

.
.

Week 9 Workshop

COS10025 – Technology in an Indigenous context project

. .
. .

.
.
.
.



• • • • •
• • • • •

Acknowledgement of Country

We respectfully acknowledge the Wurundjeri People of the Kulin Nation, who are the Traditional Owners of the land on which Swinburne’s Australian campuses are located in Melbourne’s east and outer-east, and pay our respect to their Elders past, present and emerging.

We are honoured to recognise our connection to Wurundjeri Country, history, culture, and spirituality through these locations, and strive to ensure that we operate in a manner that respects and honours the Elders and Ancestors of these lands.

We also respectfully acknowledge Swinburne’s Aboriginal and Torres Strait Islander staff, students, alumni, partners and visitors.

We also acknowledge and respect the Traditional Owners of lands across Australia, their Elders, Ancestors, cultures, and heritage, and recognise the continuing sovereignties of all Aboriginal and Torres Strait Islander Nations.

• •
• •

• • • • • • • • • • • • • •
• • • • • • • • • • • • • •



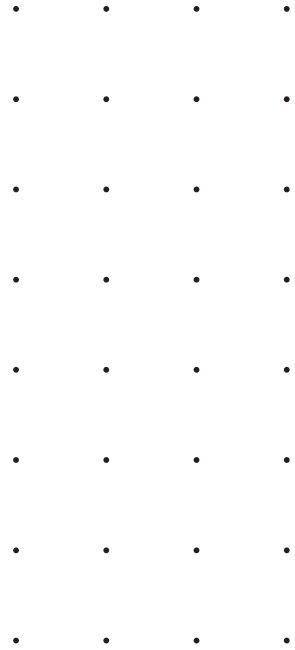
Workshop 9

The aim of today's workshop is to focus on finalising your design outlines and project budget (estimate the cost of components, labour cost, installation and maintenance)

Assessment 3: Team presentation

Activity 1: Based on a design idea, find appropriate hardware components (Re-cap)

Activity 2: Estimate the budget for each design idea (Re-cap)



Assessment #3: Team Presentation

- Third phase of the project
- Team-based assessment
- Due date: 21st Oct 2022, 23:59 pm
- Marks allocated: 25% of your final mark
- Recommended word-count range: 2-3 slides for each team member (12-16 slides for 5 team members or 14-20 slides for 6 team members)
- Aim of this task:
 - Expects the team to explain your team design ideas/concepts based on your defined learning issues/problems
 - Expects the team to explain design benefits, estimation of design budget
 - Each team should explain 3-4 design ideas for 4 to 5 team members or 4-5 design ideas for 5 to 6 team members



.
.

Assessment #3: Format of presentation

- Every team member need to present 2-3 minutes
 - Strictly 15-20 minutes per team depending on the number of team members
 - Each team will be given a time warning just before two minutes to finish
 - Panel Comments, questions and feedback : Strictly 5 minutes per group
 - Use the template in canvas submission page
-
- 5 teams in a workshop – 20 mins each (total 100 mins to complete the session)
 - 6 teams in a workshop – 20 mins each (total 120 mins to complete the session)
-
- Attend the week 10 Seminar on **Effective presentation** by Dr. Paul Kindler and Dr. Gilbert Ravalli



Project Background

- Explain clearly about your team project outline, project requirements
- Re-call week 1 Introduction to the project page in canvas

For example,

The aim of the project is focused on analysing current challenges, needs for communication technologies, and services for remote Indigenous communities in Umuwa. It explores on user access, affordability, and digital literacy in relation to the communication infrastructure.



Project Scope

The scope of the project is to develop design ideas based on the identified defined learning issues/problems in a township.

- Analysed Indigenous communities for remote communication coverage against the population of communities
- Analyse user access based on the Indigenous communities' need for day-to-day activities in remote areas

The project team also consider range of factors which significantly impact on the uptake and effectiveness of communication technologies and services



Design idea/concept 1

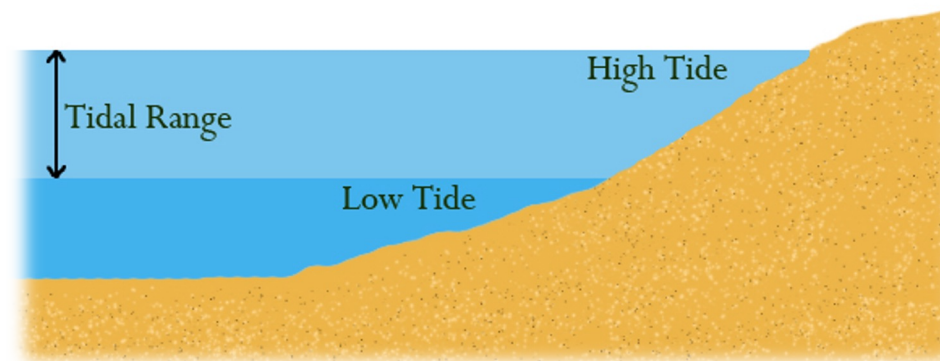
Learning issue/problem

Explain the learning issue/problem found within the community/township



Problem: Water level (flooding)

Riverine flooding can affect thousands of square kilometres for weeks or even months at a time



Design idea/concept 1

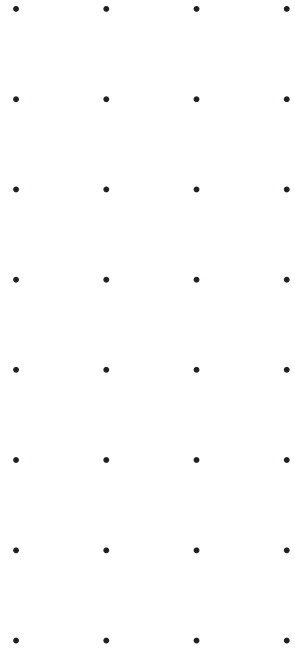
Design outline

With the design layout, please explain it clearly how it works with three different layers (basic network architecture) if you want, present your design idea from Lucid chart App

- Your design outline should focus on the digital connectivity
- List each component with basic specific information (use separate slide if needed)

For example,

- In a **LoRaWAN device** - the basic specific information such as Model number, data range, mode: Wifi , Power supply, Mounting: Wall or pole, number of port etc..
- In a LORAWAN Waterproof temperature and humidity sensor - the basic specific information such as range, accuracy, mode



Design idea/concept 1

Design benefits

How does the design idea benefit the township in accordance with the telecommunication guidelines such as access & equity, health & safety, appropriateness, affordability, environmental health, and sustainable livelihoods?

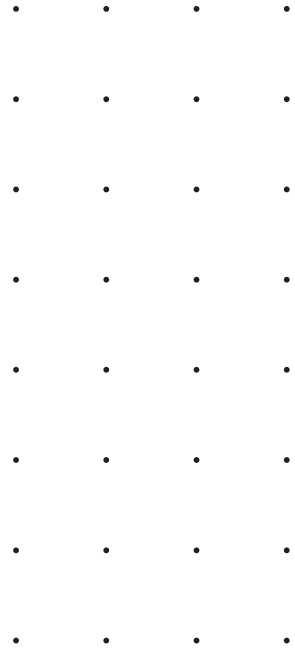
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

Design idea/concept 1

Estimation of the design budget

List out the estimated cost for all direct cost such as

- Components / devices cost
- Labour cost
- Maintenance and testing cost if any and
- Other essential cost
- With 10 or 20 % contingency



Resources

Estimating the cost of components: please check the following links to get more information

Cable - <https://www.nexans.com.au/en/products.html>

Types of sensors - <https://www.thomasnet.com/articles/instruments-controls/types-of-sensors/#topsuppliers>

IoT devices, datalogger, sensors - <https://www.iot-store.com.au/collections/connected-devices>

Routers - https://www.techbuy.com.au/searchcat/NETWORK_WIRELESS_NBN_ROUTERS.asp

Networking switches - https://www.techbuy.com.au/searchcat/NETWORKING_SWITCHES.asp

LoRa IoT - <https://www.iot-store.com.au/collections/sensors/LoRa-IoT>



1st Activity (Re-cap)

Aim : Based on a design idea, find appropriate hardware components

Instructions :

1. What is preferred network (wired/wireless) depends on LAN, WAN....?
2. List out connecting devices/components for a design idea based on number of user, signal range, strength, connectivity of devices, distribution of users, available infrastructure, purpose of the network.
3. Check the network architecture (3 different levels)
4. Align each device/component to each level of the network .



Teamwork: 20-30 minutes

2nd Activity (Re-cap)

Aim : Estimate the budget for each design idea

Instructions :

1. Estimate costs (approximately) of the monetary resources needed to complete the project activities.
2. Evaluating each and every cost, and combine those together.
3. Produce the final baseline total cost of each design idea.
4. Repeat the process for all design ideas.



Teamwork: 20-30 minutes

.

.

.

Activity – Facilitator check-in with each team

Check-in and feedback on design outline and estimation of the budget for all design ideas

.
.
.
.
.
.
.