

# User-Centred Design

## Tutorial 9: User evaluation procedure

### Agenda

- Questions since last week
- Team stand-ups
- User Evaluation
- Check your materials
  - Usability evaluation tasks
  - Demographic questionnaires
  - Satisfaction questionnaires
- Review user evaluation procedure

# UCD Process



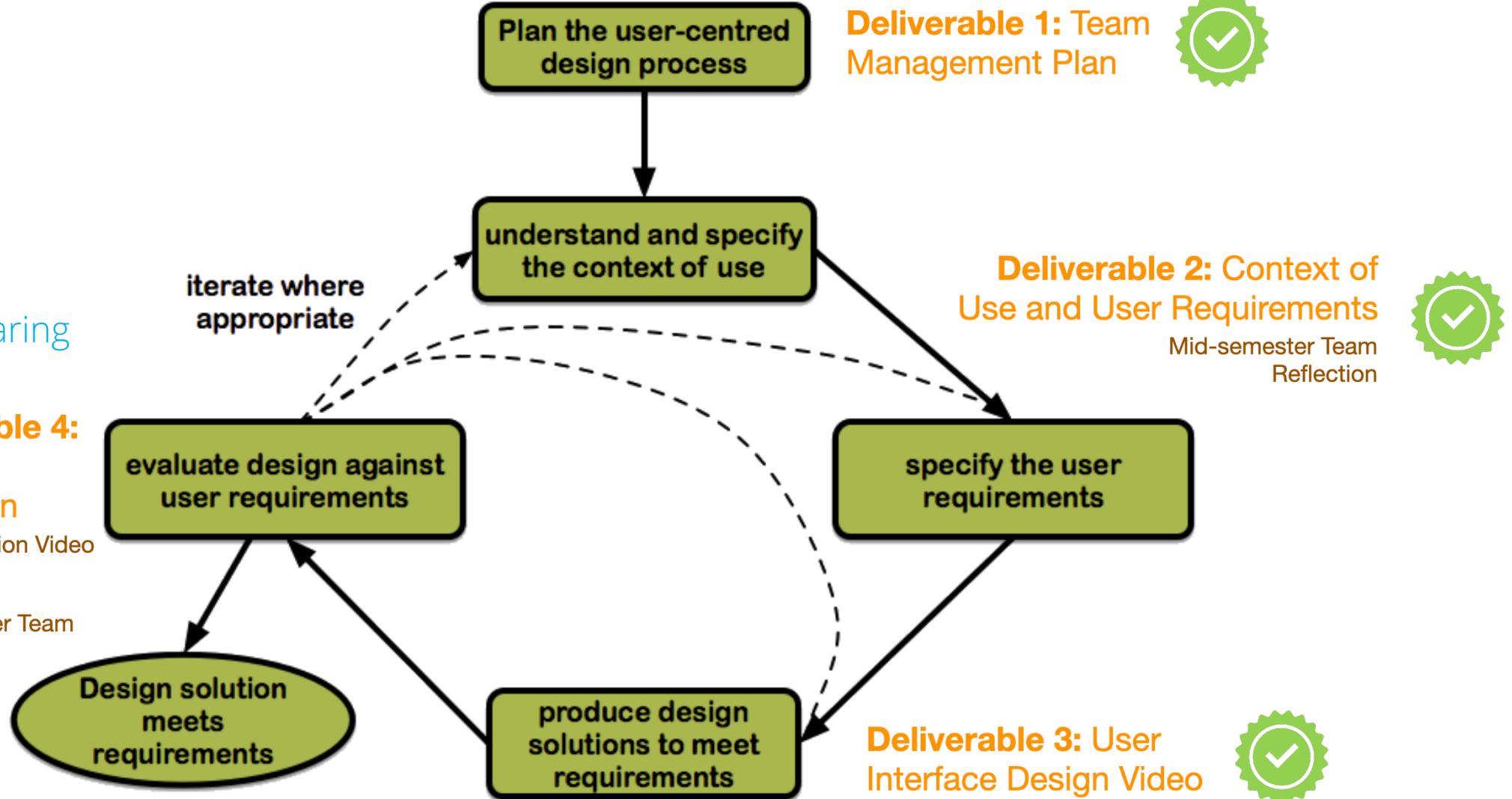
Start preparing  
now

## Deliverable 4: Usability Evaluation

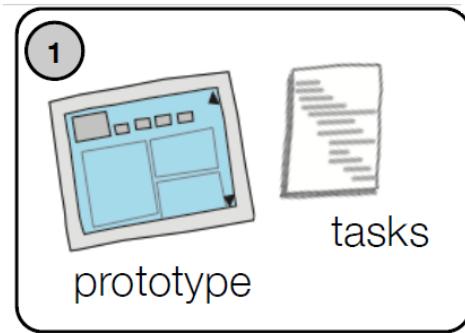
User Evaluation Video

Ethics Quiz

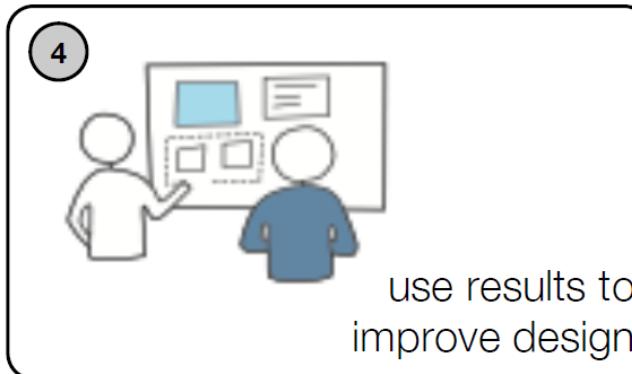
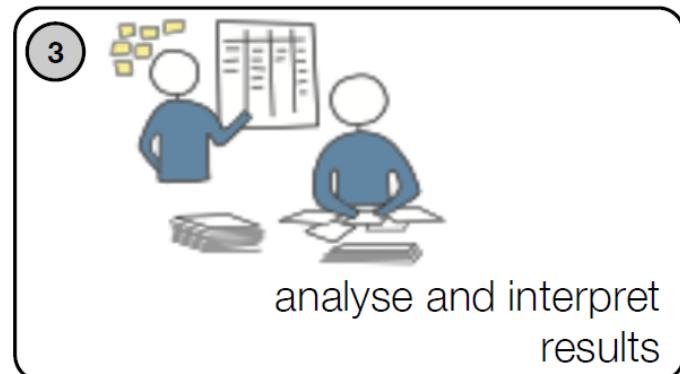
End-semester Team  
Reflection



# Usability Evaluation



Many ways of doing  
usability evaluations



review

# Usability Evaluation Methods



**Evaluator**

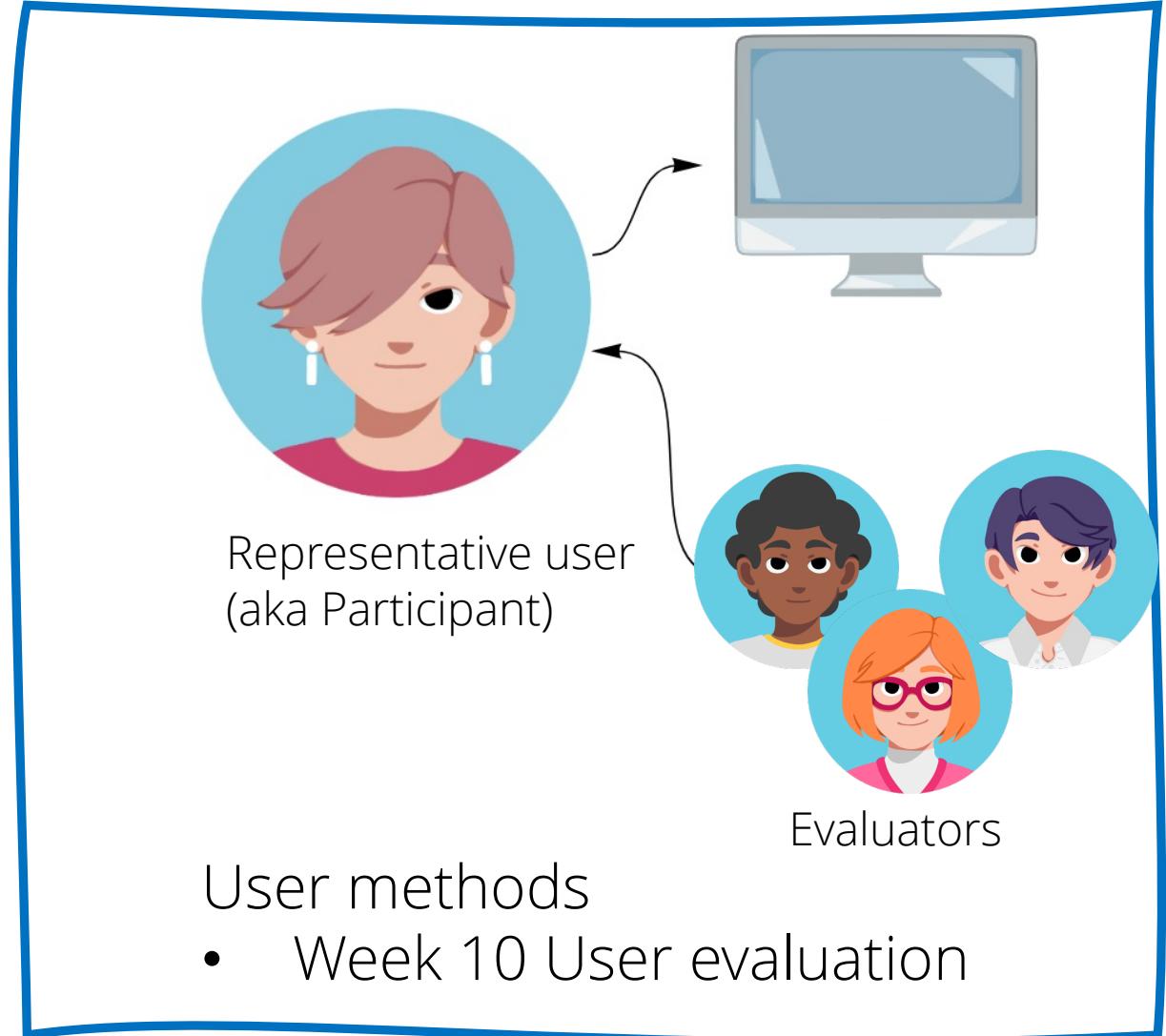
Usability Expert



**Prototype**

Non-user methods

- Week 7/8 Heuristic evaluation



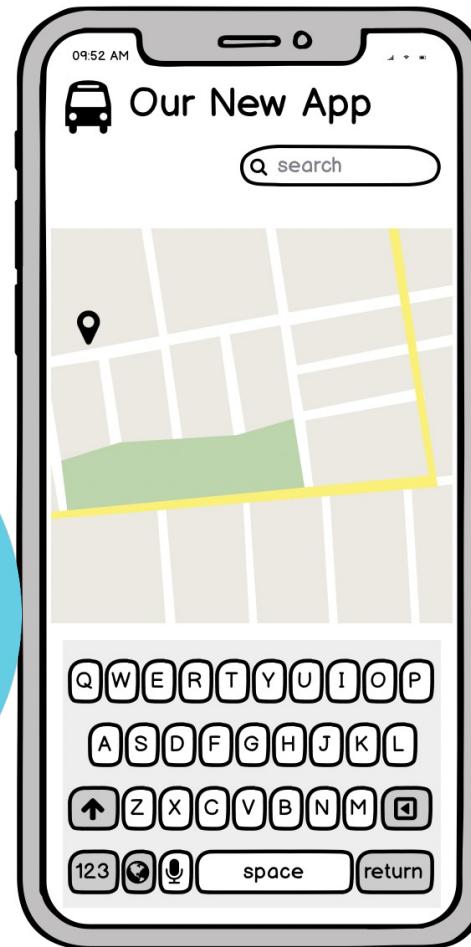
# User Evaluation

Identify usability issues by observing users trying to use the software

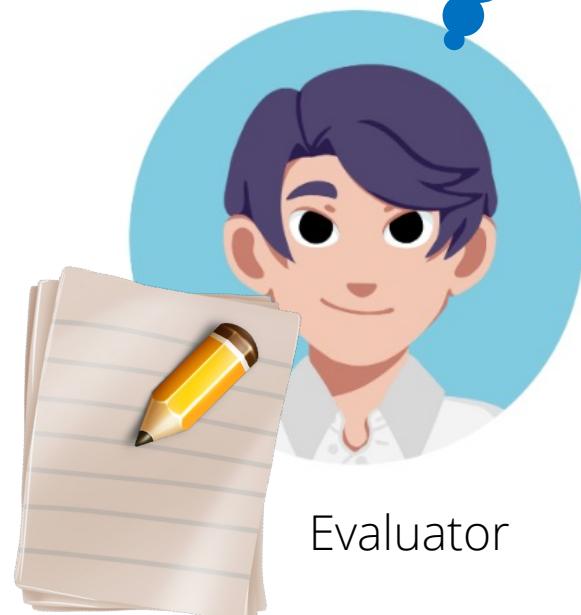
AGH, how to I do this?



Representative user



Mm, seems like she can't work out how to view a specific trough, we will need to fix that ASAP



Evaluator

review

# User Evaluation



Evaluators (can be a team of people)

- Runs evaluation
- Observes user and takes notes
- Identifies problems user has using the interface



- Participant completes tasks on user interface

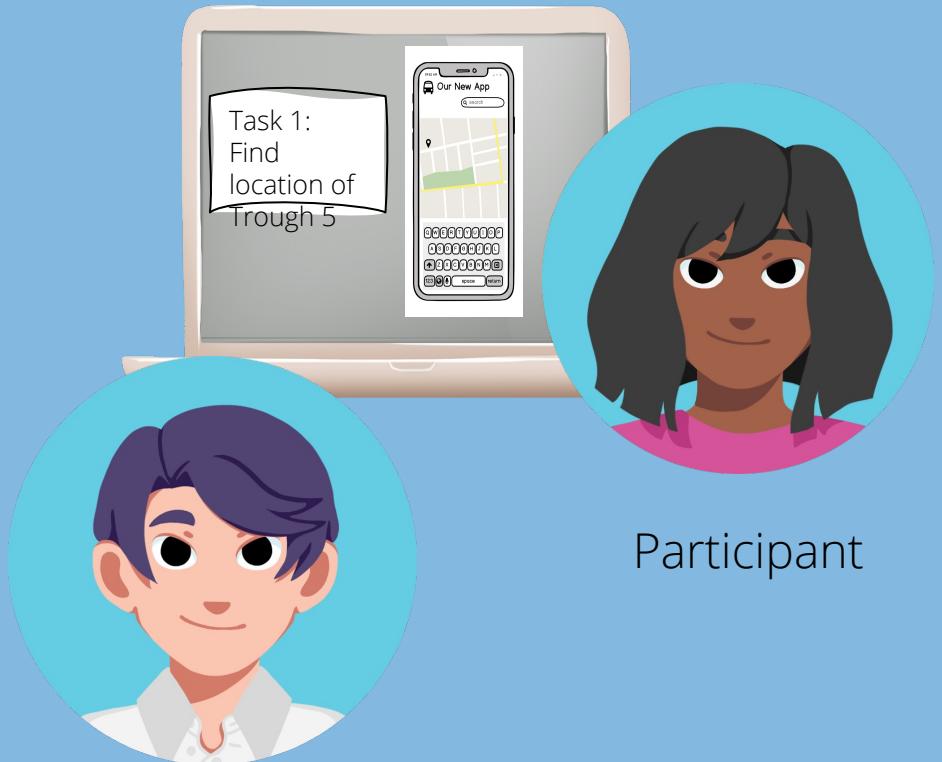


Representative user  
(aka Participant)

*[Helpful if user thinks aloud in activity]*

# User Evaluation

## Face-to-face evaluation

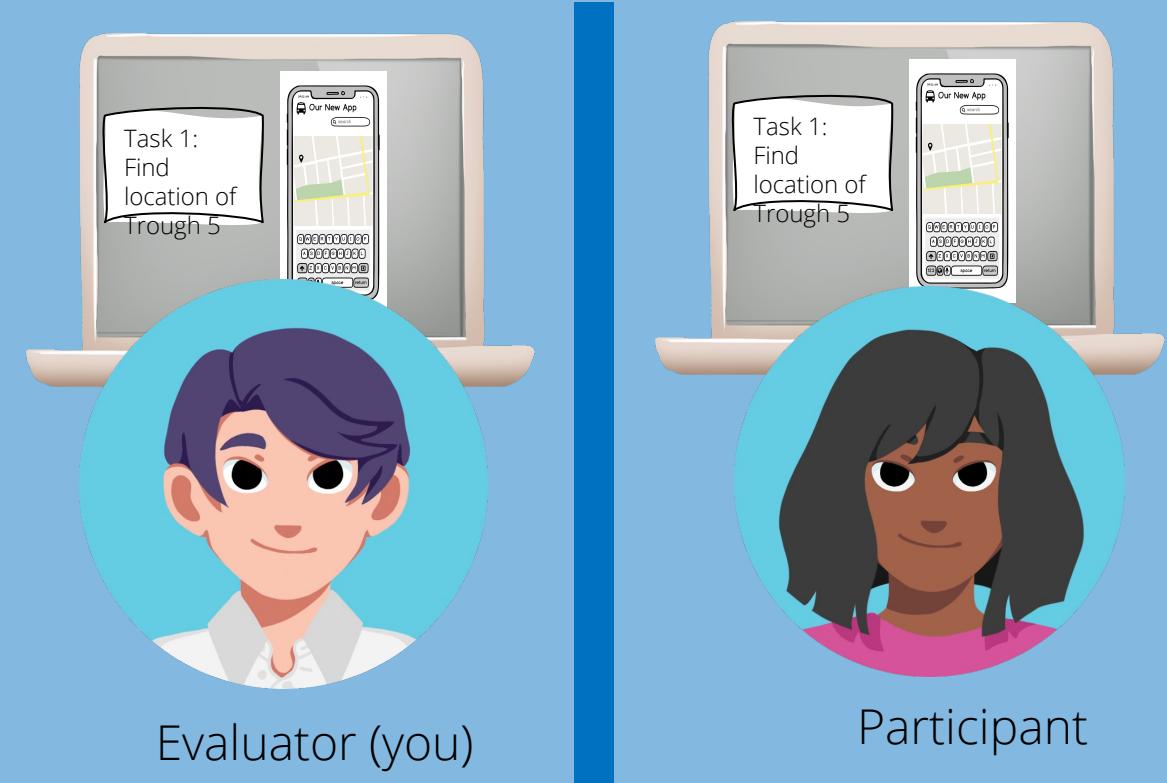


Evaluator (you)

Participant

Conduct evaluation in **same** location (as permitted by your local COVID guidelines)

## Remote evaluation

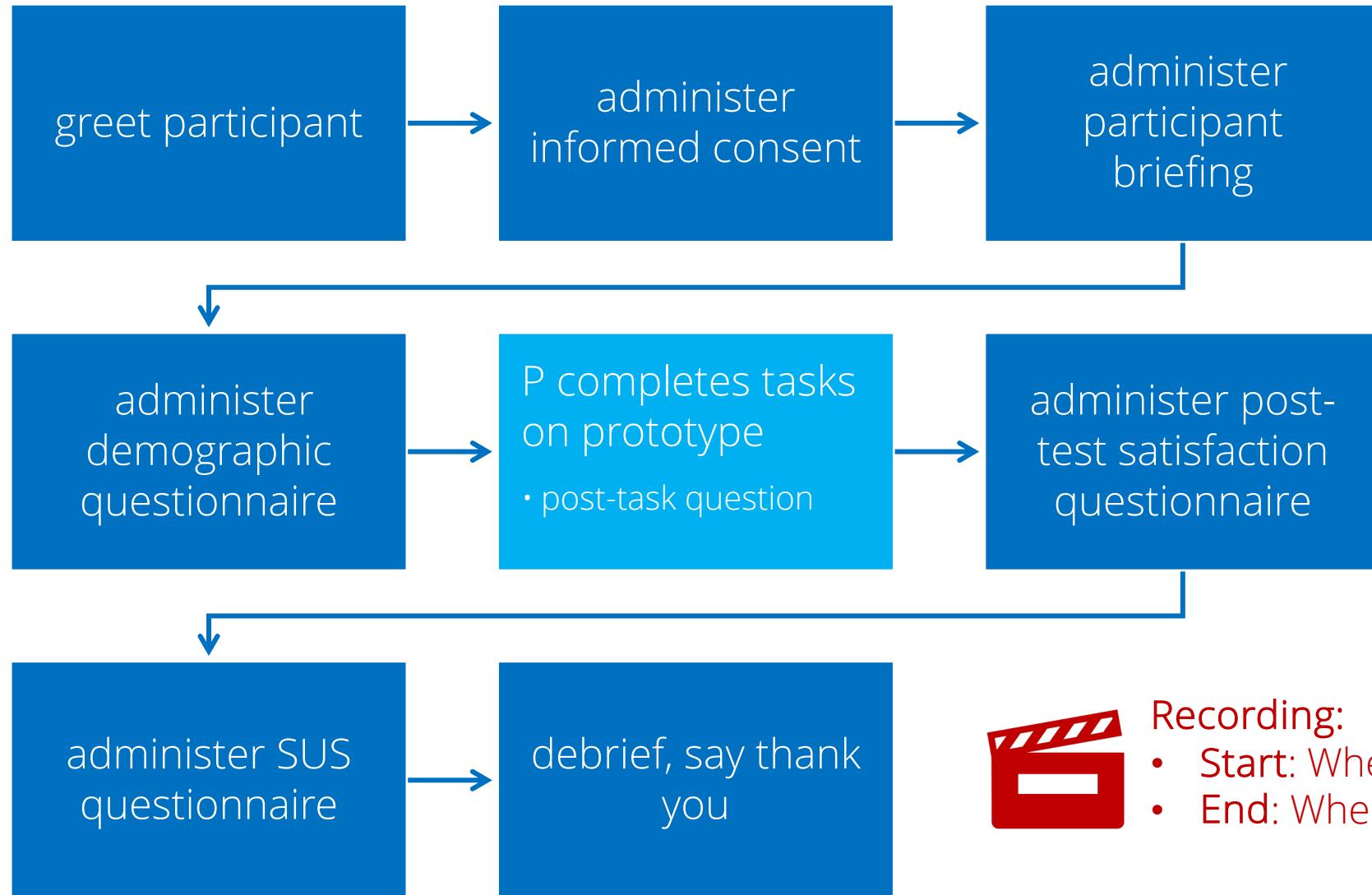


Evaluator (you)

Participant

Conduct evaluation in **different** location (i.e., via video conferencing software).

# User Evaluation: Procedure



## Recording:

- Start: When user starts first task
- End: When user finishes last task

# Recruit Participants

## Recruit participant

- For purpose of student project we do not **require** you to recruit representative users (can be family/friends)
- Make sure your demographic questionnaire has questions that distinguish between users/non-users
- One participant per team member

## Schedule evaluation

To: Linda Betts

Cc:

Bcc:

Subject: Phillipotts Usability Evaluation

From: Karola von Baggo - kvonbaggo@swin.edu.au

Signature: Signature #2

Message Size: 112 KB

Hi Lynda,

Thank you for agreeing to help me with my usability Evaluation.

Please find attached a PDF that we will use to help run the evaluation.

When we are ready to start I would appreciate it if you could have this PDF open.

I will email you a Meeting Link just before we are due to start our session. Click on the link and follow the instructions. If you do not have Skype for Business installed you will be asked to install a browser app (on some computers it may ask you to install the full app - no license required).

Thanks,  
Karola

Faculty of Science, Engineering and Technology

**User-Centred Design**

**Phillpotts Usability Evaluation**

Thank you for assisting us today in our website Usability Evaluation.

We will be conducting the evaluation over Skype for Business. You do not need Skype for Business to participate. I will send you a link to start our online session when it is time to do the evaluation.

Below are the links for the Usability Evaluation. I will facilitator will guide you through these as we progress through the Evaluation.

At some point during the evaluation I will ask you to share your screen with me. This will enable me to observe you working on our prototype. I will not have control over your screen, but I will be able to see it. To protect your privacy, please shut all applications/programs except for those required to do the evaluation.

To do this, click the share screen icon, it should look something like this:



Skype for Business screensharing icon

Please wait for further directions before clicking any of the links.

Step 1 - Informed Consent

Step 2 - Participant Briefing

# Set up evaluation

Give participant a PDF with links to your questionnaires etc

The image displays two side-by-side screenshots. On the left is a screenshot of a PDF document titled 'UCD Evaluation Participant Guide Philpotts.pdf' from a Mac OS X interface. The PDF content includes sections on 'User-Centred Design' and 'Usability Evaluation', instructions for using Skype for Business, and a list of six steps: Step 1 - Informed Consent, Step 2 - Participant Briefing, Step 3 - Questionnaire 1, Step 4 - Tasks, Step 5 - Questionnaire 2, and Step 6 - Questionnaire 3. A red callout box points to the link for 'Step 1 - Informed Consent'. On the right is a screenshot of a Google Form titled 'Philpotts UCD Evaluation Informed Consent'. This form contains project details, a thank you message, aims of the study, participant instructions, and a note about data collection. A red callout box points to the text 'When participant clicks on link it will open web page'.

Faculty of Science, Engineering and Technology

## User-Centred Design

### Phillpotts Usability Evaluation

Thank you for assisting us today in our website Usability Evaluation.

We will be conducting the evaluation over Skype for Business. You do not need Skype for Business to participate. I will send you a link to start our online session when it is time to do the evaluation.

Below are the links for the Usability Evaluation. I will facilitator will guide you through these as we progress through the Evaluation.

At some point during the evaluation I will ask you to share your screen with me. This will enable me to observe you working on our prototype. I will not have control over your screen, but I will be able to see it. To protect your privacy, please shut all applications/programs except for those required to do the evaluation.

To do this, click the share screen icon, it should look something like this:



Skype for Business screensharing icon

Please wait for further directions before clicking any of the links.

**Step 1 - Informed Consent**

**Step 2 - Participant Briefing**

**Step 3 - Questionnaire 1**

**Step 4 - Tasks**

**Step 5 - Questionnaire 2**

**Step 6 - Questionnaire 3**

Thank you for assisting with our Usability Evaluation.

When participant clicks on link it will open web page

Philpotts UCD Evaluation Informed Consent

COS20001/COS70004 User Centred Design Student Project

Project Title: Sandwich Ordering Evaluation  
Principal Investigator(s): Karola von Baggo, Kaber Naznin, Ruchi Sembey, Ed Greenaway  
Kenneth Igbo, Harsharan Kaur, Andrew O'Connor  
Group: UCD Tutors  
Tutorial Day, Time, Semester, Year: Semester 1, 2020

Thank you coming to the Usability Laboratory and helping us with this project.

The aim of the project is to help us evaluate Philpott's sandwich ordering website. In this study we hope to identify any problems that people might have ordering sandwiches from this website. This project is being undertaken by the Swinburne University of Technology Usability tutors whose names appear at the top of this form.

Should you agree to participate in this study you will be asked to put yourself in the place of a person who wants to order a sandwich for their office. You will be asked to order sandwiches from the website. You will not be required to use your personal details, we will supply you with the details you need to complete the tasks if required.

At the end of the study we will ask you to fill out some questionnaires. The first is to ask you for your opinion about how you found using the system you just tried, and the second is to collect information about you and your previous experiences with technology which will help us interpret the data we collect.

We anticipate that the study will take 10-15 minutes to complete.

We may make audio and video recordings of all the evaluation sessions. Members of the usability tutorial will also be present and taking notes in the observation room adjacent to the laboratory itself. We will protect your confidentiality in any reporting of the study.

You are free to end your lab session at any time without giving a reason, or you may tell us your reasons if you wish.

We ask that you next read and sign our consent form.

If you have any questions about the study, this document, or the consent form, please do not hesitate to ask them.

Again, we thank you for helping us in this project.

If you have any concerns please contact:  
Karola von Baggo (Lecturer and Convener of User Centred Design)  
Faculty of Science Engineering and Technology  
Swinburne University of Technology  
PO Box 218, Hawthorn, Victoria 3122  
(Tel.) 9214 8437 Email: [Kvonbaggo@swin.edu.au](mailto:Kvonbaggo@swin.edu.au)

Please add your email address below for a copy of this information for your own reference.

Faculty of Science, Engineering and Technology

# User-Centred Design

## Phillpotts Usability Evaluation

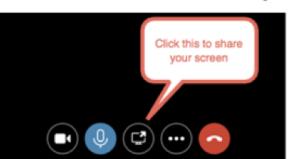
Thank you for assisting us today in our website Usability Evaluation.

We will be conducting the evaluation over Skype for Business. You do not need Skype for Business to participate. I will send you a link to start our online session when it is time to do the evaluation.

Below are the links for the Usability Evaluation. I will facilitator will guide you through these as we progress through the Evaluation.

At some point during the evaluation I will ask you to share your screen with me. This will enable me to observe you working on our prototype. I will not have control over your screen, but I will be able to see it. To protect your privacy, please shut all applications/programs except for those required to do the evaluation.

To do this, click the share screen icon, it should look something like this:



The image shows a dark grey rectangular button with several circular icons at the bottom. A red speech bubble points to one of these icons with the text "Click this to share your screen". The icons include a video camera, a microphone, a screen, three dots, and a refresh symbol.

*Skype for Business screensharing icon*

Please wait for further directions before clicking any of the links.

***Step 1 - Informed Consent***

***Step 2 – Participant Briefing***

***Step 3 – Questionnaire 1***

***Step 4 – Tasks***

***Step 5 – Questionnaire 2***

***Step 6 – Questionnaire 3***

Thank you for assisting with our Usability Evaluation.

Philpotts UCD Evaluation Inform X General Instructions +

Most Visited Canvas Doubtfire Google Google Scholar News Swinburne FIRST Other Trello Mail

# General Instructions

COS20001/COS70004 User Centred Design Student Project

**Project Title:** Sandwich Ordering Evaluation  
**Principal Investigator(s):** Karola von Baggio, Kaberi Naznin, Ruchi Sembey, Ed Greenaway, Kenneth Igbo, Harsharan Kaur, Andrew O'Connor  
**Group:** UCD Tutors  
**Tutorial Day, Time, Semester, Year:** Semester 1, 2020

Remember, this study is totally voluntary. Although we don't know of any reason for this to happen, if you become uncomfortable or find this objectionable in any way, feel free to quit at any time.

You're helping us by trying out this product. We're testing the product; We're not testing you. We're looking for places where the product may be difficult to use. If you have trouble with some of the tasks, it's the product's fault, not yours. Don't feel bad; that's exactly what we're looking for. If we can locate the trouble spots, then we can go back and improve the product.

Please note that our product is a prototype and as such some features may be simulated such as; The website may not allow ordering online any more, and you will need to find alternative ways to complete the task. Typing on the screen is done via the computer keyboard, Hand touch is down by using the mouse left click.

We have found that we get a great deal of information from these informal observations if we ask people to think aloud as they work through the exercises. It may be a bit awkward at first, but it's really very easy once you get used to it. All you have to do is speak your thoughts as you work. You can perhaps think of this as "talking to yourself" about what's going on – what you are thinking about, what you are looking for on the screen, why you're looking for it, what you expect to see and to happen next, and so on. If you forget to think aloud, we'll remind you to keep talking.

You will be asked to complete a number of tasks. Read the task out aloud. When you think you understand the task please say 'Ready'. We will then ask you to start the task. When you have finished please let us know by saying 'Finished'. We may ask you to start the next task before you have finished your current task. When this happens, it does not mean that you have failed to complete the task. Sometimes we have learned all we need about how the product works for that task. We would rather go on to the next task than to waste your time.

If you feel you need help with something, please ask and we will attempt to answer your question.

**Submit**

This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy

Google Forms

Ideally have both windows easily accessible

ed Skype for  
ime to do the

ugh these as

is will enable  
een, but I will  
cept for those

Use Participant code  
number to help maintain  
Privacy

# UCD Evaluation Demographic Questionnaire

Project Title: Sandwich Ordering Evaluation  
Principal Investigator(s): Karola von Baggo, Kaberi Naznin, Ruchi Sembey, Ed Greenaway, Kenneth Igbo, Harsharan Kaur, Andrew O'Connor

The purpose of this questionnaire is to find out a few things about you. This will help us interpret our results. Please tick the option that best describes you.

\*Required

**Participant Number \***

Your answer \_\_\_\_\_

Which of the following includes your age?

18 - 24  
 25 - 34  
 35 - 49  
 50 - 64  
 65+

What is your Gender

Female  
 Male  
 Other: \_\_\_\_\_

In the last year, how many times have you bought something over the internet?

I have never bought anything over the internet  
 1 - 2 items

- If using a website link to access your prototype try to get them to open in new webpage
- Ideally participant has two windows open – one with prototype and one with tasks

UCD Evaluation Tasks

\*Required

**Task 1 - Find a price**

Please read the following task. When you are ready to start please say "Ready".

Imagine you are ordering lunch for you and a few of your friends.

Using the Philpot's sandwich shop website (<http://www.philpots.co.uk/>) find the price of a VEGAN CORONATION CAULIFLOWER.

Ideally P should right click and open link in new window

Open Link in New Tab  
Open Link in New Window  
Open Link in New Private Window  
Bookmark This Link  
Save Link As...  
Save Link to Pocket  
Copy Link Location  
Search DuckDuckGo for "http://www.phil..."  
Send Link to Device  
Inspect Element

**Task 1 - Please rate the difficulty of this task:** \*

1	2	3	4	5	
Very Easy	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Very Hard

Back      Next

Page 2 of 3

Never submit passwords through Google Forms.

This content is neither created nor endorsed by Google. Report Abuse - [Terms of Service](#) - [Privacy Policy](#)

Google Forms

# P completes tasks

- Ideally participant has two windows open – one with prototype and one with tasks

The image shows two overlapping browser windows. The left window is a Google Form titled 'UCD Evaluation Tasks' containing a task to find a price for a vegan sandwich. The right window is a website for 'Philpotts' sandwich shop, which is currently closed. A red speech bubble points from the task in the Google Form to the closed sign on the Philpotts website, indicating that the participant is performing the task while viewing the prototype.

**Participant does task and completes rating...**

**UCD Evaluation Tasks**  
Task 1 - Find a price  
Please read the following task. When you are ready to start please say "Ready".  
Imagine you are ordering lunch for you and a few of your friends.  
Using the Philpott's sandwich shop website (<https://www.philpotts.co.uk>) find the price of a VEGAN CORONATION CAULIFLOWER.

What is the cost of the order?  
Your answer

Task 1 - Please rate the difficulty of this task: \*  
1 2 3 4 5  
Very Easy      Very Hard

Back Next      Page 2 of 3

Never submit passwords through Google Forms.  
This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy  
Google Forms

**Philpotts UCD Evaluation Info**   **General Instructions**   **UCD Evaluation Demographic**   **Philpotts - Home**

EST. 1965 **PHILPOTTS** MADE FOR YOU

MENU LOCAL STORE LOGIN/REGISTER

Book your business meals before 10am for same day delivery - collection also available. Need help? Contact your local store

**WE ARE TEMPORARILY CLOSED UNTIL FURTHER NOTICE**

Philpotts have been closely following the guidance of the government and health officials. In line with the directive issued by government, we have closed all Philpotts stores across the UK.

We will open again as soon as the advice tells us it is safe to do so. In the meantime, keep safe, stay well and look after each other.

**Meetings & Events**   **New & tasty!**   **Made For You In Store**

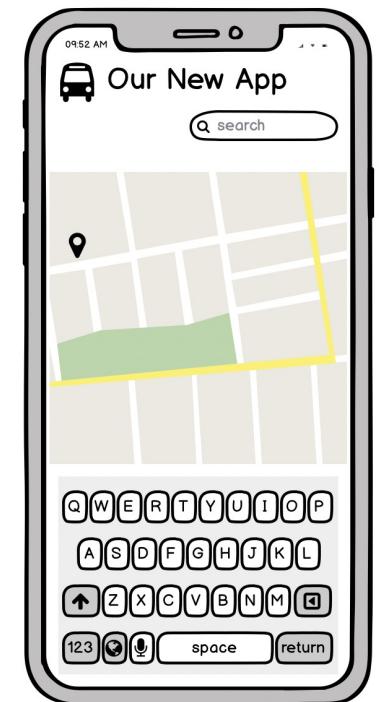
# Start recording

- Make sure you test your video/screen capture software before evaluation



# User Evaluation: moderation

- Try to get the participant to think aloud about what they are doing.
- Don't give help until they are really stuck, they are getting upset, or there is a problem with prototype that makes task impossible



# Stop recording

- Stop recording after tasks complete
- Recording submitted individually for Usability Evaluation Video Recording

A large, solid gray square containing the word "STOP" in white, sans-serif capital letters.

STOP

Faculty of Science, Engineering and Technology

## User-Centred Design

### Philpotts Usability Evaluation

Thank you for assisting us today in our website Usability Evaluation.

We will be conducting the evaluation over Skype for Business. You do not need Skype for Business to participate. I will send you a link to start our online session when it is time to do the evaluation.

Below are the links for the Usability Evaluation. I will facilitator will guide you through these as we progress through the Evaluation.

At some point during the evaluation I will ask you to share your screen with me. This will enable me to observe you working on our prototype. I will not have control over your screen, but I will be able to see it. To protect your privacy, please shut all applications/programs except for those required to do the evaluation.

To do this, click the share screen icon, it should look something like this:

Skype for Business screensharing icon

Please wait for further directions before clicking any of the links.

**Step 1 - Informed Consent**

**Step 2 – Participant Briefing**

**Step 3 – Questionnaire 1**

**Step 4 – Tasks**

**Step 5 – Questionnaire 2**

**Step 6 – Questionnaire 3**

Thank you for assisting with our Usability Evaluation.

Participant clicks on Questionnaire 2 to get next Questionnaire... and so on.

System Usability Scale Questionnaire

COS20001/COS70004 User Centred Design Student Project  
Project Title: Sandwich Ordering Evaluation  
Principal Investigator(s): Karola von Baggo, Kaberi Naznin, Ruchi Sembay, Ed Greenaway, Kenneth Igbo, Harsharan Kaur, Andrew O'Connor  
Group: UCD Tutors  
Tutorial Day, Time, Semester, Year: Semester 1, 2020

Please tick the option that best represents your reaction to the system.  
Don't think too hard about each question. We are interested in your first reaction.

\*Required

ID. Participant ID (we will tell you what to put for this Question) \*

Your answer

1. I think that I would like to use this system frequently. \*

0	1	2	3	4
---	---	---	---	---

Strongly Disagree      Strongly Agree

2. I found the system unnecessarily complex. \*

0	1	2	3	4
---	---	---	---	---

Strongly Disagree      Strongly Agree

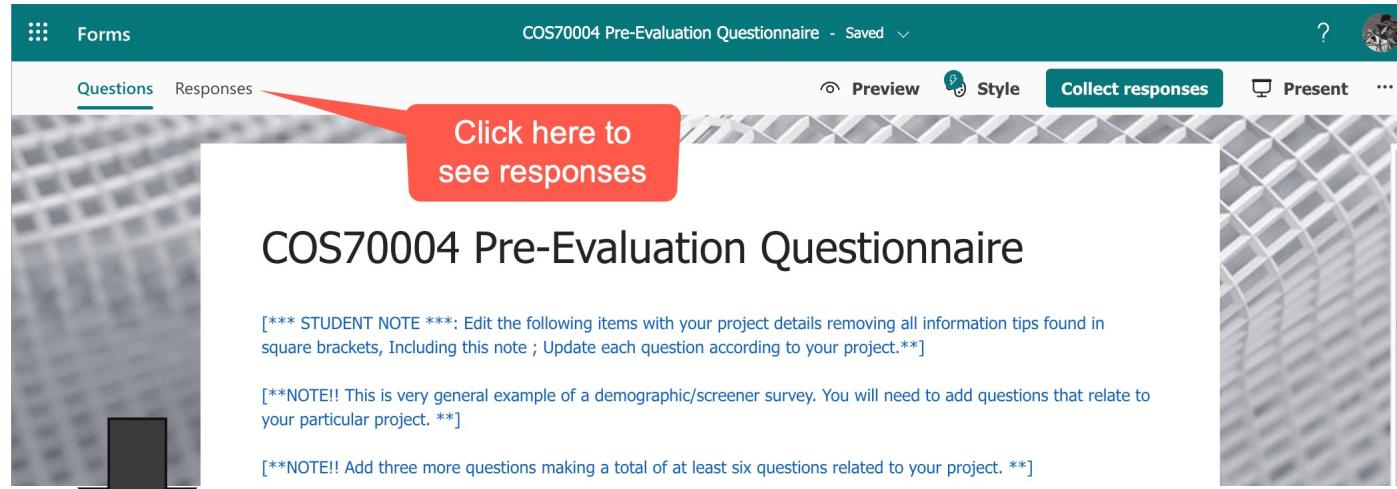
3. I thought the system was easy to use. \*

0	1	2	3	4
---	---	---	---	---

Strongly Disagree      Strongly Agree

4. I think that I would need the support of a technical person to be able to use

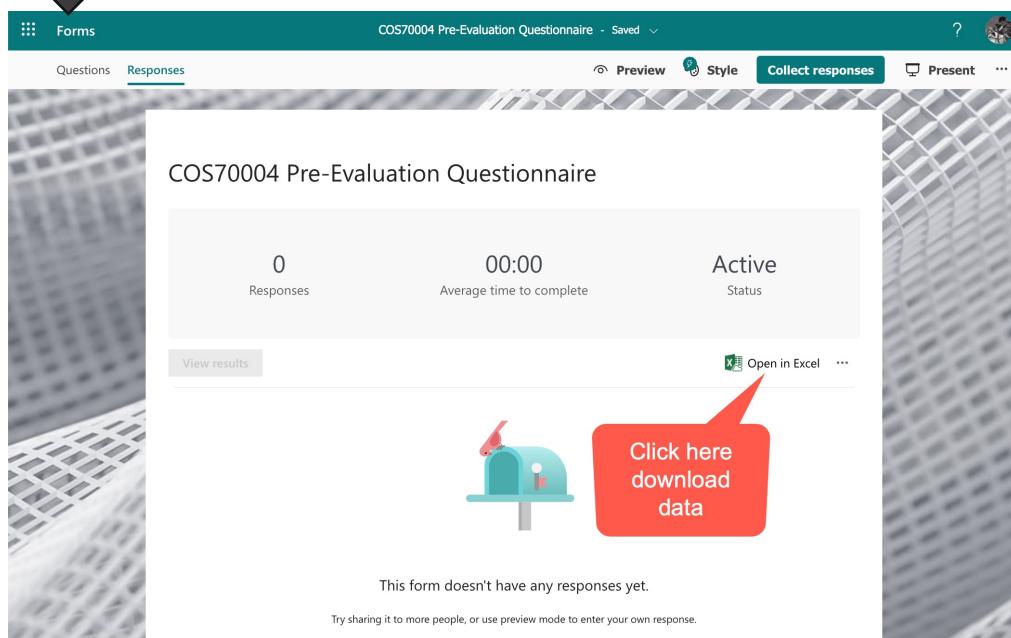
# Getting access to the data



A screenshot of the Microsoft Forms interface for the "COS70004 Pre-Evaluation Questionnaire". The top navigation bar shows "Forms", the form title, and various buttons like "Preview", "Style", "Collect responses", and "Present". A red callout box with the text "Click here to see responses" points to the "Responses" tab. Below the header, the form title "COS70004 Pre-Evaluation Questionnaire" is displayed. There are three blue note-like boxes containing instructions: one about student notes, one about project-specific questions, and one about adding more questions. A large black arrow points downwards from the "Responses" tab towards the second screenshot.

You will have access to the data from your evaluation

Note: See video in Week 10 module that shows how to calculate SUS score from spreadsheet.



A screenshot of the Microsoft Forms interface for the same questionnaire. The "Responses" tab is selected, showing statistics: 0 Responses, 00:00 Average time to complete, and Active Status. A red callout box with the text "Click here download data" points to the "Open in Excel" button. Below the stats, it says "This form doesn't have any responses yet." and "Try sharing it to more people, or use preview mode to enter your own response."



Do not use data summaries/charts created by MS Forms

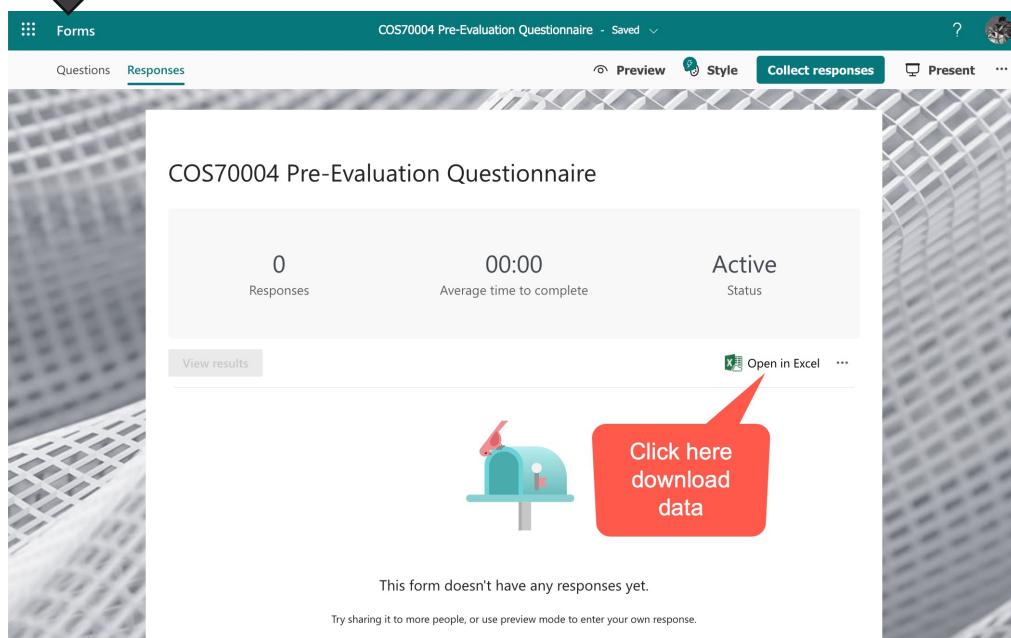
# Getting access to the data



A screenshot of the Microsoft Forms interface for a form titled "COS70004 Pre-Evaluation Questionnaire". The "Responses" tab is selected. A red callout box with the text "Click here to see responses" points to the "Responses" tab. The main content area displays the form title and three notes: "\*\*\*\* STUDENT NOTE \*\*\*\*: Edit the following items with your project details removing all information tips found in square brackets, Including this note ; Update each question according to your project.\*\*]", "[\*\*NOTE!! This is very general example of a demographic/screening survey. You will need to add questions that relate to your particular project. \*\*]", and "[\*\*NOTE!! Add three more questions making a total of at least six questions related to your project. \*\*]". A large black arrow points downwards from the top of the slide towards this screenshot.

You will have access to the data from your evaluation

Note: See video in Week 10 module that shows how to calculate SUS score from spreadsheet.



A screenshot of the Microsoft Forms interface for the same form. The "Responses" tab is selected. It shows 0 responses, an average time to complete of 00:00, and an active status. A red callout box with the text "Click here download data" points to the "Open in Excel" button. The main content area says "This form doesn't have any responses yet." and "Try sharing it to more people, or use preview mode to enter your own response."



Do not use data summaries/charts created by MS Forms

# User Evaluation

What are the advantages of user evaluations?

What are the disadvantages?



# Usability Requirements

Specifies expected user performance and attitude towards user interface.

Functional requirement – user interface has a feature

vs

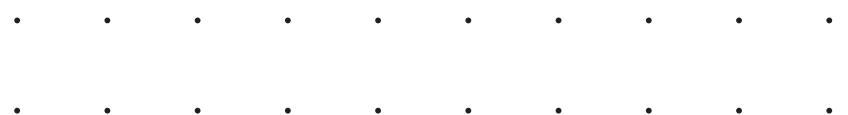
Usability requirement – user can use a feature

Just because UI has feature does not mean user can find or use it!

Degree to which a product or system can be used by specified users to achieve specified goals with

- effectiveness,
- efficiency and
- satisfaction

in a specified context of use.



# Usability Requirement



Identify Context of use (e.g., users, goals and environment)

Current gym member, familiar with exercises  
Recording sets and reps, wants to tracking progress  
Mobile phone with poor indoor reception



Specify Usability goal (effectiveness, efficiency, satisfaction)

Effectiveness



List Method you are using to assess the requirement (e.g., performance on a task or rating on a questionnaire)

Task - Record exercise type, weight, sets and reps achieved



List What you are measuring (aka the metric) (e.g., task completion, time taken to complete task, difficulty rating etc)

Proportion of participants who correctly record exercise



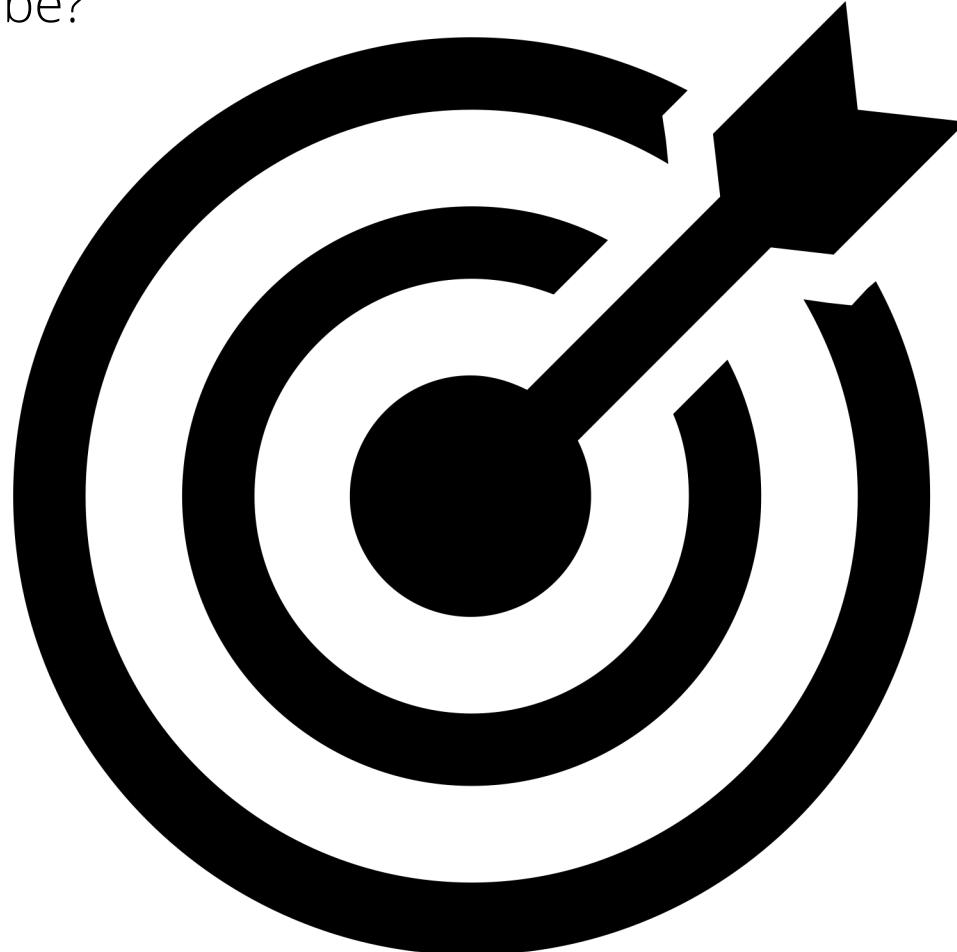
Get Target performance - what level of performance is acceptable for the function to be considered usable

80%

# Targets

How good does performance have to be?

- Business case
- Competitive testing
- Expert testing



# Example: Gym exercise recording app for iPhone

The following is an example of some usability requirements (including target values) for a Gym exercise recording app.

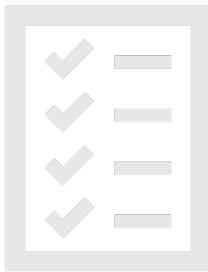
User Role	Usability Goal	Measuring Instrument	Metric	Target
Current Gym member	Effectiveness	Task: Imagine you have just completed three sets of bicep curls with 5 kg weights. In the first set you managed 15 reps, in the second 14 reps, and in the third 12 reps. Update the app with this information.	Proportion of users who complete task without assistance	80%
Current Gym member	Efficiency	Task: Imagine you have just completed three sets of bicep curls with 5 kg weights. In the first set you managed 15 reps, in the second 14 reps, and in the third 12 reps. Update the app with this information.	Average unassisted task completion time (sec)	10 sec
Current Gym member	Satisfaction	Task: Imagine you have just completed three sets of bicep curls with 5 kg weights. In the first set you managed 15 reps, in the second 14 reps, and in the third 12 reps. Update the app with this information.	Average task difficulty rating (1 = very easy, 5 = very hard)	2.5 or less



You will need one of these tables for each task

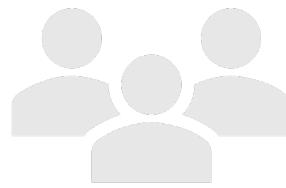
Current Gym member	Satisfaction	System Usability Scale (SUS)	Average SUS score	68 or higher
--------------------	--------------	------------------------------	-------------------	--------------

# Before next week



## Prepare for UCD 4: User Evaluation

- Do Ethics Test (10 MCQ – individual, medium difficulty)
- Prepare informed consent (easy)
- Write usability evaluation tasks (important)
- Draft demographic and post test satisfaction questionnaires



## Book Participant to do your user evaluation in Week 10 (one team member = one participant)

- Participant does NOT have to be a member of user group for the purpose of this assessment
- Video of your evaluation to be submitted individually