Teststrategier Workshop

By Nicola Owen

Who am I?

- Test Consultant at House of Test Consulting
- From New Zealand
- Have worked in Payments, Trade, e-Commerce, Education and Government projects
- How I'm involved in the testing community
- Free-time

What to expect from today

- Bit of revision over some aspects of testing
- Traceability
- Requirements
- Testing in a waterfall model
- Different types of testing
- Some examples
- Practice and Feedback
- Tips and tricks
- Wrap-up

Tell me

- What have you been taught about testing so far?

What is testing?

What is testing?

- Learning about the SUT (System Under Test) so that you can later communicate the information about the SUT

Who can be involved in testing? (and how?)

- Testers (different titles)
- Test Leads
- Test Managers
- Developers
- Project Managers

Manual vs. Automated Testing

Brainstorming

- Advantages of Manual Testing
- Advantages of Automated Testing
- Disadvantages of Manual Testing
- Disadvantages of Automated Testing

- *Get together in groups of 2-4 and discuss the points above. Come up with at least 1 for each of these (preferably 2)*

Testing tools

- Will aid you with your testing
- They are used for both manual or automated testing
- Also used for logging bugs/keeping track of bugs (“bug reporting tooll”)

- Examples: JIRA, Postman, InteliiJ (to write selenium tests in Java), Selenium,

What is a requirement?

Requirements

- Specifically states what the system should be able to do

- The software requirements specification document list enough necessary requirements, that are required for the project development.[3] To derive the requirements we need to have clear and thorough understanding of the products to be developed or being developed

How to elicit requirements

- Speak to the customer
- Prototypes
- Observations
- Interviews
- Workshops

How to categorise requirements?

- **Must Have** : Software cannot be said operational without them.
- **Should have** : Enhancing the functionality of software.
- **Could have** : Software can still properly function with these requirements.
- **Would like** : Nice to have

Exercise

- You are creating an online store where you can (only) buy cellphones and cellphone accessories.
- In groups of 2-4, write 8-10 requirements for the software. Make sure to include how you categorise them (MOSCOW) and then justify why.

- **Must Have** : Software cannot be said operational without them.
- **Should have** : Enhancing the functionality of software.
- **Could have** : Software can still properly function with these requirements.
- **Would like** : Nice to have

Traceability (Testing)

- In simple words, a **testing** requirements **traceability** matrix is a document that traces and maps user requirements, usually requirement IDs from a requirement specification document, with the **test** case IDs

- Common way to ensure you have traceability is to use a traceability matrix

www.optimusinfo.com/software-testing-traceability-matrix/

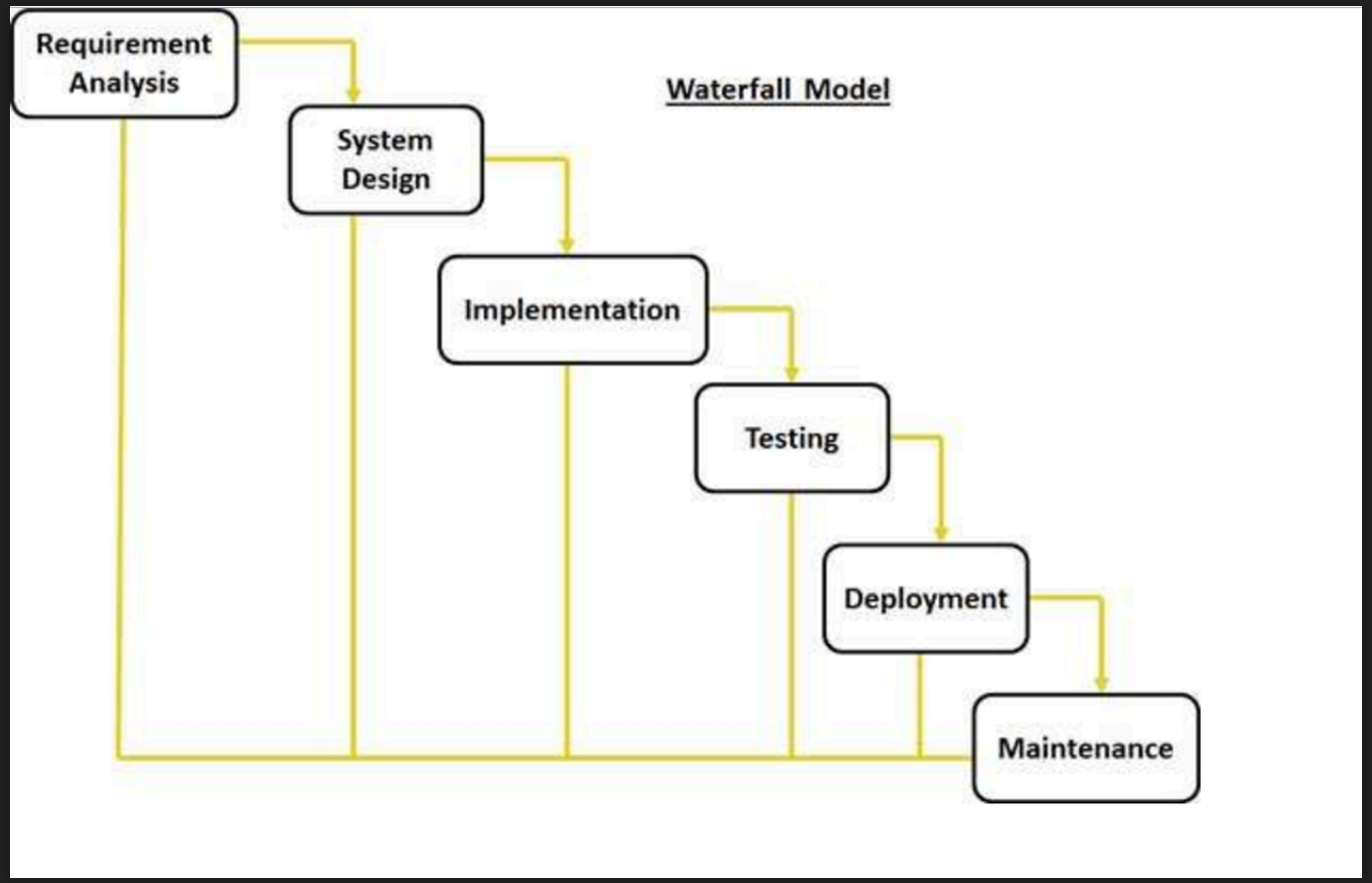
REQUIREMENT ID	REQUIREMENT DESCRIPTIONS	TC 001	TC 002	TC 003
SR-1.1	User should be able to do this.	x		
SR-1.2	User should be able to do that.	x		
SR-1.3	On clicking this, the following message should appear.		x	
SR-1.4			x	
SR-1.5		x		x
SR-1.6				x
SR-1.7			x	

www.optimusinfo.com/software-testing-traceability-matrix/

Testing in a waterfall model I

- What have you learned about the waterfall model?

Testing in a waterfall model I



https://www.tutorialspoint.com/sdlc/images/sdlc_waterfall_model.jpg

Testing in a waterfall model III

- Bugs are costly to fix, both money and time wise(you'll find them later in the project compared to other models)
- In my experience, more likely to find this in larger projects/companies
- Can be useful if requirements are well (and properly) defined (if developers are coding to spec, the right spec, then the waterfall model has a higher chance of success)

Some different ways to approach testing

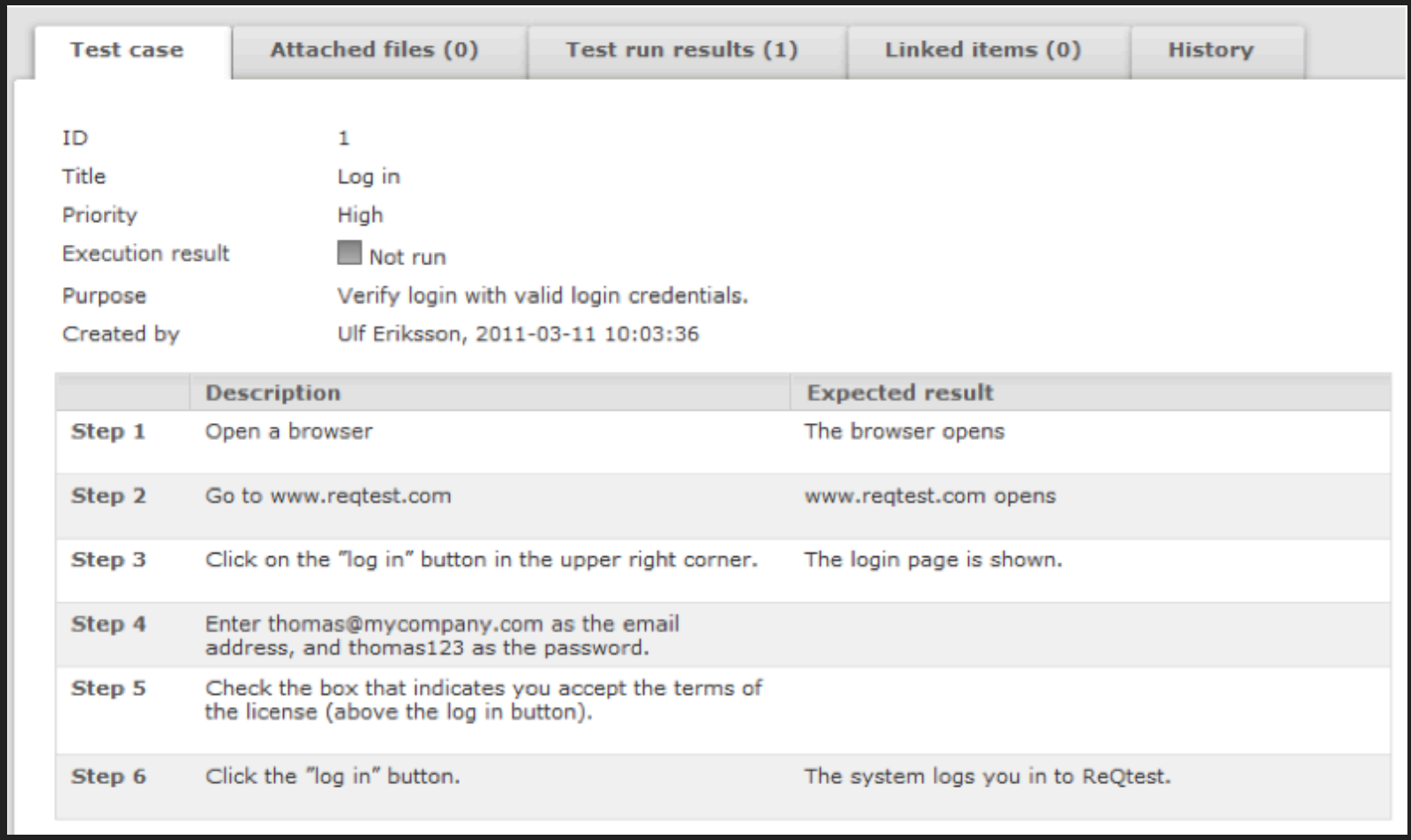
- Test Cases
- Mindmaps
- Consistency heuristics

Test Cases

- (Probably) the most common way to document and prepare testing

What does a test case contain?

- Title
- ID
- Status/Result
- Description
- Step
- Expected Result
- Pre-condition (if any)



Test case | Attached files (0) | Test run results (1) | Linked items (0) | History

ID	1
Title	Log in
Priority	High
Execution result	Not run
Purpose	Verify login with valid login credentials.
Created by	Ulf Eriksson, 2011-03-11 10:03:36

	Description	Expected result
Step 1	Open a browser	The browser opens
Step 2	Go to www.reqtest.com	www.reqtest.com opens
Step 3	Click on the "log in" button in the upper right corner.	The login page is shown.
Step 4	Enter thomas@mycompany.com as the email address, and thomas123 as the password.	
Step 5	Check the box that indicates you accept the terms of the license (above the log in button).	
Step 6	Click the "log in" button.	The system logs you in to ReQtest.

More things to know about test cases

- Most test management tools (where you store test cases) let you upload attachments to the system (e.g. screenshots)
- It is often used as a "unit of measurement" for testers to see how things are going, how successful they are
- They can be difficult to maintain if the system changes (you may potentially have 100's of test cases to maintain)
- Suggested length: 3-8 steps

- Test cases can "call" upon other test cases (e.g. a login test case)

How to write test cases I

- You write a test case with a end goal in mind (what exactly do you want to achieve?)
- You write a test case based on who you believe/might be executing the test case (This can determine the level of detail you will include)
- People have different writing styles when it comes to test cases e.g. some like to include lots of examples in steps, others don't

How to write test cases II

- **Test Case Summary:**
  Ensure you can search for friends on Facebook

  Pre-conditions:
  You have internet access
  You have already registered an account with Facebook
  You have friends on Facebook (they don't have to be real friends, Facebook-only friends will suffice for this example)

  Step 1
  Enter the Facebook URL (www.facebook.com) into the browser. Press Enter
  Expected Result 1
  You arrive on the Facebook homepage/ login page

  Step 2
  Enter your login details in the Email or Phone and Password fields. Press Enter
  Expected Result 2
  Input is accepted. Password appears as asterisks. You arrive on your profile's home feed.

  Step 3
  Start typing in a friend's name into the search bar on the top left of the screen.
  Expected Result 3
  Your friends' names which start with the letters that you have typed, appear just below the search bar.
  e.g. You type in "Geo"; search results come up with "George Matthews" and "Mary Georgia"

Practice

- Go to https://www.scandinavianfoodstore.com/

- In groups of 2-3, write 2-3 test cases to test functionality on this site.
- Some examples: logging in, creating a user, adding an item to cart, searching for a specific item (e.g. pepparkakor)

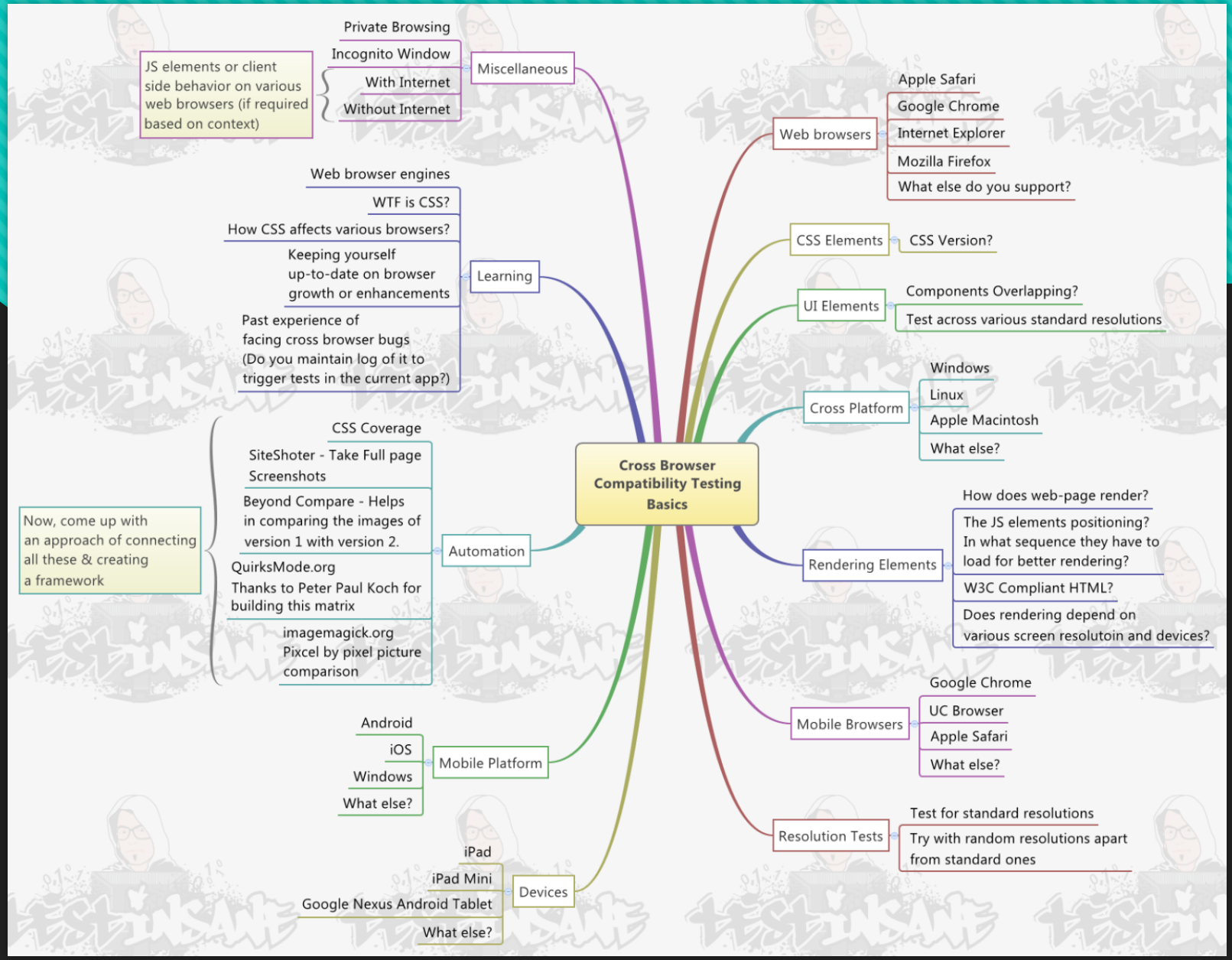
- Afterwards we'll share our test cases

Mindmaps for testing

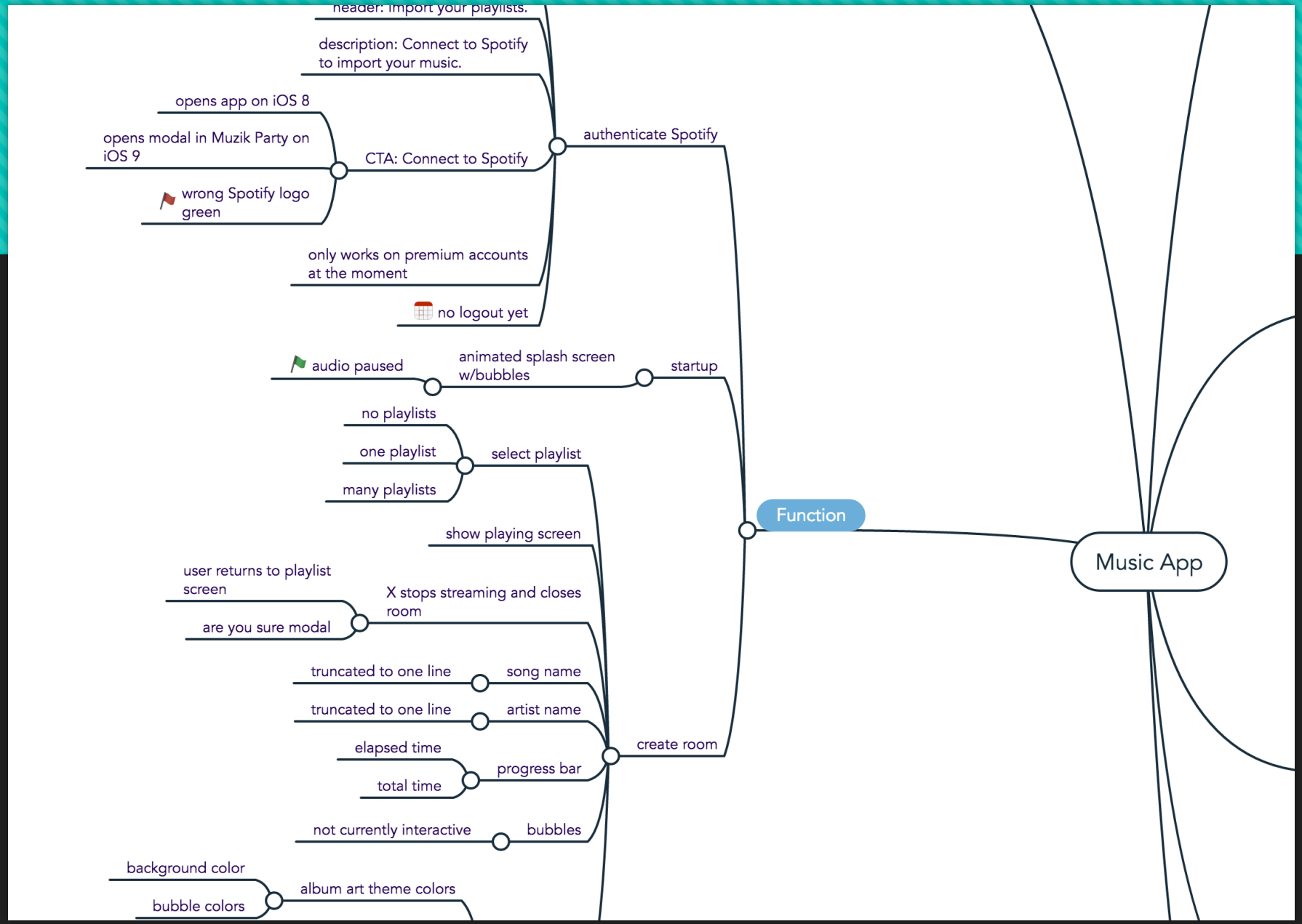
- A visual way to communicate your testing
- Like the “brainstorming” you did at school

- Easy to maintain and follow

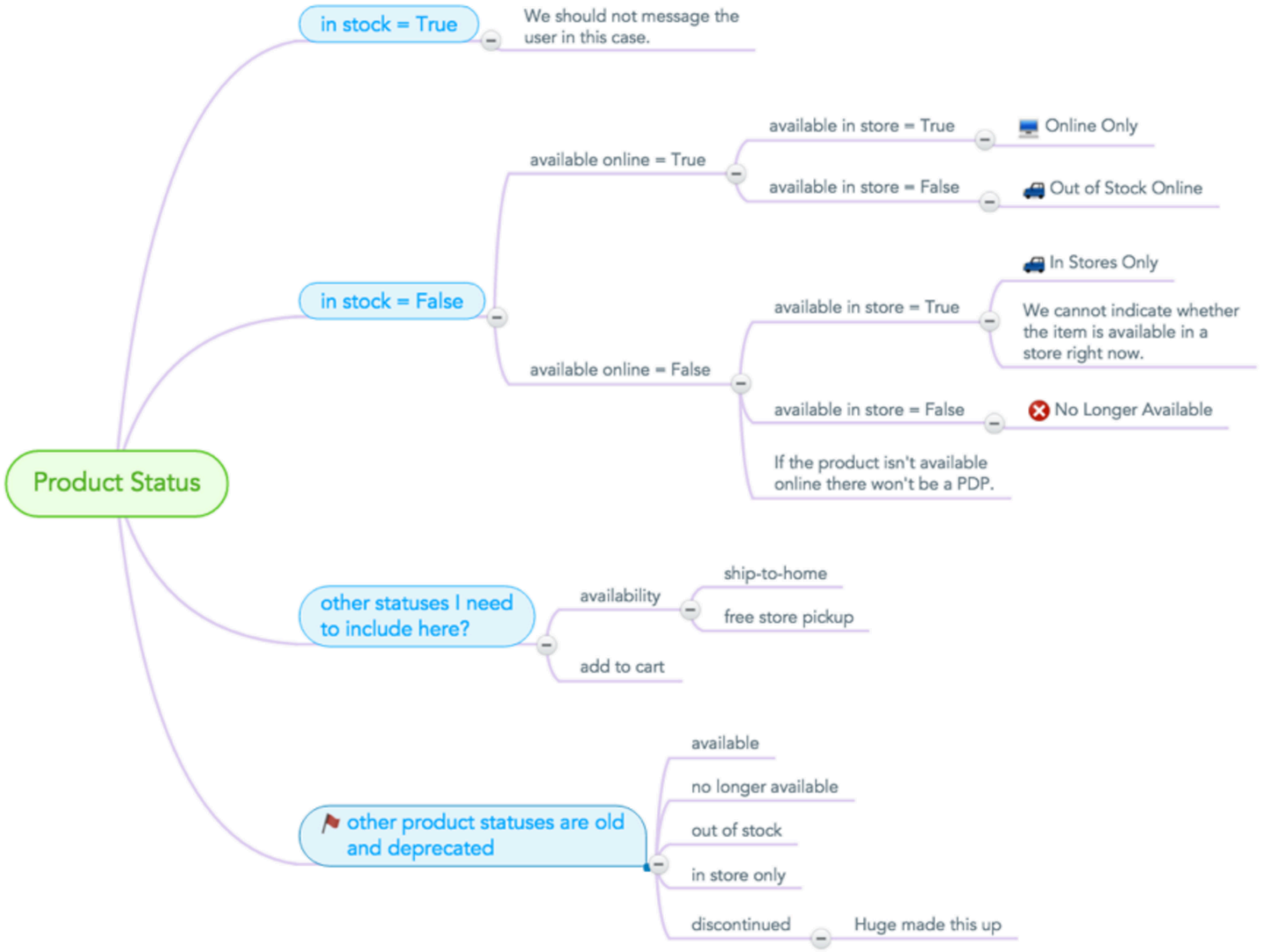
- Examples of tools: xMind and Mindmeister



Courtesy of testinsane.com



https://dojo.ministryoftesting.com/lessons/mind-maps-made-easy



https://dojo.ministryoftesting.com/lessons/mind-maps-made-easy

Live Demo

- xMind

Exercise

- Test Planning
- Here's the product: online book store (only in Sweden), sells all types of books, both new and second hand.

- Use mind-maps to plan how you'll test the product
- Get together in groups of 2-4

- If you have any questions ask me.

Consistency Heuristics

- This is probably one of the most useful things I have ever learned
- Helping when you need to test without documentation, or requirements telling you what is supposed to happen

What is a heuristic?

- *A **heuristic technique** is any approach to problem solving, learning, or discovery that employs a practical method not guaranteed to be optimal or perfect, but sufficient for the immediate goals. Where finding an optimal solution is impossible or impractical, heuristic methods can be used to speed up the process of finding a satisfactory solution. Heuristics can be mental shortcuts that ease the cognitive load of making a decision. e.g. rule of thumb, an educated guess,*

HICCUPPS: Part II

- **History.** We expect the present version of the system to be consistent with past versions of it.
- **Image.** We expect the system to be consistent with an image that the organization wants to project, with its brand, or with its reputation.
- **Comparable Products.** We expect the system to be consistent with systems that are in some way comparable. This includes other products in the same product line; competitive products, services, or systems; or products that are not in the same category but which process the same data; or alternative processes or algorithms.
- **Claims.** We expect the system to be consistent with things important people say about it, whether in writing (references specifications, design documents, manuals, whiteboard sketches…) or in conversation (meetings, public announcements, lunchroom conversations…).

Courtesy of developsense.com

HICCUPPS Part II

- **Users' Desires.** We believe that the system should be consistent with ideas about what reasonable users might want. *(Update, 2014-12-05: We used to call this "user expectations", but those expectations are typically based on the other oracles listed here, or on quality criteria that are rooted in* desires; *so, "user desires" it is. More on that here.)*
- **Product.** We expect each element of the system (or product) to be consistent with comparable elements in the same system.
- **Purpose.** We expect the system to be consistent with the explicit and implicit uses to which people might put it.
- **Statutes.** We expect a system to be consistent with laws or regulations that are relevant to the product or its use.

Courtesy of developsense.com

Example

Practice

- http://www.trademe.co.nz/
- Use HICCUPPS to plan out how you would test site

- Use mind-maps to plan how you'll test the product
- Get together in groups of 2-4

- If you have any questions ask me.

Tips

- Whole team can (and IMO should) be involved
- There are common patterns/ strategies you can do depending what you test (e.g. testing a field, cross-browser, online shopping)

Summary

- Some basics of testing (incl. roles, manual vs. automated, levels etc.)
- 3 ways to approach testing
- Requirements and traceability
- Tips and tricks

Any questions?

- **Find me:**
- nicola.owen@houseoftest.se
- Nickytests.blogspot.com
- Twitter: @NicolaO55