

SIT120

Lecture 4

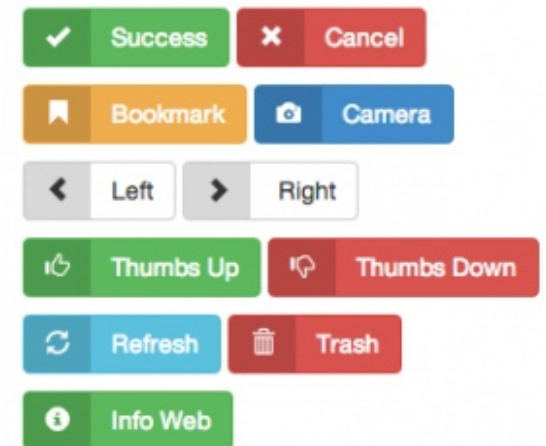
- Interaction Design and Usability

Interaction Design (IxD)

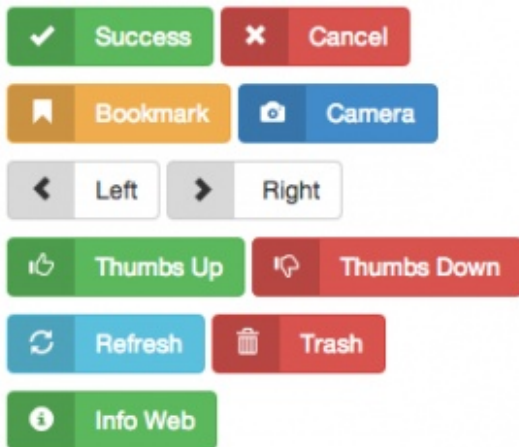
- Discipline typically within UX design that examines the interaction – via an interface – between a system and its user
 - Contrast with UX – which is the overall experience
- Strong focus on satisfying the majority of users via interactivity, but doesn't consider other aspects of UX
 - E.g. no concern about the wait between pushing a button and the output appearing on screen – that's a UX problem
- Designs need to be validated through extensive usability testing

5 Dimensions of Interaction Design

- What does Interaction Design involve?
- 1st Dimension - Words
- Concerns all text, but especially text used as part of an interaction
 - E.g. buttons
- Text should always be meaningful and simple to understand



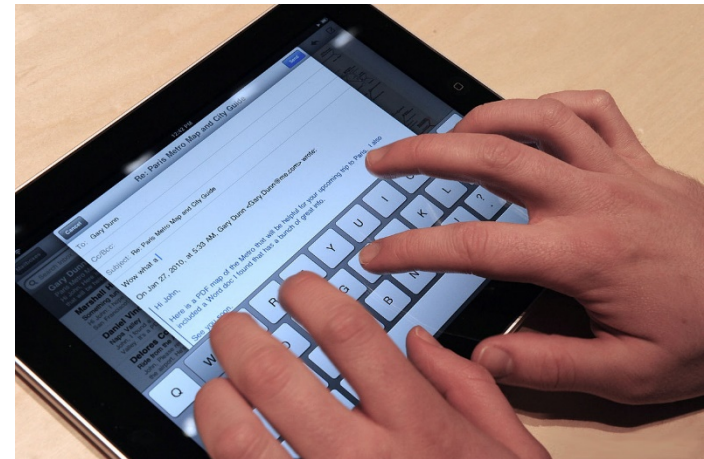
5 Dimensions of Interaction Design



- 2nd Dimension – Visual Representations
- Supplements the text
- Graphical elements like images, typography, and icon design
- Must not interfere with the 1st dimension
 - Therefore, must be designed simultaneously

5 Dimensions of Interaction Design

- 3rd Dimension – Physical Objects or Space
- What are our input methods?
 - Laptop? Keyboard and mouse? Touchscreen?
- What is the physical space that our users might be confined to when using this system?
 - Are they using it on a train? Outside? At a desk?
- Remember from previous weeks: what if we aim to support multiple platforms?



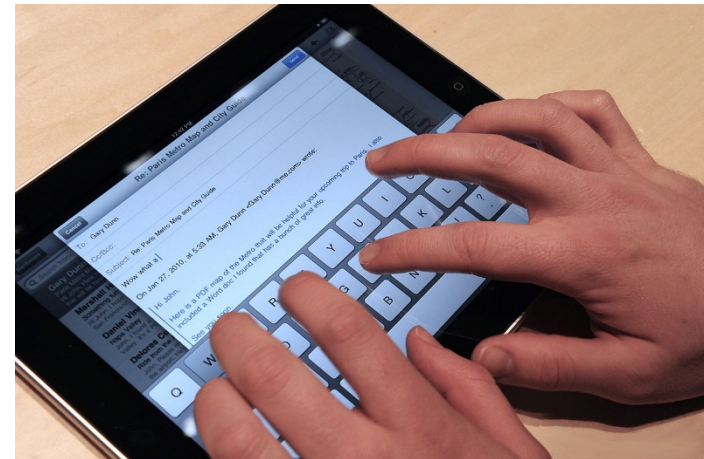
5 Dimensions of Interaction Design



- 4th Dimension – Time
- Media that changes over time
 - E.g. animations and videos
- How do these changes affect our interaction?
 - Beyond just as a feedback tool
- Also considers the time spent interacting
 - Is state information about the user's interactions saved between sessions? Can the user suspend and resume later?

5 Dimensions of Interaction Design

- 5th Dimension – Behaviour
- The core mechanism of the product
 - How to perform actions?
- Combination of the previous dimensions and how they've defined interaction with the product
- Also includes reactions from the user – what do we want the user respond to?



Usability

- Considering these dimensions, how do we know that even if we design our interaction carefully that we have a good interaction?
- The answer comes down to usability testing

Usability

- Not a single property of a product, system, or user interface.
- Combination of factors including:
 - Intuitive design: a nearly effortless understanding of the architecture and navigation of the software
 - Ease of learning: how fast a user who has never seen the user interface before can accomplish basic tasks
 - Efficiency of use: How fast an experienced user can accomplish tasks
 - Memorability: after using the app, if a user can remember enough to use it effectively in future attempts
 - Error frequency and severity: how often users make errors while using the system, how serious the errors are, and how users recover from the errors
 - Subjective satisfaction: If the user likes using the system

Usability

- Conducting usability tests
- Explore possible methods of usability testing
 - What works for an app?
- Running a Usability Test
 - <https://www.usability.gov/how-to-and-tools/methods/running-usability-tests.html>

Usability – Moderating Techniques

- Concurrent Think Aloud (CTA)
- Used to understand participants' thoughts as they interact with a product by having them think aloud while they work
- Encourage participants to keep a running stream of consciousness as they work.

Usability – Moderating Techniques

- Retrospective Think Aloud (RTA)
- Moderator asks participants to retrace their steps when the session is complete
- Often participants watch a video replay of their actions, which may or may not contain eye-gaze patterns.

Usability – Moderating Techniques

- Concurrent Probing (CP)
- Participants work on tasks - when they say something interesting or do something unique, the researcher asks follow-up questions.

Usability – Moderating Techniques

- Retrospective Probing (RP)
- Wait until the session is complete, then ask questions about the participant's thoughts and actions
- Researchers often use RP in conjunction with other methods
 - As the participant makes comments or actions, the researcher takes notes and follows up with additional questions at the end of the session.

Usability Test - Pilot Testing

- Initial test run of the usability test
- Check if the usability test is appropriate for the app being tested
- Pilot test lets you:
 - Test the equipment
 - Provides practice for the facilitator and note-takers
 - Get a good sense whether your questions and scenarios are clear to the participant
 - Make any last minute adjustments

Making Good Buttons

What makes a good button?

■ Position in space

- The distance or depth at which they are put, relative to us
- The button should feel like it's on a different plane or world than the main content.
- Feels placed directly against the screen, where you can touch it
 - Must look sharp and in focus
- Example: home menu icons against the background image



What makes a good button?

- Volume

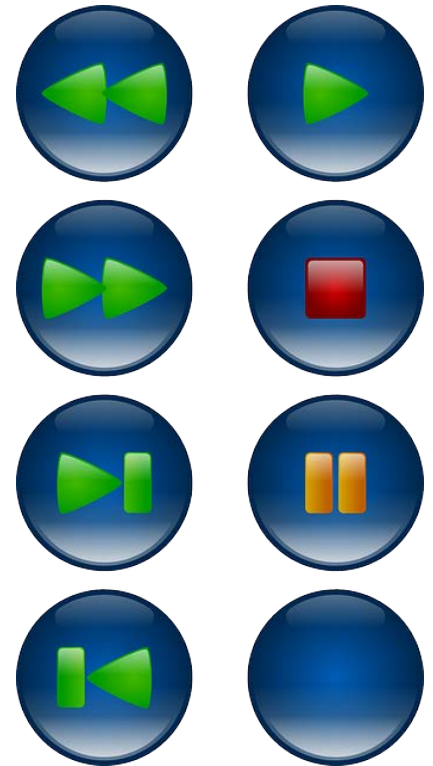
- Feels like the button can be pushed
- Our fingers are drawn to things they can press against
- Consider a bevelled edge



What makes a good button?

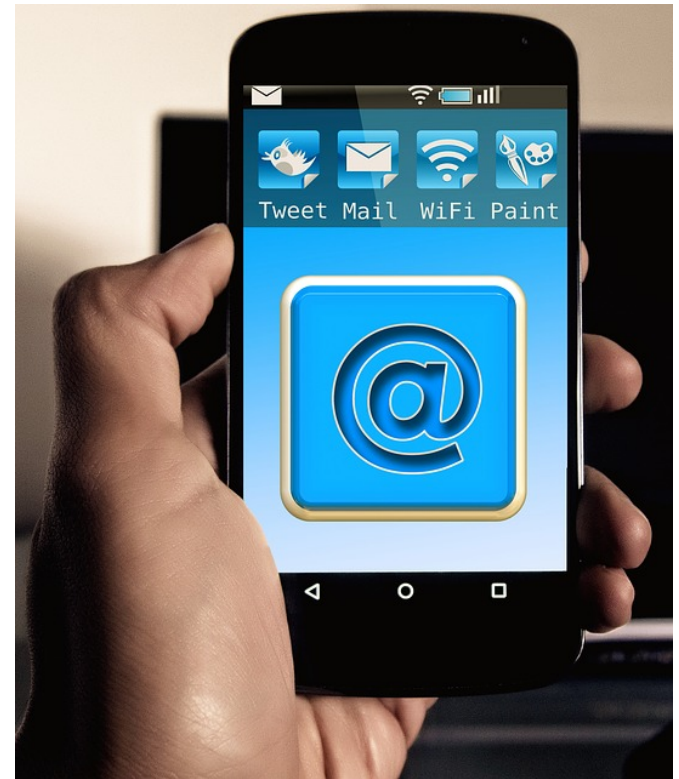
■ Simple Icons

- Visual language used should be simple
- Icon's meaning has to be clear in a split second
- Well known icons are reused
 - play, forward and previous or rewind logos have a known meaning, as they're present on all sorts of audio devices and apps.



What makes a good button?

- Follow design principles
 - Should focus on one colour most of the time
 - Both the icon and the button's base should have a strong value contrast



Using existing icon art

- Why make something that's already made for us?
 - Use existing materials only with permission
 - Be aware of usage rights
- Online resources for finding free to use icons
 - <http://vectoricons.org/>
 - <https://www.flaticon.com/>

UI/UX Evolution

- Animations
- Create a sense of flow through the menu
- Movement catches the eye
 - Benefit for the user, but also for brand identity
- But cannot come at cost of usability
 - Remember the Interaction Design
- Consider: Google Material Design
- <https://material.io/>

