ROBERT GORDON UNIVERSITY ABERDEEN

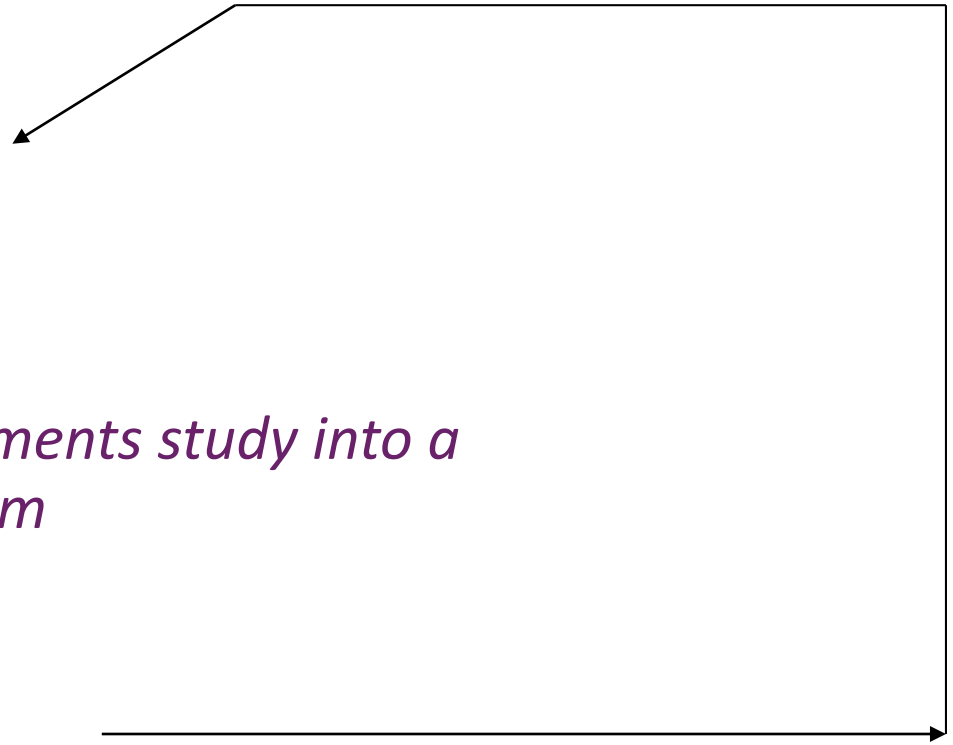
Topic 5: Practical Design, Scenarios & Storyboarding

Review of results from last week's PD activity (lab)

Practical Designs

Design

- To design means
  - To make something concrete
  - The word also means to desire something
- In the case of HCI, design means
  - *To convert the findings of the user requirements study into a concrete proposal for the design of a system*
- This is the system that the users desire



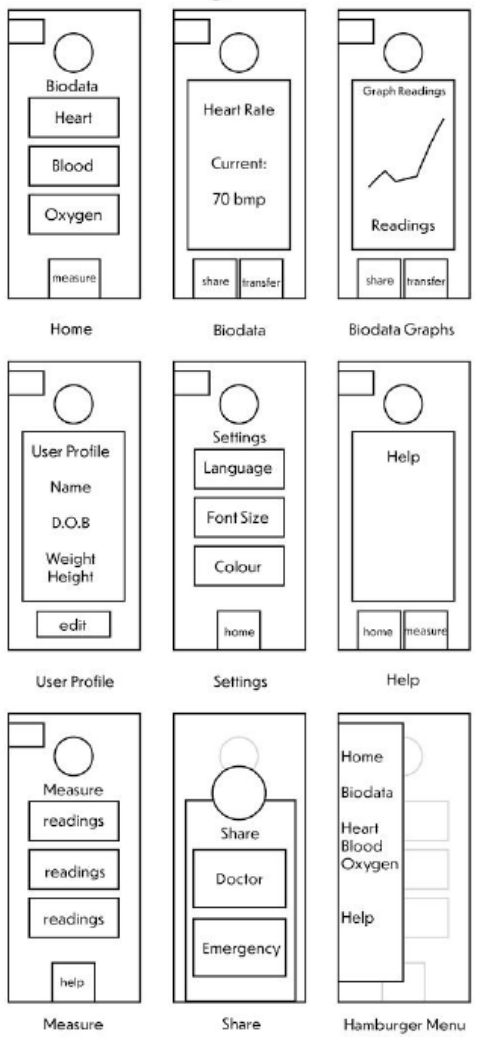
Usability

- Effectiveness
- Learnability
- Flexibility
- Attitude

The new law is oriented towards health and safety and specifies standards for hardware and furniture, but also specifies how software should be made more usable!

Keep in mind accessibility and other issues!

Examples of practical designs



https://xd.adobe.com/view/040d3f8a-9695-4908-7899-ab2d655d5640-723c/?fullscreen&hints=off

https://youtu.be/BB18XlofqwM

Scenarios (& other similar stuff)

Scenarios

- We need a process of discovering things about users and how they use!
- Descriptions of people using technology?
- Scenario-Based Usability Engineering
- User Interaction Scenarios

Scenarios

- A scenario is a description of something
  - Stakeholders and users
  - Typical usage
  - Problems
- Who writes scenarios?
  - Designers
  - Users
  - Designers and users - groups
  - Experts
  - Anybody who can provide information that is relevant

Scenarios

- Stories about users interacting with the system
- Focus on a particular user
  - e.g. a persona
- Explains the wider context, not just a set of steps
  - Who is involved?
  - Where and when is this happening?
  - What is the goal?
  - How do they feel?
- Avoid details about the system as much as possible
  - “John chooses to view his balance” not “John is presented with a list of options and presses the button next to View Balance”
  - Some details might be essential to the story – e.g. difficulty operating a button might be needed to show an accessibility problem

The Magic Formula

$$PROFILES \times PRACTICAL\_DESIGNS = SCENARIOS$$

Are scenarios too simple?

- Scenarios can give an impression of simplicity
- A basic scenario is simple and is meant to be simple
  - Can be written by users with no technical skills or knowledge
  - Can be read and understood by everyone
  - Allows evaluation with users
- Scenarios form the basis for more complex analysis
  - Claims analysis Pros and Cons of various features
  - Various analyses of situations and contexts
  - Formal task analysis
  - Further studies, including experiments

Key concepts in scenarios

Scenarios have components:

- Setting
- Actor(s)
- Claims
- Task Goals
- Actions
- Plans
- Evaluation

- Analysing Requirements (AR)
  - Setting + Actor(s) + Claims
- Activity Design
  - AR + Task Goals + Evaluation
- Information Design
  - AR + Plans + Evaluation
- Interaction Design
  - AR + Actions + Evaluation

Scenario Example 1 (Trace & Protect)

- You are testing an app that provides COVID guidelines if the “Trace and Protect” programme finds out that you may have caught the disease
- Mary (user) is not technology-savvy, and she may not see the value of the app, therefore she may be apprehensive!
  - Problem: There is a danger that Mary finds the system patronising as she is (or feels she is) mildly affected.
  - Problem: Mary is reliant on someone else’s technical ability, and she may not trust herself to understand and set up the app.
  - Problem: If Mary thinks of something that needs to be added to the device reminders, she is not capable or able to, as she is does not know how to properly access the app.
- Consequences
  - What happens if she forgets the device at home? Can she input/get info once she is back?

Scenario Example 2 (ATM)

It’s Friday afternoon and Joe is flying to Sydney. He doesn’t have enough money for a taxi to the airport, and he’s running late. He goes to the local ATM and identifies himself. He specifies that he wants $100 from his savings account. He’d like the money in $20 notes so that he can give the taxi driver the correct change. He doesn’t want a printed receipt, as he doesn’t bother keeping track of transactions in this account.

https://infodesign.com.au/usabilityresources/scenarios/

Example Scenario 3 (Smart Glasses)

Luisa Martinez stretches, trying to wake up her muscles. It's cold, it's dark, and it's too damn early to be doing this. Grabbing her run pack–her specs, her tablet, and a Nalgene bottle of water–she heads out into the San Francisco morning.

On the sidewalk, she turns on the Web tablet and puts on the specs. They're new; she got them as a gift from her brother, who loves the latest gadgets. They're supposed to work with the new networks that the City is installing (yet another Google project, she recalls), as well as provide a new way of controlling her tablet (a pocket-size device replacing an old iPod she recycled a month or three ago).

She sees a slowly opening flower off to the side of her vision as the system comes online, a rose. She smiles; Diego must have done some customization before he sent it. A text crawl, just below her eye-line, asks her to confirm if she wants to use her "Jogging" profile from the tablet. She pauses–was this a voice interface?–and remembers that the specs have one of those "accelawhatchamacallits" in it to respond to movement. Hesitantly, she nods, the display clears, and she sets off.

https://www.fastcompany.com/90184748/futures-thinking-writing-scenarios-2

Scenario w/ user feedback

- You have created your scenarios and analysed your claims.
  - You are the designer and it is your informed perception that led you to create these scenarios
  - Time to ask potential user their feedback. You need to know what they think will work and will not work. What they like or did not like?

- At the end of the process, you will know how your system is most likely to be received and how usable potential users think it will be.
- Moreover, you will know the “bit” that you must review or change.

Walkthrough

- For each task, a walkthrough considers…
  - What impact will interaction have on the user?
  - What cognitive processes are required?
  - What learning problems may occur?
- Analysis focuses on users goals and knowledge: does the design lead the user to generate the correct goals?

Cognitive Walkthroughs

- Method of evaluating designs without a user
- Is a design suitable for a user?
- Go through a certain task with the design team, checking whether the persona would be able to do each step
- Several different methods proposed
  - To do well, it requires lots of training, buy-in, experience, preparation, time
  - Simplified ideas include cognitive jogthrough and streamlined cognitive walkthrough

Streamlined Cognitive Walkthrough

- One member of the team leads the others through the task.
- For each step, the team discusses:
  1. Will the user know what to do at this step?
  2. If the user does the right thing, will they know that they did the right thing, and are making progress towards their goal?
- A note is made of the discussion
- ***After*** the session ends, you can discuss what to do about any problems identified

Spencer, Rick. "The streamlined cognitive walkthrough method, working around social constraints encountered in a software development company." *Proceedings of the SIGCHI conference on Human Factors in Computing Systems*. 2000.

Example Walkthrough 1 (Adding VR glasses)

- Debbie starts by opening the app and powering the glasses on. She then goes to the settings icon, which takes her to the settings page where a list of settings are displayed. She selects the add device button which takes her to a new page with tabs for New device and current device. The new device tab is open when the page loads. The new page gives instructions on how to add the device and a button with the option to scan for devices. She selects the button to scan for devices. After scanning, the app finds the glasses and displays them as an option on the screen. She clicks on the device name and chooses select device. The app then asks for the PIN which is printed on the frame of the glasses. After locating the PIN, Debbie enters it and selects that yes she would like to add the device. After this the glasses are connected to the app.

Use Cases

- More detailed technical description of how an activity occurs
- Just the interaction steps, not the details involved in scenarios
- Still trying to avoid too much detail on exactly what controls exist
  - “The user chooses an option” not “The user selects an option from the drop down box and then presses the OK button”

Alternative Use Cases

- Usually have the “normal” use case
- Can also have alternatives to this if the user does something different

2. The user modifies the article's content till satisfied.

⋮

5. The system presents the updated view of the article to the user.

Alternatives:

2. The user selects Cancel.

2.1 The system discards any change the user has made, then goes to step 5.

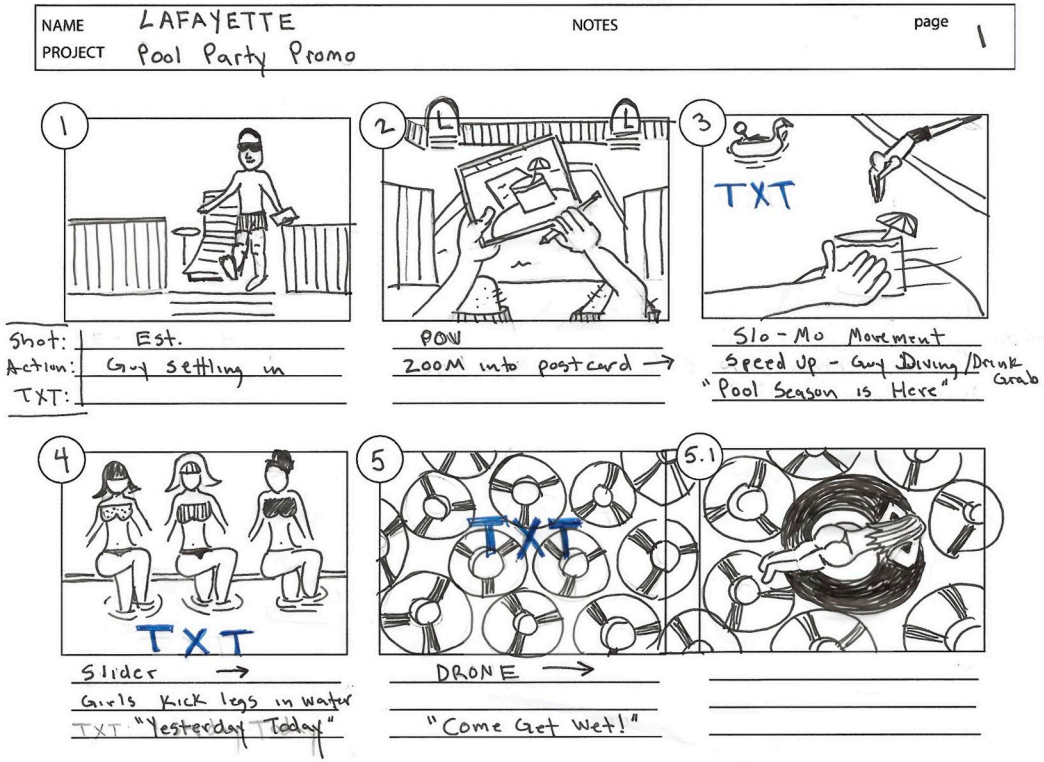
Use Case Example (Editing Wiki Page)

1. The system provides a new editor area/box filled with all the article's relevant content with an informative edit summary for the user to edit. If the user just wants to edit a section of the article, only the original content of the section is shown, with the section title automatically filled out in the edit summary.
2. The user modifies the article's content till satisfied.
3. The user fills out the edit summary, tells the system if he/she wants to watch this article, and submits the edit.
4. The system saves the article, logs the edit event and finishes any necessary post processing.
5. The system presents the updated view of the article to the user.

Storyboards

Storyboards

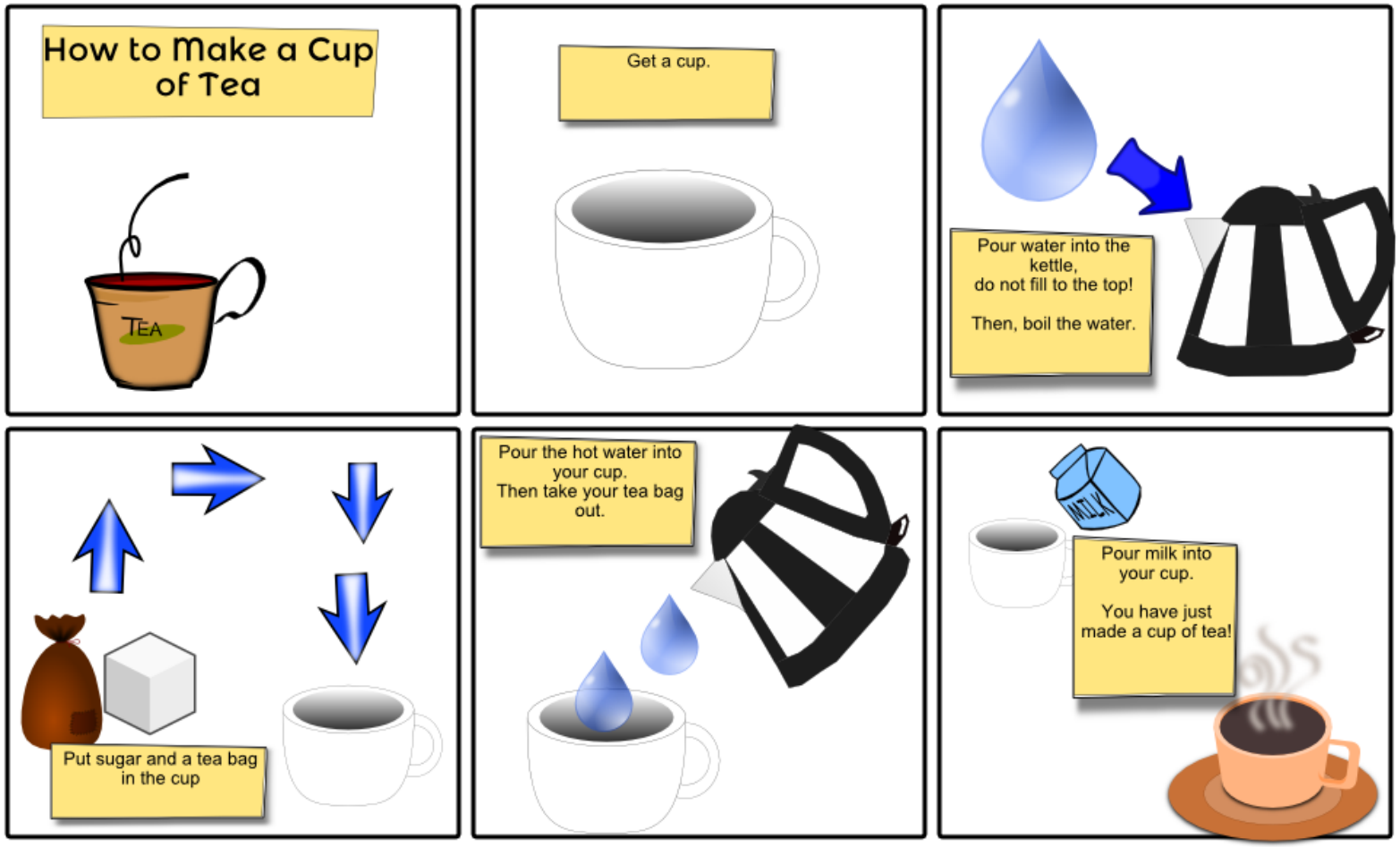
- Series of sketches showing how a user might interact with the technology / app / device / website / etc., or to show the progress through a series of tasks
- Often used with a scenario to bring in more detail and context.
  - A storyboard often contains elements such as background, text fonts used, widgets and design components used, if any multimedia components are used such as videos, animations etc.
  - Can use pen and paper screenshots, PowerPoint slides, screenshots, etc.



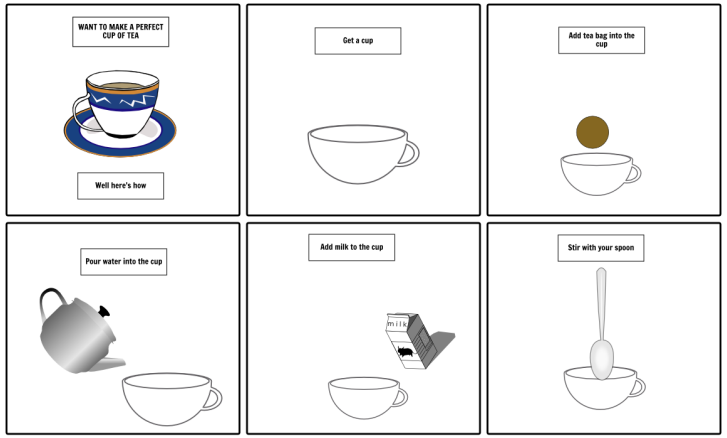
Storyboards

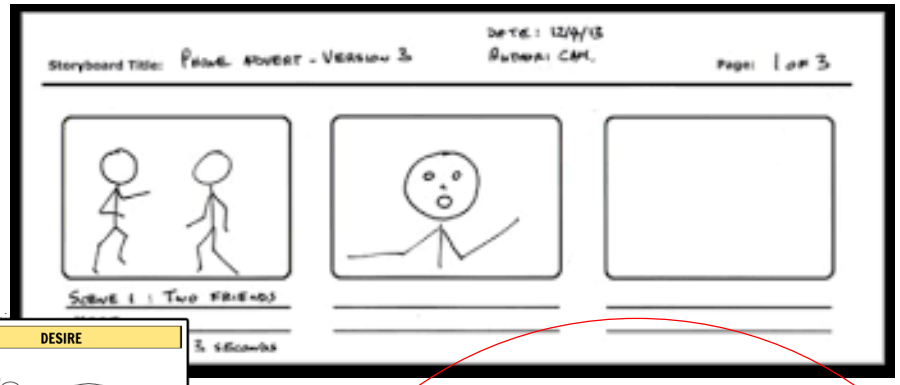
- Pros
  - Simple to design by yourself
  - Do not need technical knowledge
  - Pushes to think through the process of how proposed device/app will be used and helpful to identify needed features
  - Very useful for communicating ideas of concept
- Cons
  - Rough representations/sketches
  - Not everything can go in, often main components only
  - Limited in scope, and at times can be impractical to use on a whole project

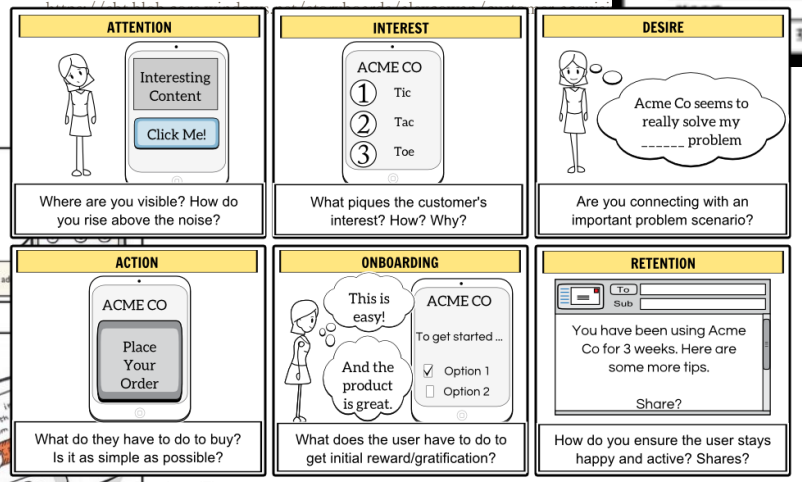
Storyboarding - Sketching

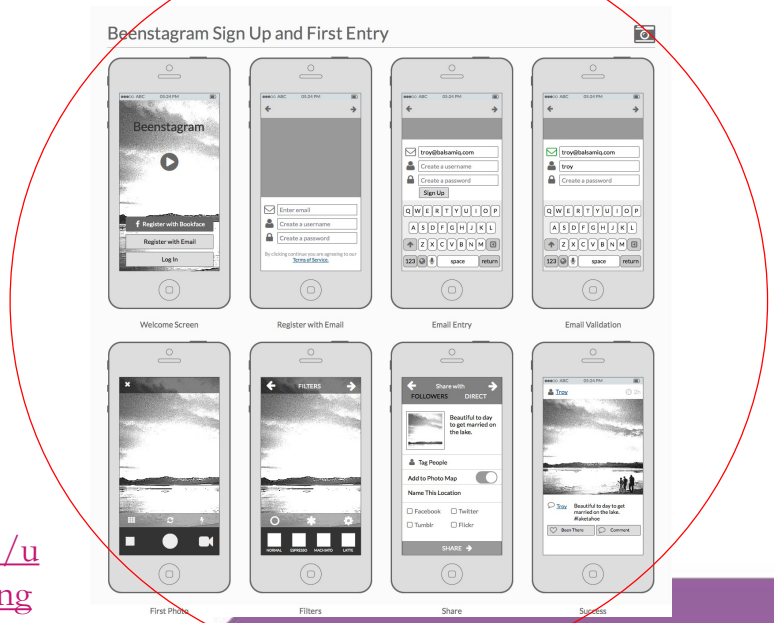


Storyboarding - Examples



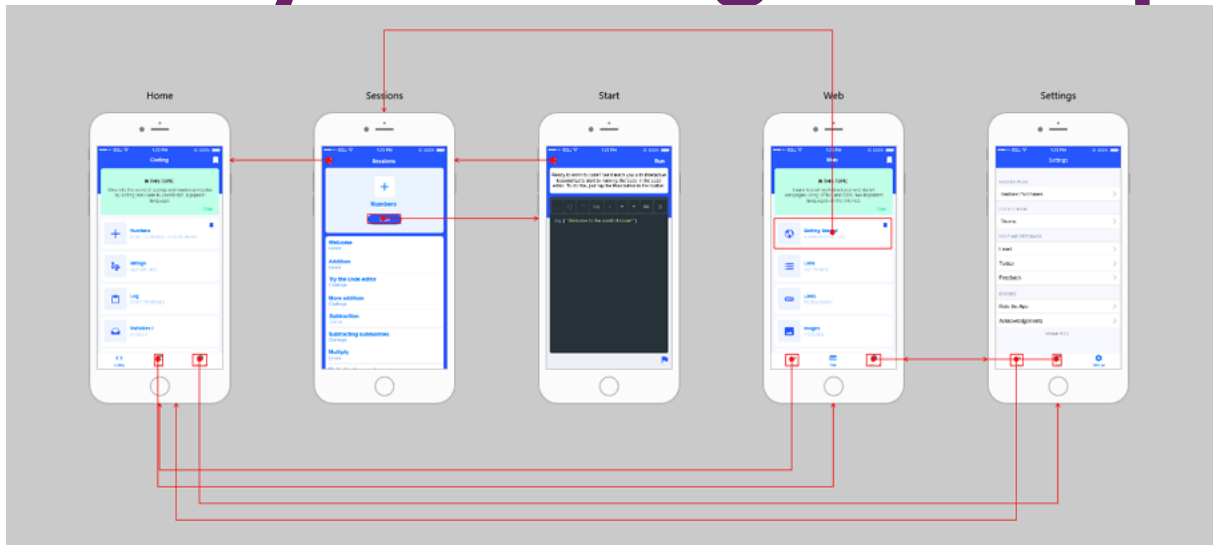






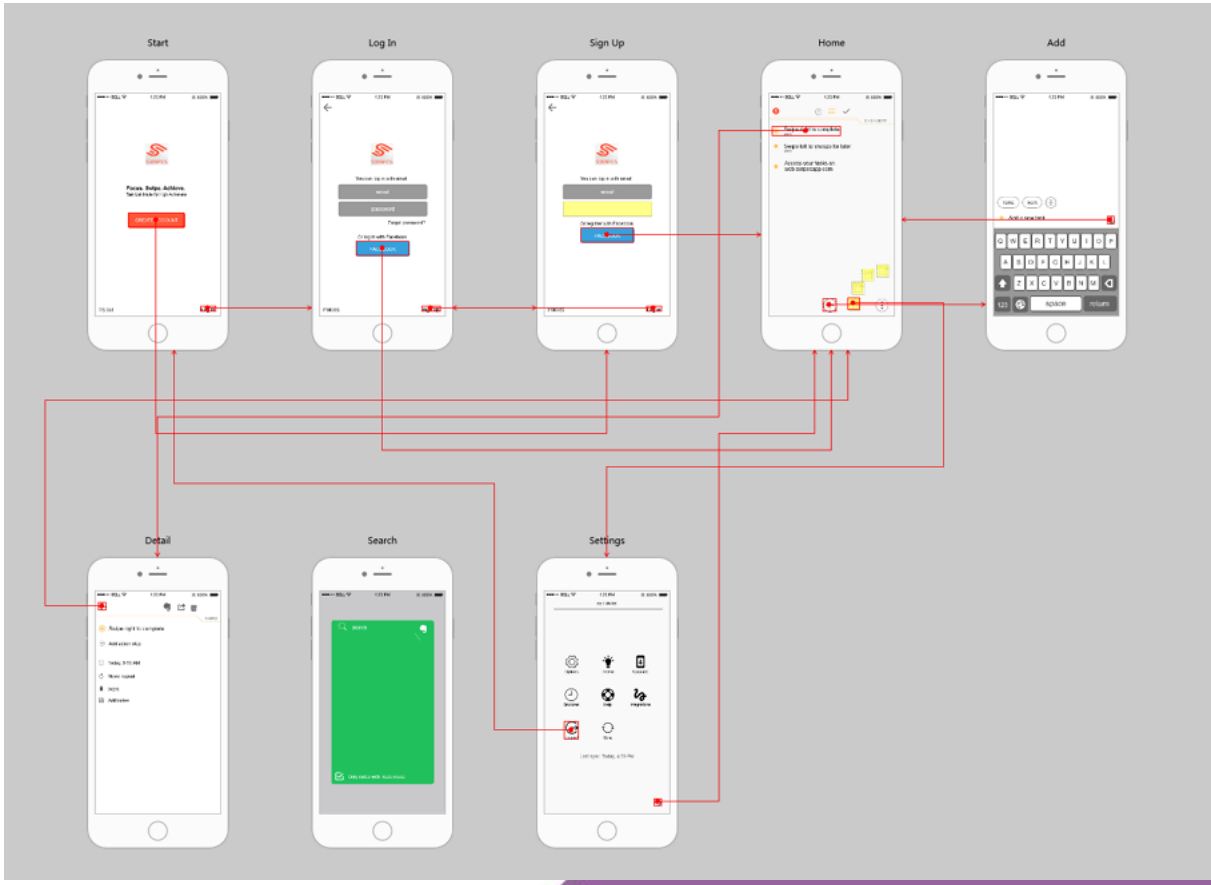
https://media.balsamiq.com/img/blogs/ux/example-beenstagram-storyboard-2.png

Storyboarding - Examples



https://file.mockplus.com/image/2018/03/0fd1f9b7-a3b1-4a80-ba15-ed1324af72a7.png

https://file.mockplus.com/image/2018/03/ef08b01e-3461-4833-9e23-a50663989b0e.png



The basic case

Project name	Microwave app		
Date	21th Feb 2019		
Scene	1	of	4
Description	This is the first screen that the user will face		
Links from scenes	NA		
Links to scenes	Screen 2		
Functionality/Interactivity (Sketch, Screenshot and annotate)			
			
Background	Back Colour but could be anything as it is a mobile phone.		
Colour schemes used	Colourful based on phone theme.		
Text attributes	Sans serif fonts should be used		
Audio files included	NA		
Video files included	NA		
Stills files included	NA		
Animations / movie clips included	NA		
Interface Components, e.g. buttons, widgets etc. - including mention of special algorithms			
The interface includes six icons, but may contain more in a real mobile phone. 4 of these icons are related to the proposed functionality i.e. diet, exercise, health and health stats. Another icons that can be in the interaction is the Home icon.			