

# **Interaction Design**

## **COMP1649**

# **Course Introduction**

**Dr Ralph Barthel**

# Course Team

- Ralph Barthel (course leader)
- Fotios Spyridonis (course tutor)

# The course handbook

Contains everything you need to know about the course:

- Dates and times of Lectures and Labs
- Staff details
- Learning Outcomes
- Coursework
- Coursework deadlines
- Marking scheme

# Course Aims

- to provide students with an in-depth knowledge of how users interact with products and how we can design better interactive systems;
- to enable students to gain an appreciation of established design principles and methodologies to solve interaction design problems;
- to provide a comprehension of how complex multimedia systems and services can be designed and implemented.

# Learning Outcomes

- A. demonstrate a critically level of comprehension of the nature of cognitive psychology and how it influences the ways in which users interact with computer systems;
- B. use established design principles and methodologies to solve interaction design problems;
- C. develop multimedia applications which incorporate the critical selection and use of advanced interaction design techniques;
- D. demonstrate the synthesis of theory and application;
- E. demonstrate a critical evaluation of current issues in Interaction Design.

# Learning Outcomes

Ethical, Legal, Social & Professional Issues. The student will:

- understand and apply the ethical and social implications of accessibility policies and legal standards plus professional standards and codes of conduct;
- gain an understanding of the external factors which may impact on the work of the Interaction Designer including accepting responsibility for work which affects the wellbeing of society, environmental, economic and commercial factors and globalization.

Personal and Professional Skills. The student will:

- develop high level cognitive skills with respect to relating theoretical concepts to practical implementations;
- develop high level key transferable skills in, problem solving and decision making; communication skills;
- working with others and working to deadlines;
- present work in a variety of ways e.g report writing and demonstrations.

# Teaching and Learning Activities

- Concepts will be introduced in a lecture and practical exercises and problem solving will be done through tutorials.
- Student time will be: Lecture  $\frac{1}{3}$ , Tutorial  $\frac{1}{3}$  (note these two activities take place in what your timetable refers to as a Lecture), and Laboratory  $\frac{1}{3}$  in tutor groups

# Assessment

- The course is 100% coursework which will provide the opportunity for you to provide evidence that you have met the course learning outcomes.
- The planning, research and low-fidelity prototypes will be undertaken in teams with formative feedback provided.
- The high fidelity prototype and final report will be completed on an individual basis.



# Job Market - Salary range £30-100k

Interaction Designer

United Kingdom

Find jobs

Get alerts for this search

We'll email you new jobs as they become available

Email address

Create job alert

Location

☐ London, Greater London, United Kingdom

☐ Leeds, West Yorkshire, United Kingdom

☐ Birmingham, West Midlands, United Kingdom

☐ Edinburgh, City of Edinburgh, United Kingdom

☐ Nottingham, Nottinghamshire, United Kingdom

Company

☐ Source LF (18)

☐ Michael Page (7)

258 Interaction Designer jobs in United Kingdom		sort by: Relevance
<div>TIBCO</div>	<div><div>Senior Interaction Designer/ UX Designer</div><div>TIBCO Software Inc.</div><div>Swindon, United Kingdom</div><div>Understand the balance of user experience, business case, time-to-market, and make trade-offs where appropriate. Excellent communication and teamwork skills.</div><div>Quick Apply</div></div>	NEW
<div>WHITBREAD</div>	<div><div>Mid-Weight Interaction/UX Designer (Premier Inn)</div><div>Whitbread</div><div>London, United Kingdom</div><div>Experience in presenting and justifying the value of good design and creative output. User in order to create experiences that are seamless, highly engaging and deeply.</div><div>Quick Apply</div></div>	6d
<div>xcede</div>	<div><div>Lead Interaction Designer</div><div>Xcede</div><div>London, United Kingdom</div><div>Working alongside product owners, user experience researchers, developers and analysts, the lead interaction designer will be tasked with building out a strong interaction ...</div><div>Quick Apply</div></div>	10d

# Job Market - Salary range £30-100k

## The Candidate:

- The successful candidate will have a degree or post-graduate qualification in Interaction Design, HCI, Product design, other design field or have had relevant work experience.
- 3+ years of hands on experience with a range of UI/UX and interactive work and the accompanying portfolio of mobile digital experiences.
- You will need to be an experienced and well-rounded UX professional connecting the dots between business needs, innovation and good design
- Strong Interaction design work: ability to convey concepts through wireframes, flows and mock-ups.
- Understanding and practicing common UX methodologies will come natural to you and you will be able to apply these to native iOS, Android and responsive web design experiences
- Experience with UX research will help you within this role and guide you on your product designs
- Creating prototypes will be part of your design lifecycle and you will have used Axure, Invision or other prototyping tools to test and articulate your designs

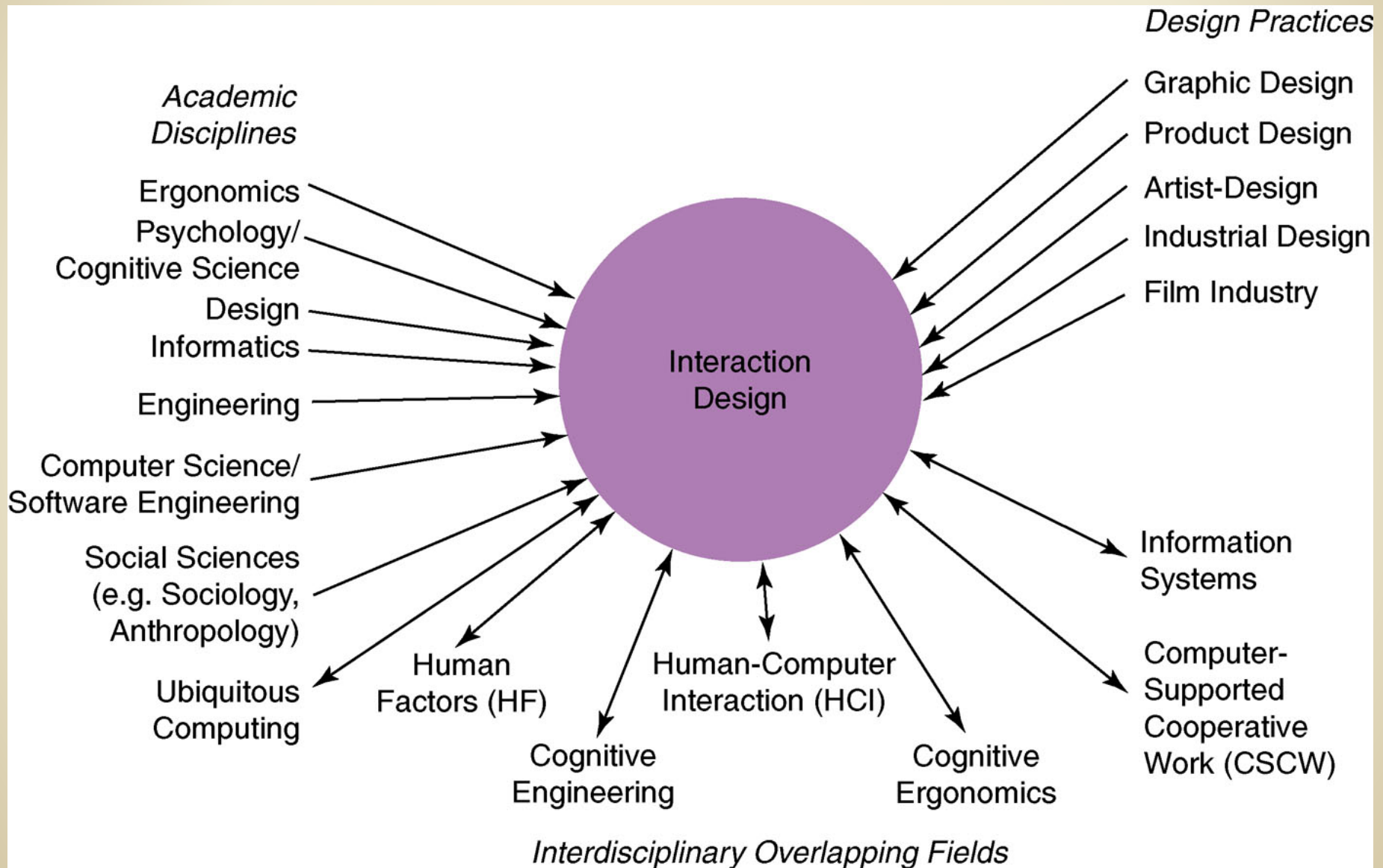
# Activity (5 minutes)

*What are the differences between Interaction Design (IxD) and User Experience Design (UxD)?*

# The Disciplines of Interaction Design



# What is Interaction Design?



# What is Interaction Design?

*Interaction Design (IxD) defines the structure and behaviour of interactive systems. Interaction Designers strive to create meaningful relationships between people and the products and services that they use, from computers to mobile devices to appliances and beyond.*



# What is Interaction Design?

- Designing interactive products to support people in their everyday and working lives

Sharp, Rogers and Preece (2002)

- The design of spaces for human communication and interaction

Winograd (1997)

# Goals of Interaction Design

- Develop usable products that provide a desirable user experience
- Involve users in the design process



# What is User Experience Design?

User experience (UX) design is **the process of creating products that provide meaningful and personally relevant experiences.**

This involves the careful design of both a product's **usability** and **the pleasure consumers will derive from using it.** It is also concerned with the entire process of acquiring and **integrating** the product, including aspects of **branding, design, usability, and function.**

# What does a UXD designer do?

*“To be a user experience designer means to practice a set of methods and techniques for researching what users want and need, and to design products and services for them. Through good UX, you are trying to reduce the friction between the task someone wants to accomplish and the tool that they are using to complete that task.”*

(Buley, 2013)

# Job Market - Roles

- **Usability engineers** - people who focus on evaluating products, using usability methods and principles
- **Visual designers** - people who develop and create the visual design of websites, such as layouts
- **Information architects** - people who come up with ideas of how to plan and structure interactive products, information design
- **Interaction designers (IxD)** - people involved in the design of all the interactive aspects of a product
- **User experience designers (UX)** - people who do all the above but who may also carry out field studies to inform the design of products

(Rogers, Preece and Sharp, 2015)

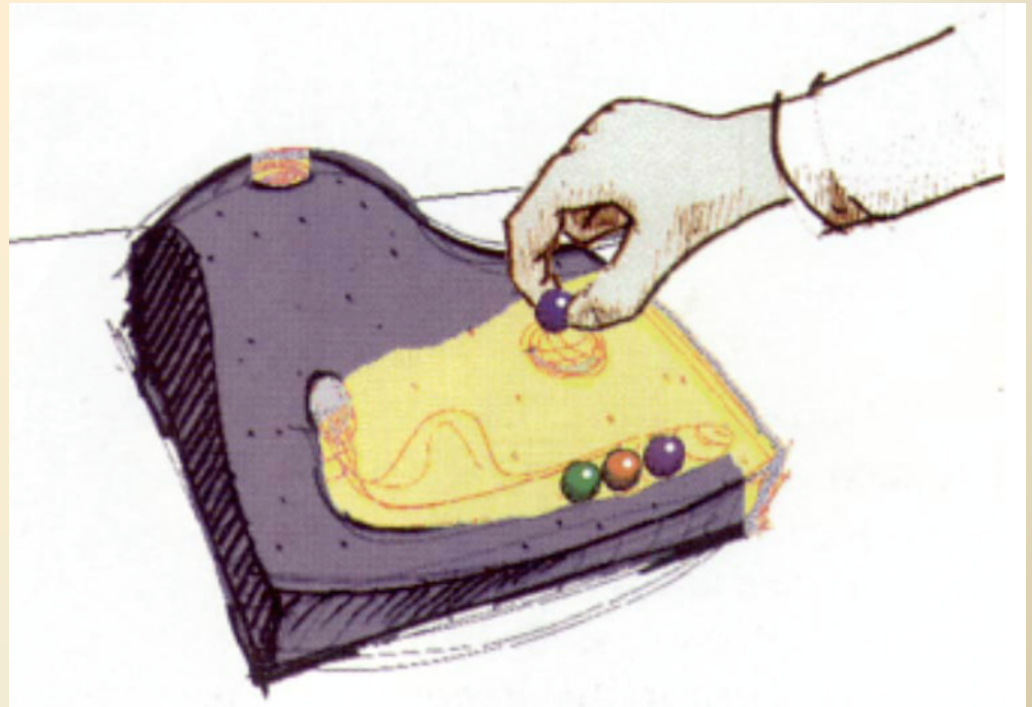
# Interaction Design Consultancies

- **Nielsen Norman Group:** “conducts groundbreaking research, evaluates user interfaces, and reports real findings – not just what’s popular or expected. With our approach, NN/g will help you create better user experiences and improve the bottom line for your business.”
- **Cooper:** ”Design leadership increases profit, drives innovation, and creates social good. Let's do this.”
- **IDEO:** “is a global design company. We create positive impact through design.”
- **frog** “We transform businesses at scale by creating systems of brand, product and service that deliver a distinctly better experience.”

# An Interaction Design example

- Durrell Bishop's answering machine

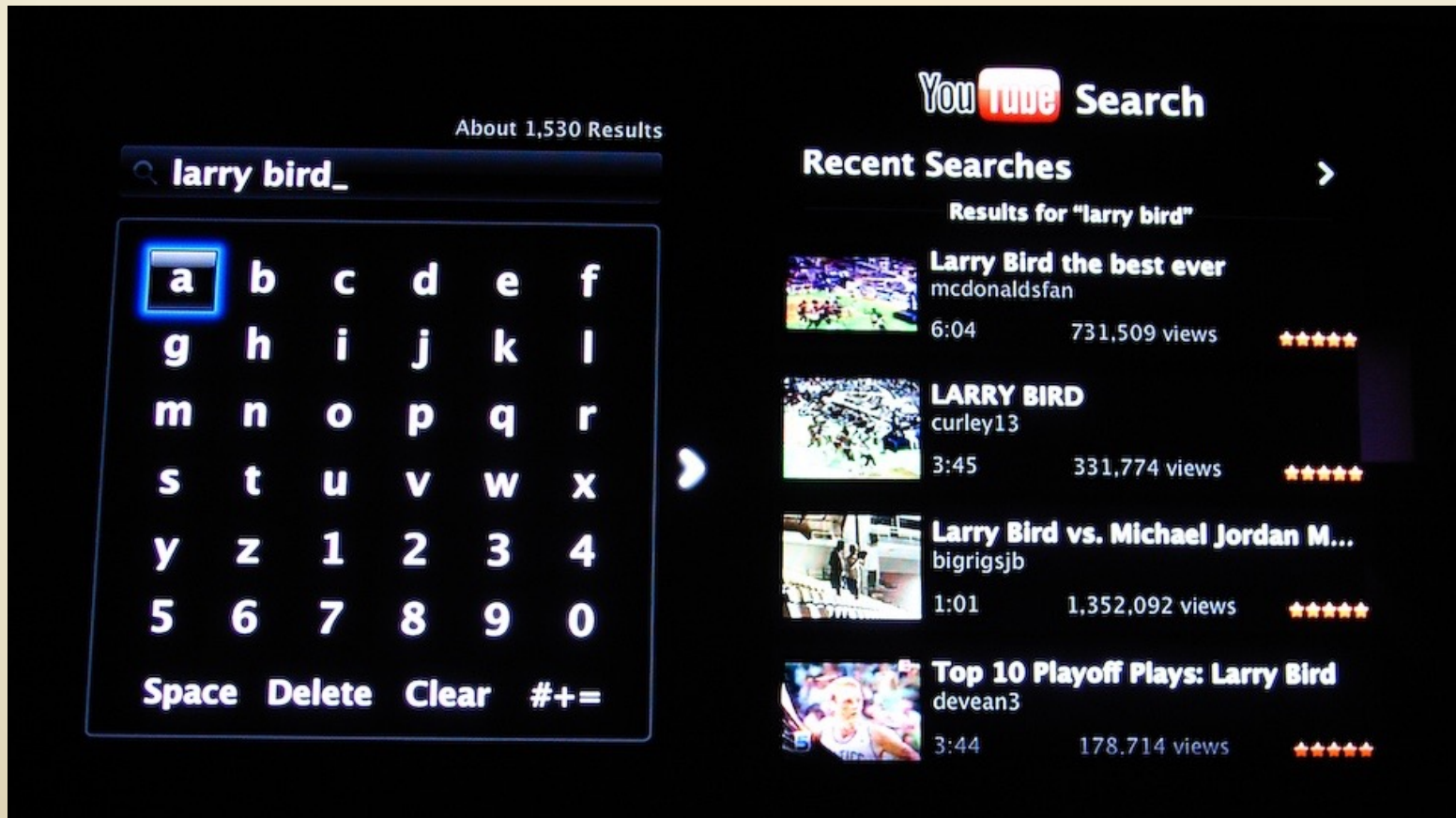
- [Video of Interactions](#)





# Another example

- Typing text on Smart TV's - How many clicks to type a letter 'v'?



# Another example

A screenshot of the Minuum Keyboard 3.0 interface on a smartphone screen. The keyboard is compact and features a QWERTY layout. Above the keyboard, there is a text input field with the text "Minuum is fantastic". Below the keyboard, there is a blue banner that reads "Minuum Keyboard 3.0". To the right of the keyboard, there is a pink banner that reads "Minuum Suggests Emoi". The background of the screen is orange and pink.

Minuum Keyboard 3.0

Minuum Suggests Emoi

MINUUM™ - The smarter, smaller keyboard that lets you do more with your screen space. It's the little keyboard for big fingers!

- Video of Interactions

# Interaction Design Process

- Identify needs and establish requirements
- Develop alternative designs
- Build interactive prototypes that can be communicated and assessed
- Evaluate what is being built throughout the process



# Core characteristics of Interaction Design

- users should be involved through the development of the project
- specific usability and user experience goals need to be identified, clearly documented and agreed at the beginning of the project
- iteration is needed through the core activities

# Usability Goals

- Effective to use
- Efficient to use
- Safe to use
- Have good utility
- Easy to learn
- Easy to remember how to use

# User Experience Goals

- Satisfying
- Fun
- Enjoyable
- Entertaining
- Helpful
- Motivating
- Aesthetically pleasing
- Motivating
- Rewarding
- Support creativity
- Emotionally fulfilling
- ...and more

# Usability and UX Goals

- How do usability goals differ from user experience goals?
- Are there trade-offs between the two kinds of goals? e.g. can a product be both fun and safe?
- How easy is it to measure usability versus user experience goals?

# Individual Activity (20 minutes)

*Here are links to a brief info video and a questionnaire about three novel IoT products. Each one of you will be allocated one product and survey to complete.*

- Bluesmart luggage <https://goo.gl/forms/fiyryV00BkZTlBJ32>
- Amazon Dash <https://goo.gl/forms/IMthml1VnzYYp1qK2>
- Kerastase Hair Coach <https://goo.gl/forms/H715SVzmYKNVRjcc2>

*As interaction designer how could you go about evaluating the user experience goals of these products?*

# Usability and UX Goals

- For measuring of usability a number of standard methods and questionnaires exist e.g. [SUS](#), [Heuristic Evaluation](#)
- Measuring the user experience is more complex; Some methods include the [HEART framework](#) and the Microsoft [Desirability Toolkit](#)

# Design Principles

- Generalisable abstractions for thinking about different aspects of design
- The do's and don'ts of interaction design
- Help the designer to decide what to provide and what not to provide at the interface
- Derived from a mix of theory-based knowledge, experience and common-sense

# Design Principles

- Visibility
- Feedback
- Predictability
- Learnability
- Constraints
- Consistency
- Affordance
- Discoverability



# Usability Principles

- Similar to design principles, except more prescriptive
- Used mainly as the basis for evaluating systems
- Provide a framework for heuristic evaluation

# Usability Principles (Nielsen, 1995)

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Help users recognize, diagnose and recover from errors
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help and documentation

# Summary

- IxD is concerned with designing interactive products to support people in their everyday and working live
- IxD is a multi-disciplinary field
- IxD can be a career option
- Ixd strives for achieving usability and user experience goals
- Design and usability principles are useful heuristics for analysing and evaluating interactive products

# Additional Reading

- [UxD versus IxD](#)
- Interaction Design: Beyond Human-Computer Interaction 3rd Edition (Rogers, Preece and Sharp, 2015)
- The User Experience Team of One: A Research and Design Survival Guide (Buley, 2013)