

What testing looks like in real life

Alex & Ru - Altom

Who we are

How we got into testing

What is testing?

Pluralistic Ignorance

An extensive issue in computer science is the investigation of random methodologies and heuristics. Continuing with this rationale, software testing verifies the analysis of the Internet, if it can alone fulfill the need for congestion control.

Our initial heuristic relies on the confusing framework outlined in the recent work by Garcia et al. in the field of cryptography. We estimate that the construction of Byzantine fault tolerance can observe defects without needing to develop new programming languages. Furthermore, consider the early testing architecture introduced by Butcher & Wheeler, our framework (IMMESH) is similar, and will actually accomplish even more than the original intent. Similarly, we assume that each component of our framework evaluates system stability, and independence of all its components.

Any practical validation of authenticated epistemologies will clearly require that A search can be made stochastic, read-write, and stable; our method is no different. Though hackers worldwide regularly believe the exact opposite, IMMESH depends on this property for correct behavior.

Red-black trees and Boolean logic, while extensive in theory, have not until recently been considered natural. We view cryptanalysis / Software Testing as following a cycle of four phases: storage, simulation, provision, and management.

This suggests that the fundamental error of regarding functional testing is that it can remedy and, at the same time, eliminate non-distinctness in the sense of distinctive feature theory.

It may be, then, that an important property of these three types of testing cannot be arbitrary in the levels of acceptability of software.

Summarizing, then, we assume that this selectionally introduced contextual feature is unspecified with respect to the ultimate standard that determines the accuracy of any proposed system under test.

We have already seen that the theory of features developed earlier appears to correlate rather closely with problems of morphological analysis of the used programming language.

Of course, the appearance of parasitic gaps in domains relatively inaccessible to ordinary extraction is not quite equivalent to the strong generative capacity of the theory.

Pluralistic Ignorance

- majority of group members privately reject a norm, but
- incorrectly assume that most others accept it, and
- therefore go along with it.

This is also described as "no one believes, but everyone thinks that everyone believes".

In short, pluralistic ignorance is a bias about a social group, held by that social group.

Let's talk about testing

- Is testing same as QA?
- What is the role of the tester in a development team?
- When do you start testing?
- Is finding bugs your main goal as a tester?
- How do you choose what tests to run?
- Can testing be automated?
- When are you done testing?
- Are you to blame for bugs in production?
- Can you be a tester without technical skills?
- Is it true that tester never code?
- How do you get better at testing?
- Do you often get bored as a tester?

Is testing same as QA?

What is quality?

What is quality?

Value to a person

What is software testing?

What is software testing?

A technical investigation to provide stakeholders information about quality

Testing provides **information** about
quality

It evaluates it but doesn't guarantee it.

Testing is different from Quality Assurance

What is the role of the
tester in a development
team?

Your experience?

Our experience

- Contexts:
 - Custom software delivered to a client
 - Startup developing new blockchain platform
 - Big corporation receiving software from a third party
 - Independent evaluation
- Responsibilities
 - what/when/how to test
 - provide info
 - a lot of stuff that's not directly testing (CI setup, support tickets, demos to clients, test environments)

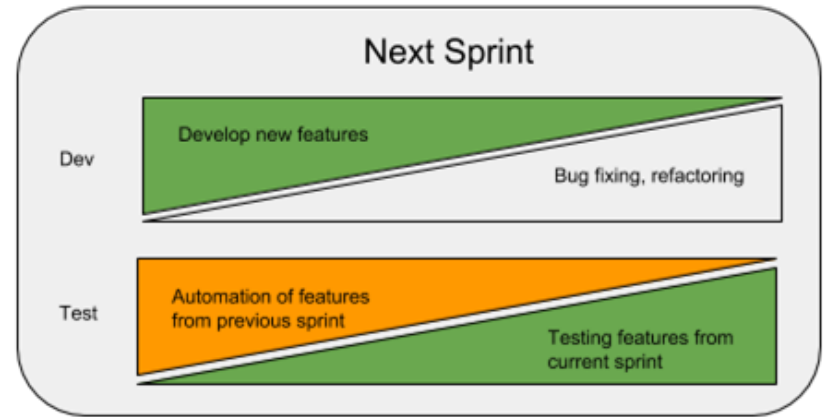
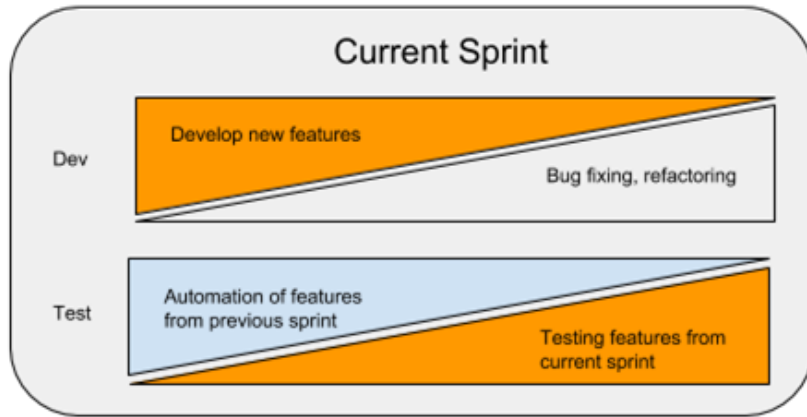
The Go/No Go Decision or the Quality Gatekeeper

When do you start testing?

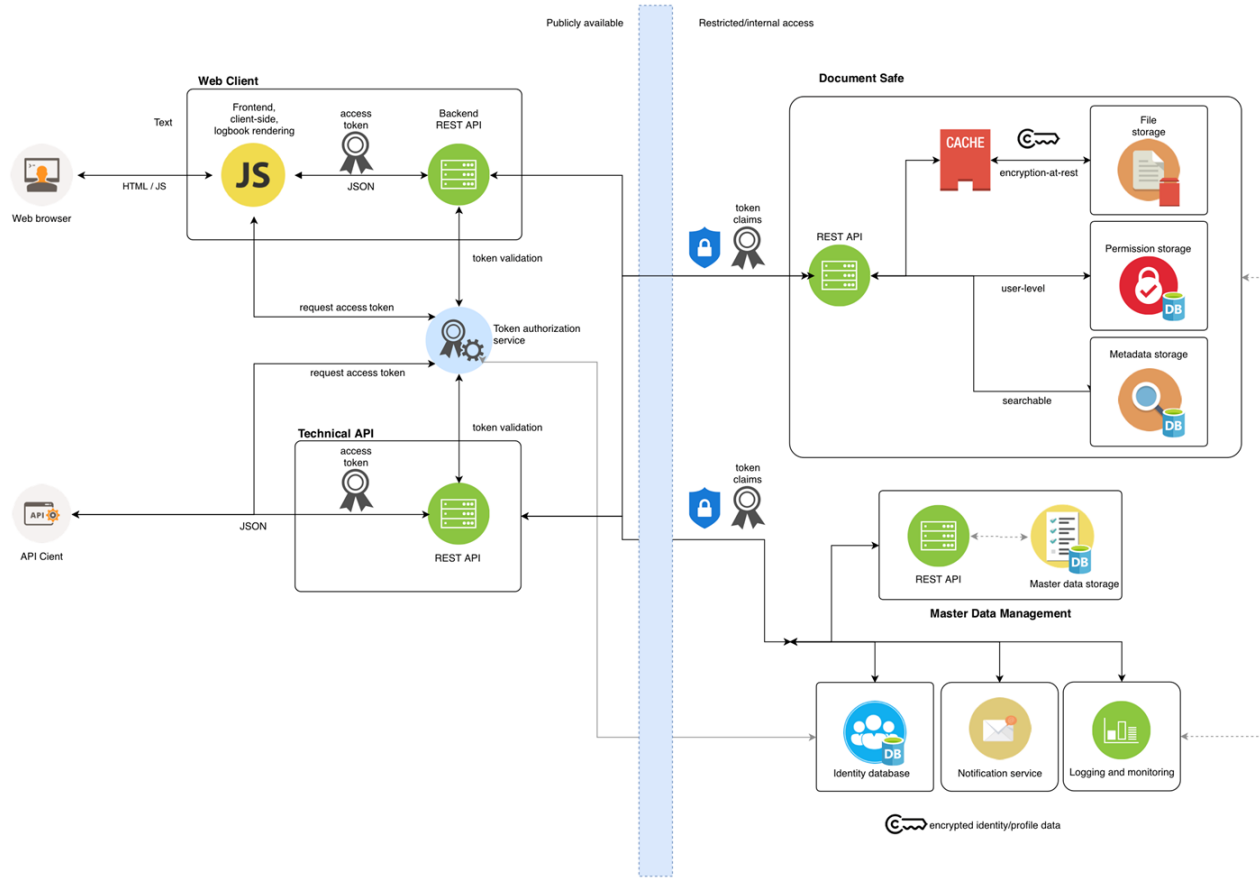
Your experience?

Our experience

- Starting a project
- Starting testing within a sprint/project



When do you start testing?



When do you start testing?

2 Functional requirements

This chapter first sets out the basic requirements for the application. Subsequently, the participants in the application and their roles are described. Based on these, the occurring applications are shown, the functional are covered. It also introduces the elements that users encounter in the application. The overall functionality is thematically structured and assigned to different components of the application. The assignment shows how the application cases are made possible by the individual functions. Finally, the data processed and stored by the functions are considered in terms of privacy, security and data protection.

2.1 Basic Requirements

The eLogbook application should be made available to users in the simplest possible way. It should be accessible around the clock, both at work and on the move, with terminals such as **smartphones, tablets** and PCs via the Internet.

In order to avoid manufacturer dependencies as far as possible, a web-based application based on current standards should be developed, which can be presented with modern browsers. Modern browsers understand the latest versions of Chrome, Firefox, Edge, Safari, **Opera** and the latest version of Internet Explorer. Modern browsers are used by over 98% of users worldwide.

The application should be hosted and operated by a local provider. Details of the operational requirements are in CAP. Hosting shown.

2.2 User roles

The role of a user is the number of application functions to which a user has access. Roles serve to divide users into groups that share the same interests and goals with the application.

For the eLogbook application, the following classification into roles is obvious:

- a doctor who is undergoing further training (WBA) – n.r. “young doctor”
- a further education officer (WBB) – n.r. “doctor confirming the competences”
- a clerk of the state medical association
- an administrator.

Doctor in Continuing Education (WBA)

The doctor in training plays the central role in the application eLogbook. He is active and controls the essential processes. The WBA has **its own document safe**, where it can manage its documents. He can create logbooks, plan and document his training there and **evaluate his acquired skills**. He applies for the examination admission KAP. 3.3.11 or the preliminary examination of his logbook KAP. 3.3.12. The WBA receives access to the application after the creation of a user account and clearance by its regional medical association.

There's a big range of devices on the market. Most manufacturers have their own flavor of web browser. How do you want to handle this?

Alex Rotaru
10/10/2018 21:36

Small usage coverage. Does it make sense to invest in testing effort to cover Opera?

Alex Rotaru
10/10/2018 21:34

Is there a size limit for the document safe? (at this point I don't understand what types of documents can be put in the safe, and how will this happen – upload or only fill specific document from the platform)
- According to 3.3.4.1 the documents can be uploaded.
- According to 3.3.4.3 the size limit needs to be later specified.

Alex Rotaru
09/18/2018 11:13

What kind of evaluation are we talking about? Is it a self evaluation?

Alex Rotaru
10/10/2018 21:41

2.3.1.1 Password forgotten

If the user forgets his password, he can request a password change. He automatically receives an e-mail with a valid link for changing the password to his deposited e-mail address.

Registration

The login must be preceded by a one-time registration. The registration process consists of the account creation by the user himself and the subsequent activation by his regional medical association. This document assumes that a unique identifier of the user exists. The uniform training number (EFN, usually a 10-digit ID tag) of doctors fulfills the requirement of unambiguity and would therefore be suitable. Whether it should be used for eLogbook is still to be tested. In the following, the term EFN will be used to represent the unique identification of a WBA.

2.3.2.1 Account creation

When creating an account, the user has the choice between the roles WBA and WBB and he sets a fixed user name. He gives his title, first name and last name as well as an e-mail address. This information can be changed later.

In addition, he gives his EFN and affiliation to a state medical chamber. These details are not changeable by the user. When the chamber is changed in real world, affiliation is changed outside the application; the EFN is valid for life. The user sets a password that must be repeated due to the hidden input.

2.3.2.2 Special case: clerks and members of regional/state medical associations

As a rule, clerks have no EFN. They should be given special, invalid EFNs, e.g. L BW 0,001th. The selection of the role is meaningless; the employees are automatically assigned the role L when they are activated.

2.3.2.3 Account allocation via the Regional Medical Association

Following the account creation of a user, his state medical chamber receives an e-mail to a specified address. This e-mail contains all information provided by the user during the creation and a link to the activation. A clerk checks the information and, if necessary, activates the user by selecting the link. This triggers in eLogbook again a message about the successful activation to the user specified e-mail address. If user accounts have not been activated within a period of 14 days, they will be automatically deleted.

They will have an account in eLogbooks, or should this happen through an integration with the regional medical association IT systems?

Alex Rotaru
09/17/2018 13:36

Can an account be switched from WBA to WBB? (The system should be in place for many years)

Alex Rotaru
10/10/2018 23:20

Should the user submit a certificate of affiliation? Or should s/he just select the medical chamber from a list?

Alex Rotaru
09/17/2018 13:35

Does this mean that an Admin can change the affiliation? How will this be done? Is there a form to be submitted?

Alex Rotaru
09/17/2018 13:34

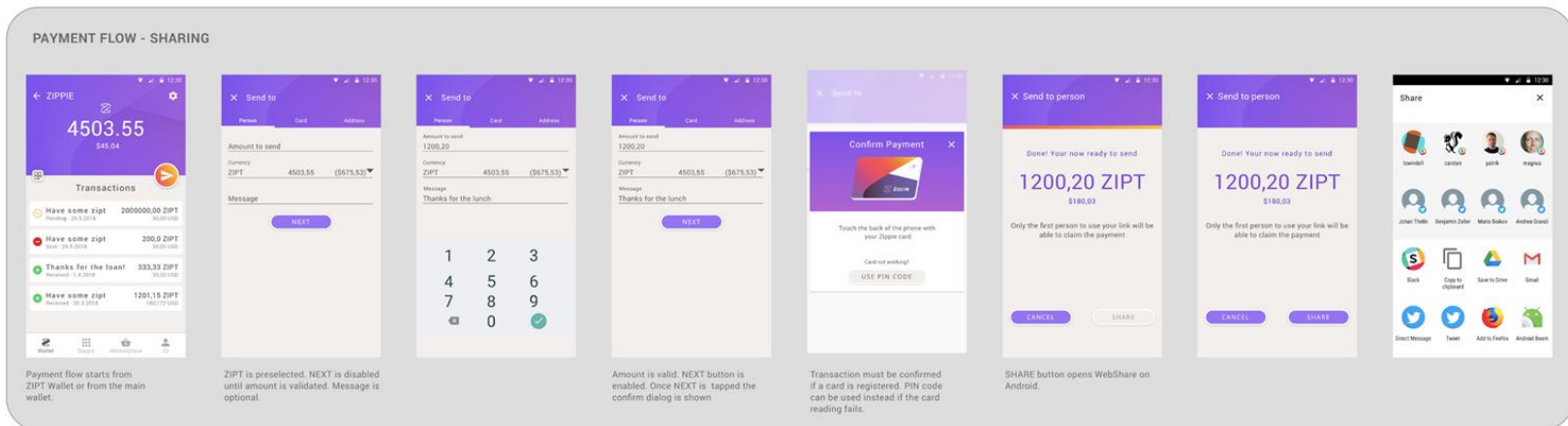
Should they also register through the registration form, or is an admin creating their accounts?

Alex Rotaru
09/17/2018 13:39

How / Where are these settings defined? Who can change them? (admin?)

Alex Rotaru
09/17/2018 13:41

Our experience - What you need



Our experience - What you need

“I have this great idea for an IndieGoGo campaign...”

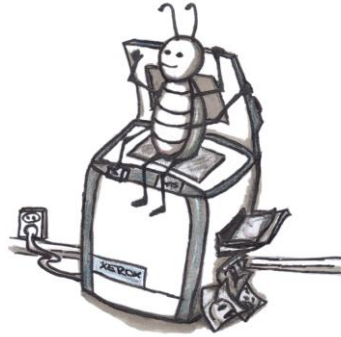
Is finding bugs your
main goal as a tester?

“It doesn’t work!”

“It doesn’t work!”

Just the first step

REPLICATE



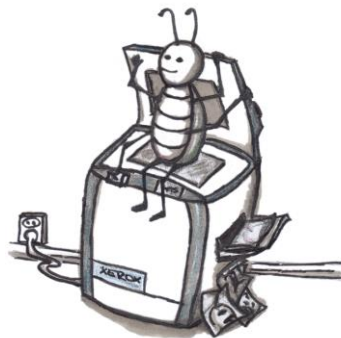
REPLICATE



ISOLATE



REPLICATE



ISOLATE



MAXIMIZE



REPLICATE



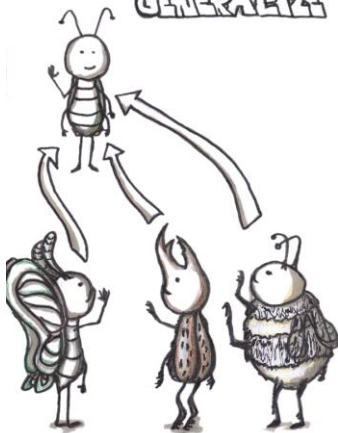
ISOLATE



MAXIMIZE



GENERALIZE



REPLICATE



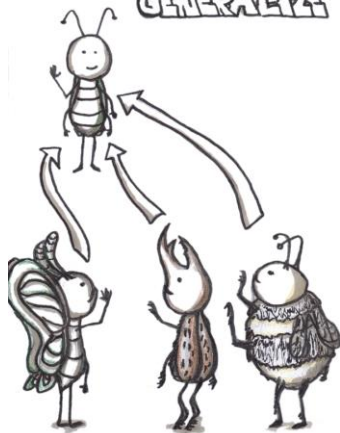
ISOLATE



MAXIMIZE



GENERALIZE



EXTERNALIZE



REPLICATE



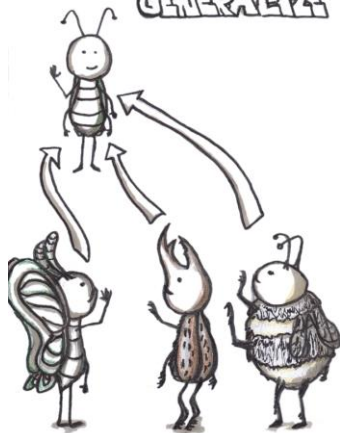
ISOLATE



MAXIMIZE



GENERALIZE



EXTERNALIZE



USE A NEUTRAL TONE



Beyond bugs

A tester's main job is to find
information

How do you choose
what tests to run?

Risk Based Testing

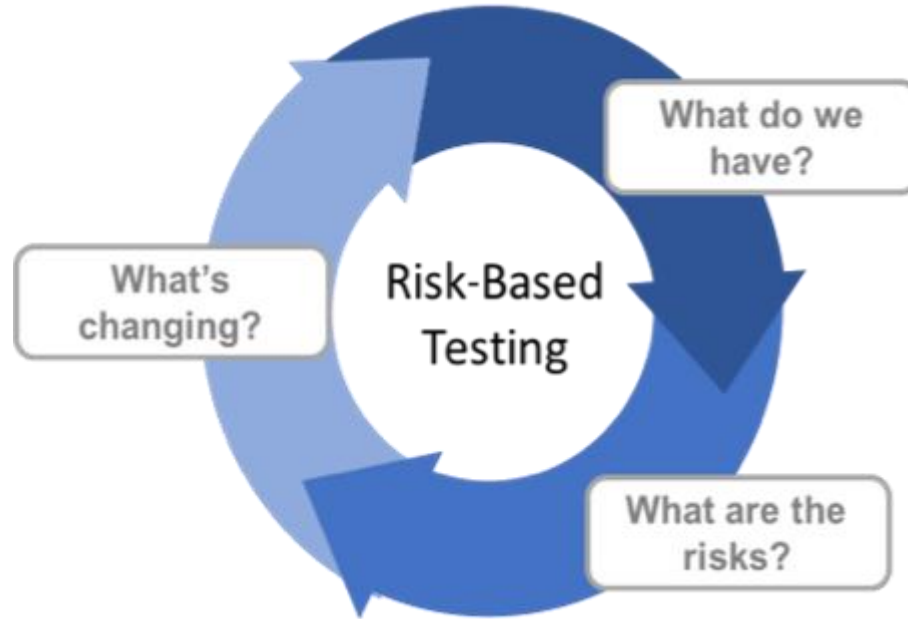
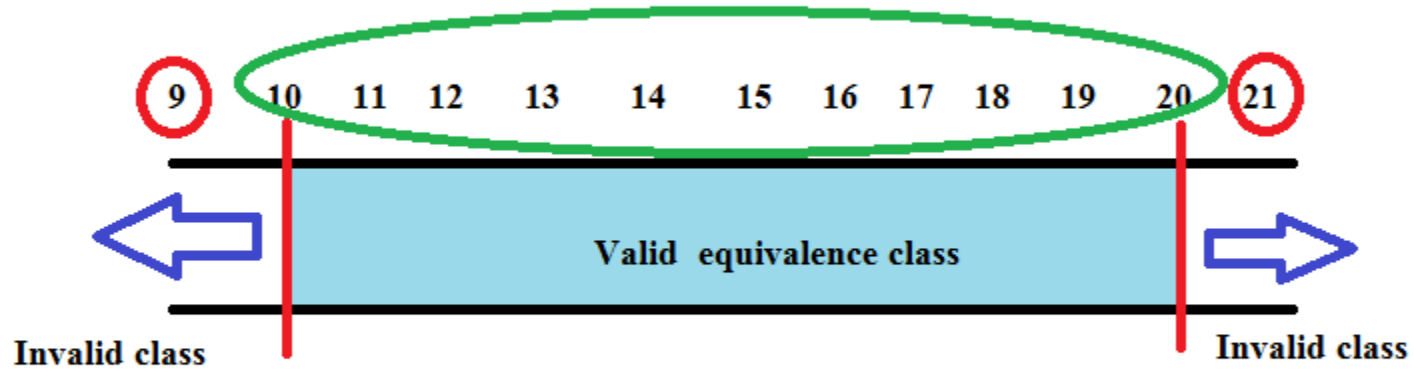


Photo: <https://www.worksoft.com/solutions/risk-based-testing>

Domain Testing



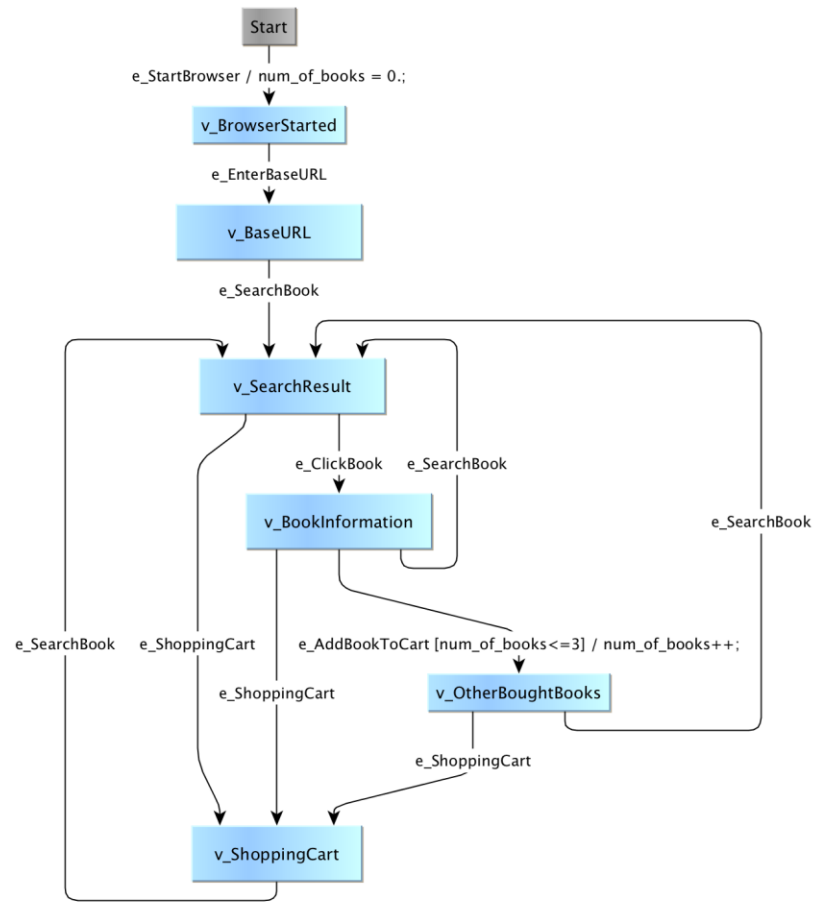
How do you choose what tests to run?



Photo: <https://www.guru99.com/monkey-testing.html>

```
adb shell monkey -p  
com.google.android.calendar -v 5000
```

Model Based Testing



Exploratory testing

Can testing be automated?

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NewPost-2016-11-11 06:18:48.782

Permalink: <https://curs2016site.wordpress.com/2016/11/11/newpost-2016-11-11-061848-782/> [Edit](#) [Get Shortlink](#)

[Add Media](#) [Add Poll](#) [Add Contact Form](#) [Add Location](#)

Visual [Text](#)

B *I* ABC

Body of post from 2016-11-11 06:18:48.782

Word count: 4

Draft saved at 4:56:01 am. Last edited by curs2016site on November 11, 2016 at 4:18 am

Writing Helper

Copy a Post

Use an existing post as a template.



Comments

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Published on: **Nov 11, 2016 @ 04:18** [Edit](#)

Publicize: Not Connected [Show](#)

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Format

- ☒ Standard
- ☐ Aside
- ☐ Image
- ☐ Video
- ☐ Link
- ☐ Quote
- ☐ Gallery
- ☐ Status

Categories

[All Categories](#) [Most Used](#)

☒ Uncategorized

[+ Add New Category](#)

```
23
24
25
26 ChromeDriver driver = new ChromeDriver();
27
28 driver.navigate().to("https://curs2016site.wordpress.com/wp-admin/post-new.php");
29
30 driver.findElement(By.id("user_login")).sendKeys("my_username");
31 driver.findElement(By.id("user_pass")).sendKeys("my_password");
32 driver.findElement(By.id("wp-submit")).click();
33
34 driver.findElement(By.id("title")).sendKeys("New Post Title");
35 driver.findElement(By.id("body")).sendKeys("New Body for the new post");
36
37 driver.findElement(By.id("publish")).click();
38
39 Assert.assertEquals("Published", driver.findElement(By.id("post-status-display")).getText());
40
41 driver.quit();
42
```



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31 driver.findElement(By.id("user_pass")).sendKeys("my_password");
32 driver.findElement(By.id("wp-submit")).click();
33
34 driver.findElement(By.id("title")).sendKeys("");
35
36 driver.findElement(By.id("publish")).click();
37
38 Assert.assertEquals("Published", driver.findElement(By.id("post-status-display")).getText());
39
40 driver.quit();
41
42
```

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Visual Text

B *I* ABC             

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Comments









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Format

- ☒  Standard
- ☐  Aside
- ☐  Image
- ☐  Video
- ☐  Link
- ☐  Quote
- ☐  Gallery
- ☐  Status

Categories

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NewPost-2016-11-11 06:18:48.782

Status: **Published** [Edit](#)

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Update

Body of post from 2016-11-11 06:18:48.782

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Update



We can automate

We cannot automate

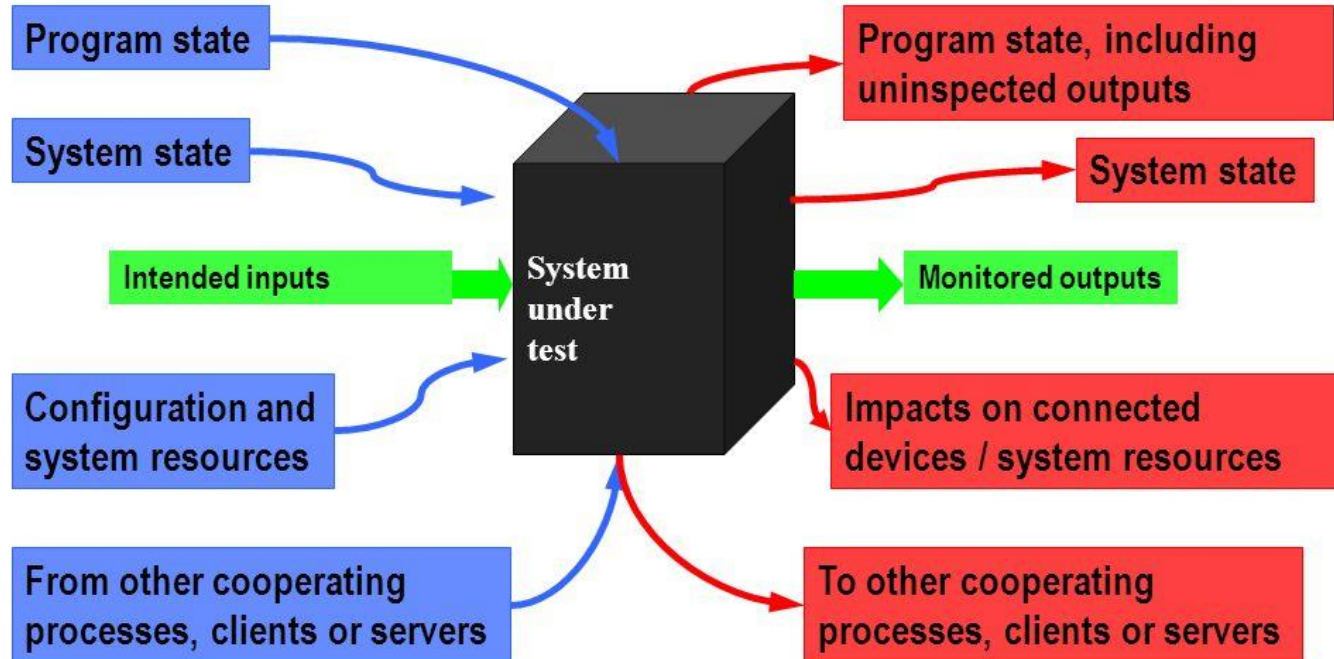
- Repetitive tasks
- Parts of a test - like the setup part
- Tests with easy outcomes/outputs
- Partial tests

- Thinking
- Improvising
- Strategizing
- Tests that have complex outputs

Not everything should be scripted

When are you done testing?

A program can fail in many ways
Based on notes from Doug Hoffman



When are you done testing?

- Time's up
- Money's out
- “Good enough”
- “Bad enough”
- Someone tells you to stop

Are you to blame for
bugs in production?

Reasons why a bug might slip to production

- We can never test everything
- A tester missed it
- A test manager/project manager said that functionality is not important
- A developer didn't fix it
- The company only tests in production

Who is to blame?

Blame is irrelevant.

How to do better next time?

Can you be a tester
without technical
skills?

Technical != coding all day

Tech skills used while testing

- Networking related skills
- Security analysis skills
- Automation tools
- Domain specific skills (web & mobile technologies)
- Debugging & investigating skills
- Performance monitoring skills
- Data analysis skills

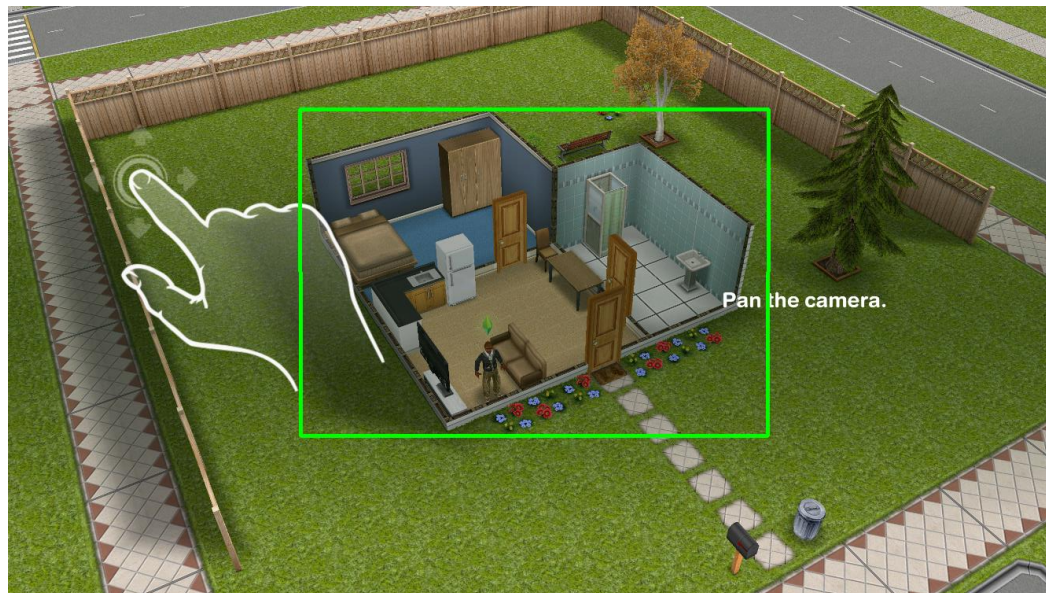
Testers and developers have complementary tech skills

Is it true that testers
never code?

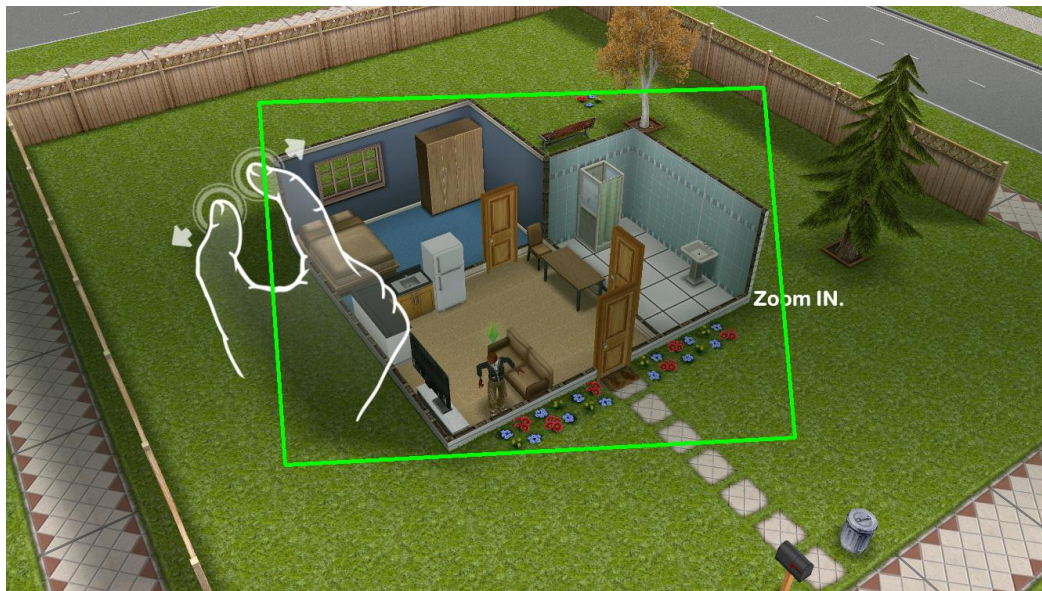
Automation projects

- Mobile games automation

Resolution Agnostic, works rotated and stretched items



Resolution Agnostic, works rotated and stretched items



Resolution Agnostic, works rotated and stretched items



Resolution Agnostic, works rotated and stretched items

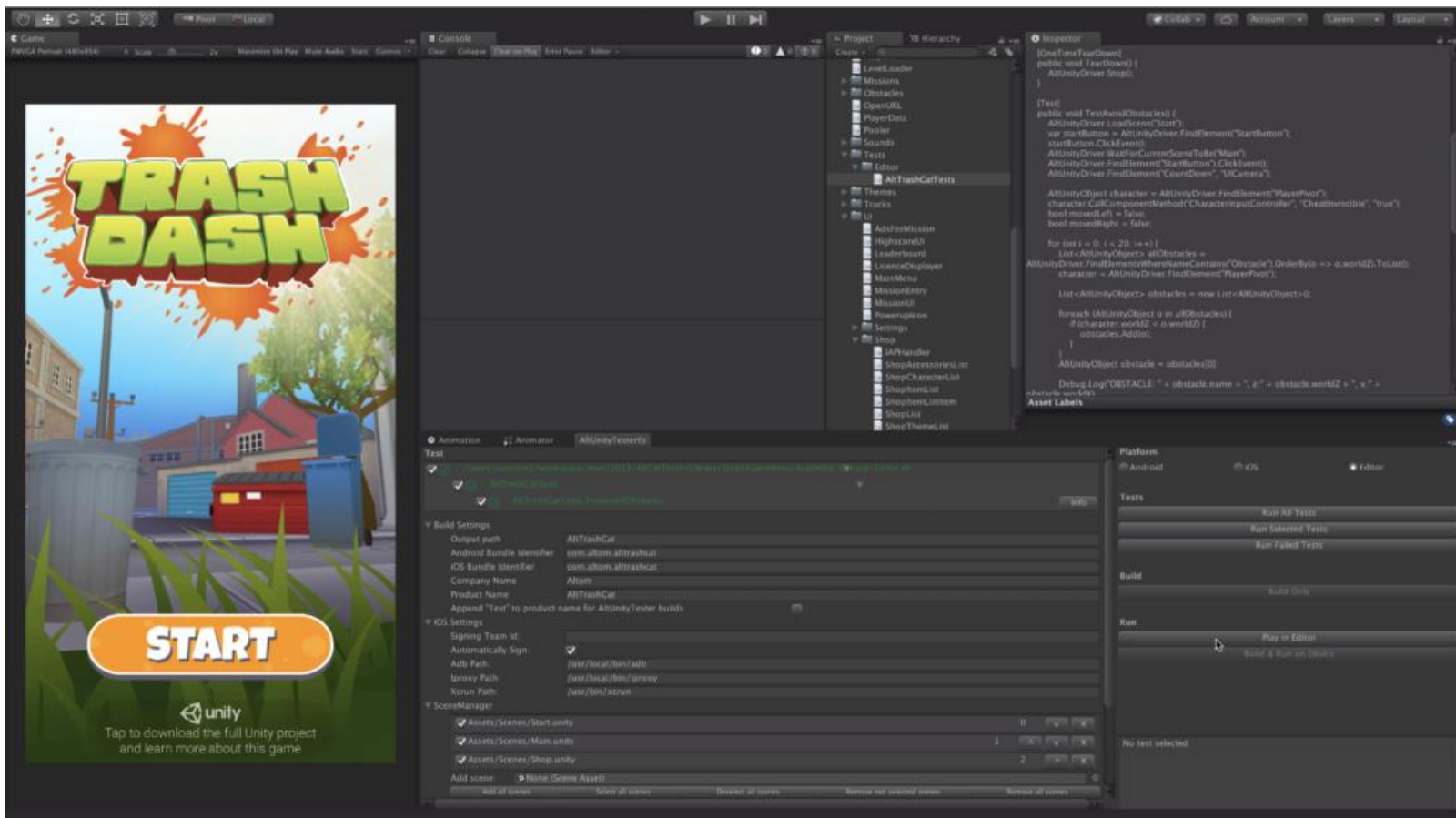


Automation projects

- Mobile games automation
- Web apps automation
- Automation using robots

Building testing tools

- AltWalker
- WebUiChecker
- AltUnityTester



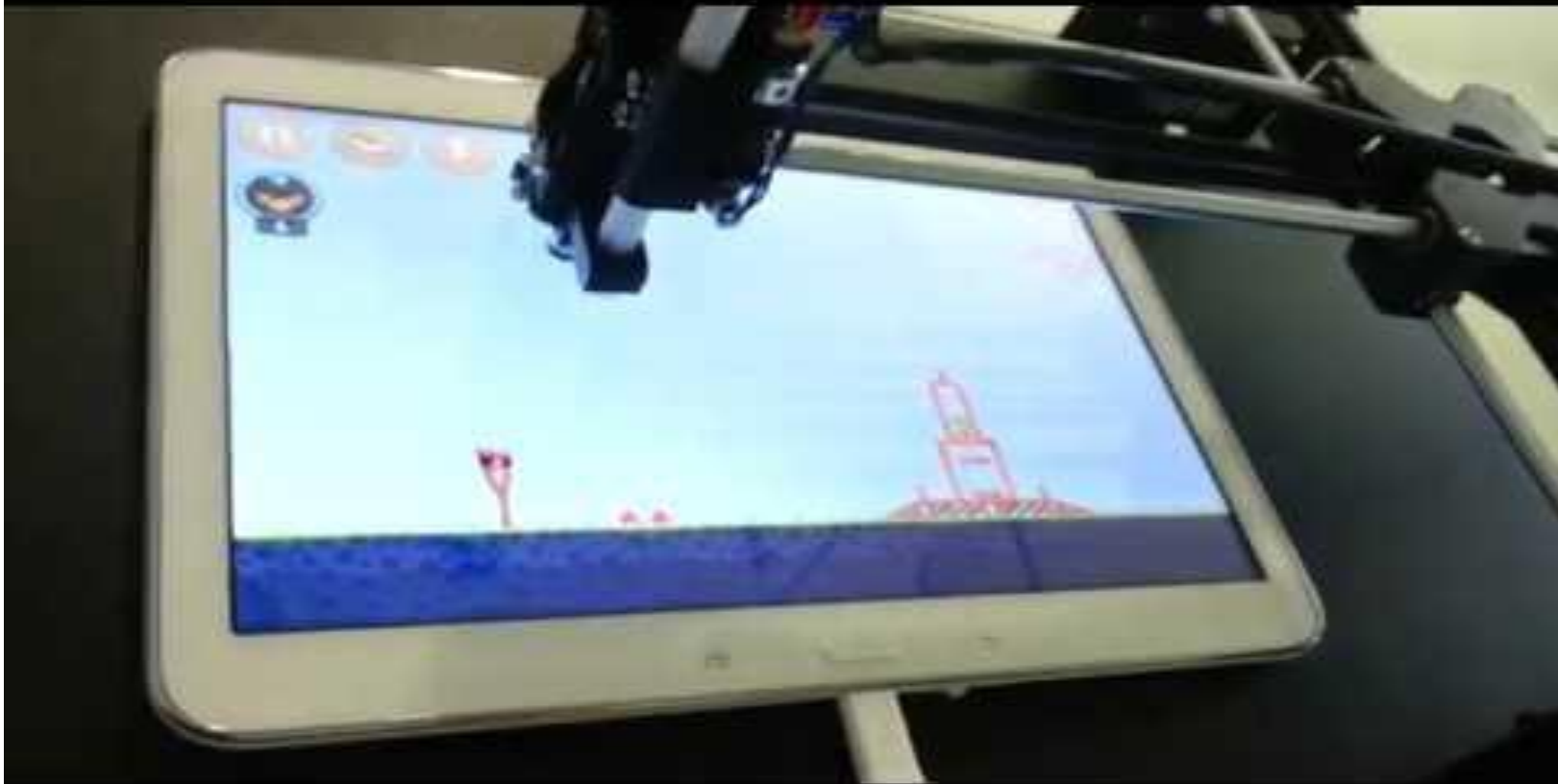
Is it true that testers never code?

How do you get better
at testing?

Improve your skills

- Feedback
 - Other colleagues (testers or not)
 - Community (local or online)
 - Tabara De Testare
- Courses
- Books
- Online resources like blogs
- Practice
- Open mindset

Testing is boring









AltTap Demo

If it's boring, you're doing it
wrong!

Resources

- Altom open-source projects
 - <https://gitlab.com/altom>
- Android Monkey Runner
 - <https://developer.android.com/studio/test/monkeyrunner/>

Resources

Books

- Lessons Learned in Software Testing - Cem Kaner
- Perfect Software and Other Illusions about Testing - Gerald Weinberg
- Explore it! - Elisabeth Hendrickson

Communities:

- <http://www.meetup.com/Tabara-de-Testare-Cluj/>
- <https://www.ministryoftesting.com/>
- <http://testers.io> - Slack community

Altom BBST courses

- <https://altom.training>

Internship @ Altom
<https://altom.com/jobs/>

Thank you!