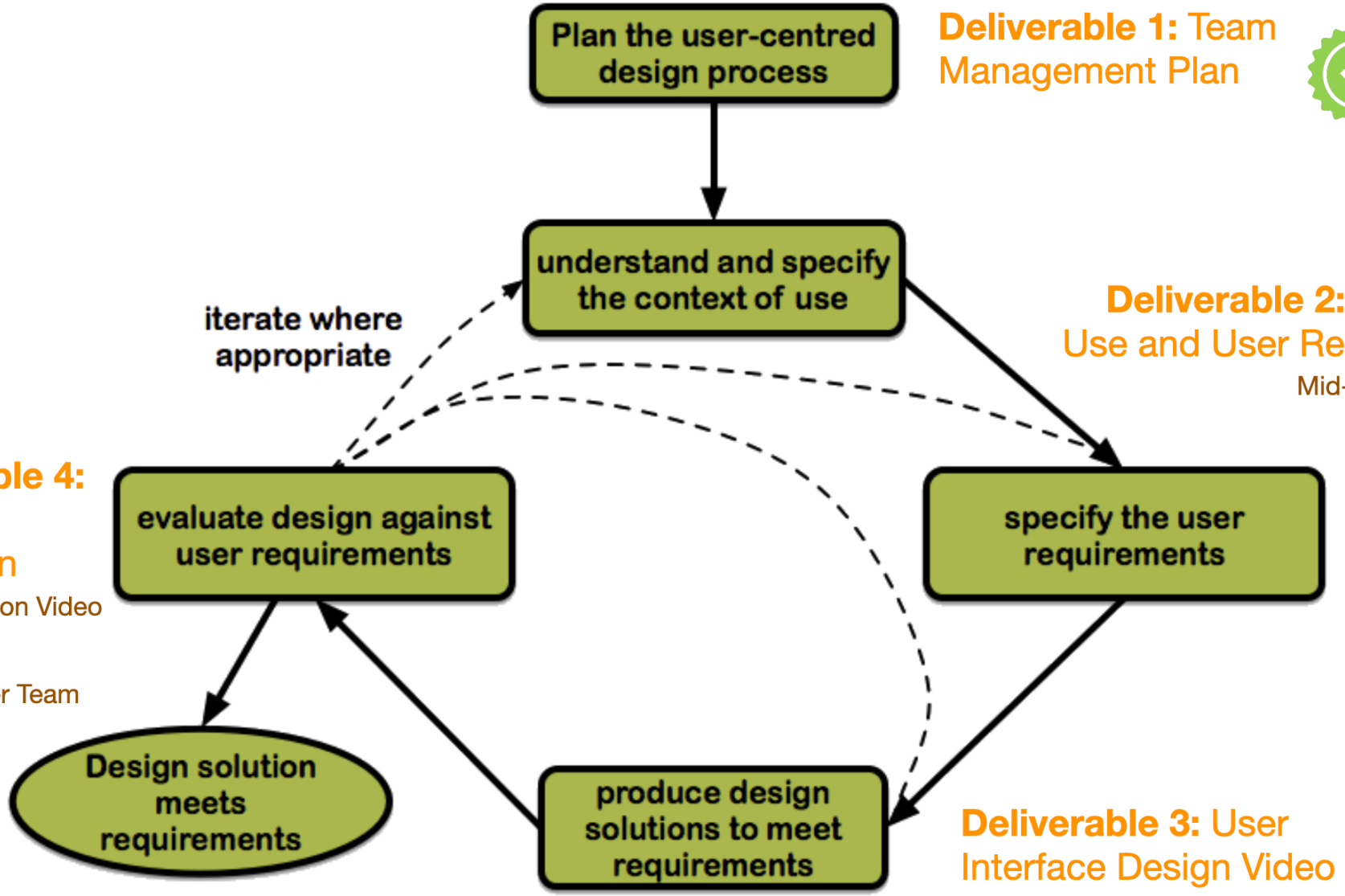
User-Centred Design

Tutorial 4: Modeling and Requirements 2

Agenda

- Questions since last week
- Team stand-ups
- Context of Use and Requirements Report
- Get feedback on:
  - models section (worth 33% of report)
  - requirements section
- Research Report

UCD Process



Deliverable 1: Team Management Plan

Deliverable 2: Context of Use and User Requirements

Mid-semester Team Reflection

Due next week

Deliverable 3: User Interface Design Video

Deliverable 4: Usability Evaluation

User Evaluation Video

Ethics Quiz

End-semester Team Reflection

Upcoming Assessments

UCD 2: Context of Use and Requirements (due Week 5)

- Complete draft models
- Check with tutor
- Draft Requirements

UCD Project Report (due Week 6)

- Download and review topic research paper
- Identify three recommendations… make sure you relate them to Project

UCD 3: User Interface Design (due Week 9)

- Start learning prototyping tool

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UCD 2: Context of Use and Requirements

Context of Use Model Rubric:

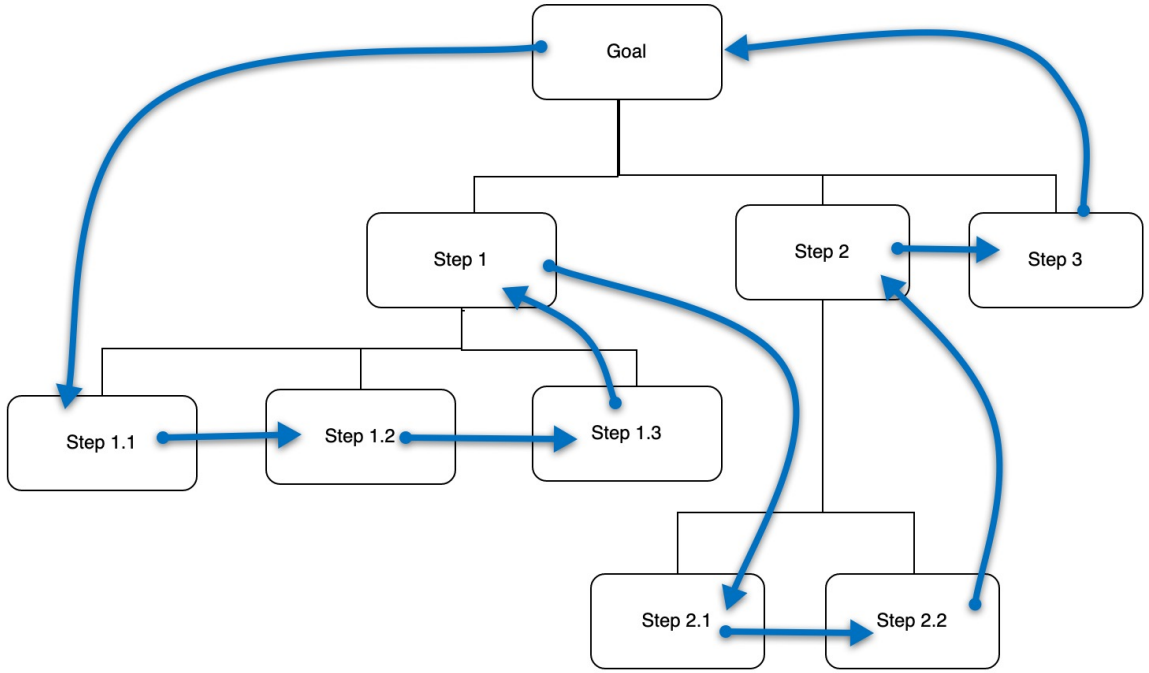
Models demonstrate **good technique** and **insightful and accurate** analysis of context of use. Models represent context of use **BEFORE** development of solution/app.

More than 2 models presented.

UCD 2: Context of Use and Requirements

Satisfactory:

A HTI model (if attempted) showing the structure of tasks required to satisfy the users goals in a tree diagram. The top node of the tree is appropriate for the app (i.e., not to high (e.g., 'live long and die happy') or too low (e.g., 'breathe'). Larger tasks are broken down into smaller tasks. No loops or alternate paths (e.g., if this then..) are included. Alternate paths may be given in an additional HTI's. All nodes in the tree are written as actions (e.g., 'read contact list') not objects (e.g., 'contact list'). Possible breakdown points/inefficiencies in task structure are identified.



If you are not sure check with tutor...

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Case Study: Low Water Warner

Farmers on large Australian cattle farms may have to travel 100’s of kilometres to check the water supplies for their cattle.

The aim of Low Water Warner is to remotely monitor water troughs and tanks and reduce the need for them to check them manually.

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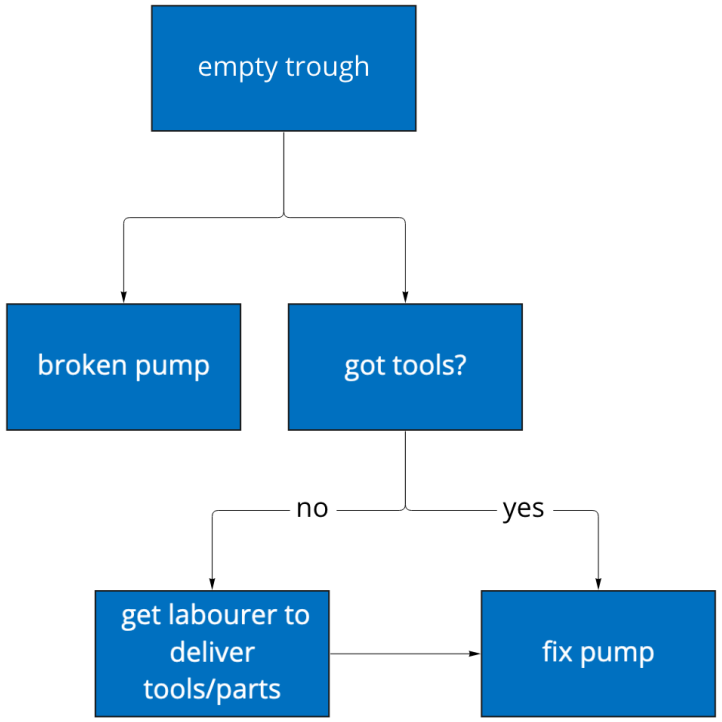
UCD 2: Context of Use and Requirements

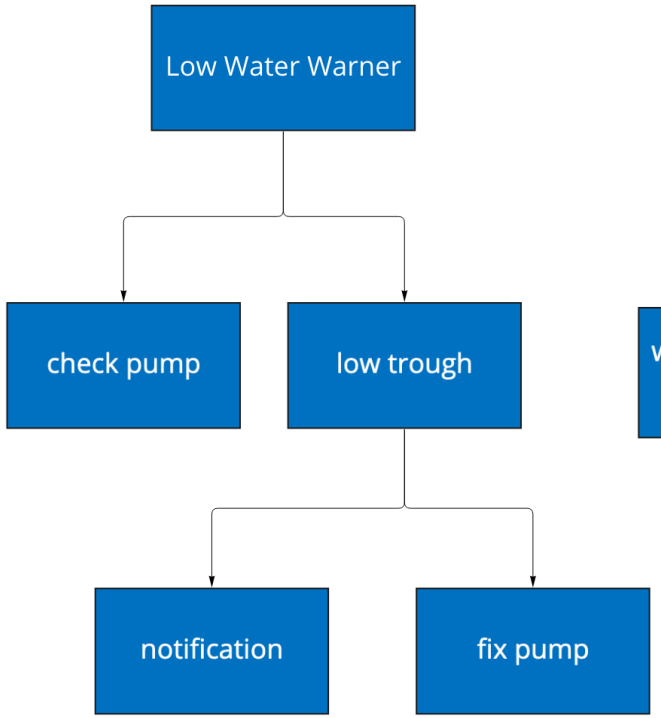
HTI Model:

Which one demonstrates best modeling technique and why?

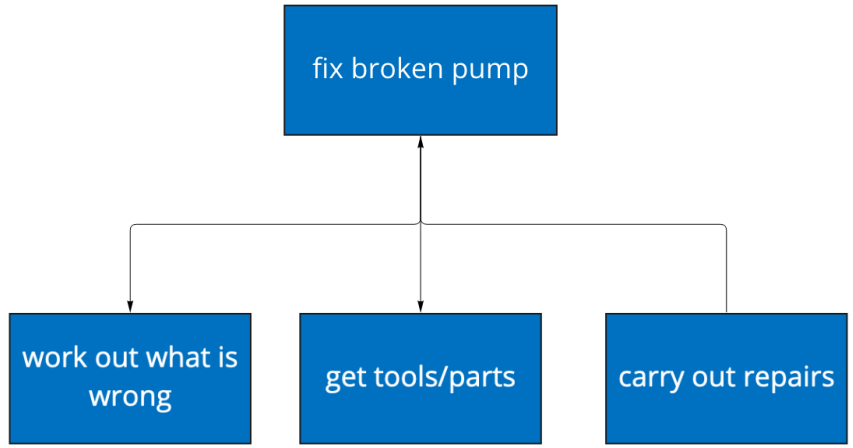
a)



b)



c)

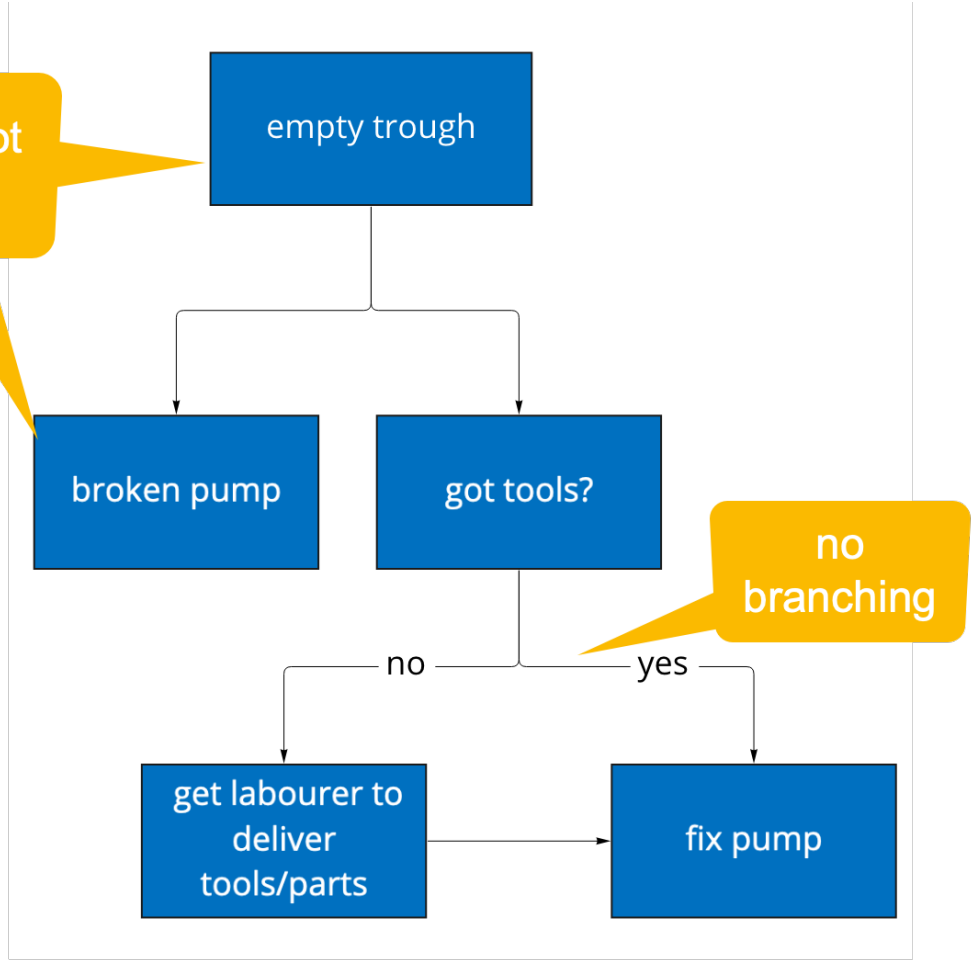


UCD 2: Context of Use and Requirements

HTI Model:

Which one demonstrates best modeling technique and why?

a)

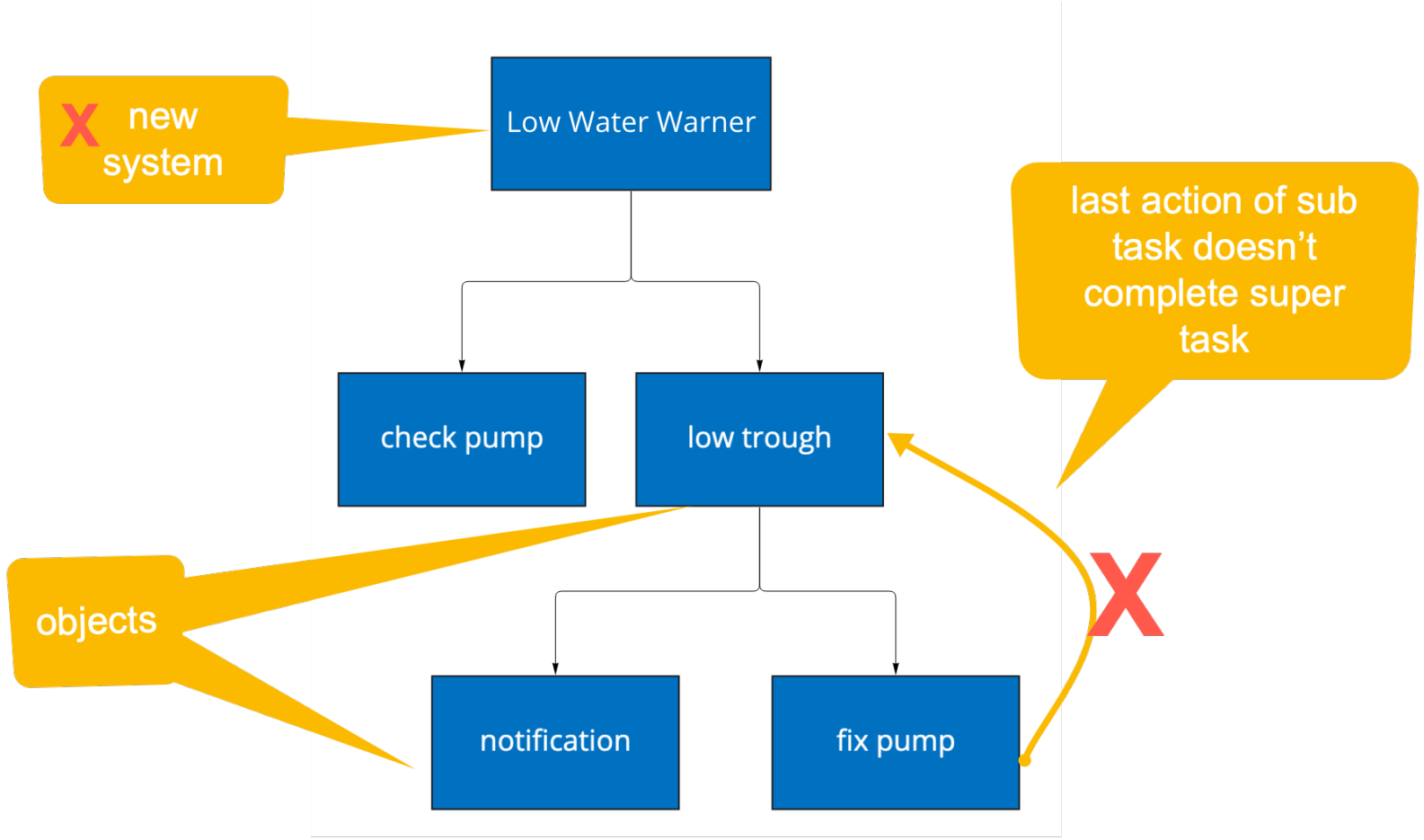


UCD 2: Context of Use and Requirements

HTI Model:

Which one demonstrates best modeling technique and why?

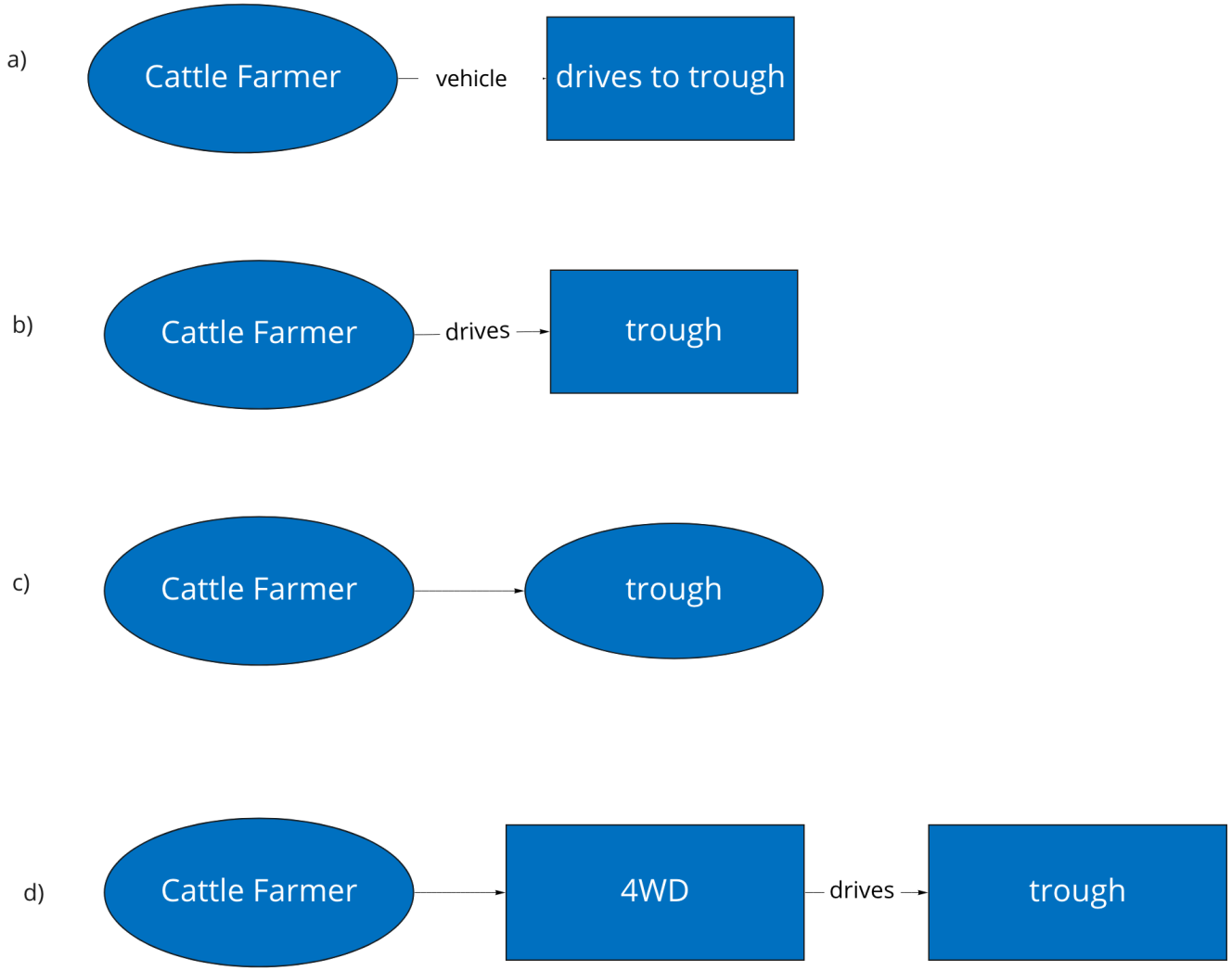
b)



UCD 2: Context of Use and Requirements

Flow Model:

Which one demonstrates best modeling technique and why?



UCD 2: Context of Use and Requirements

Requirements Rubric:

At least **six** user requirements are suggested. It appears that suggested requirement/s **relate to data collected** in some way. Requirements are well expressed and formatted. Plus, demonstrates excellent understanding of one or more of the following: the context of use, **breakdown**/pain points or barriers identified in report.

Requirements

numbered

Short descriptive name

one feature per requirement

promise

1.1 Low water notification

Requirement: The system shall notify the user if the water level in a trough is low. [flow model]

source of requirement

Rationale: An automated alert will save the user several hours of driving.

Note: Sensors will need to be installed on trough and notification may need to be sent via satellite connection due to remote nature of site.

any implementation ideas are in notes, not the requirement statement

Requirements

- Why do requirements need unique numbers?
- Why do we use words like ‘must’ or ‘shall’ instead of words like ‘should’ or ‘may’?
- Why only include one feature in requirement?
- Why is citing a source important?

Requirements

Assess the following requirement statements based on guidelines

A. The system should send a text message to the user if water levels are low or a pump fails. [flow model]
B. The user shall be able to define trigger points for low water warnings for each individual trough. [team meeting 16/07/22]
C. The system must be easy to use. [client meeting 10/07/22]
D. The user must have an excellent understanding of common information technologies.

Can you suggest improvements?

Wandering Detection App

Build models for context of use

Two models required

Suggested models:

- User model
- and Flow **or** HTI model

IMPORTANT:

- Flow and HTI are difficult
- Bring draft this week!

https://www.telegraph.co.uk/news/2016/11/01/elderly-couple-who-have-been-together-for-70-years-allowed-to-st/

UCD 3: User Interface Design Video (due Week 9)

- Background (as per UCD Project 2)
- Design scenario or storyboard (conceptual design)
- Wireframe
- Iteration
- Prototype
- Limitations and future work

Interactive Prototype required for Week 7 class activity

New skills to learn:

- how to use prototyping software
- how to make video

Time consuming tasks:

- generating design concept*
- making prototype**
- making video*

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Prototyping tools

Figma

Adobe XD

PowerPoint

...plus many more.

When choosing a tool:

- ease of use
- utility (linking, UI libraries, masters)
- skill development

Prototyping starts: Week 5

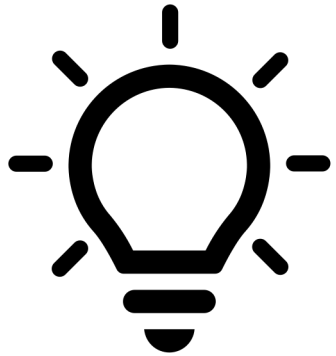
UCD Research Report (Individual due Week 6)

We don’t have time to do detailed research on people living with dementia and the people who care for them.

- What to do?
- Consult academic literature!

Doyle, M., Nwofe, E. S., Rooke, C., Seelam, K., Porter, J., & Bishop, D. (2024). Implementing global positioning system trackers for people with dementia who are at risk of wandering. *Dementia*, 14713012241248556.

https://doi.org/10.1177/14713012241248556



Review research paper (and other literature) to identify insights and recommendations for Project.

From W3

UCD Research Report (Individual due Week 6)

Purpose

- The purpose of this document is to help you understand how to use a research article to help you do a project.

Rubrics

- Problem description
- Research Evidence
- Recommendations
- Written expression
- Academic integrity

Generative AI

If you use genAI, cite your interactions (see suggestions for citing ChatGPT at https://apastyle.apa.org/blog/how-to-cite-chatgpt)

Verify work produced, be aware that genAI:

- can produce biased or outdated information
- may fabricate information

- do not put personal or sensitive information into genAI

From W3

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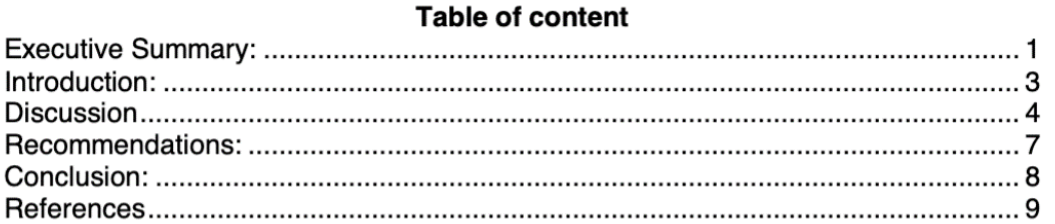
UCD Research Report

Assignment Format

Good

- Title page
- Executive Summary
- Table of Contents
- 1.0 Introduction
- 2.0 Informative section heading
  - 2.1 Subsection heading
  - 2.2 Subsection heading
- 3.0 Recommendations and Conclusion
- 4.0 References

Not so good



Note: You can have more than one section between intro and recommendations

From W3

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Before next week

UCD 2: Complete Models

Check you understand how models are constructed

UCD 2: Write requirements

Check you understand how requirements are written in this unit

Prepare a Stand-up

Last chance to get feedback on models and requirements for UCD 2

Bibliography

‘[Australian Cattle Farmer]’ [image] viewed 6 August 2022, <https://theconversation.com/latest-animal-export-expose-reminds-us-to-steer-clear-of-factory-farming-7141>

Brinks, B, Stenekes, N, Kruger, H & Kancans, R 2018, *Snapshot of Australia’s Agricultural Workforce*, ABARES Insights 3, Canberra, CC BY 4.0. DOI: 10.25814/5c09cefb3fec5.

Hooper, S, Martin, P, Love, G & Fisher B S 2002, *Farm size and productivity, where are the trends taking us?* Australian Commodities vol 9 (3) p 495-500.

Labinsky, M 2021 *How remote water monitoring has changed life on this outback station,* AgTrader, viewed 6 August 2022 <https://www.agtrader.com.au/news/livestock-cattle/how-remote-water-monitoring-has-changed-life-on-this-outback-station>