



Sandbox Challenges

For INFS3605 2020 T2

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Sandbox Project Overview

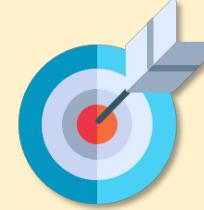
- INFS3605 is the capstone IS course that is centrally organised around practical, experiential, group software projects
- Throughout the course, you will apply the programming, business analysis, project management knowledge, as well as critical thinking, problem-solving and teamwork skills you have learned in previous courses to **develop a software artefact to solve a real-life problem**
- This project is a chance for you to combine and practice everything you have learned in previous IS courses. Completing the project provides you an opportunity to develop not just strong domain knowledge, but also **career-ready skills** such as critical thinking, creativity and leadership skills

Your Goals

You have two goals:



Identify an important real-life issue that requires a **transformation**



Develop an **innovative** software artefact to address the issue identified

You and your team will be responsible for the successful execution of the project (including problem discovery, stakeholder management, technical issues related to software design and development, etc.), **following the Agile Scrum approach**

By completing the project, you will be able to:

1. Identify attributes of quality, project management, project effort estimation, software testing, maintenance, and evaluation of software products and development processes
2. **Critically assess** a problem case and **propose a viable software solution**
3. Apply effective communication skills to demonstrates and articulate the team's progress
4. **Work collaboratively** in development of a software project using Agile Scrum
5. **Reflect on personal and team experience** in report form and group discussion

T2 2020 – Your Project Options



UNSW
SYDNEY

T2 2020 – Your Project Options

Three Challenges from NSW Business Connect

- [Business Connect](#) is a business advisory service funded by the NSW Government to support businesses to start, be resilient and grow by providing professional business advice and skills development events.
- Businesses can meet a trusted local business [advisor](#) by videoconference or phone. Specialist support is available for businesses seeking to supply to government, for the creative industries and disability sectors and for multicultural businesses.
- Over 60 free [online events](#) are available to support small businesses to manage cashflow, change their business model, sell goods and services online, and market their business in a challenging environment and access financial support.

Business Connect is offering free **business advice** and webinars for businesses that have been affected by COVID-19 and bushfires

T2 2020 – Your Project Options

Three Challenges from NSW Business Connect

Option 1 – Rapid **digital uplift** for brick-and-mortar businesses following COVID-19 disruptions

Option 2 – Crisis **communication** and guidelines that are up-to-date, easy to understand and follow

Option 3 – Highly available and scalable support for **mental health issues** following COVID-19 disruptions

T2 2020 – Your Project Options

Option 1: Rapid digital uplift for brick-and-mortar businesses following COVID-19 disruptions

- Safe distancing measures implemented following the recent COVID-19 pandemic have shut down a huge number of physical stores around the world – creating impacts from permanent closings of neighbourhood cafes to a retail apocalypse
- Even as the stay-at-home orders begin to lift, many **brick-and-mortar businesses** are being forced to rethink how they can attract customers amid ongoing coronavirus fears and shifting consumer behaviours
- Your goal is to identify a **specific problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

One specific challenge proposed by **a hardware company in Sydney** can be used as a case for Option 1

- **Pre-digital companies** such as a hardware chain face significant challenges to digitally uplift themselves rapidly during the crisis
- **Hardware & General** – one of Sydney's leading independent suppliers of hardware, building and plumbing suppliers – faces challenges in setting up a functional and reliable e-commerce channel in a short period of time, and to attract new customers who are of very different demographics (e.g., millennials and Gen Z who spend much more time shopping online)
- A **mobile application** in which they can use for marketing, quotes, account orders, purchasing etc., specifically targeting new and younger customers, could create tremendous business value

T2 2020 – Your Project Options

Option 2: Crisis communication and guidelines that are up-to-date, easy to understand and follow

- A crisis is a chaotic, volatile and unpredictable situation. **Crisis communication** is therefore a challenging activity – with great urgency, high uncertainty and constantly changing priorities (as new information and needs arise)
- During the COVID-19 pandemic for example, many business owners faced difficulty in accessing clear information. NSW Business Connect found that business owners have faced several difficulties, including **confusion** around obligations to staff as an employer (e.g. how to provide a safe working environment, leave entitlements, and procedures for standing down staff or reducing hours), understanding eligibility for various schemes, having **clear information** about whether they can operate or not, or information on how to close
- Your goal is to identify a **specific problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

Option 3: Highly available and scalable support for mental health issues following COVID-19 disruptions

- The COVID-19 pandemic has had a huge impact on mental health – isolation and lack of social connections, feeling overwhelmed by increased responsibilities, and financial distress etc., have had a detrimental impact on one's mental health
- Small business owners are vulnerable, as pointed out by NSW Business Connect. The mental health impact will be felt for some time as the economy struggles to recover. A large number of business owners will need **increasing support** to navigate this highly stressful time, placing **overwhelming demand** on mental health professionals
- Your goal is to identify a **specific problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

Three Challenges from the UNSW Cyber Security Team

- The UNSW Cyber Security Team aims to provide UNSW with the cyber protection and monitoring required to ensure that our University's information as well as staff and student data remains safe
- UNSW IT team's mission is that 'we enable our students to achieve academic success, and support our professional and academic staff to achieve excellence through our technology services'

UNSW Cyber Security Team value staying connected with staff and students to understand how technology can better assist the day to day operations of the university and want to remain at the forefront of **innovation and digitalisation**

T2 2020 – Your Project Options

Three Challenges from the UNSW Cyber Security Team

Option 4 – Performing cyber security **education** during a crisis

Option 5 – Cultivating organisational cyber security **culture** through community engagement

Option 6 – Promoting the **engagement** with cyber security among the younger generations

T2 2020 – Your Project Options

Option 4: Performing cyber security **education during a crisis**

- The COVID-19 pandemic has created a new set of challenges related to cyber security – mainly due to the sudden shift to remote working, and the increased time we spend on our digital devices each day
- **Communicating critical cyber safety information** to employees is therefore a priority for all organisations – however, doing that effectively is a challenging question, especially during a crisis (such as COVID-19) with **resource constraints** (e.g., lack of financial support, fully-stretched out security personnel) and a less-than-ideal working environment (e.g., worried individuals with less attention span)
- Your goal is to identify a **specific problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

Option 5: Cultivating organisational cyber security **culture** through community engagement

- Despite the importance of maintaining cyber safety in today's highly digital world of work, many individual employees still see cyber security as the responsibility of security teams and have limited interest to engage
- Organisations in many industries have identified this issue, and have begun to design innovative security education programs to pique the interest of employees (e.g., a cyber security escape room). However, many such initiatives are not only high in cost, but also unable to generate **sustainable engagement** or deliver measurable outcomes in terms of a positive change in security **behaviours**
- Your goal is to identify a specific **problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

Option 6: Promoting the **engagement** with cyber security among the younger generations

- Digital natives, despite being competent technology users, are not necessarily aware of and follow cyber security best practices. An increasing number of recent studies have unveiled some “generational” differences in attitudes toward cyber security – for example, younger generations have a higher desire for flexibility, agility and prefer multi-tasking, leading to lower vigilance in their own digital activities, and lower engagement in their workplace’s cyber security initiatives
- Engaging with the younger generations is a challenging task in itself. To raise their **awareness** on cyber security, promote their **commitment** in this important issue, and to encourage more of their active **participation** in this industry, is a challenge for the present and future
- Your goal is to identify a specific **problem statement** under this theme, and consider the most appropriate **software artefact** that can be built to address the identified problem

T2 2020 – Your Project Options

An example of an engaging cyber security activity:

Capture-the-flag (CTF) developed by Dylan from Ernst & Young (EY)

Capture the flags here: <https://swc.dylanrholloway.com>
Submit your flags here: <https://ctf.dylanrholloway.com>



T2 2020 – Your Project Options

One Challenge from the School of ISTM

Option 7: Vaccine development tracker for the COVID-19 pandemic

- Biotech companies from around the world are in a collaborative race to find a cure for COVID-19
- From the public's perspective, without a “one stop shop” for authentic information, the process of tracking vaccine development, and understanding progress in the field can be quite daunting
- Such a portal can have tremendous impact, helping the public and government agencies keep track of progress in the field (case in point – Johns Hopkins University’s COVID-19 tracker)
- Your goal here is to **design a one-stop-shop information system** that gives users an up-to-date, authenticated, aggregated view of vaccine development around the world

T2 2020 – Your Project Options

One Challenge from Mudskipper.in – A media production house based in Bangalore, India

Option 8: Online platform for the co-production of multimedia content

- The creative industry is highly fragmented with design studios, media production agencies, artists, and other related professional disciplines operating in silos
- Mudskipper aims to bring together creative individuals with different skill sets to collaborate on impactful multimedia productions. Currently, there are few platforms that serve the need of this segment of users
- Your goal is to **create a platform** where users can create a portfolio of their skills, find other creatives with complementary skills, create new projects together, and pitch projects to be funded by Mudskipper and/or external institutional backers

T2 2020 – Your Project Options

One Challenge from Wisecar.com.au

Option 9: Enterprise customer portal for a fleet management system

- Wisecar is looking for analysis, design, development of Wisecar enterprise customer portal. Wisecar SaaS fleet management system has two major components. The Wisecar mobile app is the end-user component and used by individuals for managing their vehicles. The enterprise web portal is the business-customer interface which will be used by the organisations for managing their grey fleet (i.e., fleet not owned by the company, but used by the company for business purpose).
- Though Wisecar has developed the user facing mobile app, the enterprise web application development is still under process.
- Your goal is to **understand customer requirements and develop the enterprise fleet management portal** using your choice of web frameworks.

T2 2020 – Your Project Options

One Challenge from Finwego.com, a Fintech startup based in Chennai, India

Option 10: Online marketplace for Schools and School's vendors

- Finwego is developing a School-vendor ecosystem and to this effect, Finwego's management is exploring how business to business (B2B) ecommerce platforms can help enable interactions between ecosystem members
- Finwego sees great potential in being a financial intermediary, i.e., providing working capital loans to both vendors and Schools and views a B2B marketplace as a medium through which it can understand purchasing patterns and behaviours of Schools as well as vendors' demand servicing capacity and price points. Such insights would allow Finwego to create bespoke financial products to meet the financial needs of School ecosystem members
- Your goal is to **develop an online B2B marketplace for the School-vendor ecosystem**

T2 2020 – Your Project Options

What do you think of the 10 challenges?

Vote:  **Polly**



Project Scope and Expectations

- Evaluate each project option and discuss with your group members
- You will need to submit your project preferences on Moodle – a submission link will be opened on **Friday, 12 June 2020, 12.00pm**
- Please use the template provided on Moodle to indicate your preferences for the three projects. Your preferences will **not** be considered if the template is **not** used
- The deadline to submit your preferences is **Monday, 15 June 2020, 12.00pm**. However, please note that the allocation of projects is on a **first-come-first serve basis**
- To ensure each project is taken by a sufficient number of teams, you may be allocated the project of your second or third preferences, depending on the time you submitted your preferences
- Please note that once project allocation is completed, teams are not allowed to change their projects (learning to take on any project is also a necessary part of your professional training)

Project Scope and Expectations

Your group project includes **two deliverables**:

1. The source code and any relevant files and/or documentations needed to **run your software**
2. A final **presentation + walkthrough video**

We will run your software and use your presentation + walkthrough video to evaluate your achievements in this group project (30%)

Project Scope and Expectations

Your final presentation + walkthrough video should contain, **minimally**:

1. Introduction to your team
2. Problem statement (Why is the **innovation** important?)
3. Objectives (What **transformation** you aim to achieve?)
4. Discovery Phase
5. Proposed Solution (Why is it innovation and How will it address the problem?)
6. Intended vs. Actual (What goes according to plan and what doesn't?)
7. **Innovation, Performance and Potential** of your product
8. Walkthrough of the software artefact (Max 5 Min)
9. Looking-forward
10. Our journey (teamwork and leadership development)
11. Wrap-up

Overall process **MUST** follow the Agile Scrum approach. The maximum length of the presentation video **should not exceed 25 minutes** (marks will be deducted for videos exceeding this length)

Project Scope and Expectations

Mapping the components to learning outcomes:

Business
Communication

1. Introduction to your team
2. Problem statement (Why is the **innovation** important?)
3. Objectives (What **transformation** you aim to achieve?)
4. Discovery Phase
5. Proposed Solution (How will it address the problem?)
6. Intended vs. Actual (What goes according to plan and what doesn't?)
7. Innovation, Performance and Potential of your product
8. Walkthrough of the software artefact (Max 5 Min – focus on demonstrating functionalities)
9. Looking-forward
10. Our Journey (teamwork and leadership development)
11. Wrap-up

Yellow: Leadership and Teamwork (5%)

Blue: Business Knowledge and Teamwork (10%)

Grey: Business Knowledge and Problem Solving (10%)

Orange: Business Communication (5%)

Project Scope and Expectations

Your discussion on the **software artefact** (#7 in previous slide) should focus on 3 criteria: Innovation, Performance and Potential. The following provide expectations for each criteria. In the presentation, groups are encouraged to be creative in their discussion of these criteria:

Innovation

- What is the product (its positioning)
- Explicitly state how your team defines your product as innovative – How does it advance the current as-is system? What's new here?

Performance

- Functionality: What functionalities have been implemented, what have not, and why?
- Usability: Discuss how was usability considered during the development process
- Testing: How have the current functionalities been tested? What are the results?

Potential

- Target Users: Where is the current market, where else might this be able to be applied?
- Competition: Current and future competition, local and global
- Risks: What are the risks in rolling out your technology? What is the future plan (scalability)?

Project Scope and Expectations

To successfully address these criteria:

5. Proposed Solution
6. Intended vs. Actual
7. Innovation, Performance and Potential
8. Walkthrough

Your end product needs to have **at least the core functionalities** implemented (as a Minimum Viable Product). Some other functionalities could be presented in the form of a High Fidelity Prototype, but strong justifications are required (i.e., **have your team implemented the most important functionalities that could address the proposed problem statement and achieve the identified objectives?**)

Project Scope and Expectations

Overall, your video should:

- **Effectively communicate** the purpose of your software artefact (and how it responds to a real-world problem)
- Convey the **innovation, performance and potential** of your software
- Use **language and visual representations** to effectively and accurately convey information relating to the team processes
- Demonstrate your ability to **collaborate effectively** to achieve team outcomes
- Effectively demonstrate application of **Agile Scrum** practices to team's decisions/processes
- Develop **well-reasoned** and appropriate conclusions/solutions
- Each team member demonstrates their **self-leadership** and learning based on their own reflections on their INFS3605 experience

Any questions about Group Projects – please post it on Teams



INFS3605 Innovation & Transfo... ...

General

Group Project QnA and Consultations

Next week we have a **Scrum Master from Deloitte** joining us – post any **questions you want to ask** on our Week 03 channel! **Thank you ☺**