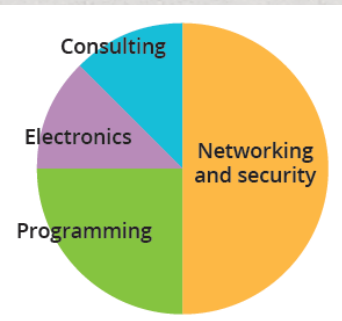


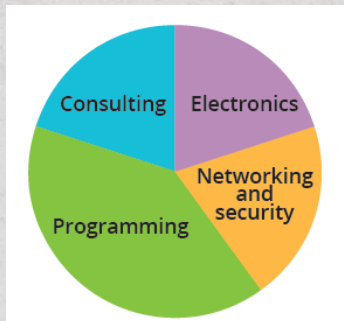
Andrew Roadknight
Manager – ICT Programs (Vocational Education)

IT at Swinburne

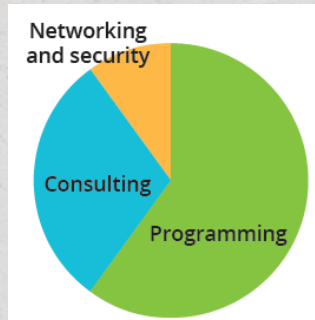
Network
Design &
Cybersecurity



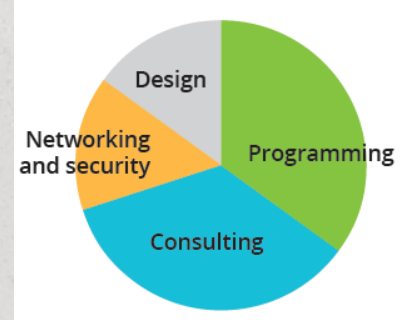
The Internet of
Things



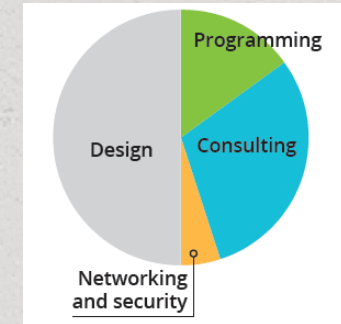
Programming



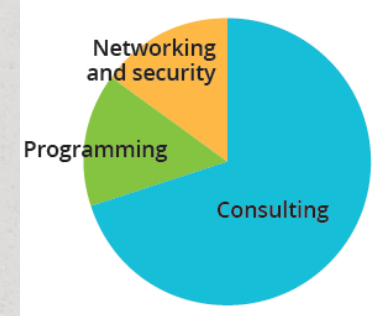
Games
development



Games and
interactivity



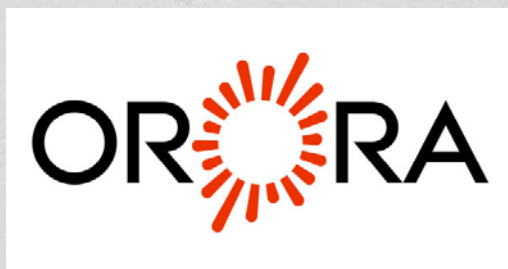
Business
Information
Systems



Industry Partnerships

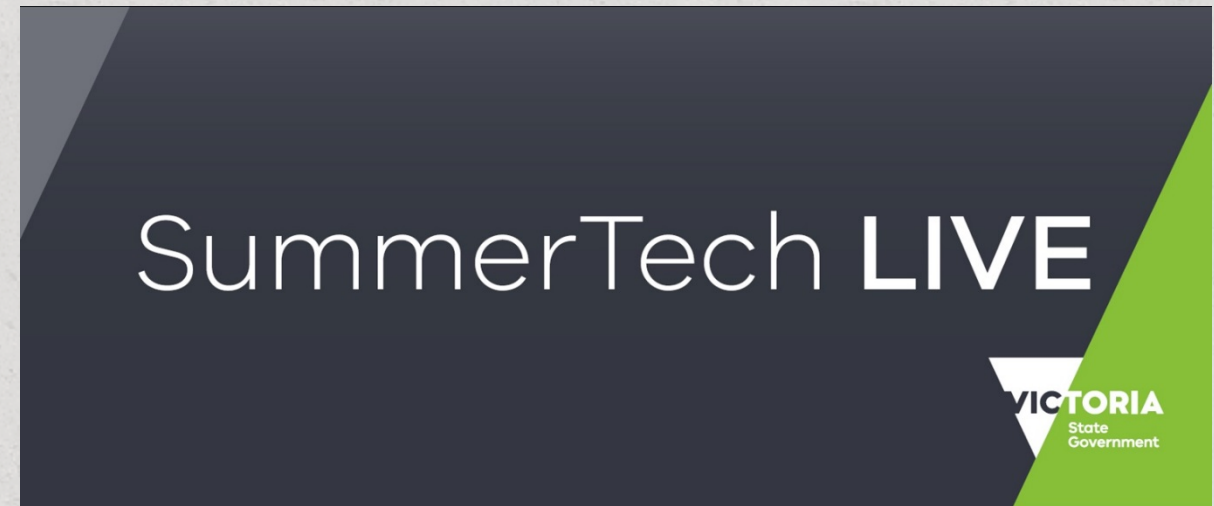


Microsoft



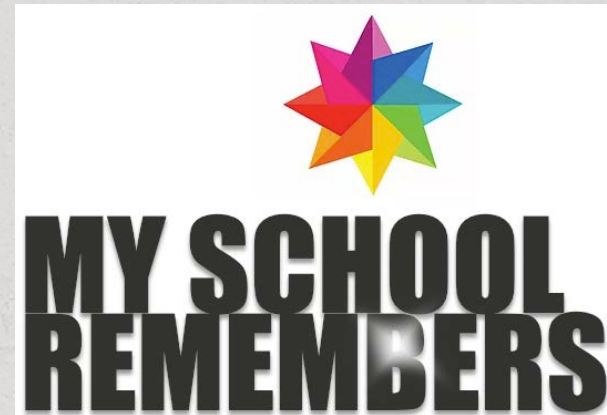
Industry-Based Learning

- Work Placement
 - 6-12 month Placement (HED)
 - Project Placement (PAVE)
- Summer Tech Live
 - Paid Scholarship for 3 month Industry Project, Jan-Mar.



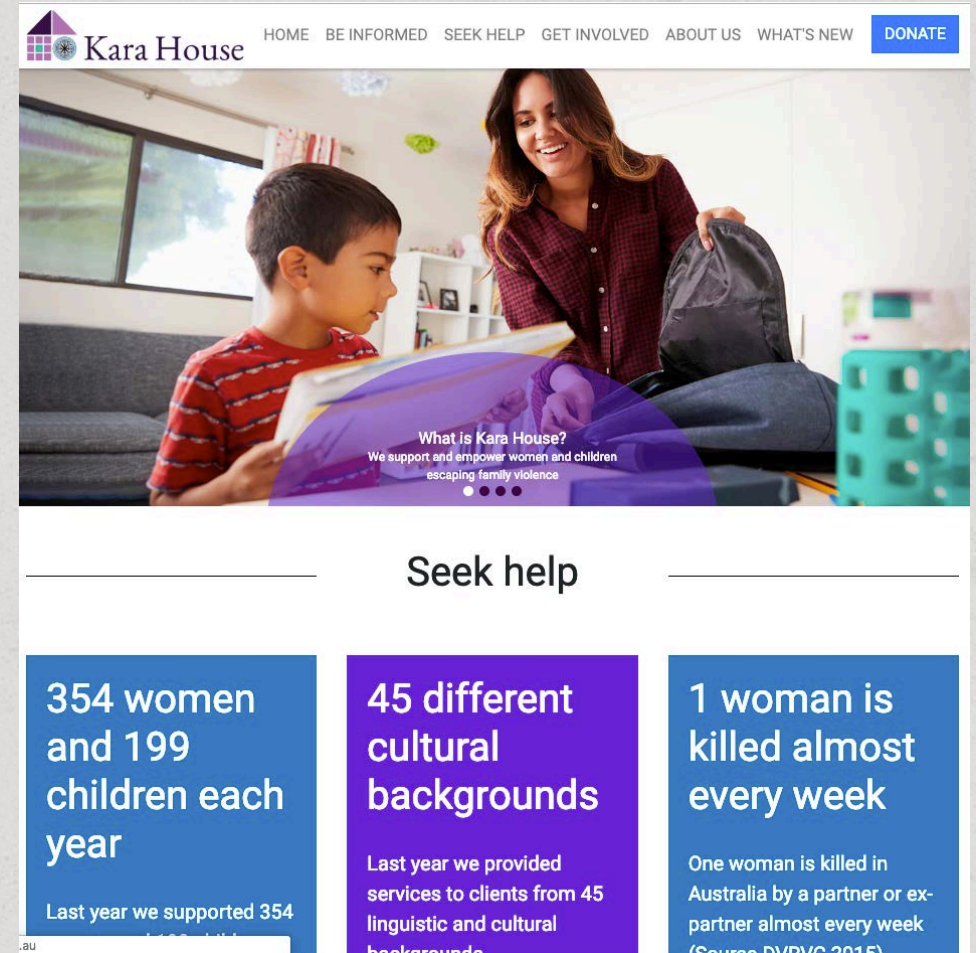
Capstone Projects – Vocational Education

- Projects for Non-Profits/
SMEs/Local Community
 - Website Development
 - Software Applications



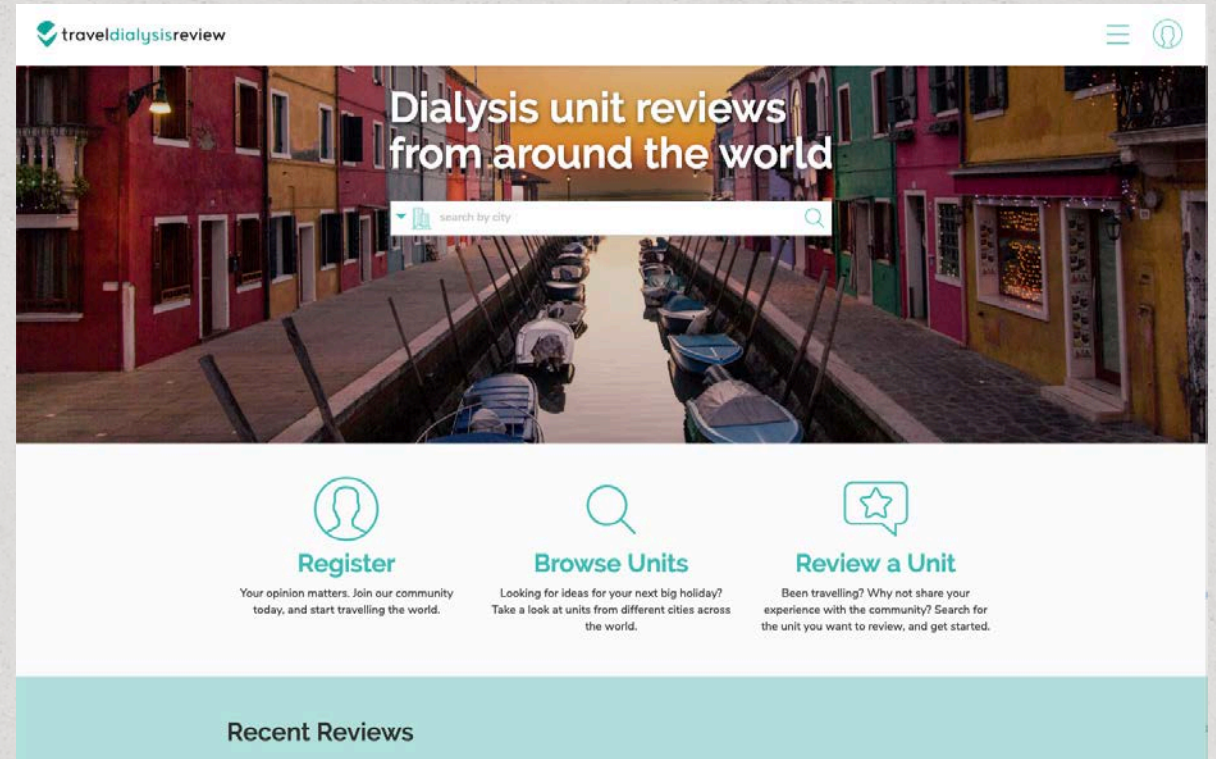
Capstone Projects - Vocational Education

- Kara House (2018)
 - Website re-development project
 - Kara House is a specialist family violence service providing safe and secure accommodation and outreach services to women and children.



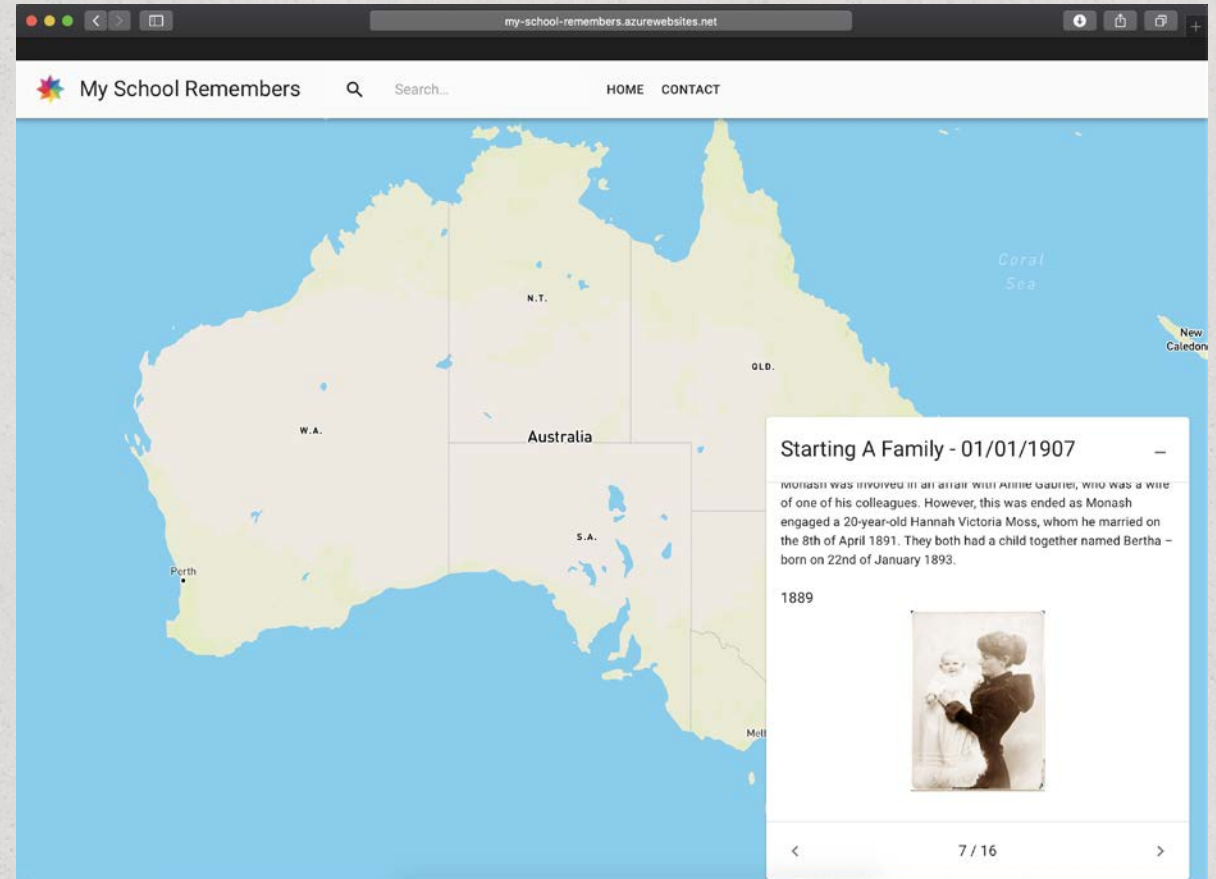
Capstone Projects - Vocational Education

- Travel Dialysis Review (2018)
 - The Trip Advisor for Dialysis patients that wish to travel and have dialysis units available to them.



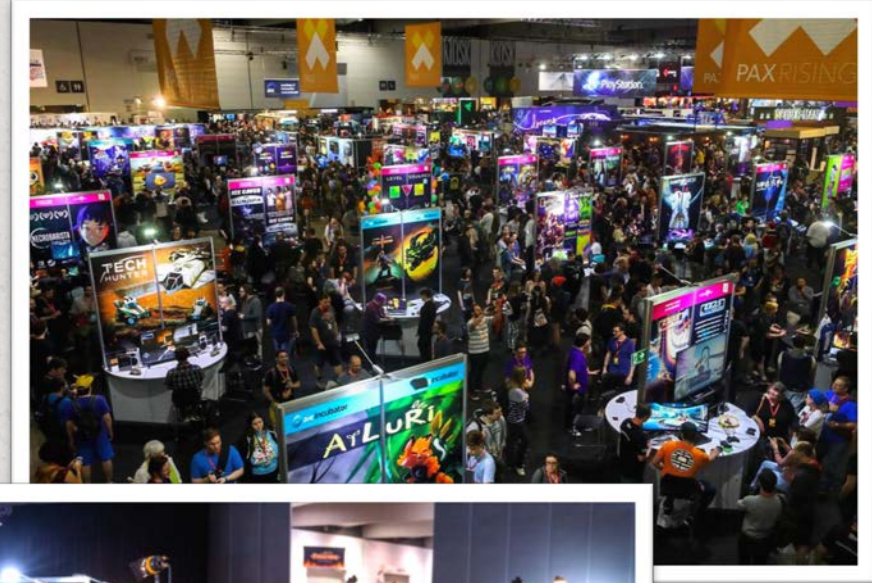
Capstone Projects - Vocational Education

- My School Remembers
 - The project will develop and implement a digital platform to encourage Victorian Secondary School Students to explore ANZAC history.
 - Aligned with curriculum, students will learn to research and document the lives of soldiers, nurses and other volunteers who resided in the student's local community at the time of enlisting.



Capstone Projects - Vocational Education

- Interactive Games Projects
 - PAX AUS – Australia's Largest Gaming Expo during Melbourne International Games Week
 - Showcase of Student Project work @ Swinburne Games Arcade Stand



Career Outcomes

- Web Developers
- UI/UX Developers
- Software Development
- Network Security
- Technical Leads
- Cloud Computing Engineers
- Business Consultants
- Systems Analysts
- Data Engineers
- Cyber Security & Pen Testers
- Systems Engineer

Questions?

Capstone Projects in Computer Science & Software Engineering

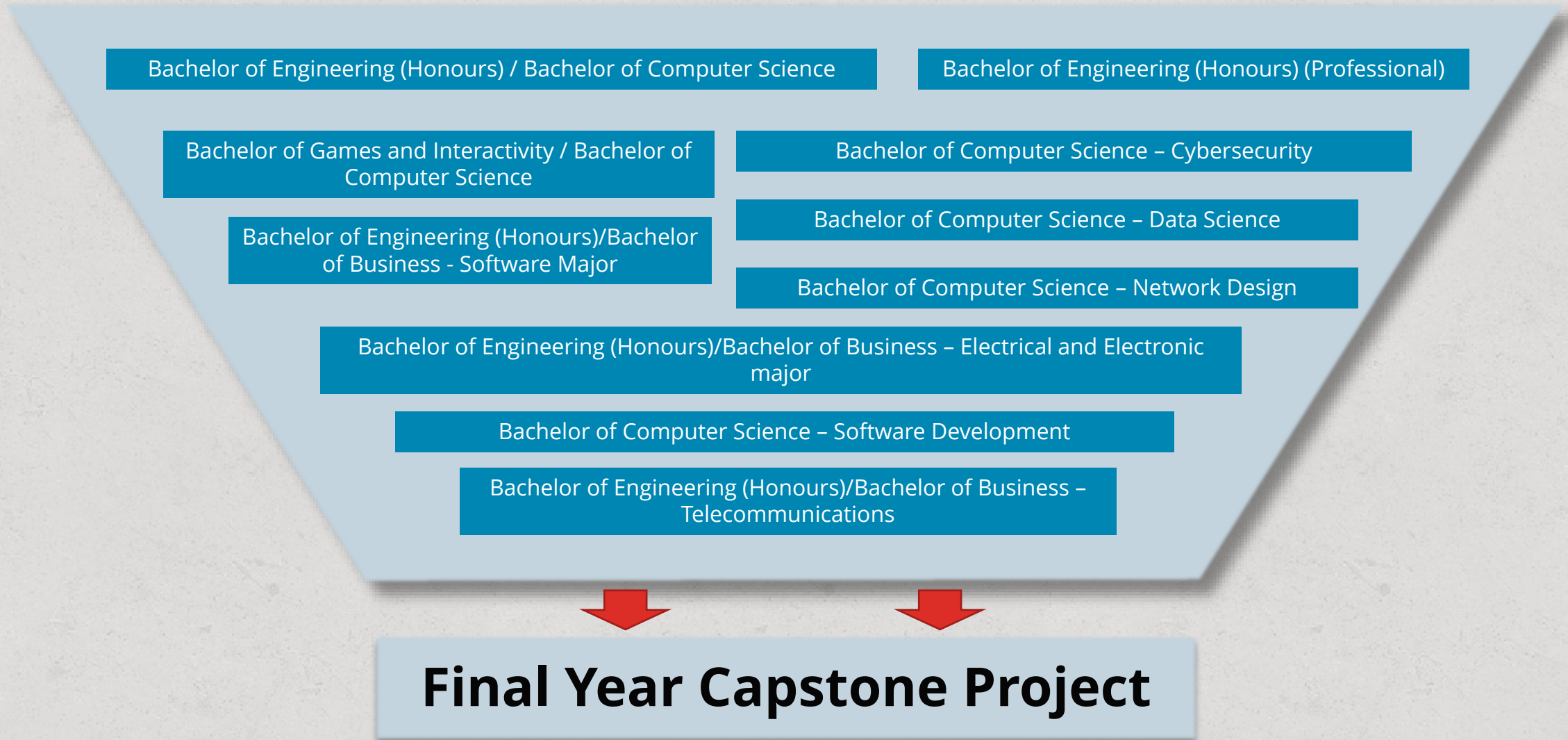
Ron Bartels

What is a Capstone project? (Degree)

- Capstone projects provide final year students with a culminating authentic, 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.



How do you get to do a Capstone? (Degree)

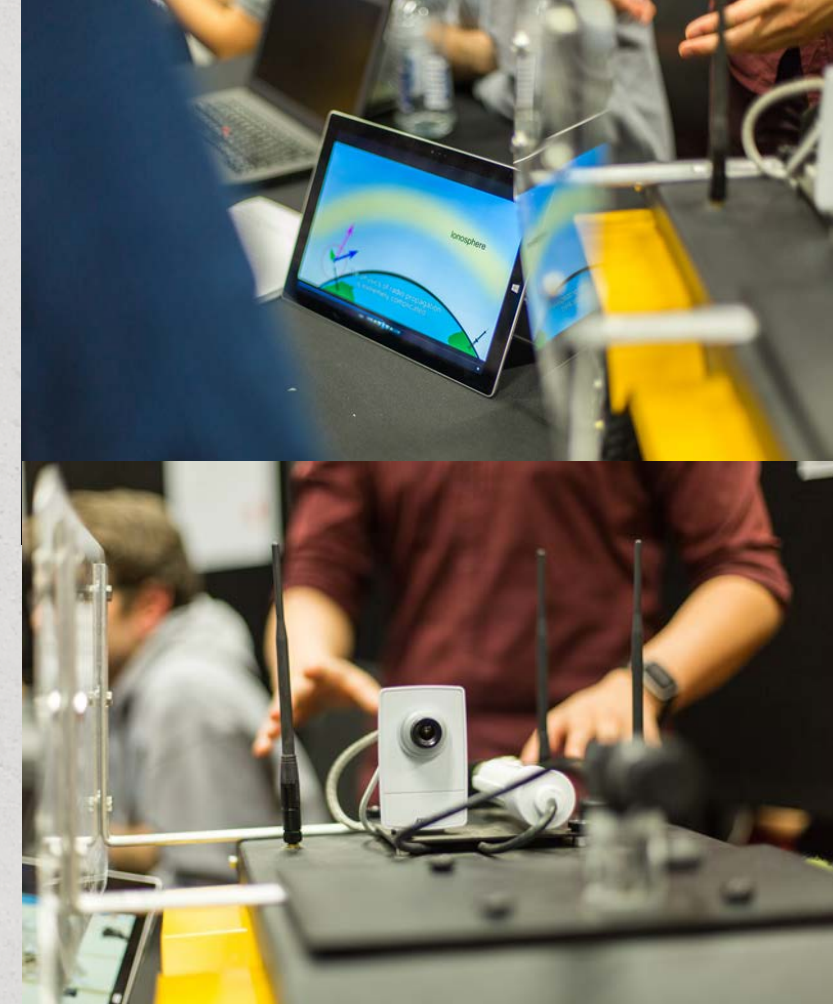


What do you do in a Capstone Project? (Degree)

- We offer the unit of Software Engineering Project A & B which runs over 2 semesters
- The overall aim of this unit is to consolidate and build on skills and knowledge gained in previous related studies and teamwork, and apply these to a practical application and/or research project
- Clients for the projects can be industry-based, research-based or a combination of both
- Have an academic supervisor who mentors and supervises projects progress through weekly team meetings

What do you do in a Capstone Project? (Degree)

- Apply professional practice, including adherence to ethical codes of conduct as a member of a software development team
- Apply software engineering methods and contemporary software development tools to the scoping, analysis, and design of a software system to meet client needs
- Communicate proficiently with project stakeholders, and function as an effective member or leader of a development team in project scoping, analysis and design activities
- Conduct a critical analysis and evaluation of aspects relevant to a software development project and justify implications for project directions



Recent Capstone Projects (Degree)



VisCrime

<https://youtu.be/QimwugJLEzs>

- A crime visualisation mobile application (for android and IOS) had previously been built. This was part of research work on interactive visualizations and graph analysis. The students were expected to build on this platform and integrate data from social media into this application, e.g. twitter
- They were asked to:
- Filter different types of crimes that occurred at a given location (area of interest) from the stream
- Develop a proof-of-concept mobile application (android or IOS) to visualise crime data obtained from social media
- Develop a trajectory model for crime that traces similar/related offences in areas close by the area of interest
- Implement the trajectory visualisation on the mobile application
- Skills required included: Web development and design, Database knowledge, Java, Java Script, HTML, Python, Java, CCS3, D3, Java Script, HTML, SQL and Windows

Smart Parking for Disabled Motorists

<https://youtu.be/IRwTpld5DYE>

- It's hard for people with disabilities to find parking spaces plus disability permit spaces are often difficult to find, far from the intended destination and frequently illegally occupied.
- The intended solution was to develop a Mobile and Web application that helps people with disabilities to find available parking spaces by allowing them to:
- Search for disability permit spaces near their destination
- View all available parking spaces
- Reserve a space for a specific time
- The data obtained in preparation for this app could be used by government, organizations and authorities to better manage cities and plan for constructions, required facilities and infrastructures for better managing cities and high quality supports and safe environments for all people, facilitates steps towards Smart cities and prepares backbone for self-driving vehicles
- Skills required included: Research, Mobile Application Design(Android & IOS), Application Development, Systems Analysis & Design, Web Development & Design, Cloud computing

Capstone Project Expo



Capstone Projects in Computer Science & Software Engineering

- Q & A