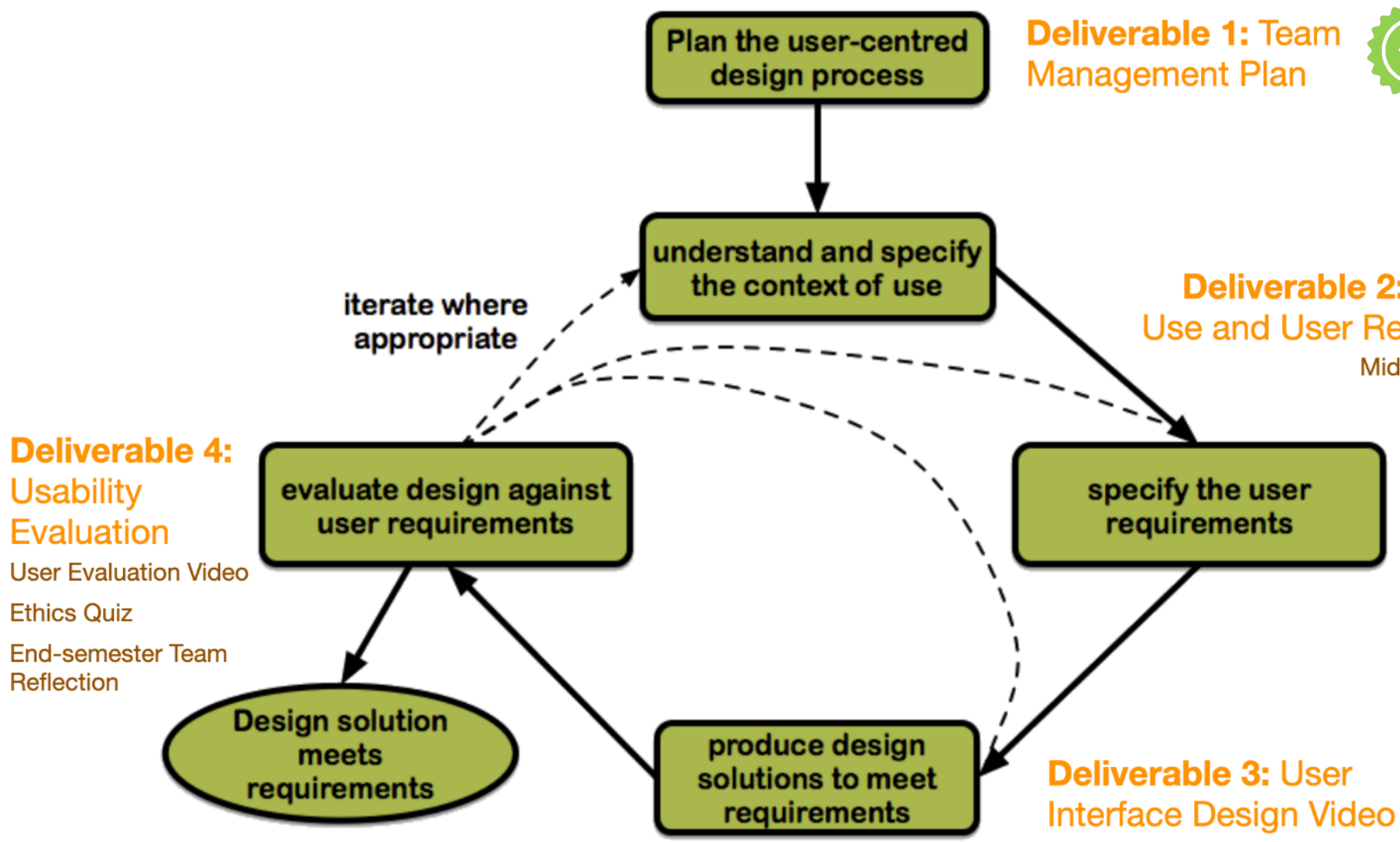
User-Centred Design

Tutorial 5: Conceptual Design

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
- Start User Interface Design
  - Conceptual Design

UCD Process



Deliverable 1: Team Management Plan

Deliverable 2: Context of Use and User Requirements

Mid-semester Team Reflection

Due Sunday

Deliverable 3: User Interface Design Video

Deliverable 4: Usability Evaluation

User Evaluation Video

Ethics Quiz

End-semester Team Reflection

Wandering Tracker App

UCD 3: User Interface Design Video (due W9)

- Design and build prototype app for Freedom Tracker
- Present design and design process as video
  - 10 min
  - Include demo of prototype

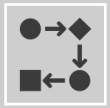
- Need to present to get marks
- Name must be on video when talking

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

Background (as per UCD Project 2)

Conceptual design



Iteration

Prototype walkthrough

Limitations and future work

New skills to learn:

- how to use prototyping software
- how to make video

Time consuming tasks:

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

Case Study: Low Water Warner

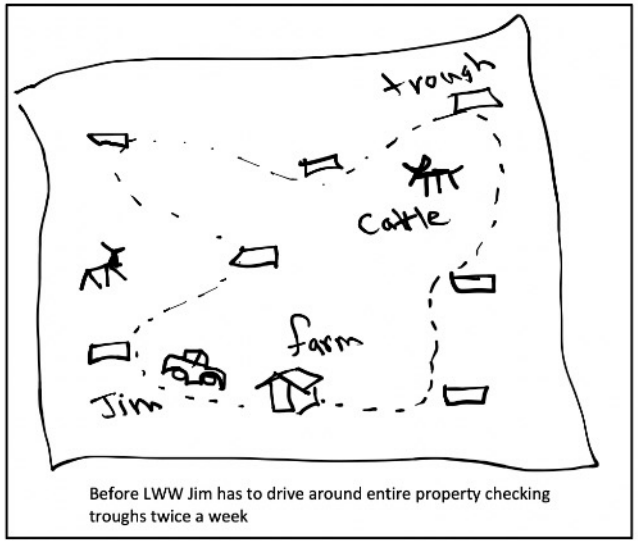
Farmers on large Australian cattle farms may have to travel 100’s of kilometres to check the water supplies for their cattle.

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

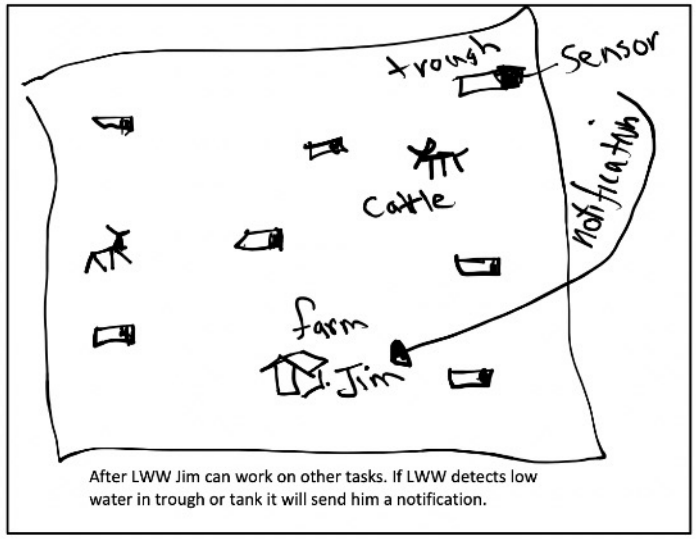
Conceptual Design: Design Scenario

Bill and Leanne's outback NSW cattle farm is 8,000 square km. The majority of their cattle are watered by troughs supplied by bore water pumps. Making sure these are working properly is critical. In the past it took Bill an entire day to check all the troughs are working and between checks he was always worrying about them. However, the installation of Low Water Warner (LWW) has largely removed unnecessary trips to check troughs and the constant worry. Water level sensors wirelessly connected to LWW are installed in all his troughs and the tanks suppling them. If a tank or trough runs low LWW sends him an immediate notification so he can go out and check it. He can also check tank levels for all his troughs and the rate at which cattle are drinking the water. This helps him see seasonal variations and identify if he needs more/less troughs in an area.

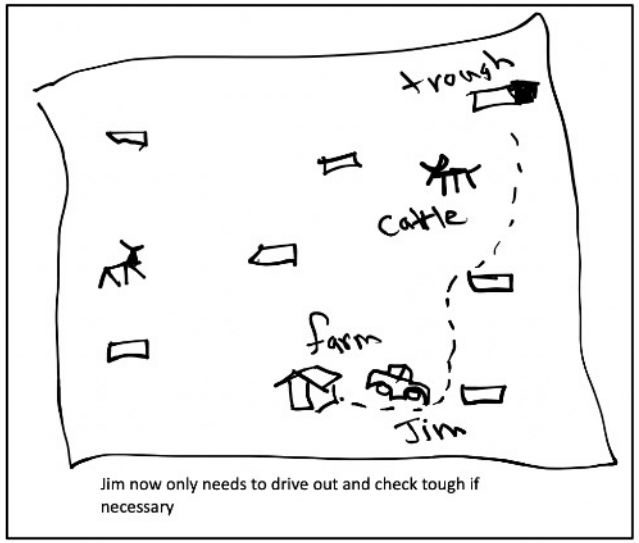
Conceptual Design: Storyboard



Before LWW Jim has to drive around entire property checking troughs twice a week



After LWW Jim can work on other tasks. If LWW detects low water in trough or tank it will send him a notification.

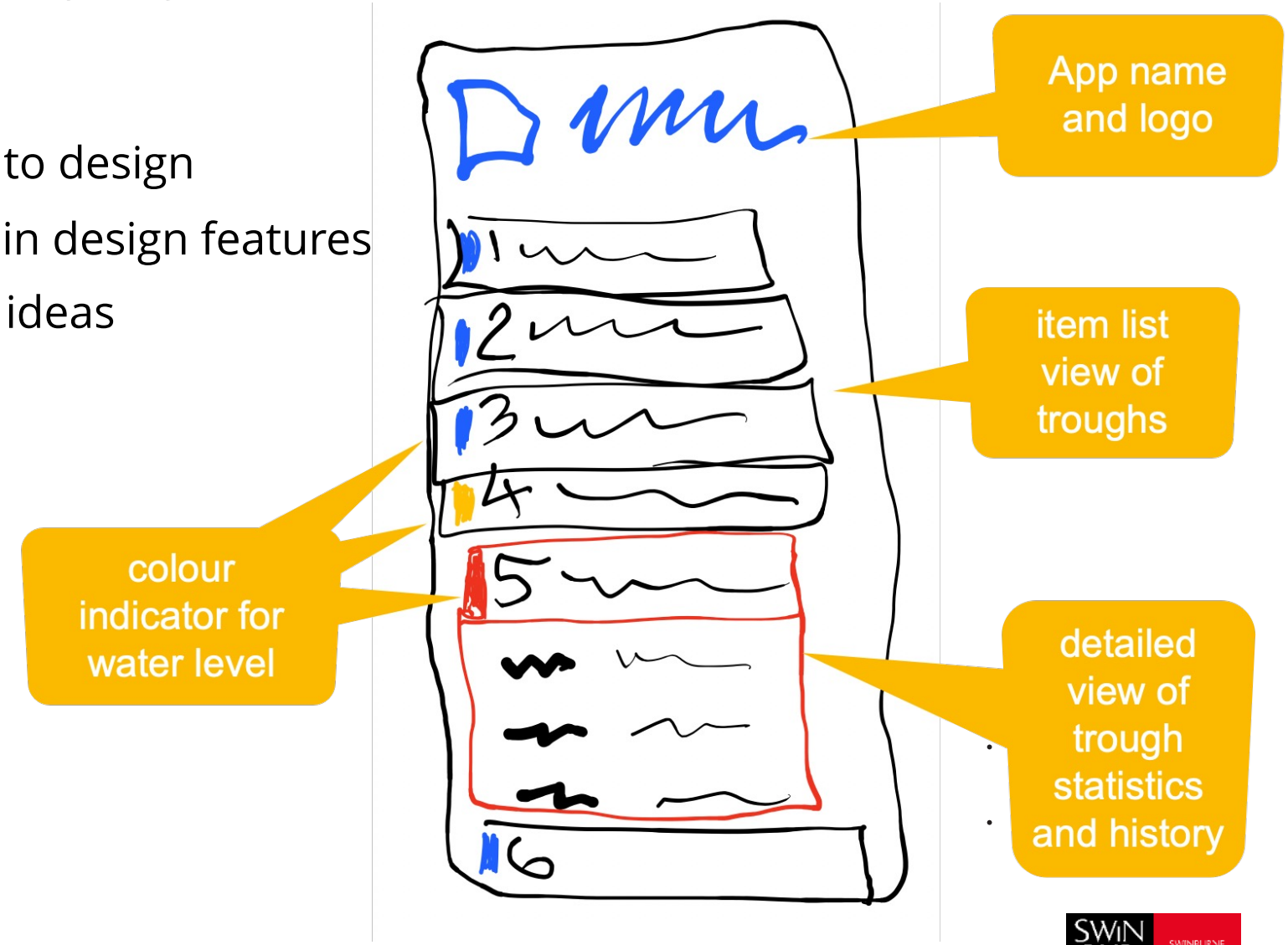


Jim now only needs to drive out and check tough if necessary

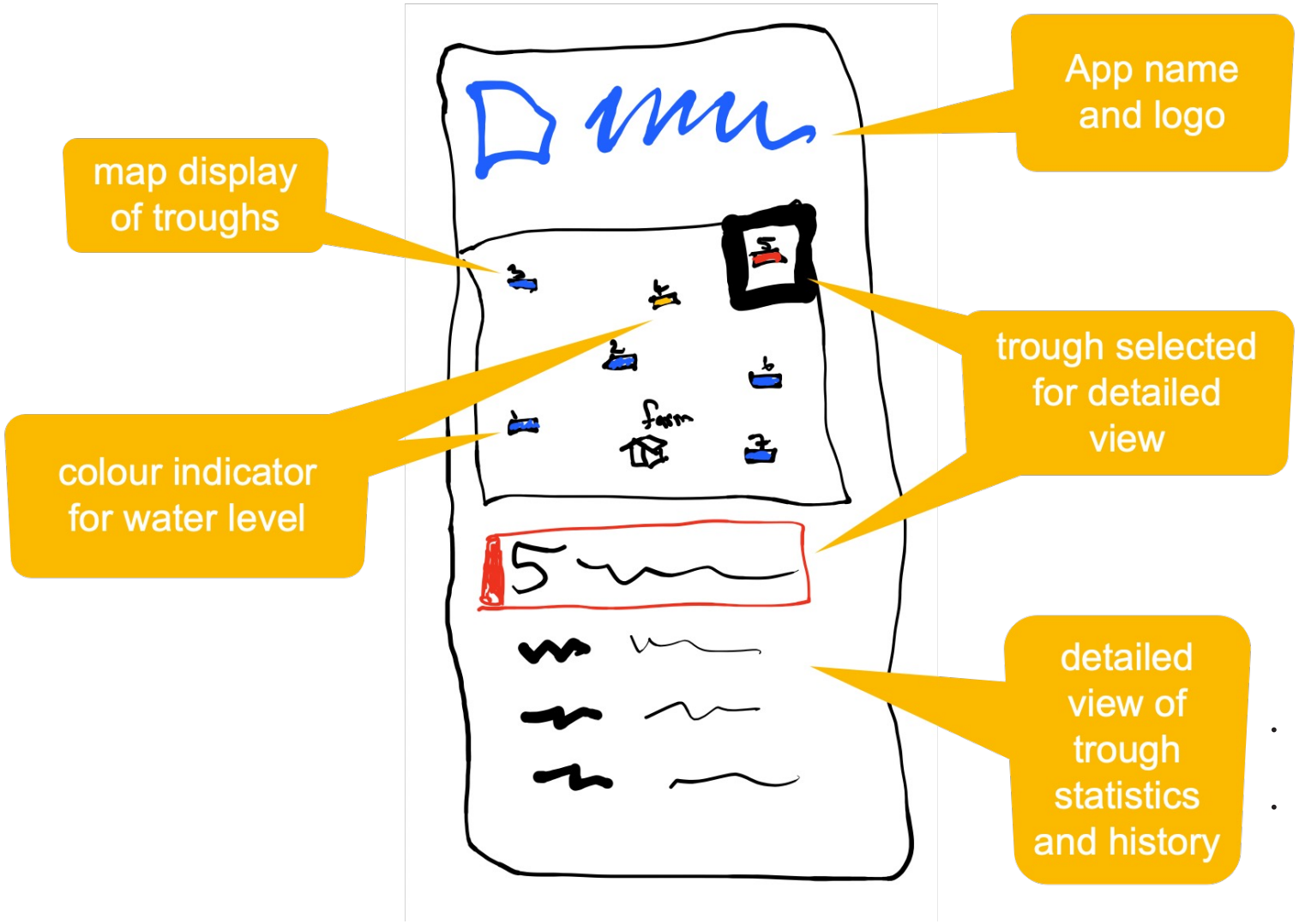
Jim and Leanne now have more time to relax and enjoy their property together.

Conceptual Design: Wireframes

- Keep level of detail low
- Only include colour if meaningful to design
- provide annotations to help explain design features
- include at least 2 different design ideas



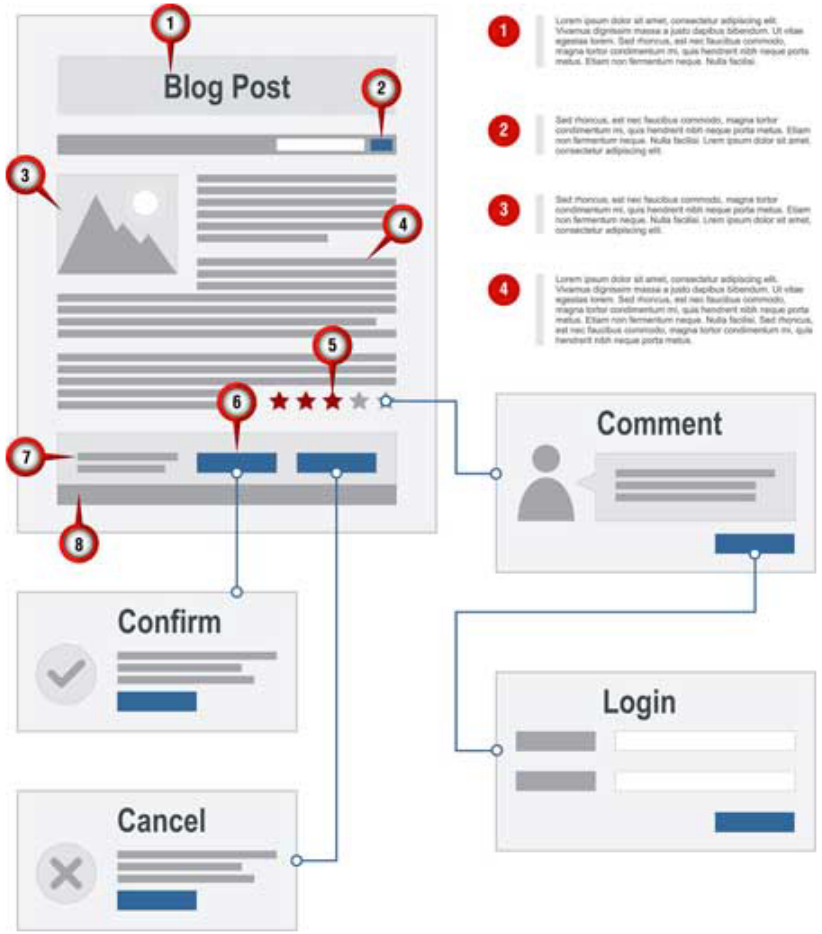
Conceptual Design: Wireframes



Key Project Deliverable: User Interface Prototype

Interactive prototype

- Series of screens linked together with interactive hot spots
- Explore and test design ideas
- Get feedback on design
- Do not require programming!

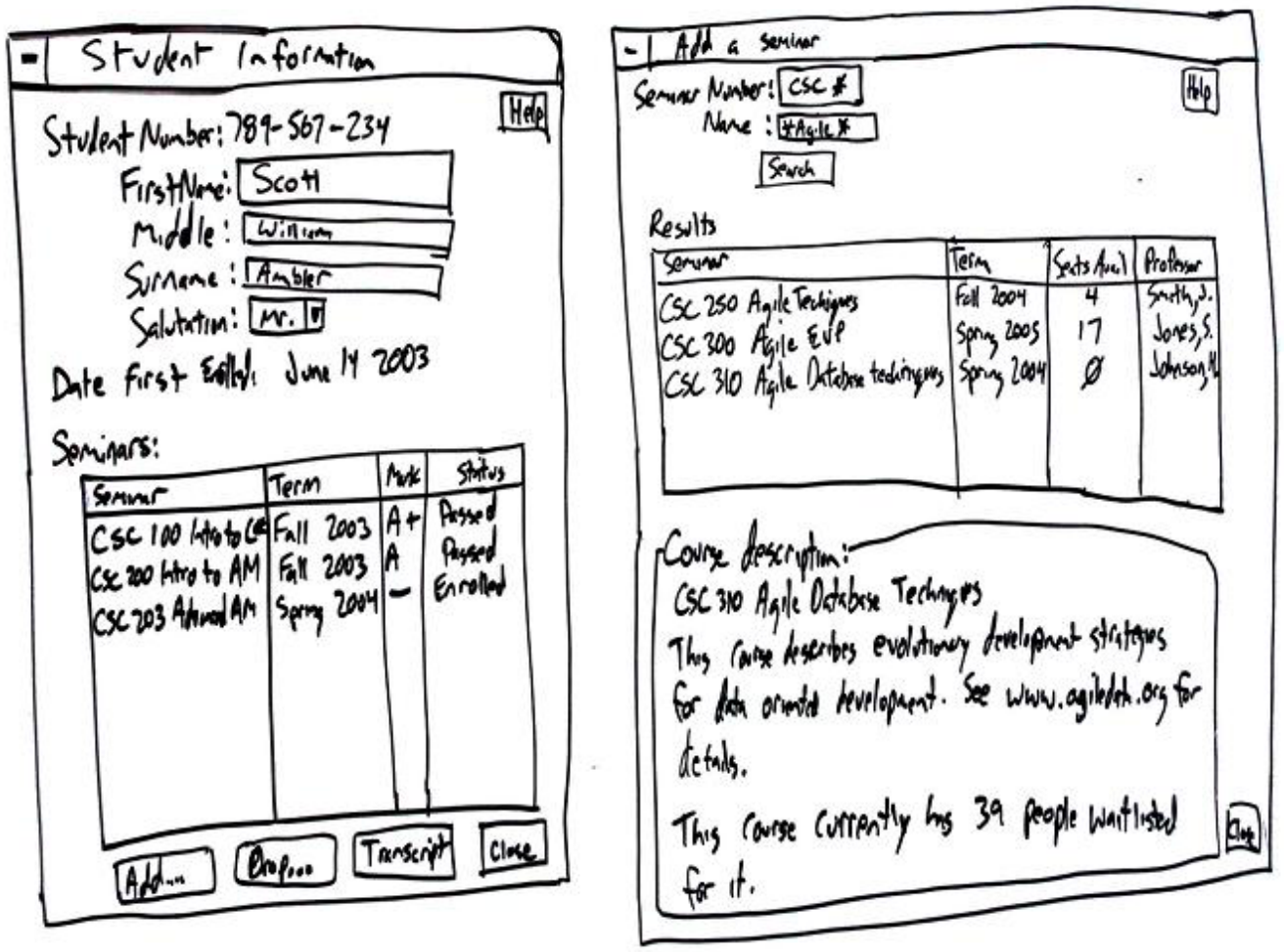


http://mediaprojects.biz/services/implementation/ui-prototyping/

Low Fidelity User Interface Prototype

Start with low fidelity prototypes

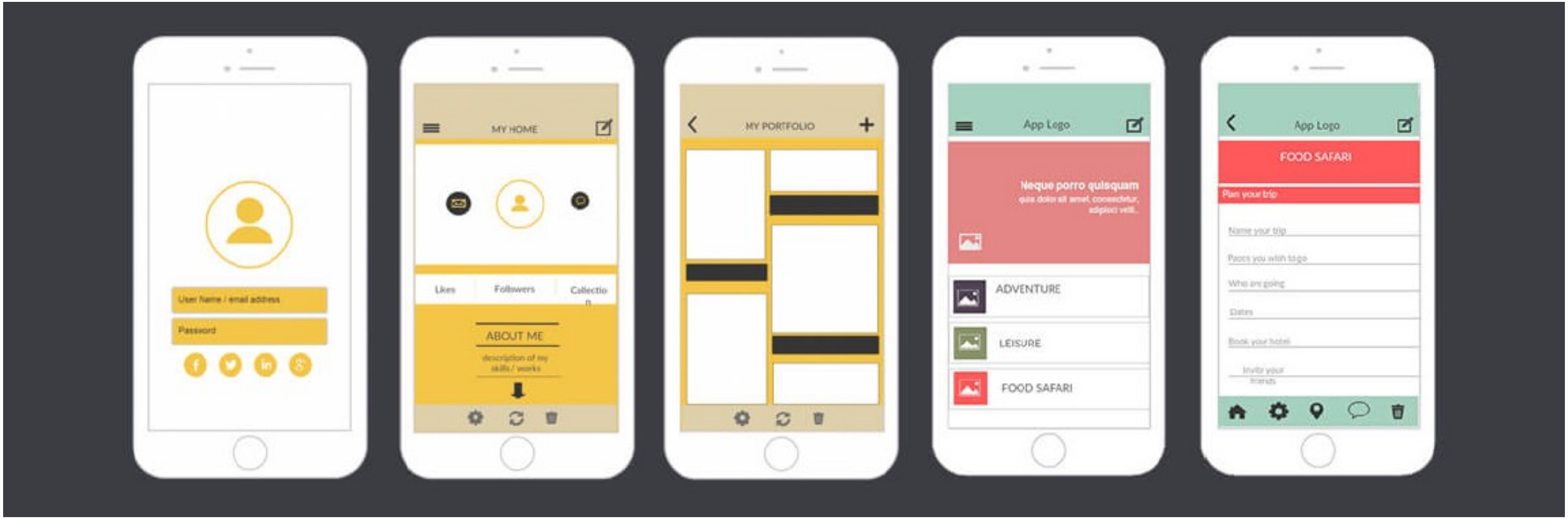
Generate ideas without fussing about exact placement, colour etc



http://agilemodeling.com/artifacts/uiPrototype.htm

SWINBURNE UNIVERSITY OF TECHNOLOGY

Mid-Fidelity Prototype



Prototyping tools

Figma

Adobe XD

PowerPoint

...plus many more.

When choosing a tool:

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

Start Prototyping: NOW!

Before next week

UCD 2: Context of Use and Requirements (due Sunday)

Format and edit document

Finalise contribution statements

Submit!

Start looking into prototyping tools

Recommended: Figma (education account)

Start thinking about design ideas

Prepare Week 6 Stand-up

COS70004 UCD Assignment (due at end of W6)

Bibliography

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>