



Australian
National
University

TechLauncher

Launch an Idea, Launch a Startup, Launch a Career!

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Overview

- A brief history
 - Computing Group Projects
- Some key characteristics
 - Branding
 - Industry and Government Support
 - Lifting the constraints
 - Student support
 - ‘Many Eyes’ assessment
 - Public showcase

A brief history

- 2002..2005
 - Clive Boughton
 - Introduced the BSEng degree
 - 4th year BSEng students work with Industry
- Note that 3rd year group projects were run independently
 - All BSEng and BIT teams worked on the same ‘canned’ project
 - Defined team roles
 - Schedule of required deliverables (mostly documentation following MIL-STD-498)

A brief history

- 2006..2009
 - Shayne Flint
 - 4th year BSEng students as team leaders
 - 3rd year BSEng and BIT students as team members
 - Industry projects
 - Every team worked on a different project
 - Attempt to integrate project work with
 - COMP3110 - Analysis and Design
 - COMP3120 - Project Management
 - COMP4130 -Software Quality

A brief history

- 2010..2012
 - Lynette Johns-Boast
 - Improved program of weekly workshops
 - Increased rigor in assessment
 - Further development of industry relationships
 - Research and Publications
- 2013..2014
 - New course convenor
 - Return to more traditional university projects
 - Prescribed deliverables
 - Multiple teams working on the same project
 - Industry very unhappy (but students loved it !!)

A brief history

- 2015..2016
 - Shayne Flint
 - Created TechLauncher
- 2017
 - Shayne Flint and Chris Browne
 - BEng students integrated with BSEng, BIT and MCOMP students
- 2018..future
 - Charles Gretton
 - Growing TechLauncher
 - Improved integration with startup community
 - Increased collaboration across colleges
 - Global opportunities for students

What is TechLauncher

- TechLauncher is a ‘brand’ and ‘unifying framework’ that sits over all existing group project courses
 - BSEng, BAC, BIT, MComp
- Available to students from other disciplines, but usually:
 - Music
 - Art and Design
 - Science
- The TechLauncher ‘convenor’ is the formal convenor/examiner for all CS courses involved

Some key characteristics

- Branding
- Industry and Government Support
- Lifting the constraints
- Student support
- ‘Many Eyes’ assessment
- Public showcase

Branding

- Crazy diversity by 2015 - Difficult to communicate our 'message' to students and industry
 - 30..40 projects
 - 6+ Course codes, 3rd and 4th year UG, 2nd year PG
 - Multiple Disciplines
 - Similar, but different, Learning Outcomes
- Developed the 'TechLauncher' brand
 - Branding over existing courses
 - A bit of 'just do it' and 'keeping key players in the loop'
 - Marketing material – website, brochures, banners
 - Public presentations – Open Day, O-Week, CBRIN etc.
 - Marketing support – College and University
 - Lots of 'shoe leather'

Industry and Government Support

- We developed strong relationships with
 - ACT Government
 - Canberra Innovation Network (CBRIN)
 - Local Industry
- They provide
 - Projects
 - Tutors and Mentors
 - Funding (initial seed funding)
 - Workshops
 - Significant promotion throughout the ACT and beyond

Lifting the constraints

- Every project is different
- So, no/minimal constraints on
 - Nature of projects
 - Clients (business, government, startups, students ...)
 - Technology and processes used
 - Deliverables
 - Team composition
- Our only constraints
 - 4..6 students per team
 - Projects run for 2 semesters (starting any semester)
 - 3 project audits per semester

Student support

- 2 hour tutorial each week
 - Industry tutors
 - Recent grads to semi-retired
 - From industry, consulting, government, startups
 - Matched to teams where schedules allow
 - 4 teams and 2 tutors per tutorial
 - Diversity in expertise, projects
 - Helping and evaluating each other

Student support

- Workshops – most weeks
 - In-house and external
 - Teamwork, career development, communications
 - Technical
- Mentor Pool
 - Specific expertise such as UX, Security, funding, AWS, health
 - Available to students when required - Ad-hoc advice and guidance
- Professional engagement with industry
 - Engineers Australia, ACS
 - Networking events (with preparatory workshops run by ANU Careers)
- Pluralsight
 - On-line training courses

‘Many Eyes’ assessment

- Three audits per semester
 - Week 3 – Team formation, meeting/work schedules, legals
 - Week 6 – Are they on track
 - Week 10 – Have they delivered real value
- Nothing to ‘submit’
 - All work completed at the time of audit is evaluated
 - Work is usually held in a ‘live’ repo such as GitLab (ANU hosted or commercial)
- We developed custom software for data capture, analysis and reporting

‘Many Eyes’ assessment

- Each audit comprises seven steps
 - Step 1 – Preparation
 - Tutorial presentations and Q&A
 - Logistics
 - Everyone has access to repos
 - Legals in place (NDAs etc.)
 - Project ‘Landing Page’ - an Index into the team’s repo
 - Aim is to make sure that everyone is ready for the review

‘Many Eyes’ assessment

– Step 2 – Evaluation of work

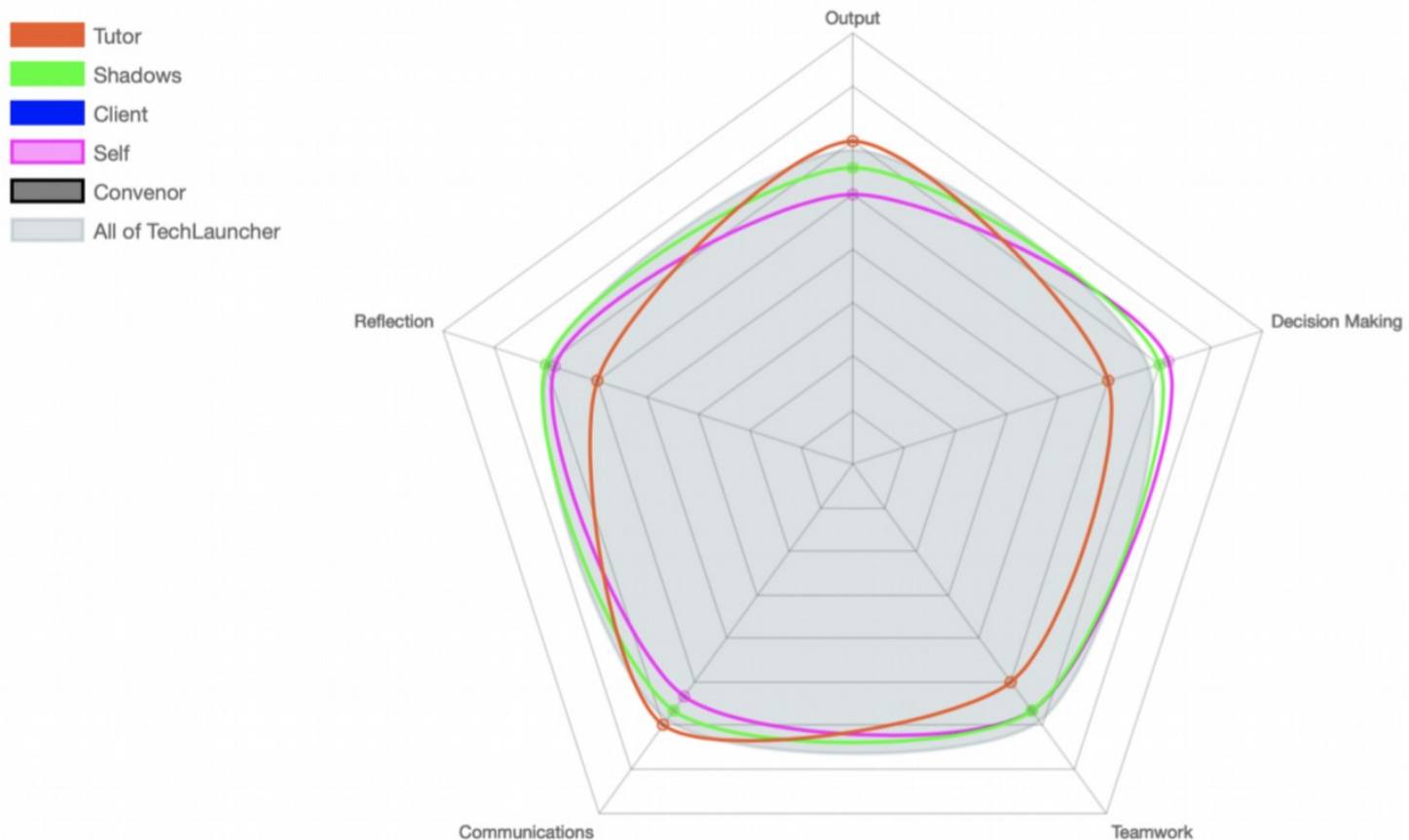
- By ‘Many Eyes’
 - Each team member (self evaluation)
 - Each member of a ‘shadow’ team
 - Tutors
 - Clients
 - Examiners (when required)
- Written actionable feedback and ‘ratings’ for
 - Project output (value)
 - Decision Making
 - Teamwork
 - Communication
 - Reflection
- Ratings
 - Well below expectations .. Meets expectations .. Well above expectations

‘Many Eyes’ assessment

- Step 3 – Evaluation of individual contributions
 - By peers
 - Anonymous
 - Ratings for the ‘value’ of each team member’s contribution
 - Well below expectations .. Meets expectations .. Well above expectations
 - Written actionable feedback

‘Many Eyes’ assessment

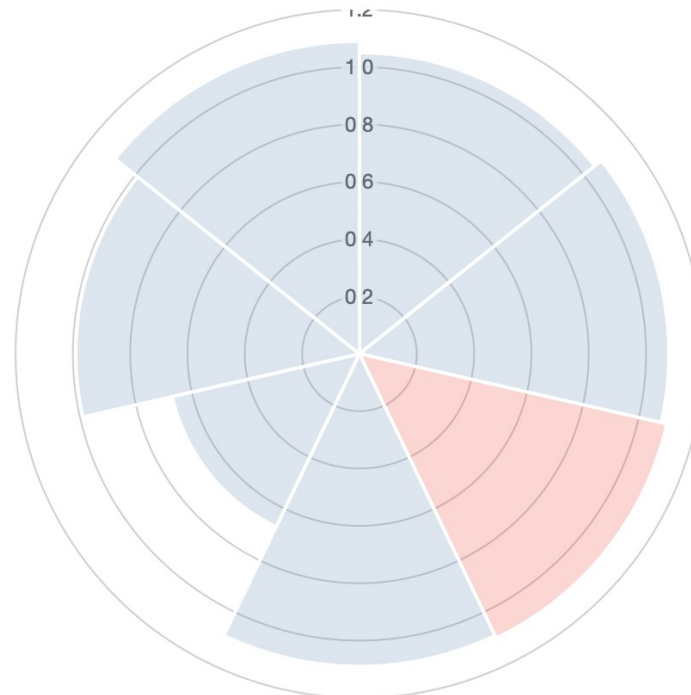
- Step 4 – Release of feedback and ratings - team



‘Many Eyes’ assessment

– Step 4 – Release of feedback and ratings – individual contributions

The following chart depicts the value of your contributions relative to those of other team members. This data is based on all valid contribution reports submitted by your peers, and is used to calculate your individual project audit mark.



‘Many Eyes’ assessment

– Step 5 – ‘Many Eyes’ rate the feedback

Feedback

NOTE: The ‘Quality’ column indicates how useful your peers, tutor and client think the feedback is.

PROJECT OUTPUT

Feedback	Quality
	★★★★☆
	★★★★☆
	Self ★★★★★
	Self ★★★★★
	Self ★★★★★
	Self ★★★★★
	rk ★★★★★
	Tutor ★★★★★
	Shadow ★★★★★
	Shadow ★★★★★
	Shadow ★★★★★

‘Many Eyes’ assessment

– Step 6 – Reflection and Action Plan

- A plan to address actionable feedback is developed with client
- Discussed and refined in tutorials with shadow team, tutors and (sometimes) client.

‘Many Eyes’ assessment

- Step 7 – Derivation of team and individual marks
 - Marks are determined by the course examiners
 - Mostly the TechLauncher convenor
 - But, also examiners from other colleges
 - Based on
 - ‘Many Eyes’ feedback and ratings
 - Individual student contribution feedback and ratings
 - ‘Confidential’ comments to examiners
 - Some tooling to help ‘red-flag’ things we should look at more deeply
 - $\text{Individual_Mark} = \text{Team_Mark} * \text{Contribution_Wt}$

Public showcase

- Every semester
 - Evening event
 - Poster and Demonstration
 - Develop networking skills
 - Promote TechLauncher



Questions

- <https://cs.anu.edu.au/TechLauncher/>



ANU TechLauncher 2015 team 'Design Profile'. Photo by Stuart Hay.