

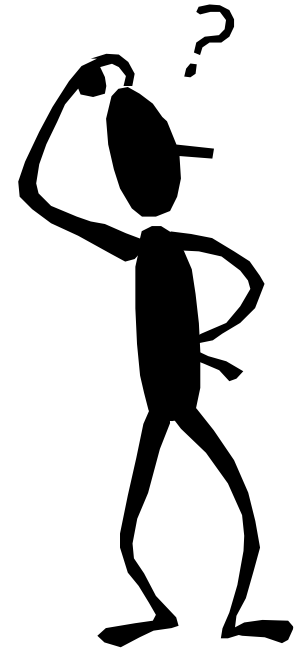
INTERACTION DESIGN IN PRACTICE

Lecture10

Slides adapted by dr Kristina Lapin

Overview

- AgileUX
- Design Patterns
- Open Source Resources
- Tools for Interaction Design



Agile development

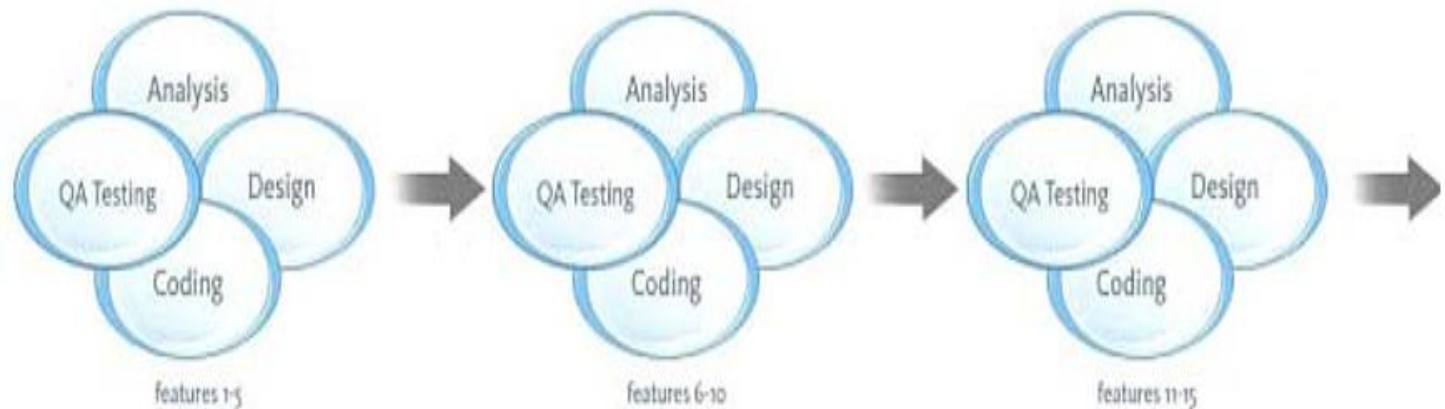
- Short (one to three week) timeboxes of iterative development (sprint, iteration, cycle)
- Early and repeated customer/user feedback
- Re-prioritisation of work based on customer/user
 - so that emergent requirements can be handled
- Many approaches, e.g. eXtreme Programming (XP), Scrum, DSDM

Waterfall vs. agile

Waterfall



Agile



(Sy 2007)

AgileUX

- Integrates techniques from interaction design and Agile software development
- AgileUX requires a change of mindset
- In Agile, as implementation proceeds:
 - requirements are elaborated
 - requirements are re-prioritised
- All techniques in UX are still relevant but when and how much needs re-thinking
 - focus on product, not design, as deliverable
 - cross-functional teams
- Three practical areas: user research, aligning work practices, documentation

User research

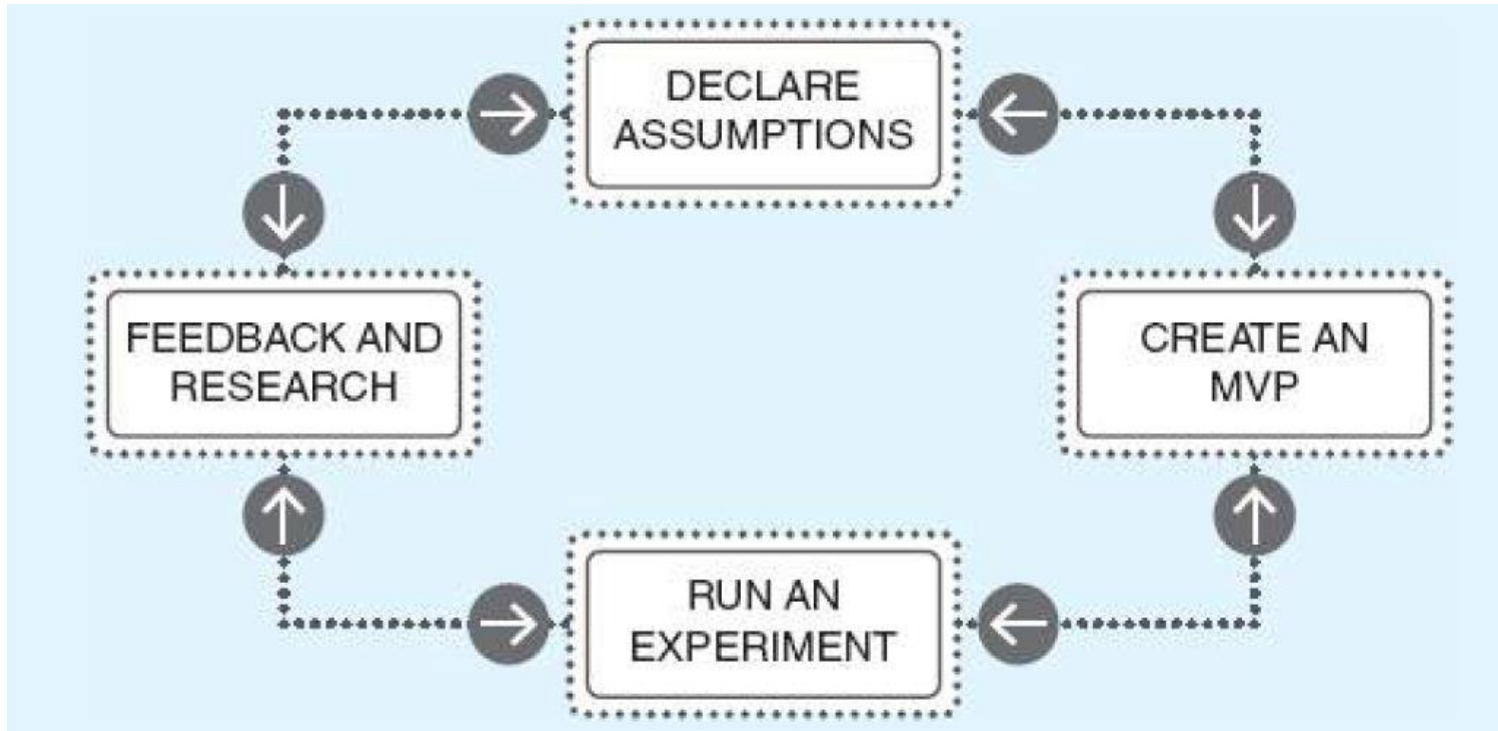
- Aims to characterise users
 - through data collection and analysis
- Agile's timeboxing approach
 - does not support long periods of user research
- User evaluations and some detailed work
 - can be fitted within a timebox
- Some user research can be performed in iteration 0 (zero), before implementation starts
- Ongoing programme of user research

Lean UX

- Aims at quick creation and deployment of innovative products
- Build upon ideas of
 - agile software development,
 - design thinking,
 - understanding what people want and what technology can deliver
 - the Lean Startup
 - Tight iterations of build-measure-learn

[Laura Klein explains Lean UX \(YouTube\)](#)

Lean UX



MVP – minimal viable product

(Gothelf, Seiden 2013)

Aligning work practices

- Designing a complete product upfront causes problems because of re-prioritisation
- Some upfront work is needed
 - technical and UX
- Use a parallel tracks approach:
 - create product vision before development starts
 - do design work one iteration ahead of development
 - some teams work two iterations ahead

Parallel tracks approach to AgileUX

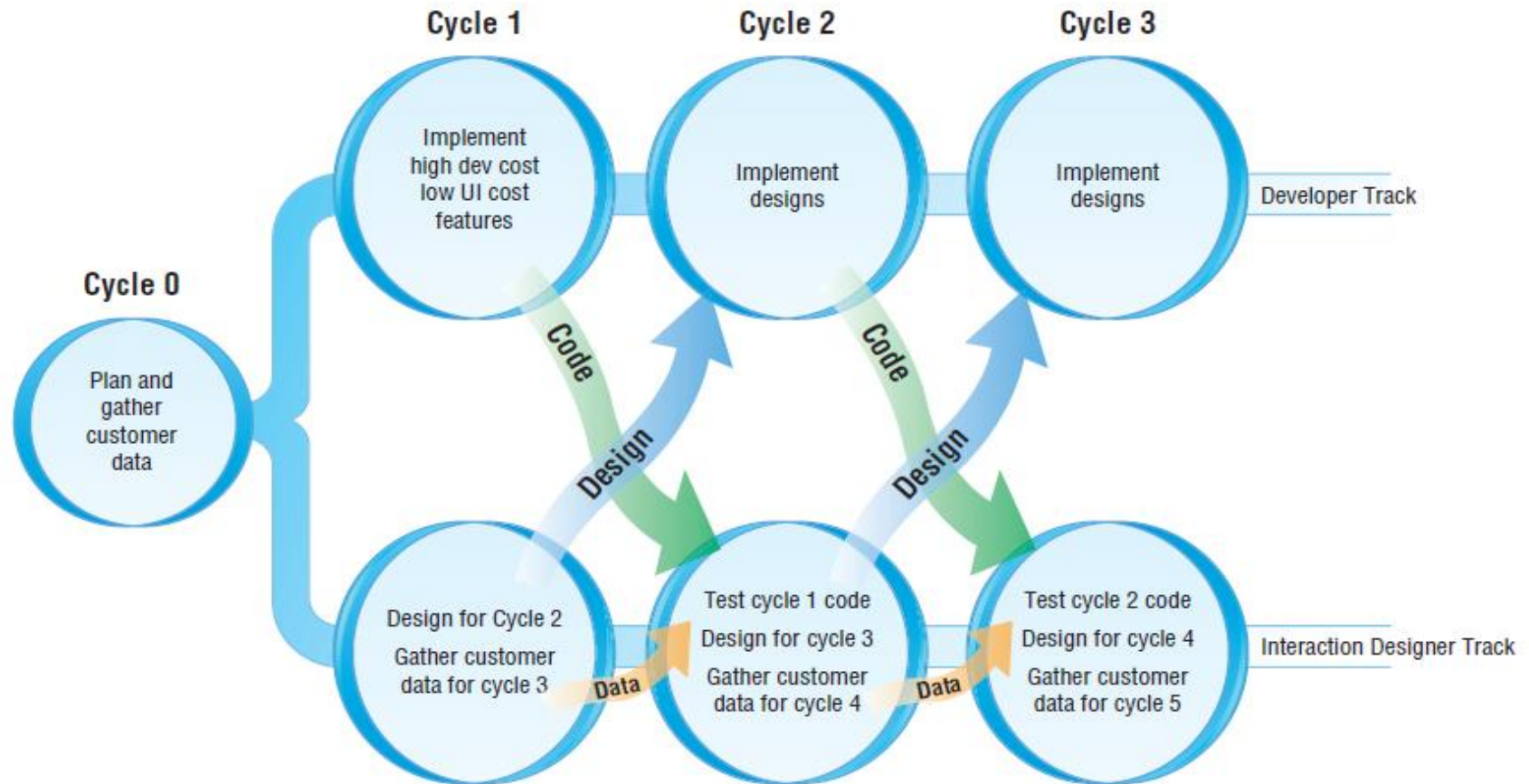


Figure 12.2 Cycle 0 and its relationship to later cycles

Source: Sy, D. (2007) Adapting usability investigations for development, *Journal of Usability Studies* 2(3), May, 112–130. User Experience Professionals Association.

UCD and Agile integration

- SketchBook Pro (Alias, Canada)
- ID techniques
 - context research
 - interview
 - usability tests
 - surveys and beta-tests
- Agile process: Scrum
 - Challenge: ID processes intersect with Agile ones



UX integration into Agile and Scrum

1. Best beginning practises

- understanding of customer needs, business objectives, metrics, budgeting

2. Design ahead of each sprint

- Sketches and mockups help test ideas for a sprint 1 user stories and
 - It can be called as Sprint 0
 - It works for next sprints as well

[Aaron Cooper.](#) "How should we integrate User Experience in Agile and Scrum?", 2017

UX integration into Agile and Scrum

3. Agree on an accountable Product Owner

- Product Owner has final say
 - on what launches,
- the User Experience Lead is consulted
 - to help determine the priority of stories and bugs.

4. Integrate user experience testing

- Use Backlog to indicate where Usability Testing is likely to occur, iteratively

5. Prevent extensive documentation and versioning issues

Aligning work practices

- Advantages of parallel tracks approach:
 - no design time wasted on features not implemented
 - usability testing and contextual inquiry could be done on the same customer visit, saving time
 - timely feedback on the designs was received from developers and customers
 - Agile flexibility supports schedule changes if a problem is found
- Parallel tracks is commonly used

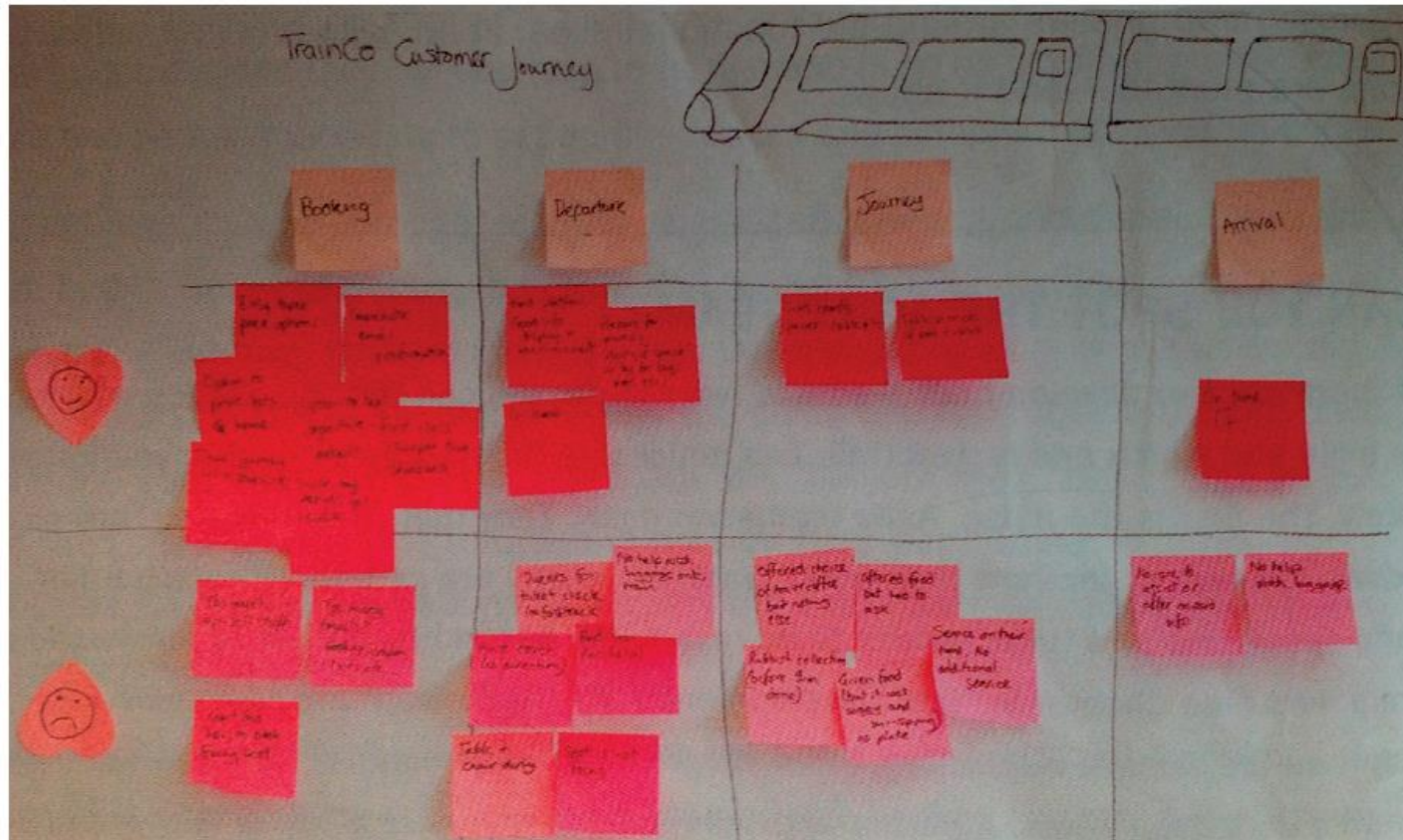
Lean UX, Agile UX, evolutionary prototyping

- Lean UX produces minimal viable product to test assumptions
 - To collect evidence of user's reactions
 - The evidence is used to build larger product
 - Evolutionary building
- Agile UX focus on integrating UX design with agile development
 - Agile development is evolutionary

Documentation

- Most common communication approach for UX designers
- Agile discourages this kind of communication, in favour of discussion
- Only use documentation where needed. Ask:
 - Who will read it?
 - Who will use it?
 - What is the minimum needed?
 - Is there duplication anywhere?
 - How polished does it need to be?

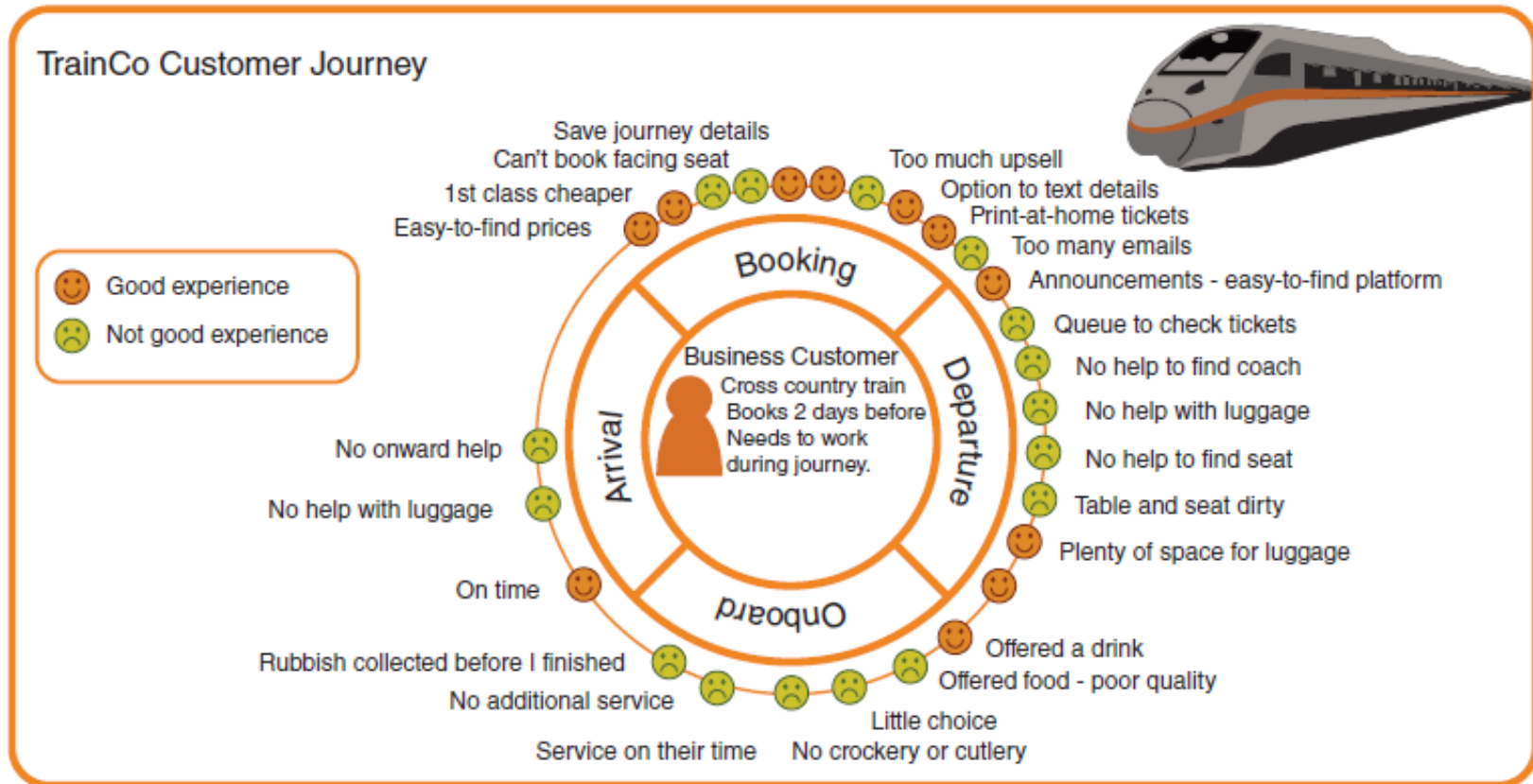
Documentation: how polished?



(a)
Figure 12.3 (a) A low-fidelity user journey

Source: Ratcliffe, L. and McNeill, M. (2012) *Agile Experience Design*. New Riders.

Documentation: how polished?



(b)

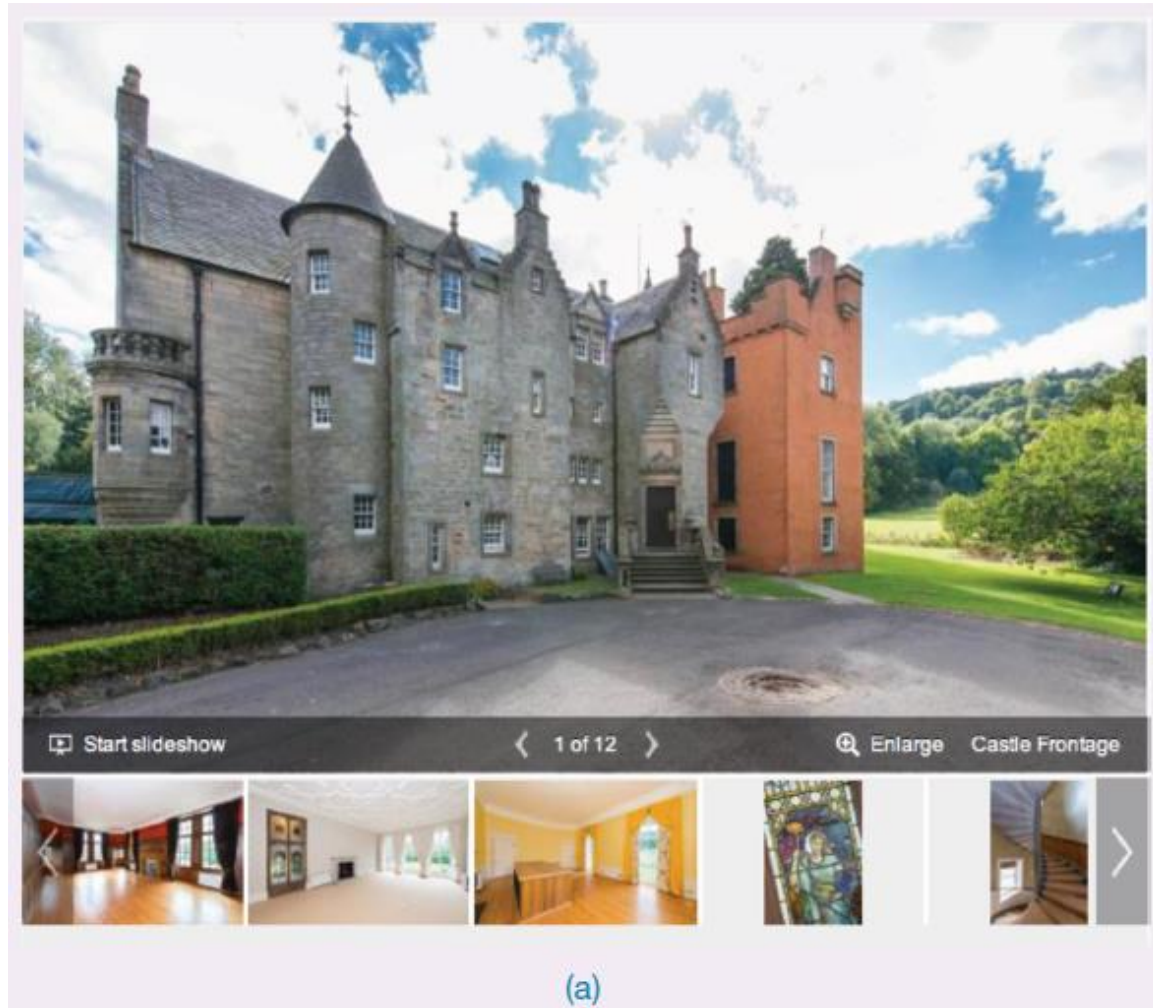
(b) A high-fidelity user journey

Source: Ratcliffe, L. and McNeill, M. (2012) *Agile Experience Design*. New Riders.

Design Patterns

- Capture design experience:
 - a solution to a problem in a context
 - can be instantiated in many ways: generative
- Patterns may be individual, in languages, in catalogues, galleries or libraries
- Patterns often are associated with software components, e.g. Github or platform websites
- Carousel pattern as example:

Design Patterns: carousel



(a)

Figure 12.5 Two example carousel navigation styles (a) showing pictures of a house for sale. Note the arrows to the left and right of the row of photos at the bottom.

Design pattern: carousel



Nielsen Norman Group articles on carousel design pattern

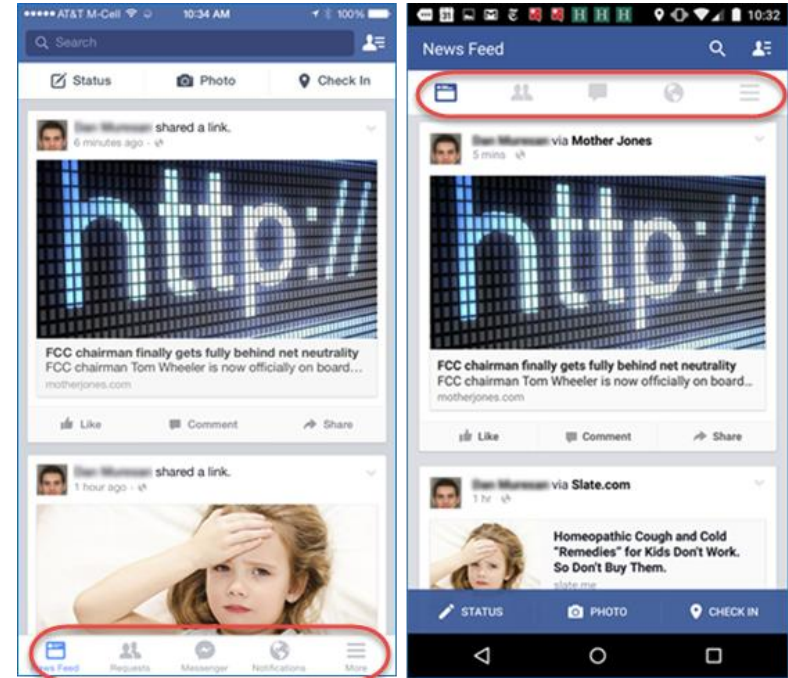
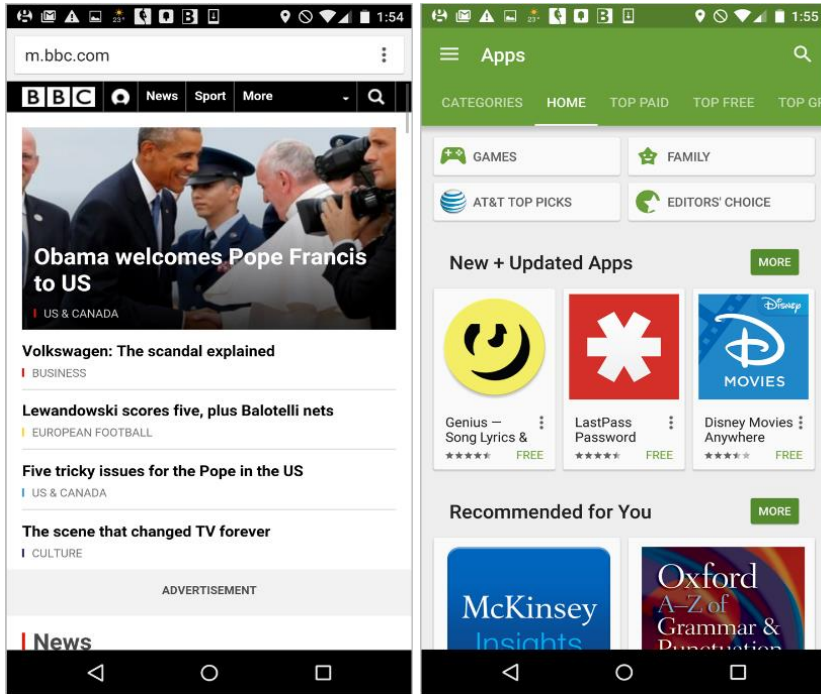
[Carousel Usability](#): Designing an Effective UI for Websites with Content Overload

[Auto-Forwarding](#) Carousels and ccordions Annoy Users and Reduce Visibility

Popular navigation patterns

- Main navigation bars and tabbed bars
- Hierarchical Tree Navigation
- Nested Doll Navigation
- Hub and Spoke Navigation
- Bento Box Navigation
- Filtered View Navigation

The Navigation Bar and Tab Bars



The navigation bar is efficient, but

- it works well only for few navigation options;
- it takes up valuable real estate above the fold.

The tab bar can appear

- at the top (Android mostly) or
 - at the bottom of the page (iOS mostly).
- It is usually present on most pages within an app

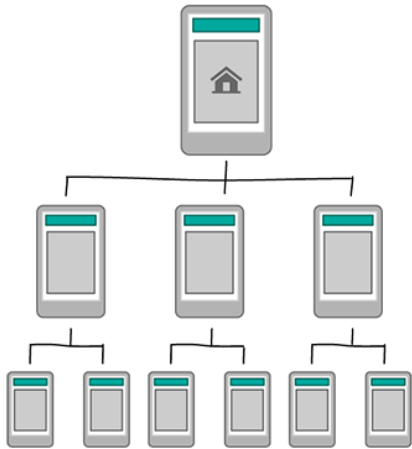
<https://www.nngroup.com/articles/mobile-navigation-patterns/>

Tab bars and navigation bars

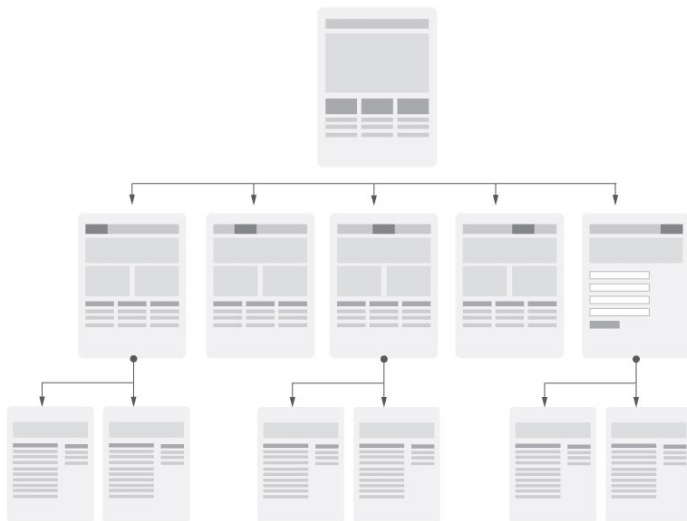
- Well suited for sites with few (4-5) navigation options
- For more - Carousel may be a solution
 - but if the categories are different
 - then users won't scroll
 - because the weak information scent from the visible categories may prevent them from guessing what items are hidden

<https://www.nngroup.com/articles/mobile-navigation-patterns/>

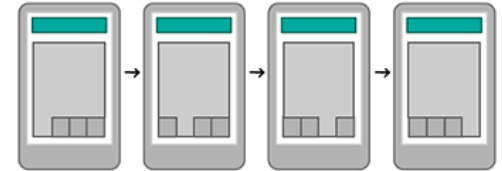
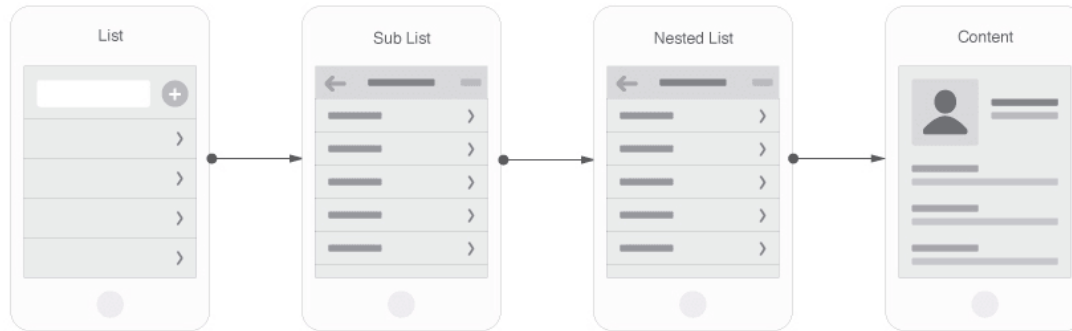
Hierarchical Tree Navigation



- Provides a top-level category for navigation followed by further layers of content in sub-categories below that level
- **Good for organising complicated site structures that need to follow a desktop site's structure.**
- The drawbacks
 - this model can become difficult to accommodate on the mobile screen;
 - the more content you have, the more difficult it is to squash all that data into the screen.

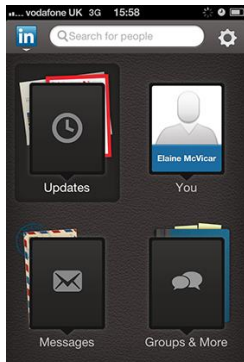
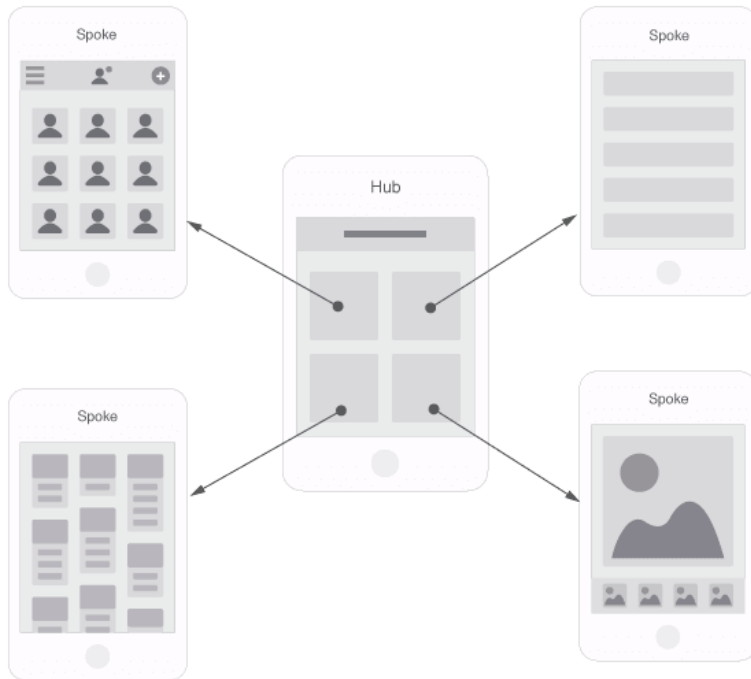


Nested Doll Navigation



- Linear menu pattern
- Users incrementally tap or swipe
 - to reveal additional menu options
 - as they traverse up and down through the site map.
- Funnelling users from broad overview pages to detail pages helps them hone in
 - on what they're looking for
 - and focus on content within an individual section.
 - well suited to small screens
 - but comes at the expense of easy lateral movement across sections.

Hub and spoke navigation



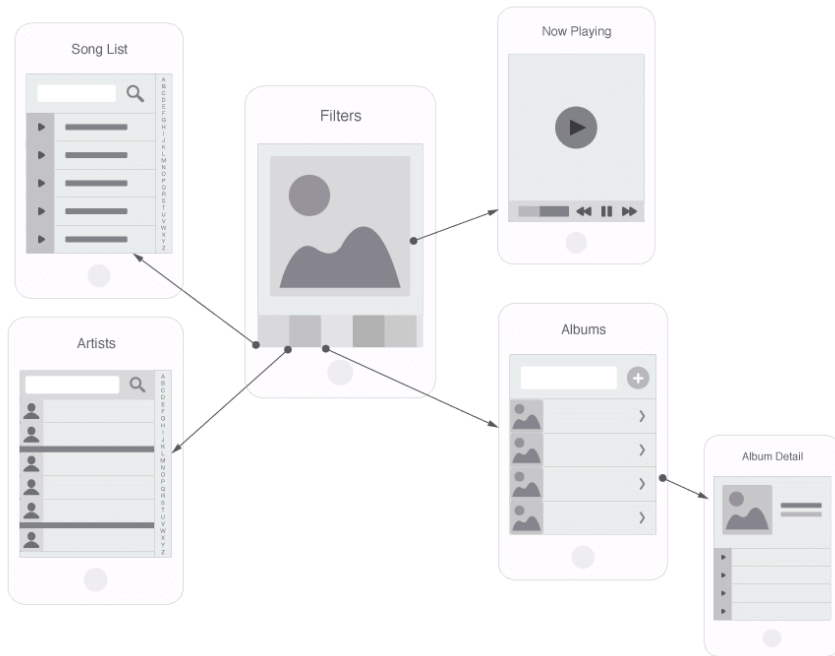
- Central screen acts as the launchpad for exploration
 - Links point outward to other sections
 - To move from one section to another,
 - you must first jump back to the hub.
- Eliminates the need for global navigation on each page
 - a popular choice for
 - multi-functional tools
 - task-based applications
 - that benefit from focus and minimal distraction.

Bento Box/Dashboard Navigation



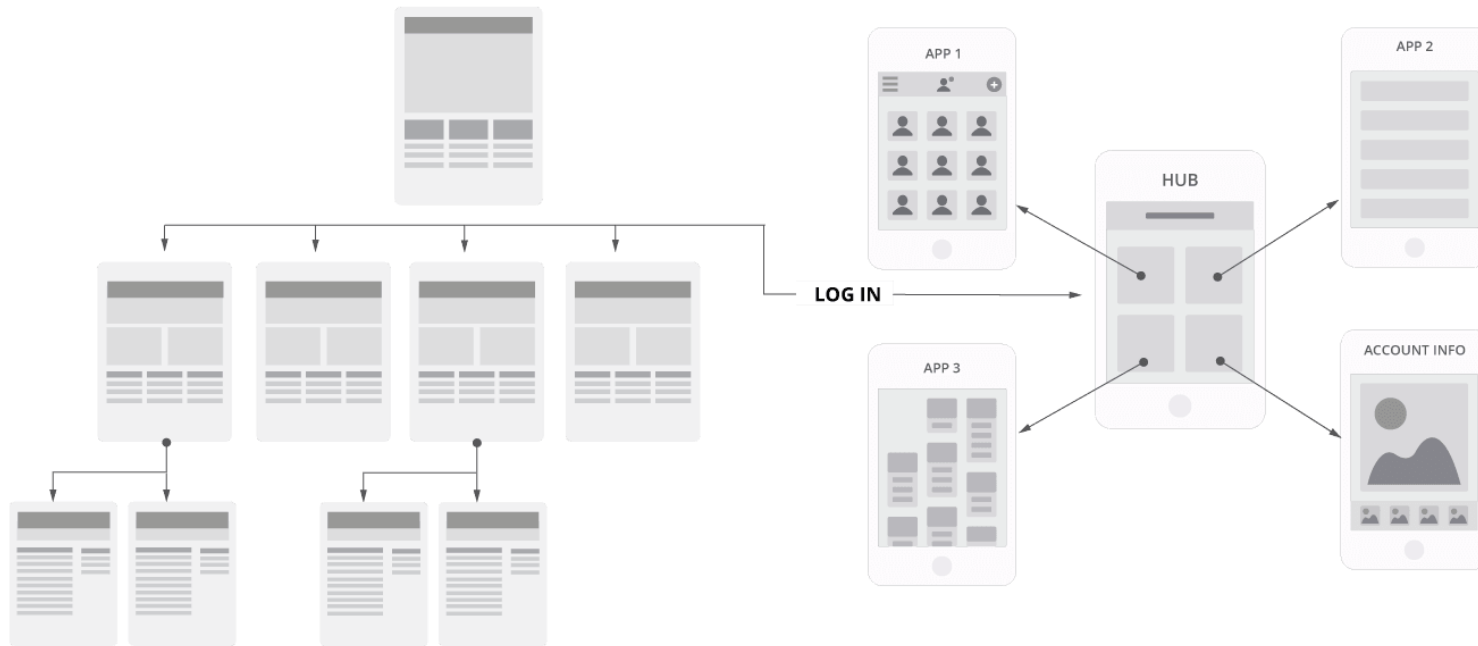
- Brings more detailed content directly to the index screen by using components to display portions of related tools or content.
- More suited to tablet than mobile
 - due to its complexity
- Good for
 - Multi-functional tools and content-based tablet apps that have a similar theme.
- Most interactions occur in a single multi-purpose screen
 - that unfolds to reveal layers of additional information.
- A popular choice for websites
 - on which users interact with data aggregated from a variety sources.

Filtered View Navigation



- Allows to navigate within a set of data by selecting filter options to create an alternative view.
- **Good for**
 - Apps or sites with large quantities of content,
 - such as articles, images, videos.
- Filtered view systems deal with a single data set.
- Information may be explored from multiple perspectives,
 - with a variety of views and sorting options
 - controlled by the user.

Combining schemes



- Example:
 - One scheme for public part
 - Another for registered members

Design Patterns

- Capture design experience, but that doesn't necessarily mean good design:
 - anti-patterns: don't do it this way!
 - dark patterns: deliberate tricks

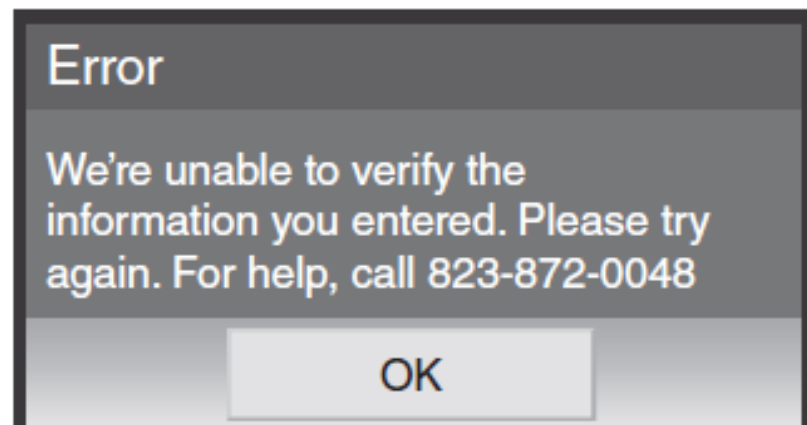
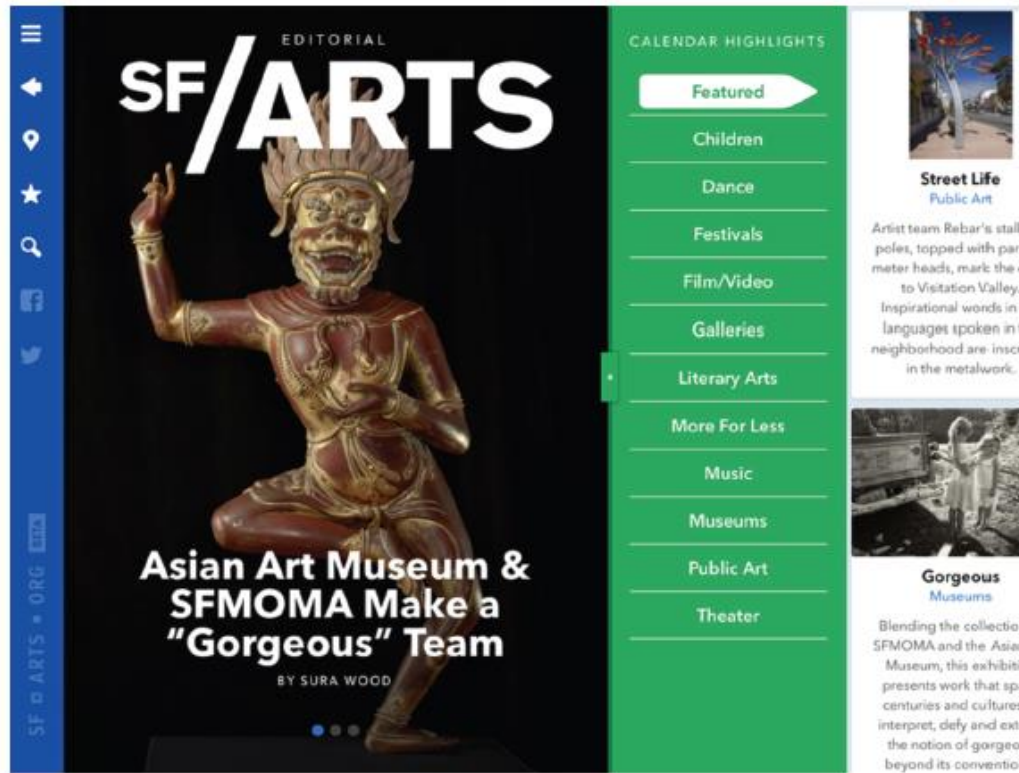


Figure 12.6 An untappable phone number for help when smartphone installation goes wrong

Open Source Resources

- Components, frameworks, systems available free of charge
- Community-driven
- Available for interaction design:
 - design pattern libraries
 - [UX design patterns](#) for Android
 - [Bootstrap framework](#)

Open Source Resources



<https://www.sfarts.org/>

Figure 12.7 An example website built using the Bootstrap framework <http://www.sfarts.org>.

Source: Didier Garcia/Larson Associates.

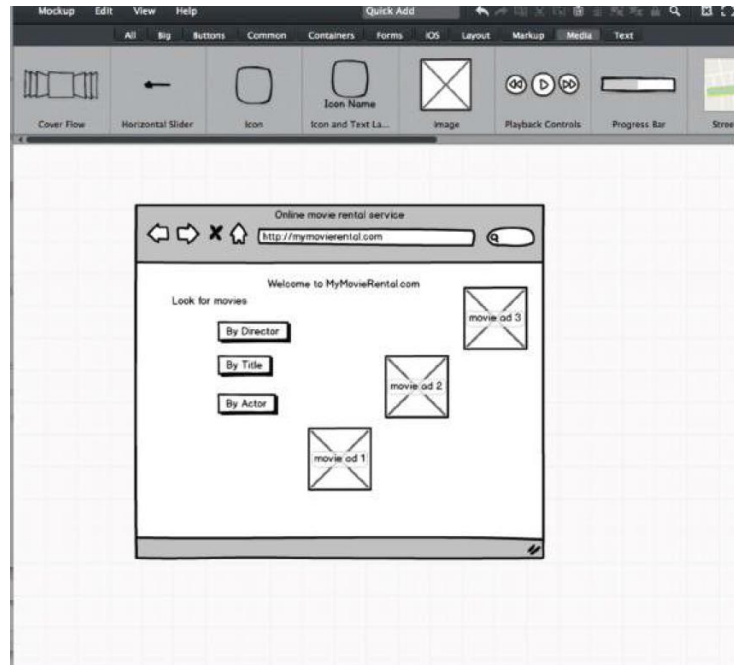
More [Bootstrap examples](#)

Tools for Interaction Design

- Tools support all aspects of the design process:
 - creativity, sketching, simulation, brainstorming, library search, mindmapping, video capture
- Tools integrate together to speed up prototyping
- Interactive wireframes or mockups can be produced using, e.g.
 - [Balsamiq](#)©
 - [Axure](#)©
- Higher fidelity prototype can be produced by linking interactive wireframe to design pattern library with software components

Wireframing with Balsamique

- How To Wireframe With Balsamiq



Summary

- AgileUX refers to approaches that integrate UX design and agile development
 - it requires a change in mindset by designers and developers
 - requirements are repeatedly re-prioritised, which aims to avoid wasted effort
 - UX design activities need rethinking: when, how much, and how to take forward
- Design patterns present a solution to a problem in a context
- Open source resources, e.g. on Github, make development of standard applications easier and quicker
- A range of automated tools to support interaction design in practice is available

References

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- [Aaron Cooper](#). "How should we integrate User Experience in Agile and Scrum?", 2017
- [Case studies on the UX techniques](#) used by Android within agile iterations: GOOGLE I/O 2013
- [10 great sites for UI design patterns](#), The Interaction Design Foundation
- Mobile [navigation patterns](#), NN/g
- [How To Wireframe](#) With Balsamiq,