# Paper Prototyping + Requirements

## Workshop 3

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TAs: Mitch Lui, Craig Barnfield, Kira Clements, Ollie Myers

| Week | Date | Lecture<br>Monday 11:00-12:00<br>*PHYS BLDG G44 FRANK* | Workshop<br>Monday 13:00-15:00<br>*MVB 2.11 PC* | Groupwork |
|---|---|---|---|---|
| 1 | 23/01/22 | Introduction and Process [slides] [materials] | Teams, Waterfall Method and Project Brief [slides] [case study] [project brief] | Research games, create list on team repo. Install Processing |
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| | 27/03/22 | EASTER week 1 | SPRINT 1 | |
| | 03/04/22 | EASTER week 2 | SPRINT 2 | |
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# Today's Workshop

- Practice developing use cases (45mins)

- Paper Prototyping your two game ideas (45 mins)
  - + video walkthrough documentation

- Requirements Homework (10mins)

# Use Cases

# Running app – brief from SittingPlace Enc. CEO

The SittingPlace office group wants to encourage its employees to be more physically active. In an interview, the company CEO said:

"The company will provide bonus points to those who use this jogging app, as it will reduce our costs from the employee sickness and stress. The app will allow the employees to jog to work instead of driving, so we will encourage jogging to and from work, if our employees want to.

We also hear that our employees (as they live at various locations and distances away from the company) are worried that they will not have safe running path to take part in the program or that the distance is too long. So, the app needs to help with this. Where the distance is too long, maybe they can take a ride on bus or tram and then run. That's all fine, as long as they run some distance, we are happy. Obviously the longer they run the healthier it is for them.

I myself have tried this idea out. I run 3 days a week. So, I have planned several run paths for good days (good with weather and time, I mean) I run the whole distance from home and back. But on wet days my driver picks me up in the mornings and I take bus to the park halfway home and run back only part of the distance. But it works. So, we want to have an app like that."

# To do:

Working in your group:
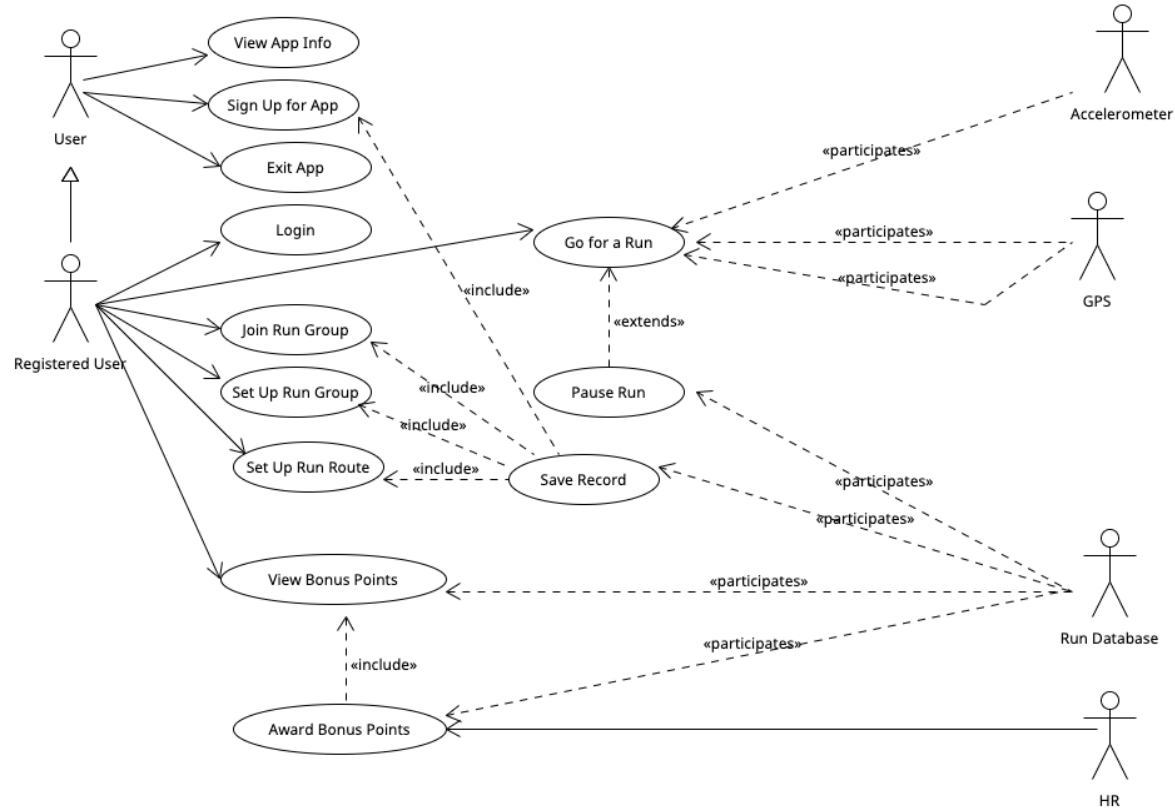
1.  Identify the stakeholders for this app (10 min)
    You can use this online tool (umlLetino)  http://www.umletino.com/umletino.html

2. Construct Use Case diagram for this app (15 min)

3. Select one use case and write the use case specification (use case steps) (15 min)

Next you will be doing paper prototyping for the app…

# Example solution: Stakeholders and Use Case Diagram

# Example of Use Case Specification: Sign Up

1. System displays options to Login or Sign-up
2. User selects the Sign-Up option
3. System displays option to enter parameters: name, username, password,
4. User enters parameters required
5. System checks Database for existing username
6. Database returns pass for non-existing user name
7. System displays list of parameters to be filled by the user : age, weight, address.
8. User enters the requisite parameters
9. System _Save Record_
10. System directs user to login page after successful creation of account

***Alternative Flow***

6.a: Database returns fail for existing user name. Go to step (3)...

# Run for Fun – paper prototype
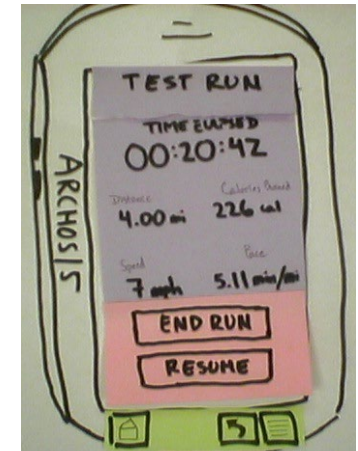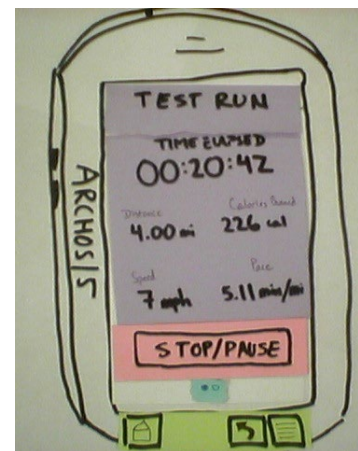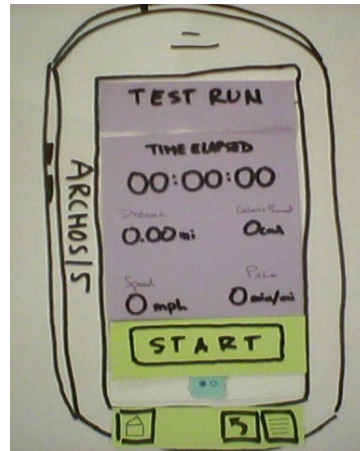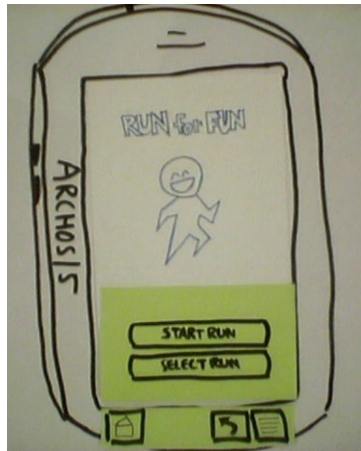
# **Paper Prototyping**

# What is Paper Prototyping?

- Paper prototyping is a **user-centred** design method that is widely used in software engineering projects

- Most commonly, it involves the development of user interface mock-ups and drawn sketches which are presented to end users for evaluation

- Can lead to full wireframes and flow diagrams.

- Best done with <u>actual paper</u> – but using a slide deck (PowerPoint prototyping) can also work

# What is Paper Prototyping?

- Paper prototypes are often used at the early stages of projects to provide feedback on:
    - Product concept and goals
    - Logic and flow of user journeys
    - The form of the user interface

- This is a **'cheap'** process!
    - 1 interactive prototype (10h)
    - = 10 video prototype (1h each)
    - = 100 paper prototypes (6 mins each)
    - = 6000 sketches (6 sec each)

# Why Paper Prototype?

- Quick and cheap design method

- Easy to make instant design change

- *Communication.* Helps the development team and external stakeholders better conceptualise your product and visualise how it will be used

- Helps us to better understand our product and users

- It is a low-investment means of evaluation:

  - Easier for users to give feedback, no fear of causing expensive change

  - Useful for testing multiple ideas or solution variations

- Makes a clearer distinction between conceptual errors and programmatic errors

# Paper Prototype your <u>Two</u> Games


**45 mins**

**<u>Create</u>** a 'working' version of each game in paper

**<u>Animate</u>** each game in response to user input

**<u>Document</u>** each with a video

**tips:**
- use a (thick) **pen**, not pencil
- choose a **single** task to implement
- don't forget **animation**
- use **placeholder text**
- make devices **larger** than life-size
- make sure that it's **<u>fun</u>**

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# homework / groupwork

- Decide on <u>one game idea</u>!

- Update / improve video sketch/prototype as required

- Create a use case diagram for your game idea, using the same UML tool as today

- Upload both video and use case diagram to your Github repo