, Michael Baggott

# Document Control

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## Distribution

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| V 1.0 | 23/09/2015 | Dr Santha Sumanasekara | Deputy Head (Learning & Teaching) of the RMIT School of CS & IT |
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## Amendment History

| Section | Page | Version | Comment |
|---|---|---|---|
| 1.0-8.0 | 1-8 | 1.0 | Initial document creation. |
| 1.0-8.0 | 1-10 | 1.1 | Formatting changes made to document. |
| 7.1, 7.2 | 7-9 | 1.1 | Created new subheadings for Milestones and Risks. Added tables for Sprint tasks. |
| 8.1, 8.2 | 10 | 1.1 | Added new section for Out Of Scope info. |
| 5 | 6 | 1.2 | Adjusted roles slightly, note use of term functional refers to documentation |
| 7.1 | 7 | 1.2 | Made slight adjustment to roles for Sprint 1 |
| 7.1 | 7-8 | 1.2 | Added tentative roles to all milestones. May be adjusted in sprint meetings |

## Staff or Entities Consulted

| Name | Position / Organization |
|---|---|
| N/A | N/A |

## Related Documents

| Name | Author | Description |
|---|---|---|
| N/A | N/A | N/A |
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*Preface*

The purpose of this document is to outline the Charter for the Custom Study Plan Generator. It serves as an agreement between the project team, the sponsor and the supervisor. It outlines the project's purpose and how the project will be approached, resourced, managed and delivered.  Any amendments after this document has been signed off will be via addenda.

# Table of Contents

# 1   Project Summary

The project is to create a custom study plan generator that can generate an optimised study plan for a student studying a degree offered by RMIT's School of Computer Science & Information Technology (CS & IT). The study plan generator takes into account when the student is starting their studies, any studies already completed, any exempt units, any operator (staff) changes, unit prerequisites, and unit availability to generate an optimised study plan. The optimised study plan allows the student to complete their studies in the least amount of time and in the schools preferred order of completion (that is core units first).

The sponsor, Santha Sumanasekara, is offering this project as they desire the custom study plan generator tool to automate a number of steps in providing an optimised study plan to a student and in the Recognition of Prior Learning (RPL), process. With the hope that the custom study plan generator will in turn improve the timeliness of handling RPL applications.

# 2   Project Sponsor

The project sponsor is Dr Santha Sumanasekara of RMIT and is the Deputy Head (Learning & Teaching) of the School of CS & IT and has a major role in producing student study plans and in the RPL process.

# 3   Stakeholders and End Users

The key RMIT stakeholders are:

- Dr Santha Sumanasekara Deputy Head (Learning & Teaching) of the School of CS & IT who has a major role in producing student study plans and in the RPL process.
- Other CS & IT staff who are part of the RPL process and who need to advise their students which units they need to do and when they should do them.
- The students of the CS & IT degrees to have a clearer idea of which units they need to do and when they should do them and to speed up any possible RPL applications.
- Potentially other RMIT schools staff and students if the custom study plan generator can be generalised for their contexts.

# 4   Appointment of Project Leader

The project leader is Michael Baggott. The project leader was appointed in a democratic (nomination/voting), process and was selected based on his 9 years of experience in the IT sector where he has managed various project teams, his experience with leading group assignments of other RMIT units and his experience with the group collaboration tools such as BitBucket.

## 5    Project Team Members

The project team members and their respective roles are:

- Michael Baggott – Team/Scrum Leader, functional documentation and front end design/implementation.

- Jennifer Dousset – Database (or other data source) specialist/Back end(model) design/implementation and functional documentation.

- Duane McMahon – CAS/Google authentication and CAS integration, front end implementation, and functional documentation

- Harrison Slater – CAS/Google authentication and CAS integration, front end implementation, and functional documentation

- Bret Thomas – Back end design/implementation and functional documentation.

- Alistair Goulding – Back end design/implementation, and functional documentation

## 6    Project Methodology and Approach

AGILE Scrum is the approach we will take for this project as we have a relatively small team, short time period, small project size, relatively simple project that will be fast to research and the project doesn't require specialised resources. Also the project is very dependent on the sponsor's needs and there may be frequent changes as the sponsor refines those needs.

The team is physically located all over Australia and meetings will be online via Skype both internally and with the sponsor. Project management and deliverables will also be online making use of Trello, BitBucket, and Google Docs/Sheets/Drive.

## 7    Project Governance

The project will be governed by a agile scrum approach with tasks for sprints (that last a fortnight) being set and assigned by the team leader to individual team members in trello for each sprint.

Internal meetings will be held via skype chat on a weekly basis or more often as necessary and decisions on the projects in these meetings will be made democratically. Internal correspondence will be via student email with project documentation stored on google drive and shared amongst team members. BitBucket will be used for the sharing of project source code.

Communication with the sponsor will be via email for ongoing correspondence and via skype audio chat for fortnightly meetings on sprint deliverables. The walkthrough of sprint deliverables will occur during these meetings.

## 7.1 Milestones and Responsibilities

Abbreviations for team members:

Michael Baggott (MB), Jennifer Dousset (JD), Duane McMahon (DM), Harrison Slater (HS), Bret Thomas (BT), Alistair Goulding (AG).

**Fortnight ending Week 5:**

| Task | Resource |
|---|---|
| Use case diagrams of study plan generator. | AG |
| Partial data added to data source for one degree. | JD, BT |
| Basic retrieval of data from data source based on unit code. | JD, DM |
| Basic interface showing possible user input for adding/editing/removing units courses. | MB, BT |
| Basic interface showing possible user input for creating study plan. | AG, MB |
| Basic algorithm for optimising units based on importance core, It elective, minor course, student elective. | AG, BT |
| CAS/Google authentication research. | DM, HS |
| CAS implementation including SSL certificate, testing on live AWS server | DM, HS |

**Fortnight ending Week 7:**

| Task | Resource |
|---|---|
| Data added to database for all courses and special IT elective, Minor Course and student elective placeholder units added. | Tentative JD, BT |
| Retrieval of all units and it elective, minor course and student elective placeholders for a given course. | Tentative JD, BT, AG |
| Intermediate interface showing possible user input for adding/editing/removing units courses with improved layout and feel. | Tentative MB, HS, DM |
| Intermediate interface showing possible user input for creating study plan and allows to select units for exemption and units already completed. | Tentative MB, HS, DM |
| Intermediate algorithm that builds upon base algorithm adding in unit availability. | Tentative BT, JD, AG |
| Standalone CAS/Google authentication testing. | Tentative HS, DM, MB |

**Fortnight ending Week 9:**

| Task | Resource |
|---|---|
| Ability to add in courses and units to data source. | Tentative JD, BT |
| Advanced interface showing possible user input for adding/editing/removing units courses with improved layout and feel. | Tentative MB, HS, DM |
| Advanced interface showing possible user input for creating study plan with all possible user inputs shown. Can proceed to generate plan. | Tentative MB, HS, DM |
| Advanced algorithm that builds upon base algorithm adding in prerequisites and student starting date and exempt units. | Tentative JD, BT, AG |
| CAS/Google authentication integration testing. | All |

**Fortnight ending Week 11:**

| Task | Resource |
|---|---|
| Final interface that allows user to actually add/edit/remove units with improved layout and feel. | All |
| Final interface that allows user to go through the steps of creating study plan and then applying user overrides to systems generated plan. | All |

**Fortnight ending Week 13:**

| Task | Resource |
|---|---|
| Incorporate sponsor feedback into application and then give a demonstration of complete application on simulated real environment. | All |

## 7.2 Risk Management

Our issue and risk management approach will be to brainstorm the key milestones involved in our deliverables to come up with potential issues that may arise and to develop potential responses to these issues. Escalation procedures for risk and issues management will involve contacting the sponsor via email with a clear explanation of the risk/issue and offering our suggested solution and amended project deliverables (if necessary) for approval.

Change control will be managed by having the sponsor agree to project deliverables discussed in this document and any change requests to be sent via email from the sponsor and they will be reflected in this document. Variations to these deliverables are to be limited to minor cosmetic changes or on a sacrifice equivalent other deliverables to enable new deliverables. Additionally approximately one week leeway has been built into the project timeline to allow for slippage.

## 8   Project Scope & Deliverables

## 8.1 Scope and Deliverables

The high level scope and deliverables of the custom study plan generator are:

- Create a web based application (server OS to be clarified).

- Input the details of core units (name, code, pre requisites, availability), and courses (name, code) into the application or some data source that our application can access and modify. Data source implementation to be signed off.
- Allow staff to log on via cas (in a web browser) and access our application.

- Develop an interface for staff to add/edit/remove unit (Name, code, availability, prerequisites) and course details. Unit/Course maintenance interface to be signed off.

- Develop an algorithm that will determine the most optimal study plan for a given student based on when the student is starting their studies or studies already completed, any exempt units, any operator (staff) changes, unit prerequisites, and unit availability. Optimised is considered to be a plan that allows the student to complete their course in the minimal time possible and with core units being completed first. That is if they only need to do 20 of the 24 units they would complete their studies in 5 on campus semesters. It is not a requirement to consider the details of student electives or IT/Advanced IT elective or minor stream units. These will just be shown by placeholders "Student Elective", "IT Elective" and "Minor Course" with completion priority being IT electives, minor course, student electives. Algorithm methodology and performance to be signed off.

- Develop an interface for staff to load or create new study plans and select course, select exempt units, modify pre requisite requirements for units if necessary (only temporarily overrides stored unit prerequisites for specific student), and select starting study date, then generate an optimised study plan from the staff input. Once the study plan has been generated the staff should be able to override the plan and make changes to its layout or perhaps even go back to the start and change exempt units and/or unit prerequisites and rerun the process. The study plan should be saved and be able to be loaded at  a later date and modified. Study plan generation interface to be signed off.

- It is also desirable to be able to share the study plan with the student preferably via google drive and the students gmail account. Plan delivery to student method to be signed off.

The above scope and deliverables will be delivered in incremental stages roughly every fortnight with the use of prototypes of increasing quality, with additional features and refinements added with each revision.

## 8.2 Out Of Scope

The following items are out of scope:

- Study Plans for Part Time students.
- Study Plans for OUA students.
- Study Plans for non Melbourne campuses or non undergraduate degrees.