User Interaction

COMPSCI2031

Dr Ilyena Hirskyj-Douglas

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Lecture Attendance

- Lectures are recorded
- Attendance Code

- Notes about room

Who am I?

- Lecturer: Dr Ilyena Hirskyj-Douglas
  - Email: ilyena.hirskyj-douglas@glasgow.ac.uk
  - Background: Human-Computer Interaction

  - Animal-Computer Interaction
  - Social AR

User Interaction Schedule

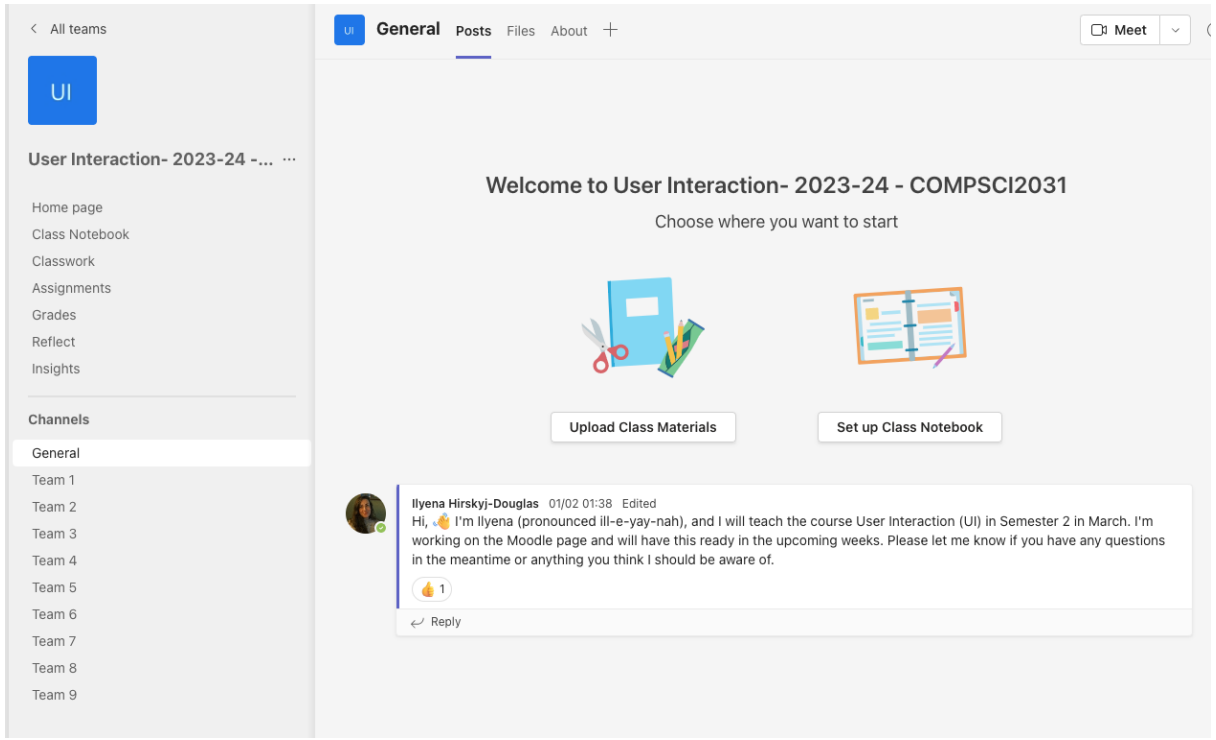
- 4 weeks of classes
- Lecture & Labs 10:00-12:00
  - Over Zoom and in person
  - Recordings and slides available on Moodle

Assessments

- Presentation: 5% of overall grade (Due 9th April, Opens 31st March)
- Evaluation: 20% of overall grade (Due 18th April, Opens 31st March)
- Class Test: 15% of overall grade (Opens 23rd April, Due 23rd April)
- Exam: 60% of overall grade

Lab Groups

- The lab is divided into groups
- You should also have a group space on Teams
- We will form groups later today



What is Examinable?

- All assigned readings as listed in Moodle
- All text of lecture slides/ things said

What is not examinable?

- Links provided in lecture slides labelled as ”For Reference”

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Feedback

- End of Week 2, we'll ask you for some course feedback.
- Based on a 'traffic light' system:
  - What would you like me to do less of?
  - What would you like me to continue doing?
  - What would you like to see more of?
- I'll also ask how you're getting on with the course content.

Last Years Feeback

Summary of student comments
Positive feedback
Ilyena passionate, knowledgeable, engaging, and in-depth knowledge on the subject.
Ilyena encouraged class participation, accountability and provided good timely feedback.
Class taught well and exampled helped structure the learning.

Issues raised in EvaSys ques
A person to sense-check the questions in the class quizz
Want to create/design front-end systems and learn from this
Introduce casual anonymous quizzes at the start of each lecture

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Class rep

- ?

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Feedback

- In April, you'll be asked to complete standardised course evaluation questionnaires via the EvaSys system.
  - As before, please ignore these until the teaching is done
- However, you can give me feedback on this course **anytime** –email me or catch me after class.
- You should also come to Matthew Barr (as programme director) with **any** feedback or concerns about the GA programme as a whole.
- You can also speak to your class rep…

Topics Covered: User Interaction Topics

1. HCI History and Introduction
2. Usability and Heuristics
3. Heuristic Evaluation and Human Cognition
4. Human Perception and Capabilities
5. Experimental Design & Variables Research
6. Personas and Scenarios
7. Surveys in HCI
8. Ethnography
9. Statical Methods
10. Theories in HCI
11. Models of Interaction
12. Large Scale and Mobile HCI
13. User-Centered Design
14. Ethics in User Testing
15. Revision & Example Exams
16. Class Test

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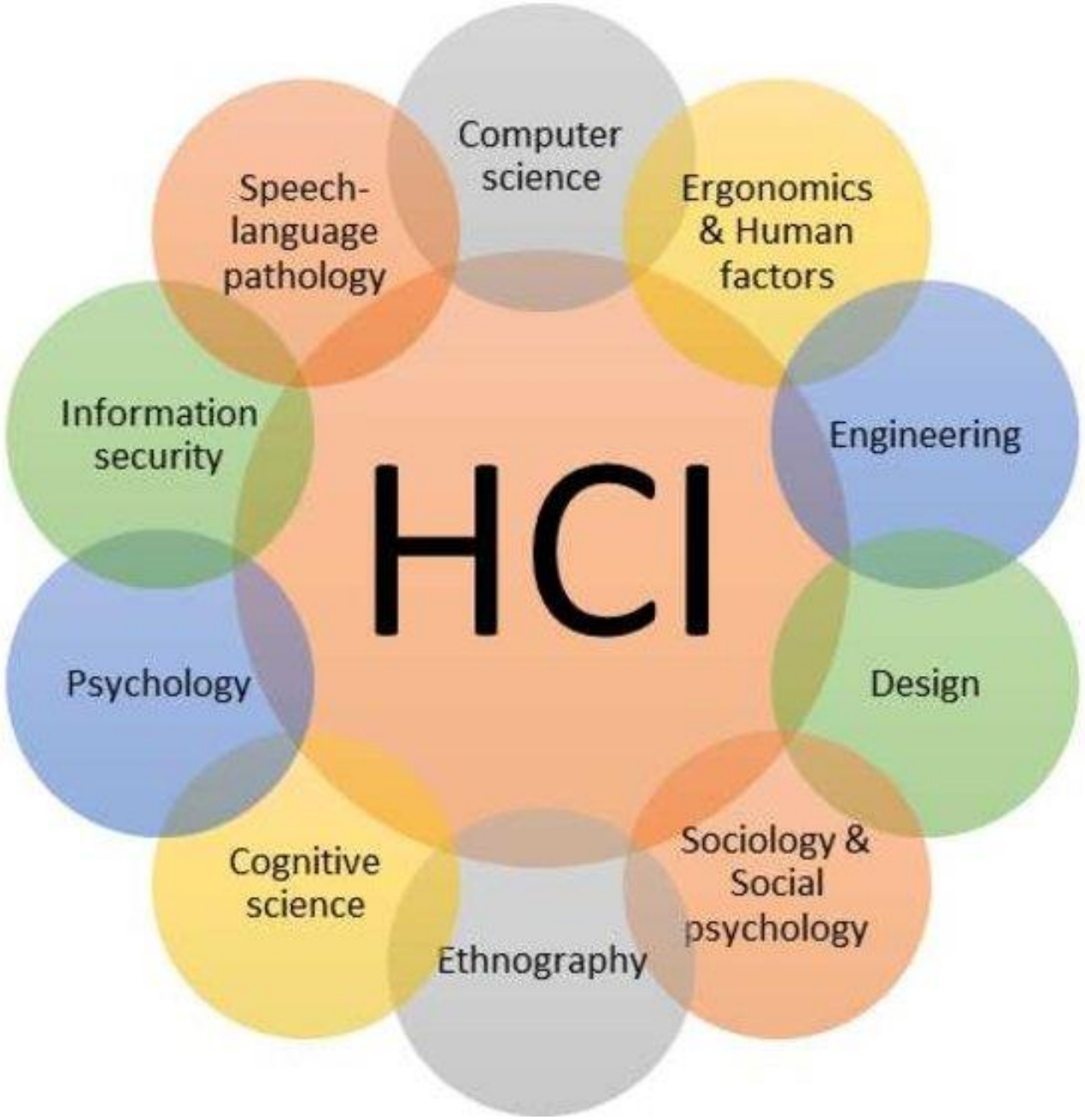
HCI History and Introduction

- HCI (Human-Computer Interaction)
- Broad term
- Lots of sub-fields
- Highly interdisciplinary



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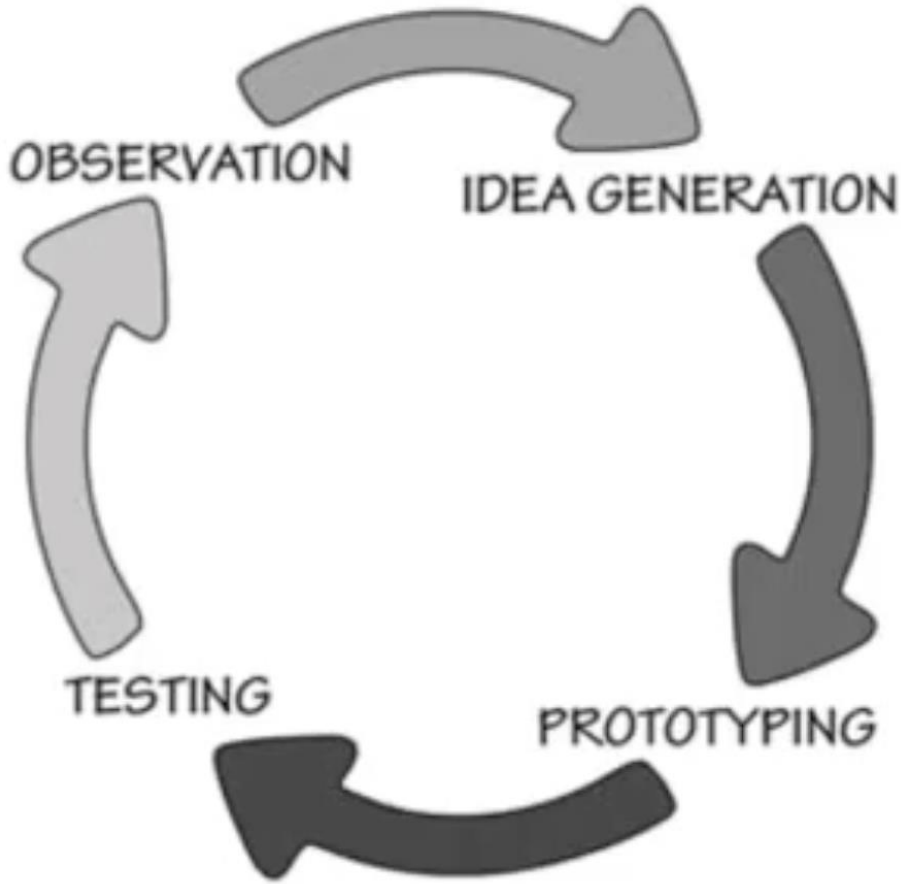

The Iterative Cycle of Human-Centered Design

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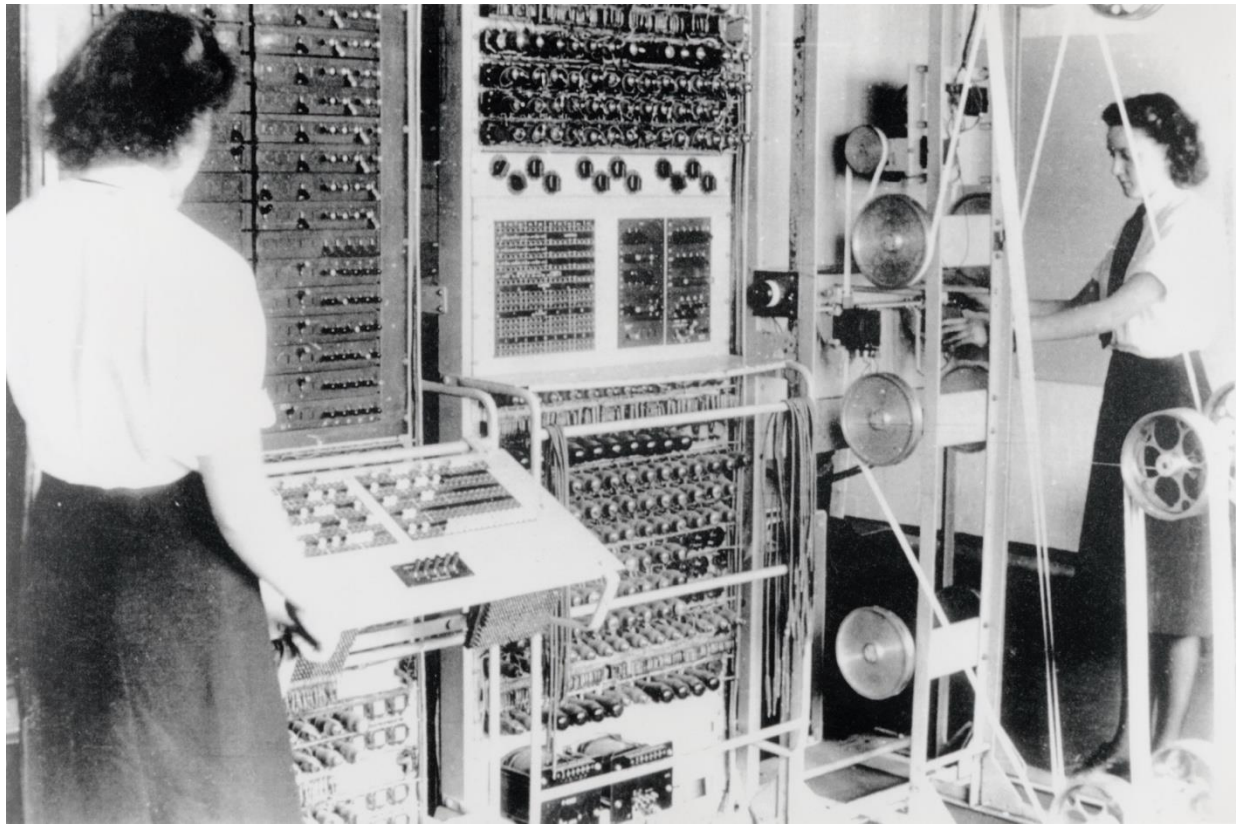
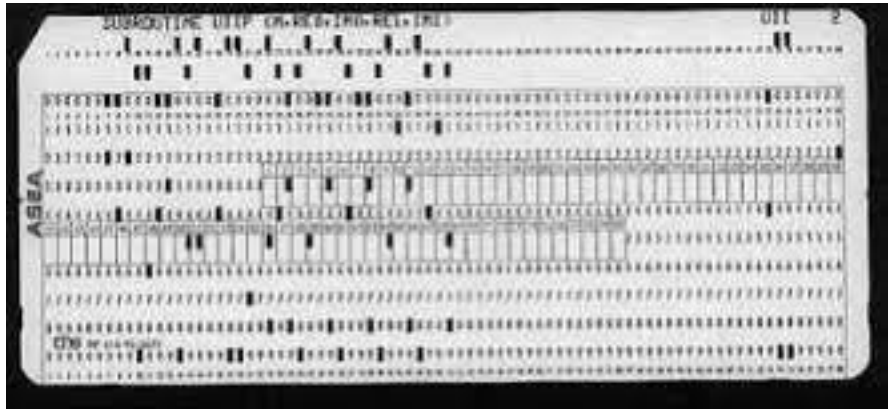
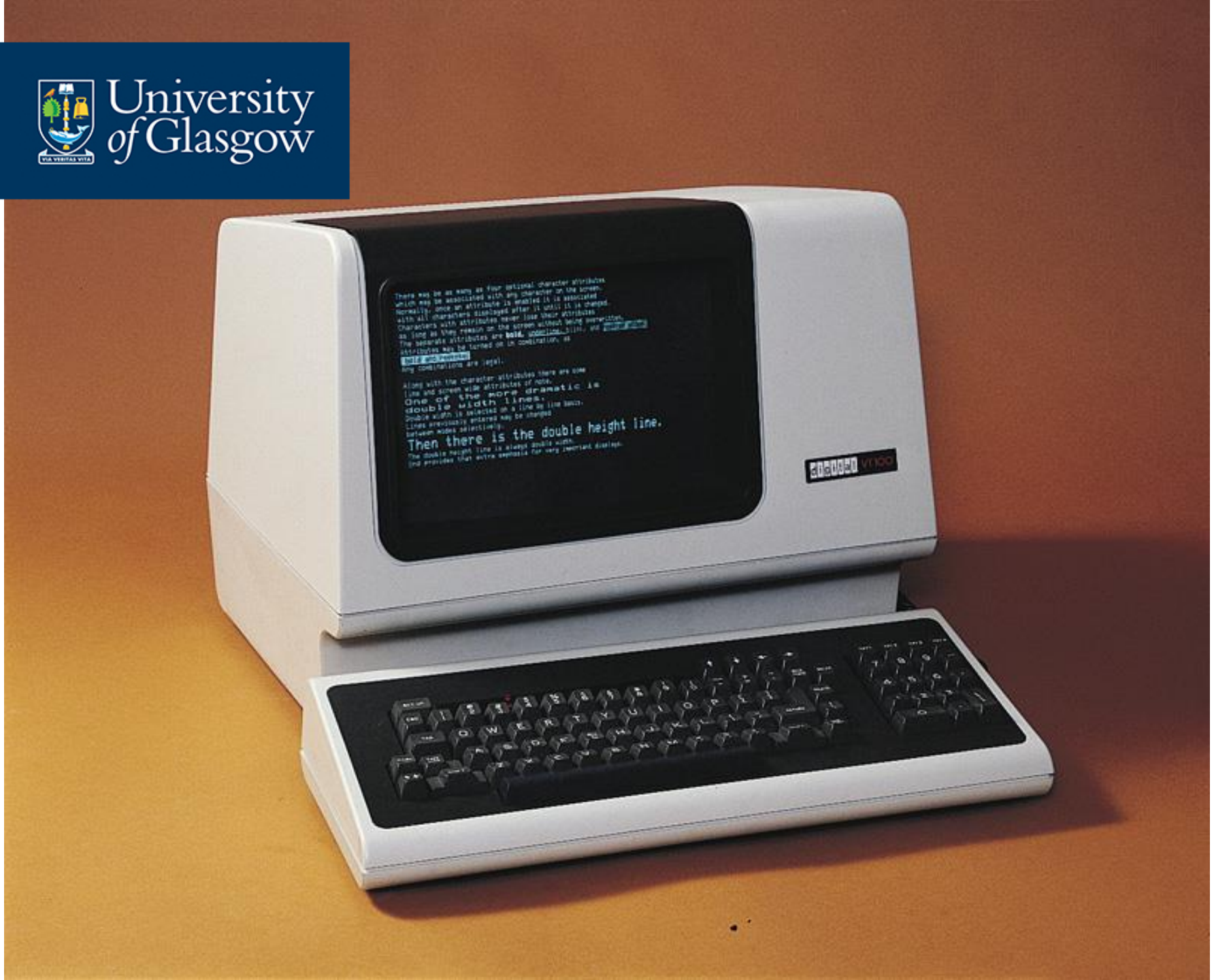
History of HCI



Colossus (1940s) – Bletchley park code breaking



Programming punch card, IBM Fortran



UNIX Computer
Command Line Interface

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History of HCI

- HCI generally thought of as beginning in early 1980s
  - Although studies were done before this that in retrospect followed ‘HCI’ methods and principles
  - Conferences began
  - Influential textbooks
  - Emergence of the Graphical User Interface

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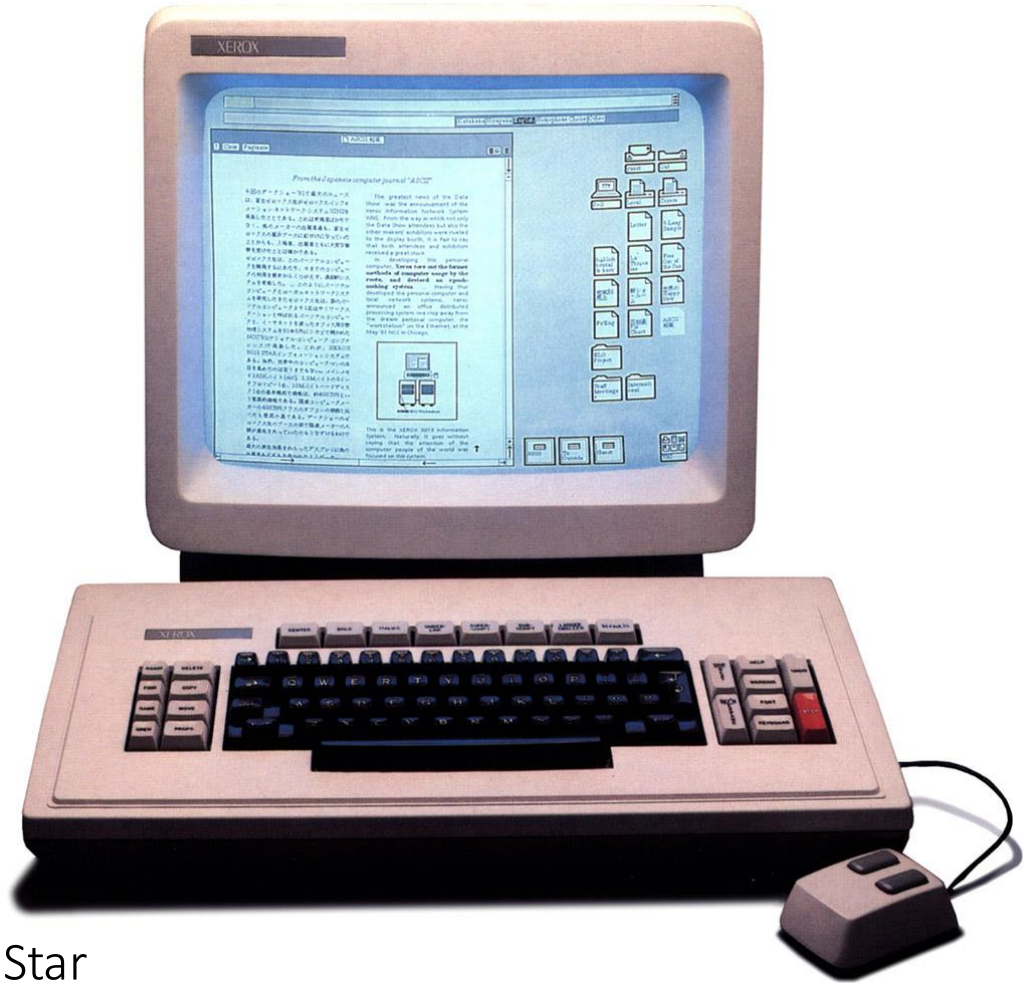
Emergence of Graphical User Interface (GU

Emergence of Graphical User Interface (GU



Xeros Star

- Xero Start – 1981
  - First GUI computer released
  - Bit-mapped display
  - WIMP, WYSIWYG
  - Desktop Metaphor
  - Yet not a commercial success
    - Very expensive; network terminal, not ‘personal’ computer

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Evolution of Computers

Evolution of the Mac
First in 1984

- Bring the GUI to a wider audience

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Broadening of HCI Topics

- 1980s: early research often looking at efficiency
  - E.g. measure speed and accuracy
  - Lab-based studies
  - Formal experiments
- 1990s: field started to broaden, alongside importance of internet
  - Emails, Web: topics related to communication
- 2000s: Mobile/ portable computing
  - Real world studies ‘in the wild’
  - New technologies: sensors, wearable, VR/AR
  - Study social, emotional, cultural issues
  - ”Older” forms of research, though, have not gone away

Broadening Methods

- Technology pushed progress here as well
- Eye tracking studies, EEG
- Large-scale studies, users' own devices
- From early studies that times task/ counted errors
- Brought in techniques more from sociology than psychology
  - Ethnography
  - Interviews
  - Case Studies

HCI has progressed in three “Waves”

- First Wave: Psychology and Perception
- Second Wave: Organisational and Process Oriented
- Third Wave: Social and Ubiquitous
- Fourth Wave?

For Reference: https://dl.acm.org/citation.cfm?id=1182476 Susanna Bødker “When second wave HCI meets third wave challenges”
Reference: TED Talk on Future of HCI: https://www.youtube.com/watch?v=t_ZzhadA3DY&t=605s

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The Things You See Around You Today Are Not There by Random Chance

- The interfaces familiar with us may seem easy to design but are the result of many attempts and many failed designs.

Image: “How the computer sees us” from Physical Computing

Topics Covered: User Interaction Topics

✅

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- Revision & Example Exams

Questions?
Comments?
Concerns?

Break!

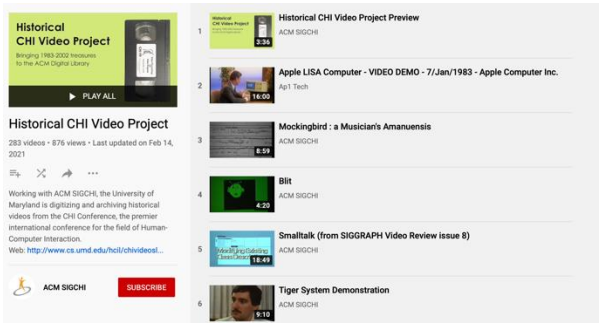
Like Twitter?

Enjoy a doom scroll on me:

tinyurl.com/hcihistory

HCI History Task:

- CHI Conference Historic Videos
- https://www.youtube.com/playlist?list=PLqhXYFYmZ-VeryE_-sJuc0oo1e_szTkTa



- In your groups, answer the following questions:
  - **Q1: How has HCI progressed since then?**
  - **Q2: Is there anything in this video that remains unsolved or under researched in HCI?**

- 30 mins: Then come back as a group and share the findings.

HCI History Task: Class Discussion

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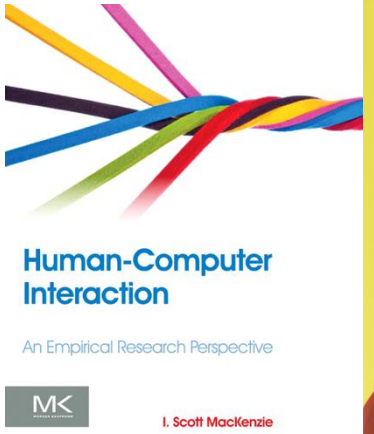
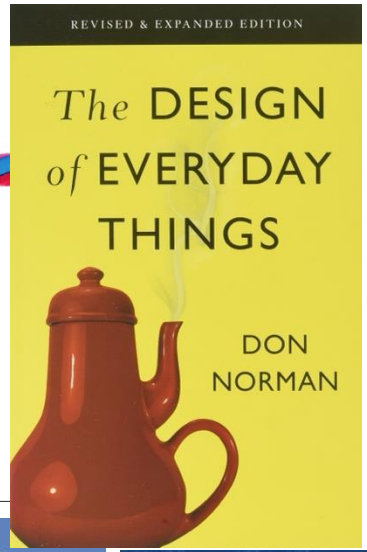
Reading

- Full reading list on Moodle and links to library books






Using the Fun Toolkit and Other Survey Methods to Gather Opinions in Child Computer Interaction

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ABSTRACT
The paper begins with a review of some of the current literature on the use of survey methods with children. It then presents four known concerns with using survey methods for opinion gathering and reflects on how these concerns may impact on studies in Child Computer Interaction. The paper then investigates the use of survey methods in Child Computer Interaction and investigates the Fun Toolkit. Three new research studies into the efficacy and usefulness of the tools are presented and these culminate in some guidelines for the future use of the Fun Toolkit. The authors then offer some more general guidelines for HCI researchers and developers intending to use survey methods in their studies with children. The paper closes with some thoughts about the use of survey methods in this interesting but complex area.

Keywords
Survey methods, Questionnaires, Interviews, Fun Toolkit, Children, Evaluation

ACM Classification Keywords
H5.2 User Interfaces, Evaluation / Methodology

INTRODUCTION
The method of eliciting information by questioning is commonly referred to as a survey method. Surveys are a long established instrument for gathering opinions and information from people and they are often used in HCI to gather opinions about products as well as to identify requirements for products. In a recent study into the use of methods with HCI practitioners in the Nordic community, survey methods were highlighted as being especially useful [2].

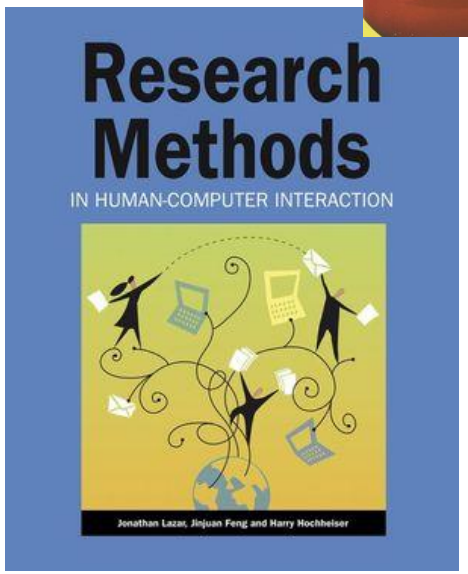
The term survey has many meanings but for the purposes of this paper, survey methods are defined as questionnaires, rating scales and structured interviews [10]. Thus, free discussion and free form reporting is not especially considered. The main contribution of this paper is to offer a clearer understanding about the usefulness of some of the tools in the Fin Toolkit and to present guidelines for survey methods for children.

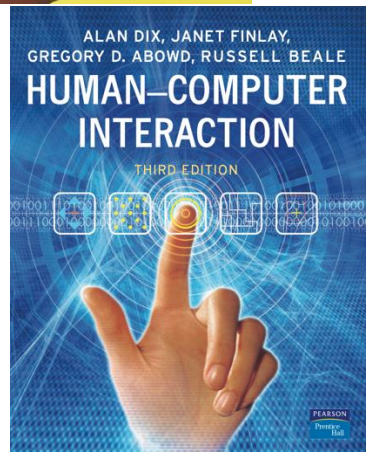
RELATED RESEARCH
As early as the 1890's surveys have been reported as being used with children [1]. However, research about the efficacy of the different methods of surveying children is relatively scarce, and in particular, when children are asked to contribute opinions,, studies that examine the validity and reliability of the children's responses are rare [5].

Why Ask Children?
In the field of Child Computer Interaction it is common to find studies that report the use of survey methods with children. In some of these studies, children are asked to contribute ideas and suggestions for future or partially completed designs. Examples include the use of surveys to elicit detail about the mental models that children have [25], or their use to gather requirements for interfaces [26]. More commonly, surveys are used in evaluation studies, where children are asked to comment on the appeal or usefulness of a product or supply some sort of product rating [24].

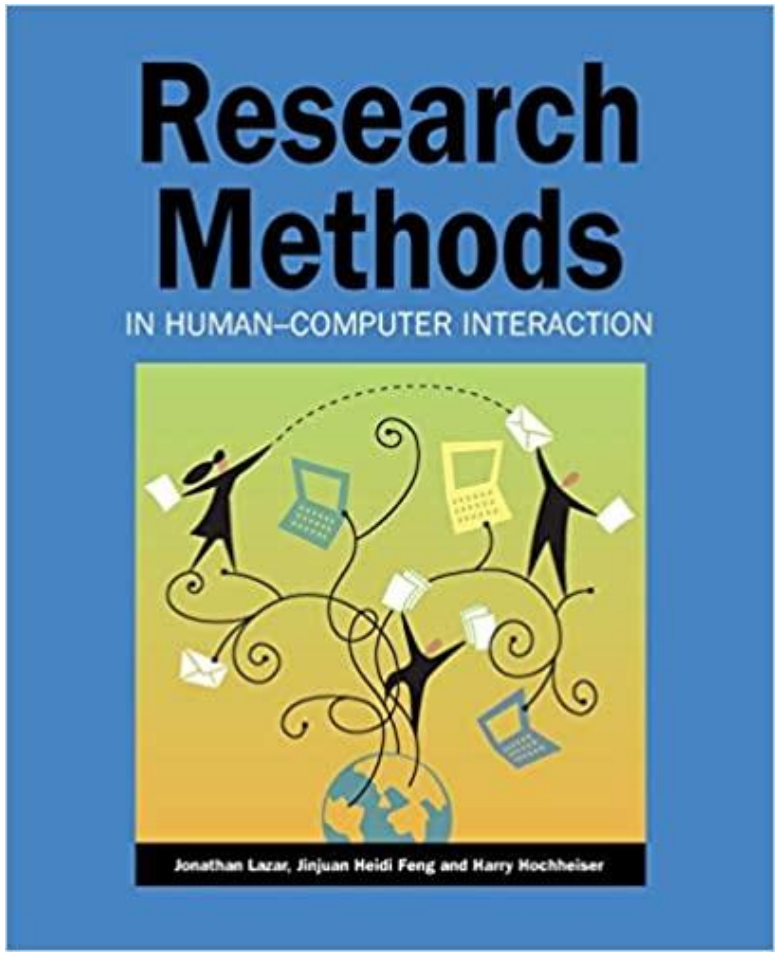
There are several valid reasons for asking children for their opinions of interactive products. One is that adults and children live in different worlds and for that reason adults may not understand what children want, *"Survey researchers are realising that information on children's opinions, attitudes and behaviour should be collected directly from the children; proxy-reporting is no longer considered good enough."* [4]. Secondly, there is a move to include children in decisions about their own environments; this has arisen from a greater awareness that children are actors and participants rather than onlookers in society. *"In most of the western world, it is now recognized that children have a voice that should be heard and there is a new demand for research that focuses on children as actors in their own right."* [7]. A third reason

81





Reminder About Reading:



- Chapter 1: Research Methods in HCI
  - Section 1.1 – Section 1.6 (10 pages)