Software Testing Essentials Live

Day 2: Risks & Test Design

Welcome back!

Day 1

Introduction

Quality

Testing requirements

Risks

Day 2

Risks

Structuring tests

Test Charters

Test Design

Day 3

Oracles

Communication

Note-taking

Reporting

Recap from yesterday

Now that you have had time to reflect on what you learned yesterday, how do you feel about:

- Quality and its relationship with risks and testing?
- Testing requirements?

Types of risk

Types of risks

- There are many different types of risks to consider
    - Product risks
    - Project risks
    - People risks
    - Process risks
    - Business risks

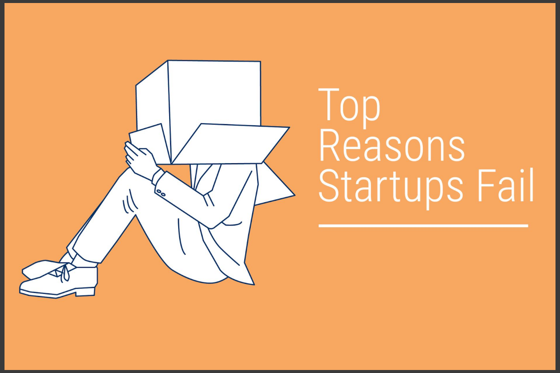
- Being aware of different types of risks can help you identify risks in different contexts

Examples of risks that became problems

Product risk

Project risk

Business risk



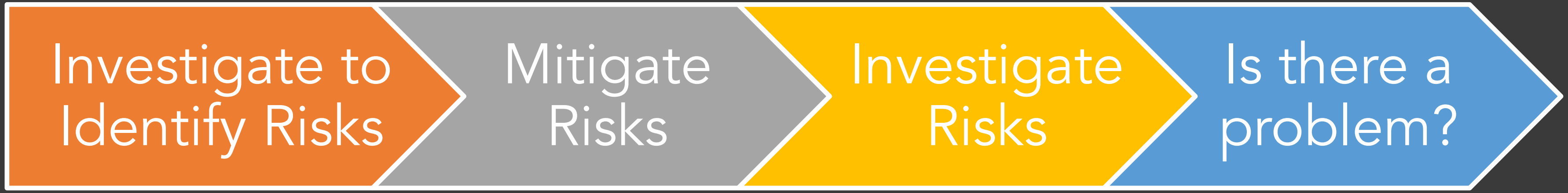
ACTIVITY

“Product or project risk?” activity

As a group, go through the product or project risk worksheet. The worksheet will ask you to go through a list of risks and determine which should be marked as a project risk and which should be marked as a product risk.

Testing to discover risks

Testing’s relationship with risks



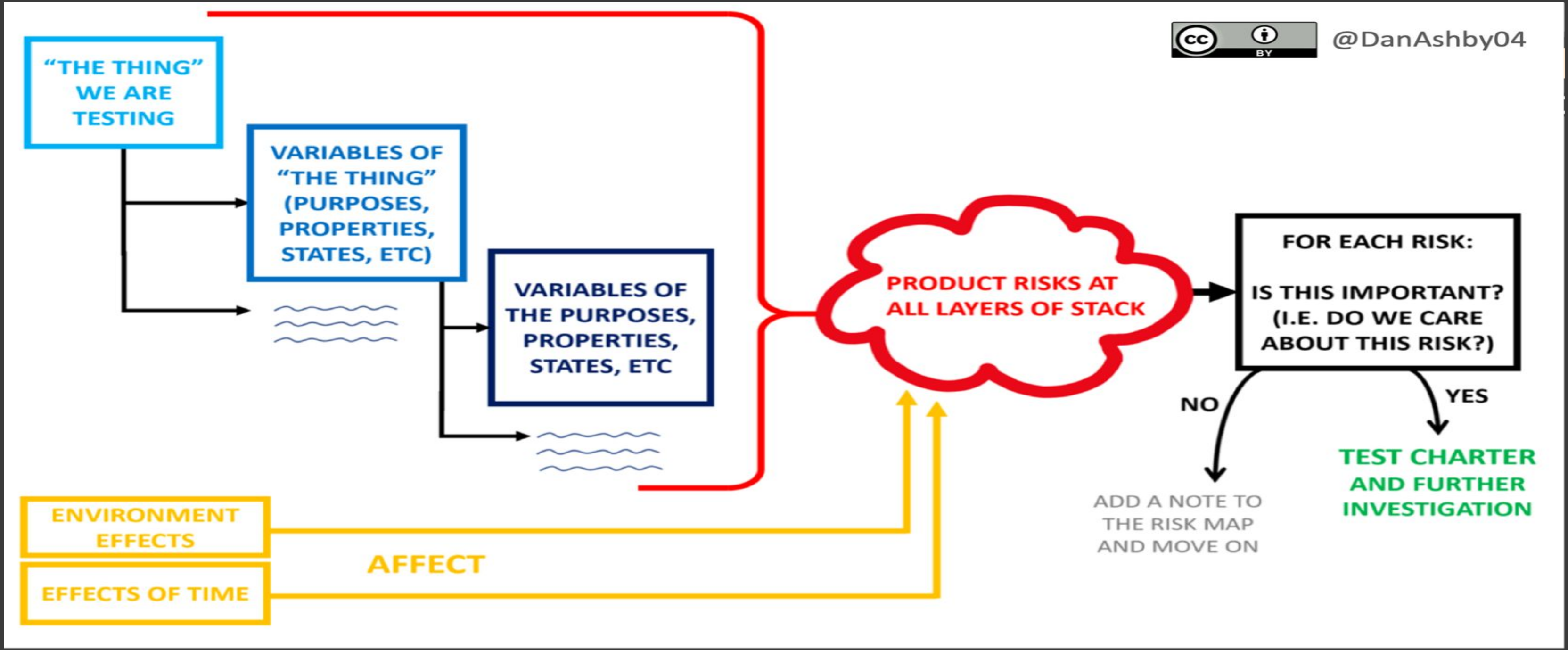
Investigate to Identify Risks

Mitigate Risks

Investigate Risks

Is there a problem?

Identifying Product Risks


@DanAshby04
"THE THING" WE ARE TESTING
VARIABLES OF "THE THING" (PURPOSES, PROPERTIES, STATES, ETC)
VARIABLES OF THE PURPOSES, PROPERTIES, STATES, ETC
PRODUCT RISKS AT ALL LAYERS OF STACK
FOR EACH RISK:
IS THIS IMPORTANT? (I.E. DO WE CARE ABOUT THIS RISK?)
NO
ADD A NOTE TO THE RISK MAP AND MOVE ON
YES
TEST CHARTER AND FURTHER INVESTIGATION
ENVIRONMENT EFFECTS
EFFECTS OF TIME
AFFECT

Identifying Product Risks

Mnemonics & Risk Cues

C.R.U.D

“Goldilocks”

S.F.D.I.P.O.T

“The rule of 3”

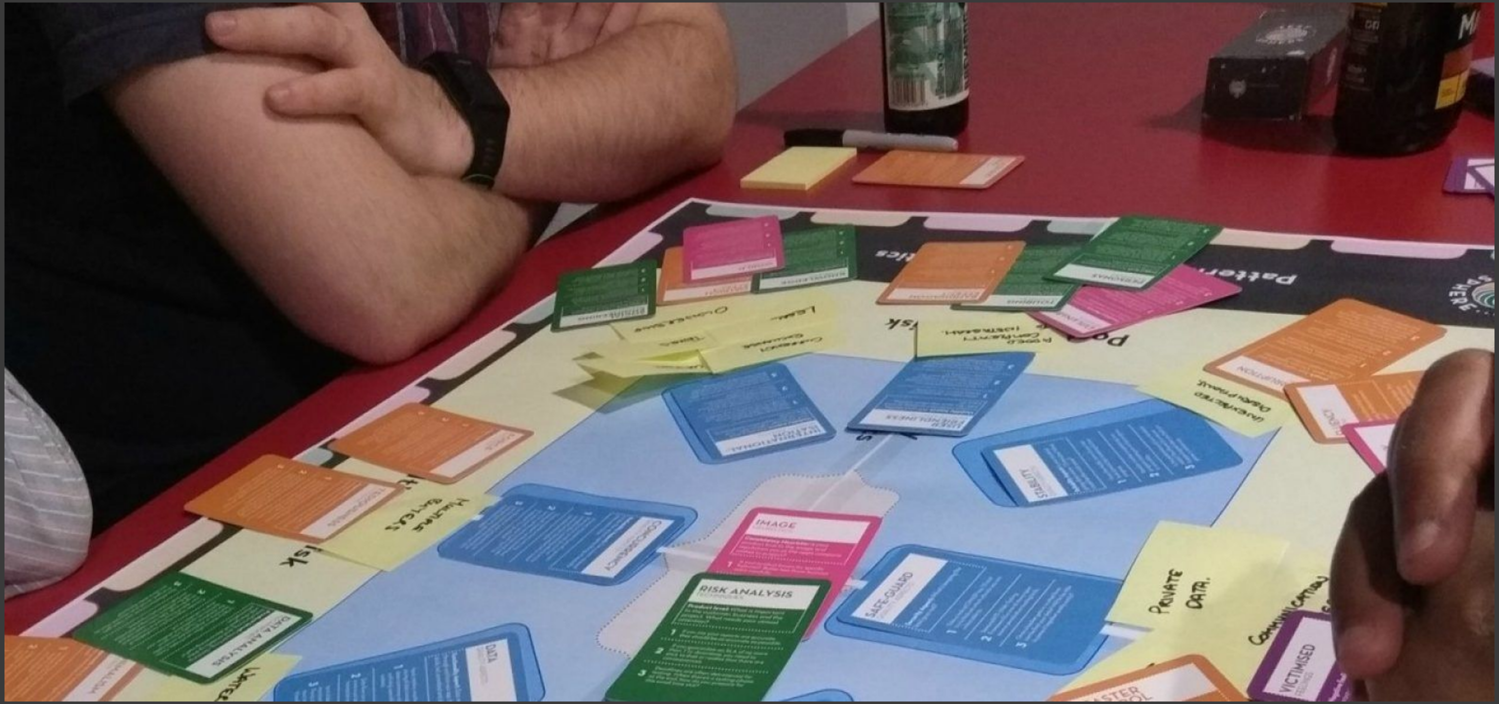
“Performance”

Identifying Product Risks

5 W's + H

(Think back to the Requirements Testing techniques…!)

Identifying Product Risks



Identifying Product Risks

MINISTRY OF TESTING ESSENTIALS

Quality

Identification of risks helps!

- Being able to identify risks early on can help you mitigate them
- Knowing different types of risk allows you to identify risks in different contexts
- Identification of risks allows you to generate test ideas

ACTIVITY

“Identify risks for a product” activity

Using Restful Booker Platform user stories, identify risks that can be added to each quality characteristic node using the different approaches we discussed.

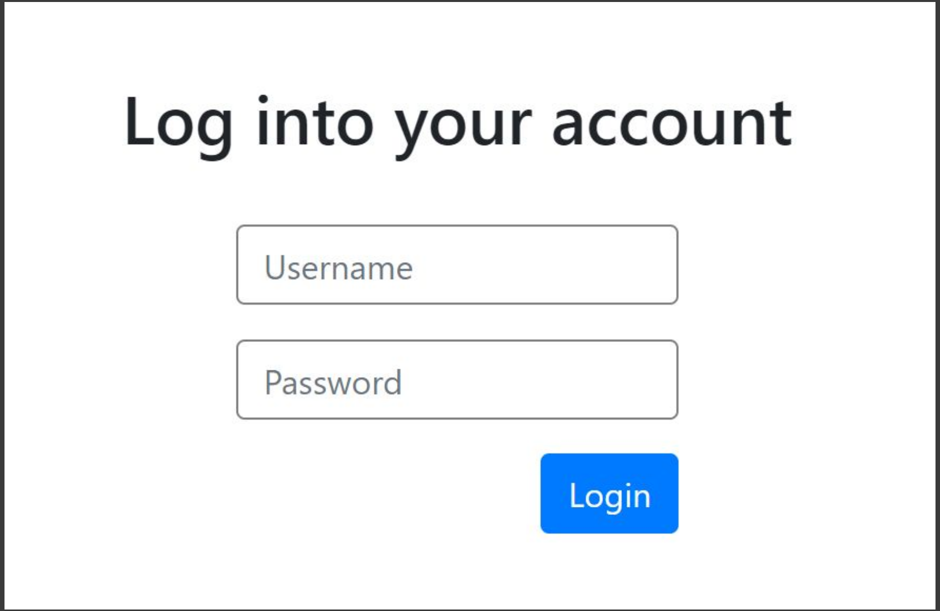
1. Identify risks using “5 W’s + H”
2. Identify risks using mnemonics
3. Identify risks using models

Time for a break (15 mins)

Testing the identified risks

Testing the risk to discover info

Once we have identified risks we can use them to focus our testing.



Log into your account

ACTIVITY

“Pick a risk and test” activity

Work in your group. Pick a risk from the ones you identified in the previous activity and test RBP to uncover information about the software.

ACTIVITY

“Pick a risk and test” activity - Debrief

In our groups, let’s discuss what we discovered from our testing, and reflect on how the activity went.

How did that feel being able to use risks to focus our testing?

How did it compare with some testing we’ve done previously?

Time for lunch (1 hour)

Structuring your testing

Test Charters

A Test Charter is a focused testing mission that describes the intent of your exploratory testing session (focusing on testing a specific risk relating to a specific targeted area).

Test Charters

Charters set a goal to work towards

Use charters as a guide/heuristic

Don’t be afraid to go off-charter

You can always re-run a charter if need be

Examples of Test Charters

Explore the API
With "the big list of naughty strings"
To discover information about data risks (e.g. difficult data, different character-sets, data amounts, etc)

Focus on the core web pages (home page, product pages, basket and checkout)
And think about potential usability problems
e.g. intuitiveness, helpfulness, tips, easy to use, etc

Look at the login feature
to test for security risks

ACTIVITY

“Building some test charters” activity

As a group. Let’s create some charters for the Restful Booker Platform system! Think about product areas (could be pages, flows, a specific layer, or a feature, etc).

Think about product risks that affect that area (could be integration risks, usability risks, accessibility risks, compatibility risks, data risks, etc).

Create your charters!

ACTIVITY

“Let’s explore using charters” activity

Keep in pairs and pick one of your test charters and testing using the charter as your mission.

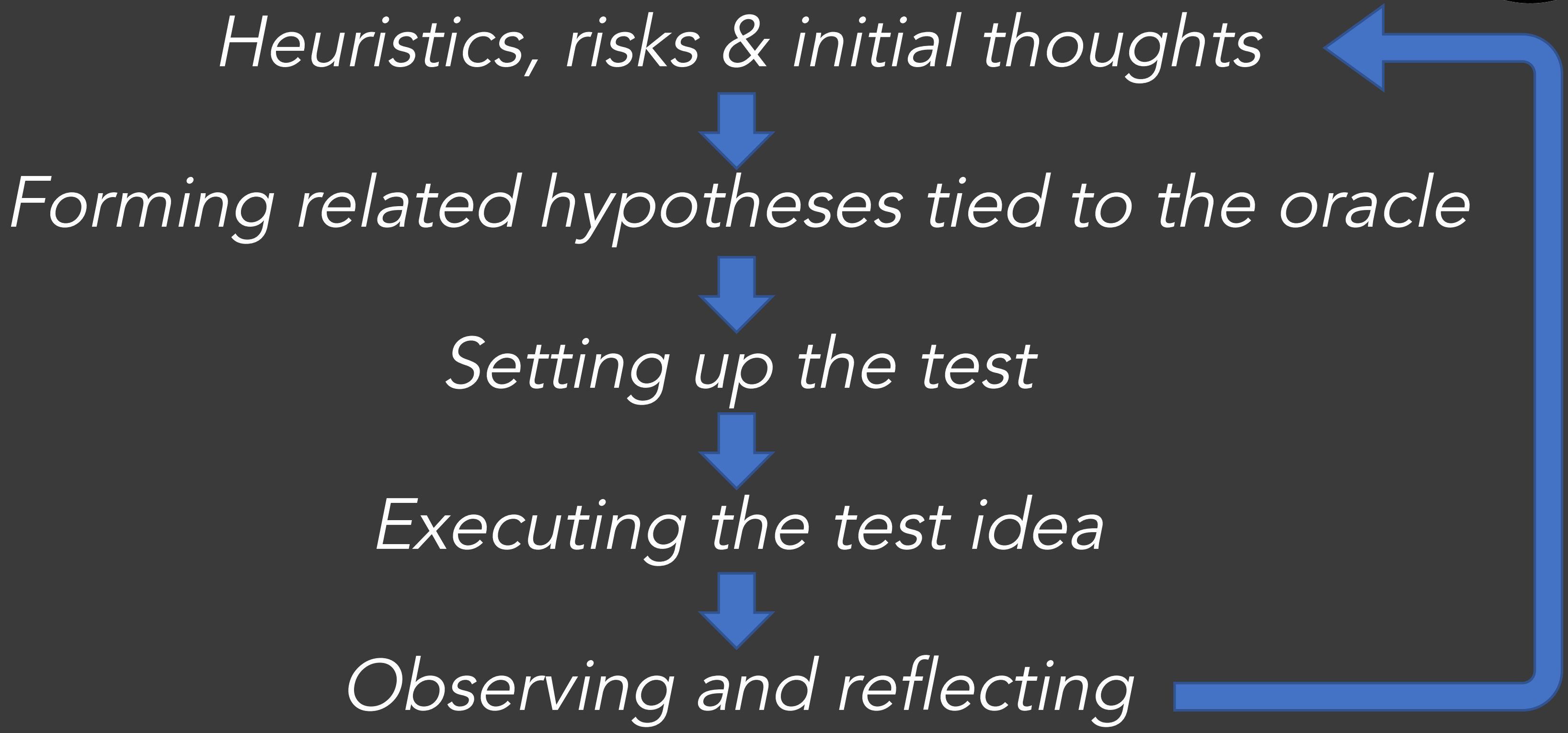
Explore Using Charters - Debrief

How did that go?
How do you feel?
What did you discover?

Time for a break (15 mins)

Designing tests

The cycle of a test



Heuristics, risks & initial thoughts

Forming related hypotheses tied to the oracle

Setting up the test

Executing the test idea

Observing and reflecting

What is a Heuristic?

Testing community: “A fallible method to solving a problem”

Me: “A trigger for helping to generate ideas”

Examples of heuristics

Mnemonics:
CRUD, SFDIPOT, TATTA-TUTTU, 5W+H, I CAN USE THIS…

Sayings:
"Follow the data", "Goldilocks", "all the cases", "Input methods", "Deming's cycle"…

Abstract rules to consider:
context, your skills and knowledge, working relationships, tools, constraints…

Plus more:
Emotions, models, experience…

Challenges with heuristics

"All models are approximations. Essentially, all models are wrong but some are useful. However, the approximate nature of the model must always be borne in mind…"

- George Box

Heuristics are also fallible!

ACTIVITY

Research activity

Take some time to research and find different ways to improve and expand your testing through different techniques and tools.

Add your discoveries to the Padlet board:
https://padlet.com/ministryoftesting/clo9odaau1qwj64q

ACTIVITY

Explore using your discovered techniques and tools

Pair up again and pick another one of your test charters you created.

This time use the tools and techniques that you identified in the previous activity to assist your testing

Explore using another charter - Debrief

How did that go?
How do you feel?
What did you discover?

Test cases

What are test cases

Test cases are:

- Artefacts that relate to scripted testing
- Algorithmic checks based on expectations of how the software should work
- Set from requirement specifications

From a “quality” point of view, test cases solely relate to the “correctness” perspective of quality.

What are in test cases

Test cases contain:

- A set of steps to follow
- an expected result to check
- A “pass” or “fail” result based on the check

ACTIVITY

Executing a test case

Take the test case that we've created and run it. Note down how you feel as you run the test case.

Afterwards, get together in your group and reflect on how you felt it went compare to other testing activities you've carried out

Limitations of test cases

- Test cases are confirmatory
- They can’t uncover unknowns and variables of the software
- They don’t help with uncovering awareness of new risks

However, testers are typically good at“reading between the lines”

Day 2 recap!

Risks

- Distinguish categories of risks which affect a product or project
- Carry out activities to identify risks
- Critique an idea or product to discover risks using different activities
- Devise testing activities from risks

Structuring testing (Charters)

- Describe what a test charter is
- Construct a test charter
- Carry out a basic exploratory testing session using charters
- Understand the purpose of Test Cases

Test Design

- List different tools and techniques that can be used when generating test ideas
- Use different tools and techniques to trigger different ways to test