Usability tests

What do we mean by usability test?

- A usability test is a one-on-one session where a representative user interacts with a prototype design with a researcher facilitating and taking notes

- Information you can get out includes:
  - Whether the **proposition is clear and of real value** to the user
  - Whether there are **usability issues that inhibit successful** use of the website
  - Whether key tasks can be quickly and readily completed by users

- A usability test can be **qualitative**, through open-ended interview questions, or **quantitative** by measuring task success and time rate

Quantitative testing

- A quantitative test can help inform the final stages of design by **verifying the performance of the site** along the key measures
    - **Task completion rate and time**
    - **Satisfaction rating**
- The researcher sets a few **standards tasks, times the participant and writes a survey to capture results** at the end
- When it identifies small problems, quant testing can identify where tweaks need to be made to the design
- But when it identifies bigger problems, quant testing typically doesn't provide enough guidance for a redesign

Qualitative testing

- Run **more like an open-ended interview,** qualitative testing lets the participants explore the prototype, exploring their own motivations & interests as well as your test objectives

- Qual testing is quite strong at **discovering a more holistic understanding of your user's mental model, perceptions** and **motivations**

- But you need to **be careful with interpreting** what your users say

- And it is often **hard to get an overall picture** of how well the current design performs

How to do a usability test

- Mix quantitative and qualitative objectives to suit your evaluation objectives
  - Regardless of what you want to learn and where you are in the design process, it is almost always useful to include both qual and quant methods

- Set up the usability test
  - Users
  - Client observations
  - Write an interview script/ discussion guide
  - Write a brief survey for your quantitative objectives

Users – who and how many?

- Should be as **representative** as possible
- For an intranet, it's easy to find appropriate users!
- For an Internet site, need to have a **sample of users with similar demographic distribution** to the intended user population
- Normally you'll get those from the **specialist market research recruiter** your usability consultants work with

- Jakob says you only need to **test with 5 users**, but not everyone agrees!
- A normal test is conducted with 5-10 users doing the same things

Observing sessions

It's important that stakeholders turn up to observe!

- It help them understand that **users may see their product with different eyes**
- It creates a **common reference point** and shared experience across the team
- Lots of observers **see more** than just one (and help with note taking)
- It's great fun! (or rather depressing sometimes!)

Warning: Avoid observers in the same room, it's intimidating!

Basic tips for interviewing users

- **Demographic questions** – what kind of person are you?

- **Task questions** – how would you achieve this? What are you doing? Why? Is that what you expected to happen?

  DON'T: ask questions that could get a yes/no answer
  DON'T: ask leading questions ("You like this, don't you?")
  DO: deviate from the script
  DO: tell them you didn't make the prototype. (Impartial)

- **Remember: comprehension, anticipation, satisfaction, task success**

Think aloud

- A useful technique for qualitative interviews is to ask users to "think aloud"

- Get immediate feedback on what users are **doing,** where they **looking,** what they are **reading,** what they are **understanding**

- Some people will find this hard to do, but keep encouraging them to keep talking.

- There are two magic phrases: "uh-huh?" and "why is that?"

- While they are thinking aloud, users will be **paying more attention** to what they are doing, reducing mistakes

- Unsuitable for measuring task time at same time

Retrospective protocol

- A different option to think-aloud is to ask users to proceed through their tasks first, then explain what their experience was like afterwards

- This means you can still time tasks accurately

- But users will still often **post-rationalise** what they did and explain away problems that they had

Measuring performance

In usability studies you can measure many things, though the 3 fundamental things to measure are:

System efficiency

...for example time to complete task, loading time

System effectiveness

...for example task completion, number of errors

User satisfaction

...for example preferences, uptake etc

Other aspects you can think of?

When to ignore what users say...

The most trustworthy of user feedback is their behavior during tasks

Beware when asking for their opinion

- Humans **aren't good at introspection**
- It's an awkward situation: **they will say whatever they think you expect** them to
- Often they'll **blame it on themselves**
- **They aren't designers:** they don't realise the impact of their suggestions
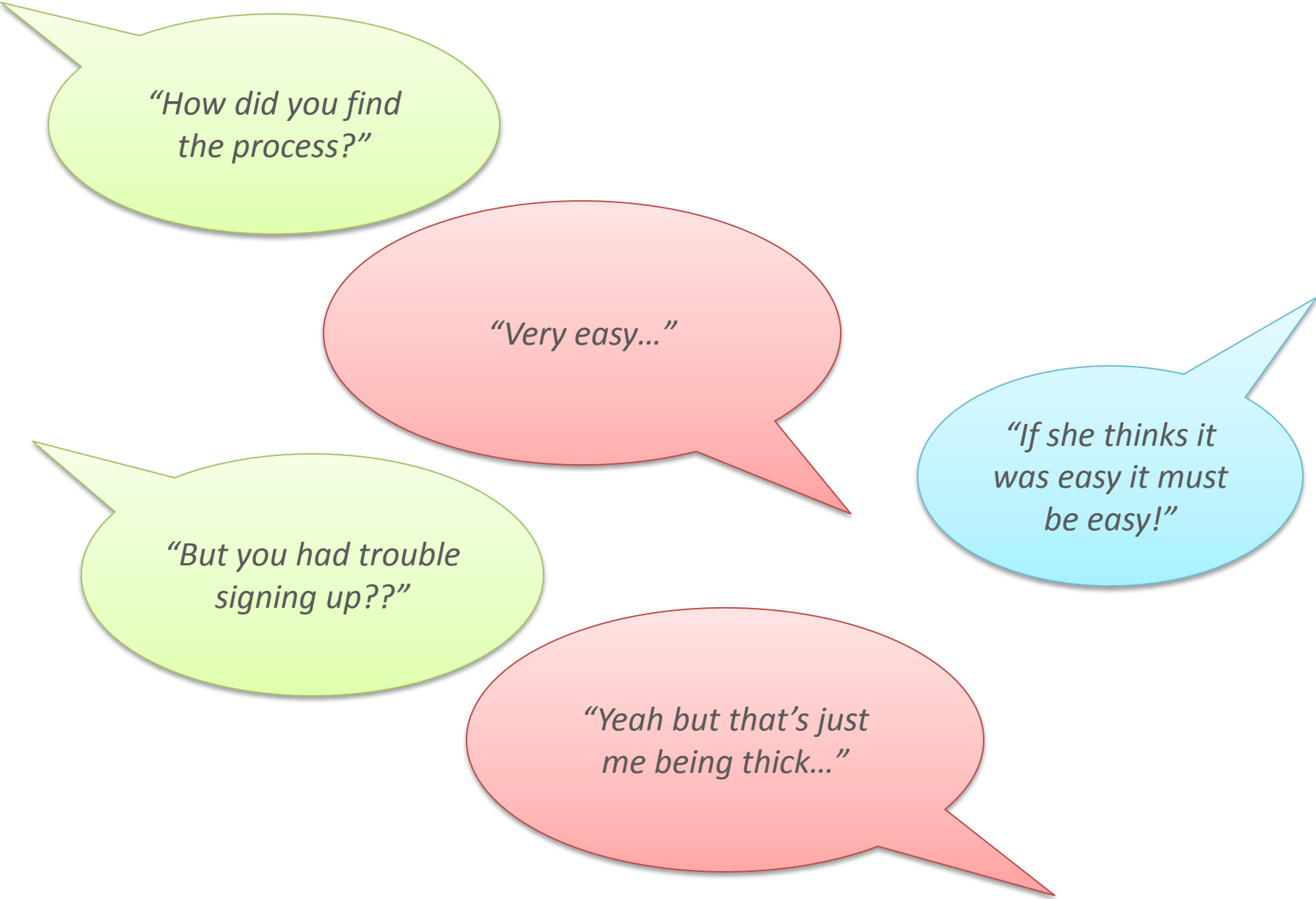
This means

- **Avoid what-if** questions. They are not effective.
- **Always interpret** what users say carefully.

"How do you feel about these security questions?"

"Uuh...there are a lot of questions here but I'm sure they are there for a good reason..."

"See the user thinks the procedure is reasonable!"

Exercise

- Choose one of the phones in the session

- Set some evaluation goals

- Set your interview script to last for about 5 minutes
  - Introduction
  - Explore current user attitudes & behaviours
  - Complete some tasks (from user or yourself)
  - Wrap-up questions

- Get into pairs and participate in each other's usability test

- Report back!

Analysing and documenting findings

- **If an issue happens to only one of the six users, is it important?**
  …It's your call

- **What was the impact?**
  Catastrophic or just an annoyance?

- **How persistent was the problem?**
  Was it a one off or would it occur all the time?

- **Problem severity is a judgment call based on your expertise in user behaviour & usability theory**

- A **spreadsheet** or a **PowerPoint** showing findings and severity rating is the most common deliverable

# *Eyetracking & A-B testing*

Eyetracking

Eye-tracking records a reflection of invisible infra-red light off the cornea to **show where people are looking** on a screen.

The software records:

- The spots where people look (**fixations**)
- The eye movements (**scan path**)
- The **length of time** people look at a specific area of interest (fixation duration)
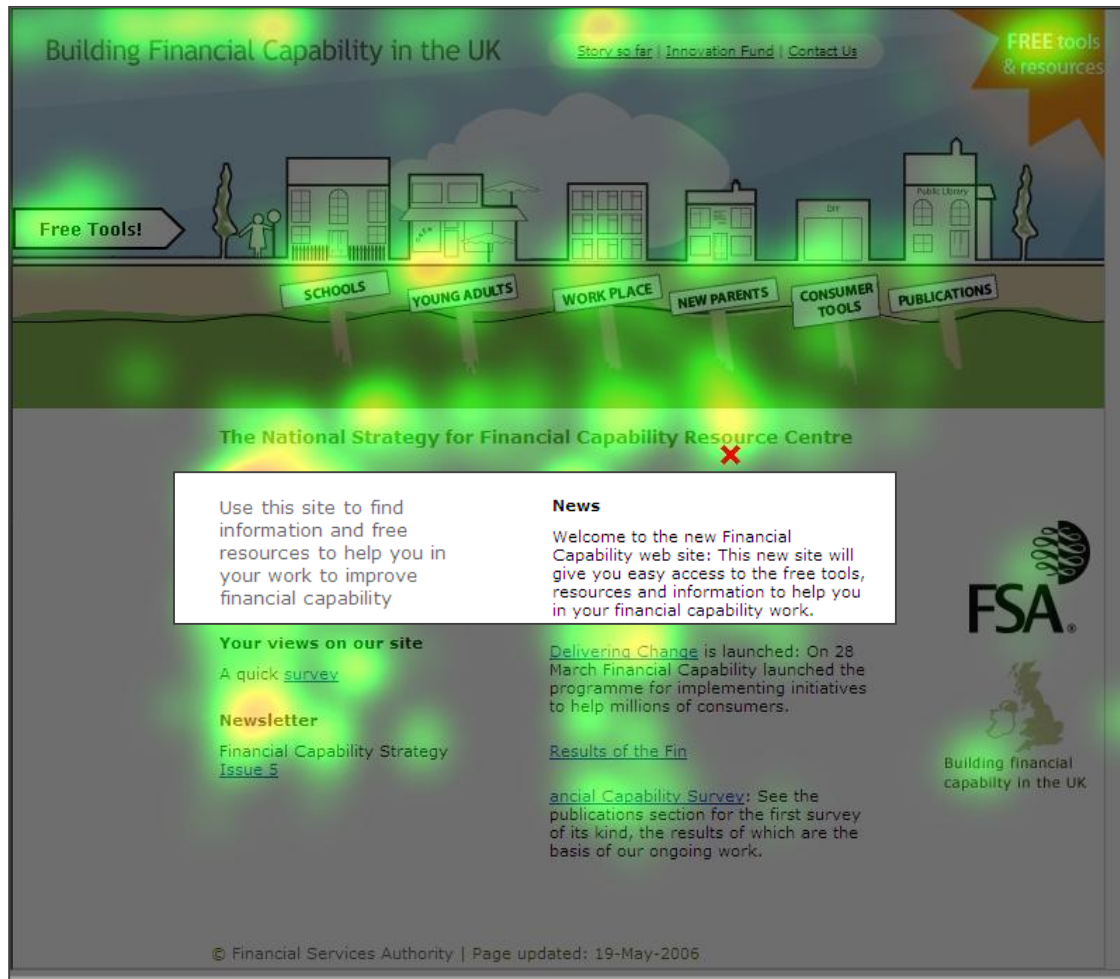- The **mouse clicks**
- The **pages that they are looking** at

Example: *An eye tracking recording*

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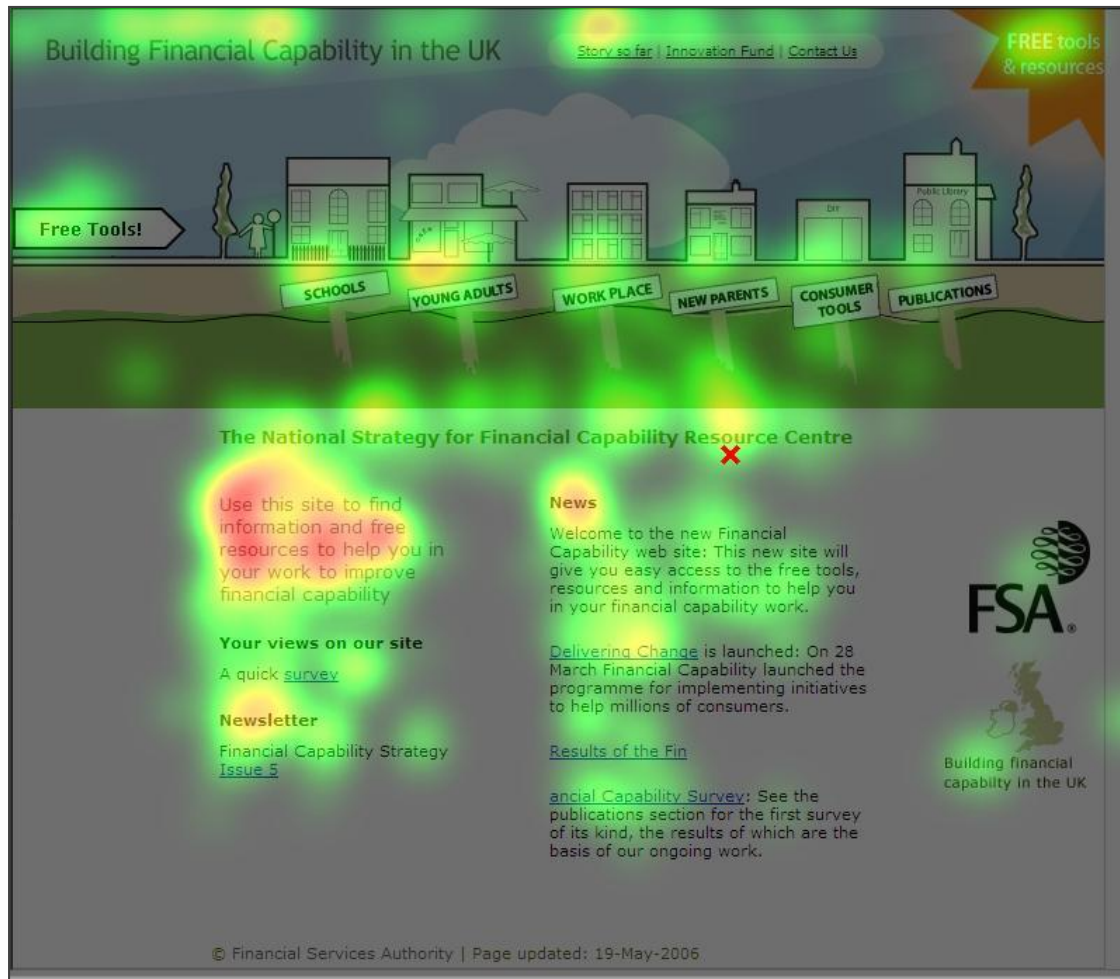
Discuss: *What does this tell you?*

Example: *An eye tracking recording*

Eyetracking

Downsides:

- Eye-tracking requires **expensive equipment, trained operators** and involves **additional set up** (at least ½ a day extra) and analysis time (at least one day extra)

- It only tells you **where users look,** but **not what the see,** why they are looking there and how they feel

Eyetracking needs to be **done in combination with in-depth interviews** and proper user testing.

What is A-B testing?

- A-B testing is where two versions of a website are created that differ by one controlled variable

- These sites are then shown to alternative users, and the results are analysed to see which version has better performance

- This is supported through online analytic tools like **Google Analytics Experiments**

Case study: *BarackObama.com*

Control: dark blue t-shirt

Variation A: single t-shirt

Variation B: modified lighter blue

Variation C: dual white t-shirts

Variation D: no incentive

From Harry Brignull's blog

…beyond launch

The beauty of the web is that it's easy to adjust things after launch
Use web metrics to **measure uptake** post launch

Things you can find out:

- What users click on
- Their way through the site
- Where they come from
- Drop-out rates
- Entry and exit points

- More information here: **14 free tools that reveal why people abandon your website**

Summary

Today we talked about:

- The psychological basis of usability problems and behaviour on the web:
  - Sensation, perception and gestalt
  - Memory and attention
  - Implications for design
  - User behaviour on the web
- **Usability evaluation methods**
  - How to set goals for your evaluation
  - Analytical methods: heuristics and cognitive walkthroughs
  - User methods: qualitative and quantitative usability tests
  - Eye-tracking and A-B testing

Your project…