Software Engineering Project A
SEPA - SWE40001/EAT40003

Week 1 – Introduction

Jun Han

WELCOME

to

SEPA

Unit Teaching staff

- Prof Jun Han (Convenor/Lecturer)
  - Email: jhan@swin.edu.au
  - Consultation: by email appointment
- Dr Caslon Chua (Capstone Projects Program Manager)
  - Email: cchua@swin.edu.au
  - Consultation: by email appointment
- Project Supervisors … (later)

What's a Capstone Project ?

Aims of the Unit

Academic Expectations

Client Expectations

How does SEPA work ?

SEPA & SEPB …
& Who should NOT enrol in this unit

- SEPA (sem 1) & SEPB (sem 2) are a year-long project over the 2 consecutive semesters of this year – a year-long commitment
- SEPA and SEPB can not be broken into different years …
- If can not complete SEPB in sem 2 for whatever reason (inc. failing SEPB), need to do BOTH SEPA & SEPB, again in a future year, even if you have passed SEPA this year.

- If you plan to do industry placement, do SEPA & SEPB AFTER completing placement … should NOT start placement mid-year and discontinue SEPB!

What's a Capstone ?

Definition of *capstone*

1 **:** a coping stone, a cap stone

What's a Capstone ?

2 **:** the high point **:** crowning achievement, the capstone of a career

or in your case . . .

What's a Capstone ?

"Capstone projects provide final year students with a culminating, industry-engaged learning experience, over two semesters, allowing them to apply the discipline specific knowledge they have developed throughout their undergraduate education to a problem worth solving to an industry partner"

Official Swinburne definition

Project Types

~60 Industry Projects

A variety of scope, complexity, domain, clients, level of R&D, difficulty

Includes industry collaboration with Swinburne University

Team sizes: 4~6 students

~10 Games Development Lab Projects

Games teams are 2 to 4 students

Project Outcome

As a student project you will only offer

Proof of Concept

Prototype

Aims of SEPA

- To consolidate and build on skills and knowledge gained in previous related studies and team work, and apply these to a practical application (Capstone Project) and/or research project.
- To present results and/or findings in a substantial piece of work.

Learning Outcomes

- To develop a software solution within a structured development process within a larger team of students
- Understand and address challenges in the management and coordination aspects of a team project
- Balance time, meet deadlines, maintain enthusiasm throughout two semesters
- Interact with real clients, especially with respect to discovering software requirements and negotiating scope of a project

Learning Outcomes (cont.)

- Conduct meetings, prepare agendas and take minutes
- Critically evaluate performance (yours and other team members)
- Demonstrate accountability of your work
- Research solutions, & design software
- Write and debug programs in at least one computer language
- Design, build and evaluate user interfaces
- Plan, specify and perform tests of your software
- Give technical presentations

Learning Outcomes (cont.)

- Write, review and maintain good quality technical documents according to relevant standards
- Appreciate and describe techniques to control software quality
- Perform and record document and code reviews
- Systematically record and act upon defect reports and change requests
- Appreciate the use of version control
- Learn how to deal with frustrations...

Client Expectations

"A [real] client wants his/her software product to cover all current and future needs, built at no cost, and delivered yesterday. And of course the customer will change his/her mind several times along the way!"

Rick Harvey, formerly CA Labs

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Client Expectations

- One of the key issues in any software project is to manage client expectations!
- Prototype or proof of concept
- Often means you need to help the client to define their project scope
- This controls their expectations and eliminate "scope creep"
- They think you are always available even when they are not
- "Under promise and over deliver"

But one thing you must always do is . . .

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Even when you think there's nothing to report . .

Tell your client that there's nothing to report but you will have something soon

Clients worry when they don't hear from you

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How is SEPA organized?

- The bulk of the work will be done in students teams; 4~*6 students* per team
- Weekly scheduled lectures:
  (Monday, 4:30am, online: Canvas/Collaborate)
  - cover topics relevant to team work, plus
  - invited speakers for selected topics
- Weekly meetings with project supervisor (**mandatory**)

How is this Unit of Study organized?

- Weekly team meetings as needed (no supervisor)
- Self-guided work outside scheduled classes/meetings
- Client meetings (regularly) – as organised between the team and the client

The Role of the Project Supervisor

- Act as a mentor throughout the project
- Meet regularly (ie, weekly) with team
- Preferably run the meeting as “stand ups” (according to pre-submitted weekly worklogs)
- Occasionally meet the client, though not required
- Review team progress against the project plan/milestones, deliverables and assessables
  - Occasionally ”nudge” the team or individuals along! (hopefully not needed)

The Role of the Project Supervisor

- Monitor that Quality Assurance processes are followed
- Read, evaluate and provide feedback on documents/reports produced
- Evaluate software designs, code etc.
- Participate in evaluation of presentations

Our Expectations of You

- Act like a professional to your client, team and supervisor
- Stop thinking like a student – you are one step away from being employed
- On average, spend 10 to 12 hours per week working on this Unit of Study
- Regularly attend
  - Scheduled classes
  - Team meetings (with or without supervisor)
  - Meetings with client(s)

Our Expectations of You

- Contribute to your team's work (inc. ideas)
  - be accountable for your work
- Be "flexible" with your availability
- Be responsive

and remember to . . .

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Recording of Lectures

- All lectures *may* be recorded via Collaborate (not on Echo360)
- Recordings will be made available through Canvas *as is* – no guarantees given about the quality of the recordings (or lack thereof).
- Note: recordings are not a replacement for regularly attending classes!

Assessment

Item No.	Task and Details	Individual/ Group Task	Weighting	Related Learning Outcomes	Assessment Due Date
1	**Process** Quality and discipline in undertaking the SW development process (includes documentation)	Group	0%	1,2,3,4	Continual
2	**Product** Quality of the software developed for the working prototype and the utility of the prototype itself	Group	0%	2	Week 12
3	**Presentation** Quality of the end-of-semester presentation and content	Group	0%	3,4	Week 11 or Week 12
4	**Participation** as a Team Member of a Software Development Team	Group	0%	1	Continual
5	**Portfolio**	Group + Individual	100%	1, 2, 3, 4	Week 12

Specifics to be negotiated with Team Supervisor

Assessment - Example

Product – 40%

- Documented System Requirements (SRS)
- Design and Research Reports
- Prototypes/Spikes and corresponding Reports
- Modules (to be listed): concepts, implementation, testing, meeting development standards
- User Documentation for developed Modules

Assessment - Example

Process – 30%

- Software Quality Assurance Plan
- Project Plan, including Process Model, Iteration Planning, Work allocation
- Risk Management (regular updates of project risks and their mitigation)
- Knowledge/Skill/Technology Gap management, team member training
- Usage of repository
- Usage of Issue Tracker; Change management
- Meetings: Agendas and Minutes

Assessment – Example (cont.)

Presentation (Video) – 10%

- (same marking criteria for every team)

Individual Contributions – 20%

- Peer Reviews (Weeks 6 and 12)
- Work Logs (weekly)
- Participation and Contributions
- Commits to Repository, Issue Tracker

Shared components: adjusted (+/- 60%) per individual according to quantity and quality of contributions (ie, not everyone gets the same team mark).

Non-Negotiables…

- On average, spend 10 to 12 hours per week working on this Unit of Study
  - Update Work Log whenever work is completed
  - “Passengers” will be monitored
- Participate in all Team Work
- Act professionally towards team members, supervisor and client
- All initial communication to client must be approved by Project Supervisor

Non-Negotiables (cont.)…

- Following Quality Assurance Procedures
- Version Control Repository of all work artefacts; approved by client; access granted to
  - Client (if desired)
  - EA/ACS Accreditation Team (if desired)
- Issue Tracking System and Process

Finally…

- Software Engineering Project A is followed by a Software Engineering Project B in Semester 2
- Project B builds on the outcomes of Project A
- Teams stay together and with the same client/same supervisor for both semesters
- Passing Software Engineering Project A is a pre-requisite for continuing into Project B.

At the end of all that

- You will present your finished product via a video to your peers and clients
- You will exhibit your work at the annual CAPEX exhibition held late October ??
- Games projects (may) present at PAX as well

What if … not meeting expectations

Each student is expected to

- Make good/acceptable contribution to all aspects of project
- Conduct themselves professionally

Serious problems (in contribution or behaviour) may result in

- Termination from the project team, and
- Be assessed as “fail”, prior to semester end

---- hope not!

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PROJECT SUPERVISORS (TBC)

- Naveed Ali (nali1@swin.edu.au)
- Mohan Baruwal Chhetri (mchhetri@swin.edu.au)
- T.Y. Chen (tychen@swin.edu.au)
- Graham Farrell (gfarrell@swin.edu.au)
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- Jamie Ooi (jooi@swin.edu.au)
- Tien Pham (qtpham@swin.edu.au)
- Charlotte Pierce (cpierce@swin.edu.au)
- Dana Rezazadegan (drezazadegan@swin.edu.au)
- Bao Quoc Vo (bvo@swin.edu.au)
- Sheng Wen (swen@swin.edu.au)
- Clinton Woodward (cwoodward@swin.edu.au)

... ...

Come and talk to me/us if you want to discuss anything

(preferably about the subject) ☺

Timeline – activities/deliverables

See detailed document on Canvas. Key parts:

- Weekly lectures & meetings (team, supervisor, client)
- Week 1: project allocation, contact supervisor
- Week 2: meet supervisor, contact client
- Week 2/3: meet client
- Weeks 3~6: project planning, requirements definition
- Weeks 7~9: architecture design and research
- Weeks 9~12: prototype, detailed design and impl (partial)
- Week 12: Presentations, final portfolio
- Weeks 6/7, 12/13: peer reviews, individual meetings with supervisor
- In-semester deliverables due dates

Week 1 – this week

Project allocation …

After project allocation confirmed (later this week),

- Find commonly available times
- Email supervisor:
  - set up weekly meeting,
  - Request approval of client email
- Email to Client:
  - Prepare … template is on Canvas (week 1) – get ready early
  - Require supervisor approval before sending
  - Send to client by early week 2, for a meeting in week 2/3
- Prepare first client meeting: questions about the project for the client

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Process of Project Allocation

Industry Projects – Kaberi Naznin

Games Projects – Charlotte Pierce

*** Teams with members having **diverse skills** are strongly recommended!


&
Q
A

How to get Canvas help as a student?

Canvas Community
community.canvaslms.com

StudentHQ
Visit StudentHQ
Or 1300 794 628 (option 1)

Ask George
swin.edu.au/AboutCanvas

Canvas Live Chat
Available through help option on global navigation bar within Canvas

Email
servicedesk@swin.edu.au

IT Support
03 9214 5000
Option 5

Canvas Phone Support
03 9214 5000
Option 4