

# Software Engineering Design Project

CITS5551

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2017, Semester 2

# Course Overview

- CITS5551 is a capstone unit intended to give you real software engineering experience.
- You will work in a team, with a real client and manager, and will be expected to negotiate, plan and deliver a software system meeting your clients needs.
- You will be assessed on your professionalism, how well you handle the challenges you encounter and how you manage your resources, more than the quality of the system you deliver.
- There will be a weekly lecture covering useful skills and processes
- You are expected to organise a weekly group meeting, as well as meetings with clients and mentors as needed.



# Contact



- Lectures
  - 10–11am Firday, CSSE:2.28
- Webpage: <http://teaching.csse.uwa.edu.au/units/CITS5551/>
- People:
  - Tim French
    - Tim.french@uwa.edu.au\_
    - Unit coordinator & Lecturer
  - Mubashar Hassan
    - ghulam.hassan@uwa.edu.au\_
    - Lecturer and Team Manager
  - Andrew Walker
    - [andrew@fleeteng.com.au](mailto:andrew@fleeteng.com.au)
    - Fleet Engineering CEO & Team Manager
  - Henry Greville
    - henry@fleeteng.com.au\_
    - Lead Mentor

# Resources

- Resources are critical! The success of a software project depends on being able to deliver good outcomes within a budget.
- Each team will have 4-7 people. People are the most important resource on the project. It is not necessary that everyone does an equal amount. You should work to your strengths, and learn new technologies so you can contribute to the project.
- Each team will have a manager assigned. They will advise you on client interactions, and help with task allocation, and project planning.
- Each team will have a client. They are the domain experts and the end user of the product.
- Each team will have a mentor. These are technical experts who can advise the best way to use technologies.
- There is a budget to support projects, and pay for hardware, hosting fees or other resources.



# Assessment



- The tech seminar will be individual and should address an important decision for the project
- Reflective writing is a 1500 word essay on a given subject.
- Requirements and prototype is a group effort.
- Presentation, maintenance manual and validation document are all group efforts
- Peer review is individual, and will depend on both your reviews, and your peers assessments of you.

Assessment	% of final mark	Assessment Dates Semester 1 start
<b>CITS5551</b>		
Reflective Writing	30%	5pm Friday, 3rd November, 2017
Technology Seminars	30%	10am, 15 September, 2017
System Requirements Document and Prototype	40%	5pm Friday, 3rd November, 2017
<b>CITS5552</b>		
System Presentation	40%	10am Friday, 13th October, 2017
Maintenance Manual	20%	5pm Friday, 3rd November, 2017
System Validation Document	20%	5pm Friday, 3rd November, 2017
Peer Review	20%	5pm Monday, 10th November, 2017

# Tools

In general you can use whatever software tools you like. If there is a cost associated, you will need to make a business case.

However you must use GIT, and your manager should be added to the repo. Your commits and activity will be noted.

You must also use Slack, your manager must be added and your contributions will be noted.

Other good tools are Trello, BitBucket, Travis, Jenkins, ...



# CITS5552 Teams



*2-3 minute overview of project and progress so far*

- Engineering Portfolio (UWA)
- EZone Navigation (UWA)
- Robot Simulation and VR (UWA EE)
- High Performance Zika Modelling (UWA CSSE)
- Underground Localisation (Micromine)
- Slack Akumen Integration (Optika)
- Early Dementia Detection (Hensen Yem et al.)

# CITS5552 Teams



- Team 8: Mark Robson and Jye Dewar (Underground data transmission, GBM, split with EE)
- Team 9: (MPE team)
  - Alexander Emery
  - Conor Hanavan
  - Fangpeng Li
  - Zachary Newman
  - Ljiljana Zoric
- Team 10: (MIT team)
  - Arshdeep Kaur
  - Varteny Boyadjian
  - Bolortsom Enkhsaikhan
  - Nadia Putri
  - Matthew Seneque
  - Chiran Veeravilli
  - Yu Wang

# Projects



- Computer vision for underground mining (Micromine)
  - This project could collaborate and extend the current underground localisation project, or examine other computer vision problems, such as determining whether a bucket is full or empty.
- Ezone navigation (FEMS)
  - This project would seek viable (free, homemade) indoor localisation and navigation technologies extending the current project.
- Data Visualisation (Micromine)
  - This project will combine data visualisation technologies with the micromine products to build customisable dashboards for understanding mining operations.
- Spatula frontend (Fleet engineering)
  - Spatula is a product that enables coordinated deliveries and fleet management. This project would apply it to a particular domain (water taxis, dog washing, Jim's XXX)
- Bring your own?
  - If you have a project/startup you would like to work on in this unit, feel free to suggest it.
- There will also be some projects listed at [http://teaching.csse.uwa.edu.au/units/CITS3200/project/offered/index\\_17.html](http://teaching.csse.uwa.edu.au/units/CITS3200/project/offered/index_17.html) that may be available, if you're interested.

# Next Steps

- Meet your team, If anyone from your team is not at the lecture, or not responding to email, let the unit coordinator know.
- Discuss potential projects, ask questions, and then let the unit coordinator know your preference(s).
- Set up a slack, and make sure everyone is signed up and knows how to use it.
- Set up a GIT repo, and make sure everyone is signed up and knows how to use it. (We'll cover Slack and GIT in week 3).

*A little later...*

- You will be assigned a manager and a mentor. You should make sure that they are included on your GIT and Slack.
- Organise a first meeting with your client. This requires significant preparation. Your time is valuable. Client time is very valuable.

