

# Interaction Design

# Interaction Design

- ▶ Interaction design is an important component within the giant umbrella of user experience (UX) design.
- ▶ Interaction design can be understood in simple (but not simplified) terms: it is the design of the interaction between users and products.
- ▶ Most often when people talk about interaction design, the products tend to be software products such as apps or websites.

# Interaction Design....

- ▶ If this definition sounds broad, that's because the field is rather broad
- ▶ the interaction between a user and a product often involves elements such as aesthetics, motion, sound, space, and many more.
- ▶ Also, of course, each of these elements can involve even more specialized fields—for instance, sound design for the crafting of sounds used in user interactions.

# Interaction Design...

- ▶ As you might already realize, there's a huge overlap between interaction design and UX design. After all, UX design is about shaping the experience of using a product—for the most part, that experience involves some interaction between the user and the product.
- ▶ However, UX design is more than interaction design: it also involves user research (finding out who the users are in the first place), creating user personas (why, and under what conditions, would they use the product), performing user testing and usability testing, etc

# The 5 Dimensions of Interaction Design

- ▶ The five dimensions of interaction design is a useful model for understanding what interaction design involves.
- ▶ 1D: Words
- ▶ 2D: Visual Representations
- ▶ 3D: Physical Objects or Space
- ▶ 4D: Time
- ▶ 5D: Behaviour

# 1D: Words

- ▶ Words—especially those used in interactions, such as button labels—should be meaningful and simple to understand.
- ▶ They should communicate information to users, but not so much information that they end up overwhelming users or slowing them down.

# 2D: Visual Representations

- ▶ This concerns graphical elements such as images, typography and icons that users interact with.
- ▶ These usually supplement the words we use to communicate information to users.
- ▶ As an extremely visual-oriented species, humans value images immensely: not only because well thought-out, picture-rich designs make for more pleasing, calming user experience, but also because an image carries many words—a story, in fact—and that's precious, given users' tendency to lack patience.

# 3D: Physical Objects or Space

- ▶ Through what physical objects do users interact with the product:
  - ▶ is it a laptop, with a mouse or touchpad?
  - ▶ Or is it a smartphone, with the user's fingers?
  - ▶ Also, within what kind of physical space does the user do so?
  - ▶ For instance, is the user standing in a crowded train while using the app on a smartphone, or sitting at a desk in the office while surfing the website?
- ▶ These all affect the interaction between the user and the product. Space is all about context and goes a very long way to deciding what a product must look like, in much the same way as the average size of a human hand will.



# 4D: Time

- ▶ While this dimension sounds a little abstract, it mostly refers to media that changes with time (animation, videos, sounds).
- ▶ Motion and sounds play a crucial role in giving visual and audio feedback to users' interactions.
- ▶ Also of concern is the amount of time a user spends interacting with the product: can users track their progress, or resume their interaction some time later?
- ▶ In an era of information and where users can feel as time-starved as they can data-drowned, understanding how much time they spend in their user experiences is absolutely vital.

# 5D: Behaviour

- ▶ This includes the mechanism of a product and involves two pivotal questions—namely,
  - ▶ “How do users perform actions on the website?”
  - and
  - ▶ “How do users operate the product?”.
- ▶ In other words, this dimension is all about how the previous dimensions define the interactions a user should be having with a product.
- ▶ It also includes the reactions—for instance, emotional responses or feedback—of users and the product.
- ▶ While the first four dimensions are vital in their own right, the fifth one is on a deeper aspect of the human interest in UX and can expose serious strengths as well as any flaws.

# Important Questions Interaction Designers Ask

- ▶ How do interaction designers work with the five dimensions above so as to create meaningful interactions?
- ▶ To get an understanding of that, we can look at some important questions interaction designers ask when designing for users.

# Q1

- ▶ What can users do with their mice, fingers, or styluses to interact with the interface directly?

This helps us define the **possible user interactions** with the product.

# Q2

- ▶ What about the appearance (color, shape, size, etc.) gives the user a clue about how it may function?

This helps us give users clues about **what behaviors are possible.**

# Q3

- ▶ Do error messages provide a way for the user to correct the problem or explain why the error occurred?

This lets us **anticipate and mitigate errors**.

# Q4

- ▶ What feedback does a user get once an action is performed?

This allows us to ensure that the **system provides feedback** in a reasonable time after user actions.

# Q5

- ▶ Are the interface elements a reasonable size to interact with?

Questions such as these help us think **strategically about each element used** in the product.



# Q6

- ▶ Are familiar or standard formats used?

Standard elements and formats are used to **simplify and enhance the learnability** of a product.

# So, What do Interaction Designers do?

- ▶ For instance, if the company is large enough and has huge resources, it might have separate jobs for UX designers and interaction designers.
- ▶ In a large design team, there might be a UX researcher, an information architect, an interaction designer, and a visual designer, for instance.
- ▶ For smaller companies and teams, it's a different story—most of the UX design job might be done by one or two people, who might or might not have the title of 'Interaction Designer'. In any case, here are some of the tasks we as interaction designers would expect to handle in a day's work:
  - ▶ **Design Strategy**
  - ▶ **Wireframes and Prototypes**

# Design Strategy

- ▶ This is concerned with **what the goal(s)** of a user is or are, and—in turn—**what interactions are necessary** so as to achieve this or these.
- ▶ Depending on the company, interaction designers might have to conduct user research in order to find out what the goals of the users are before creating a strategy that translates that into interactions.

# Wireframes and Prototypes

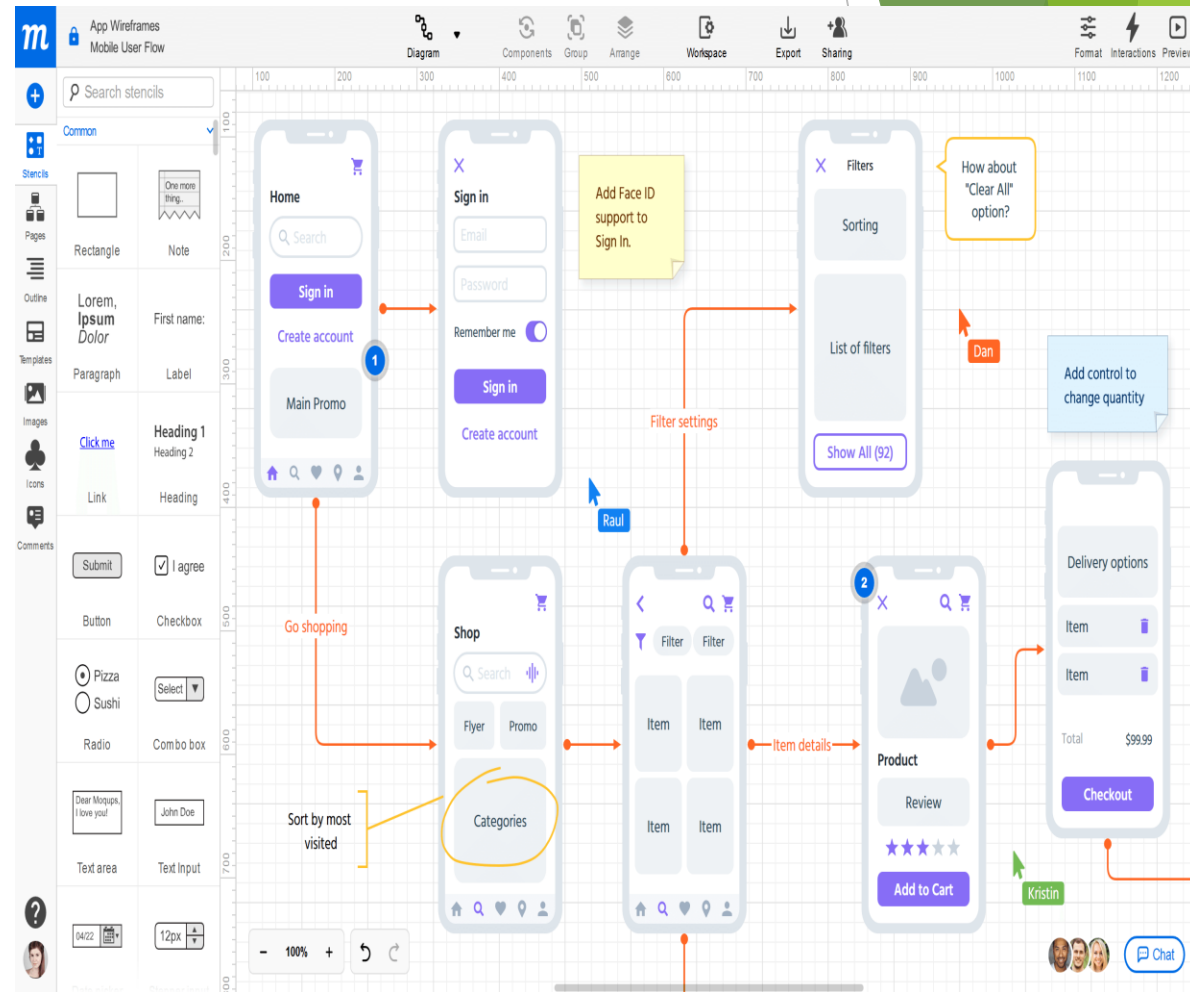
- ▶ This again depends on the job description of the company, but most interaction designers are tasked with creating wireframes that lay out the interactions in the product. Sometimes, interaction designers might also create interactive prototypes and/or high-fidelity prototypes that look exactly like the actual app or website.

# Wireframes

- ▶ A **website wireframe**, also known as a **page schematic** or **screen blueprint**, is a visual guide that represents the skeletal framework of a website.
- ▶ Wireframes are created for the purpose of arranging elements to best accomplish a particular purpose.
- ▶ The wireframe depicts the page layout or arrangement of the website's content, including interface elements and navigational systems, and how they work together.
- ▶ The wireframe usually lacks typographic style, color, or graphics, since the main focus lies in functionality, behavior, and priority of content.
- ▶ In other words, it focuses on what a screen does, not what it looks like.
- ▶ Wireframes can be pencil drawings or sketches on a whiteboard, or they can be produced by means of a broad array of free or commercial software applications.

# Wireframes focus

- ▶ Wireframes focus on:
  - The range of functions available
  - The relative priorities of the information and functions
  - The rules for displaying certain kinds of information
  - The effect of different scenarios on the display<sup>[1]</sup>.



## Prototypes



- ▶ A **prototype** is an early sample, model, or release of a product built to test a concept or process.
- ▶ It is a term used in a variety of contexts, including semantics, design, electronics, and software programming.
- ▶ A prototype is generally used to evaluate a new design to enhance precision by system analysts and users.
- ▶ Prototyping serves to provide specifications for a real, working system rather than a theoretical one.
- ▶ In some design workflow models, creating a prototype (a process sometimes called **materialization**) is the step between the formalization and the evaluation of an idea.

# Conclusion

- ▶ **UX Design** is how a user feels about the apps, **UI Design** is what, where and how elements work on the apps, **Information Architecture** is how an app is organized, and **Interaction Design** is how the user and app act and react to each other.





► Questions???