INDUSTRY EXPERIENCE
IT capstone project for Postgraduates

MONASH INFORMATION TECHNOLOGY
it.monash.edu
The Monash IT Industry Experience Project unit is a capstone unit for the Faculty of IT’s postgraduate students. Students enrol in this unit in the final semester of their Masters program. It consists of an experiential project, where students have the opportunity to research contemporary approaches to system development, develop new skills and entrepreneurial thinking, and apply the skills and knowledge they have gained throughout their course in an industry focussed setting.

The Industry Experience Project unit is available across the following Masters programs within the Faculty of IT: Master of Business Information Systems, Master of Information Technology, Master of Data Science and Master of Networks and Security. The students work together in multidisciplinary, self-managed teams to achieve the unit objectives.

The key objective of the unit is to allow students to experience first-hand the full range of tasks required to develop a system, from ideation through to implementation. Each team will examine publicly available ‘big data’, and identify a problem or opportunity associated with a given topic area. They will then use an agile approach, to create an IT artefact such as an app or website to address the problem or exploit the opportunity. Industry mentors play a key role - coaching, questioning and providing feedback throughout development on process and product development.

OBJECTIVES

The capstone project develops the following capabilities in our students. They are able to:

- Analyse which approaches are best suited for developing particular IT applications;
- Conduct all activities associated with development in an industry standard setting whilst interacting with industry professionals;
- Define the roles and responsibilities of all stakeholders in the development process, demonstrating effective communication skills with each class of stakeholder;
- Demonstrate IT and professional practice skills, as well as the ability to operate effectively as a team member;
- Learn through reflecting and documenting their project experience, and their personal progress and development throughout the unit.

STRUCTURE

Students are allocated to a team of 4-5 students, and 5 teams are allocated to a studio learning space. Studios are modern learning environments set up to facilitate group work, peer learning and mentoring, where the focus is on the student rather than the teacher. Each studio is allocated 2 academic mentors and an organisation sponsor. The organisation sponsor will provide 2 or more industry mentors who visit the studios for specified sessions during the semester. We expect to run 8+ studios per semester.

Teams attend a one hour seminar and 2 x 3 hour studio sessions each week. The students also participate in a Professional Practice unit, linked closely to their Industry Experience Project unit.

Before the start of semester, academic staff will identify appropriate topic areas to allocate to the teams in the studios, and direct them to public, open data sources to start the ideation process. An example of the structure of the teams, studios, organisations and topic area allocation follows:

<table>
<thead>
<tr>
<th>STUDIO 1</th>
<th>STUDIO 2</th>
<th>STUDIOS 3-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisation 1, comprising:</td>
<td>Organisation 2, comprising:</td>
<td>...</td>
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<tr>
<td>Monash Academic</td>
<td>Monash Academic</td>
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<td>Monash Academic</td>
<td>Monash Academic</td>
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<tr>
<td>Organisation 1 - Industry mentors x 2</td>
<td>Organisation 2 - Industry mentors x 2</td>
<td></td>
</tr>
<tr>
<td>Team 1 working on Topic area 1</td>
<td>Team 1 working on Topic area 1</td>
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<tr>
<td>Team 2 working on Topic area 2</td>
<td>Team 2 working on Topic area 2</td>
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<td>Team 3 working on Topic area 3</td>
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<td>Team 4 working on Topic area 4</td>
<td>Team 4 working on Topic area 4</td>
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<tr>
<td>Team 5 working on Topic area 5</td>
<td>Team 5 working on Topic area 5</td>
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</table>

While teams within a studio will be working on different topic areas, there will be a team in each studio working on the same topic area as a team in each of the other studios. This allows us to encourage peer learning within a studio, whilst having a fun, competitive aspect across studios.

Opportunities exist for organisations to host a studio, with a topic area and data from their own organisation.
ROLE OF THE INDUSTRY MENTOR

- Interact with the student teams and take an active interest in the team and their activities;
- Share their knowledge, industry practice, and alternative ways of approaching tasks;
- Collaborate with the team, providing direction, if needed, and encouragement;
- Be good listeners and confident enough to be able to challenge the students by asking questions about what they are doing (and why);
- Not be expected to know all the answers, solve technical or solve team problems. (Monash staff will be available for this type of support);
- Facilitate and encourage the students to think for themselves, whilst adding any industry experience, new ideas or suggestions that they might have.

PREPARATION FOR A MENTORING SESSION

Each team will maintain an e-portfolio, with an industry mentor page, which they will share with their industry mentors. Mentors will be able to access information about the system and team progress from this page if they wish. ‘Mentoring expectations and guidelines’ for each session will be emailed to mentors and should ideally be perused before the session. However, at the start of the session, a Monash staff member will brief the mentors on what they can expect from the team during that session, and ways the mentors can assist.

The length of a mentoring session is dependent on the number of mentors attending a session, but generally will last approximately 45 minutes per team. A record of key discussion points, new ideas, problems, etc. will be kept in the e-portfolio. At the end of the mentoring session in a given week, the mentor will meet with Monash academics to discuss the teams, including aspects such as previous feedback being taken on board, the attitude and professionalism of the teams, etc.

INDUSTRY MENTOR COMMITMENT

Each organisation provides 2+ mentors for specified sessions. We do not require the same mentors to attend each session. However, if at all possible we prefer mentors to attend at least 2 sessions over the semester.

The mentors will be required to attend studios at the Caulfield campus of Monash University – a short walk from Caulfield station. Exact dates and times will be confirmed before semester starts.

<table>
<thead>
<tr>
<th>SESSION</th>
<th>PURPOSE</th>
<th>COMMITMENT</th>
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<tbody>
<tr>
<td>1</td>
<td>Mentoring session – 2+ mentors</td>
<td>3 hours</td>
</tr>
<tr>
<td>2</td>
<td>Mentoring session - 2+ mentors</td>
<td>3 hours</td>
</tr>
<tr>
<td>3</td>
<td>Mentoring session - 2+ mentors</td>
<td>3 hours</td>
</tr>
<tr>
<td>4</td>
<td>Mentoring session - 2+ mentors</td>
<td>3 hours</td>
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<tr>
<td>5</td>
<td>EXPO - Project presentations At least 2 mentors – all mentors ideally</td>
<td>2 hours</td>
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<tr>
<td>6</td>
<td>Post implementation review/final meeting at the mentor’s organisation</td>
<td>1/2 hour per team</td>
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BENEFITS OF MENTORING FIT MASTERS STUDENTS

I have been mentoring three groups of Master’s students throughout an interesting project, which begins with the students analysing a data set, developing insights into that data set and building an application (website, mobile app) to present those insights and provide functional capabilities that enrich those insights. Speaking for myself, and for my colleague who has also been mentoring these teams, it has been an enjoyable and rewarding experience –providing advice and guidance, feedback and encouragement and above all helping them avoid the pitfalls that I fell into more than once in my 40 year career. I hope they found it the experience as useful and as rewarding as I did. I look forward to next semester and a fresh set of opportunities.

Steve Ingram Industry Partner

- Satisfaction of giving back to the community, and being involved in influencing the education of future IT professionals;
- Enhancing and improving your skill set in areas such as communication - especially intercultural communication, facilitation, mentoring and support;
- Early access to excellent IT students for recruitment;
- Recognition of your ability to mentor within your own organisation;
- Opportunity to experience team dynamics in different environments;
- Encourages review and reflection of your own professional practice;
- Networking with other Industry sponsor mentors;
- Promotion of your organisation across a large cohort of students;
- Exposure to new areas of research from the students.

FOR FURTHER INFORMATION, PLEASE CONTACT:

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