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Specialisten in vooruitgang

Exploratory testing in theory and practice

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Principal consultant Squerist

Software testen | Business Process Transformation | Security testen

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Missie: verder brengen van mens, klant en expertise

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Exploratory testing in theory and practice

Test diensten

(Agile) testen | Test automation | BI testen | Security

Test advies | Test uitvoering | Test management | Test opleidingen

Test partnership

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Specialisten in vooruitgang

Why testing?

Software testen | Business Process Transformation | Security testen

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Een short movie

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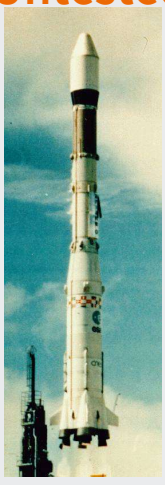
The most expensive piece of software. Untested

```
declare
 vertical_veloc_sensor: float;
 horizontal_veloc_sensor: float;
 vertical_veloc_bias: integer;
 horizontal_veloc_bias: integer;
 ...
begin
 declare
  pragma suppress(numeric_error, horizontal_veloc_bias);
 begin
  sensor_get(vertical_veloc_sensor);
  sensor_get(horizontal_veloc_sensor);
  vertical_veloc_bias := integer(vertical_veloc_sensor);
  horizontal_veloc_bias := integer(horizontal_veloc_sensor);
  ...
 exception
  when numeric_error => calculate_vertical_veloc();
  when others => use_irs1();
 end;
end irs2;
```



€ 6.522.600.000

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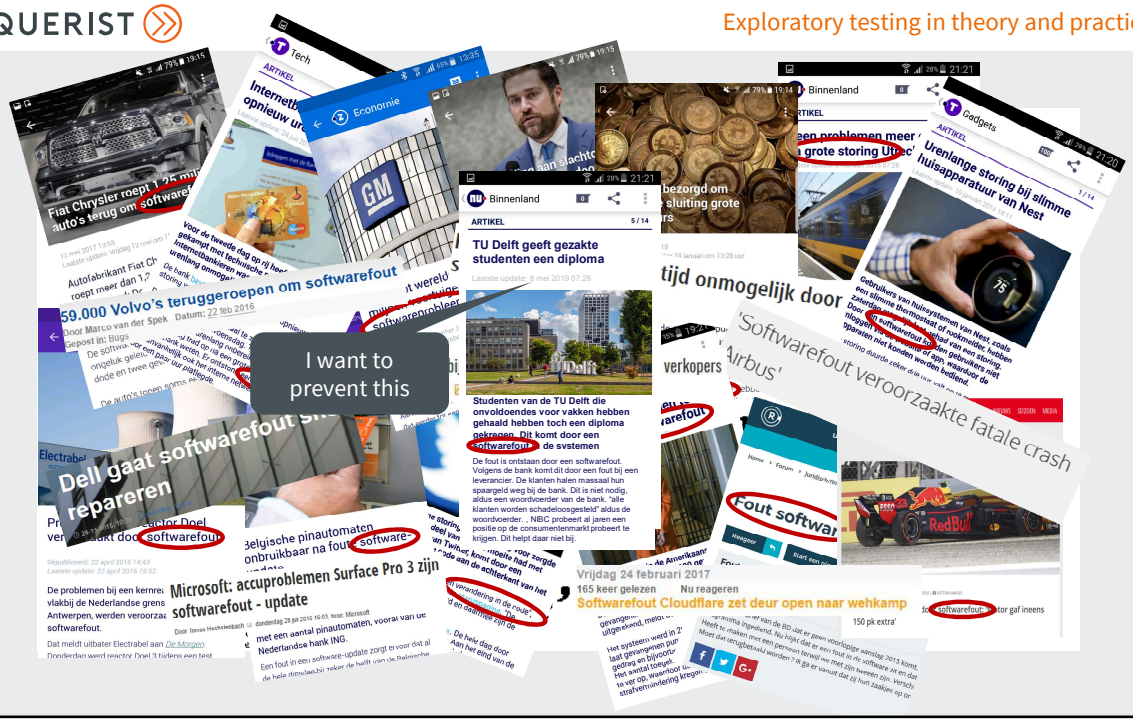

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Exploratory testing

10:30

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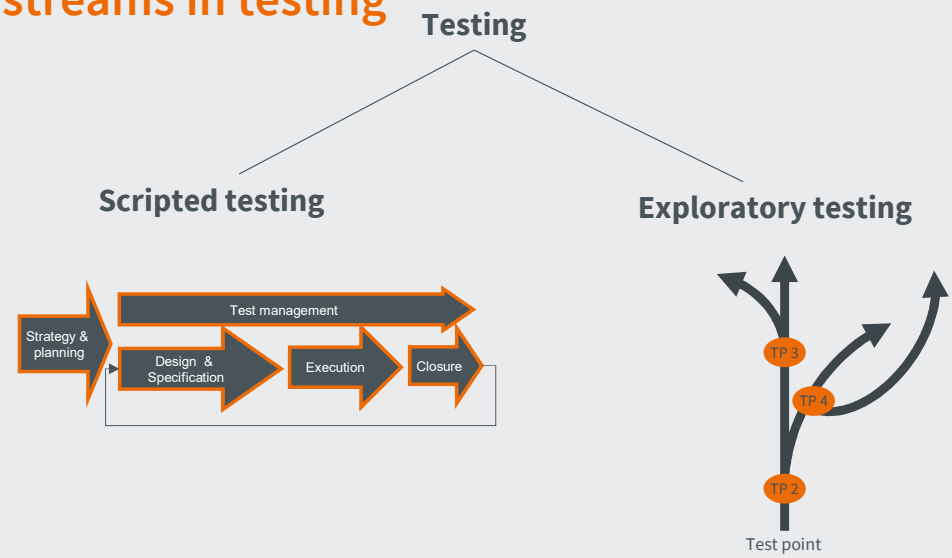
Main streams in testing



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Exploratory testing is…

…a style of software testing…

…that emphasizes the personal freedom and responsibility of the individual tester…

…to continually optimize the value of her work…

…by treating test-related learning, test design, test execution, and test result interpretation as mutually supportive activities that run in parallel throughout the project.

Source: http://kaner.com/?p=46
and 'Explore it!' by Elisabeth Hendrickson

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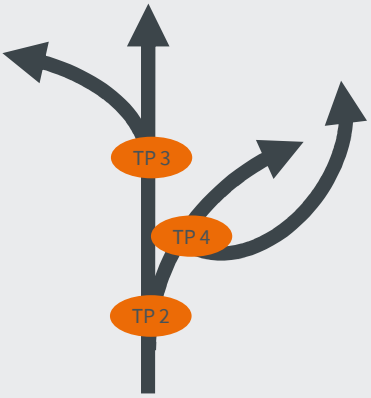
Essence of exploratory testing



Test point / test idea 1

Based on RST 3.0 by James Bach and Michael Bolton

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Or populair said

Simultanuous working

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Optional discussion

- What are the possible benefits of exploratory testing compared to scripted testing?
- What are the possible backdraws of exploratory testing compared to scripted testing?
- How can we structure exploratory testing to make sure we don't do ad hoc testing without losing the benefits?

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Possible structuring elements

- Overall mission of testing
- List of product risks
- Insight in the structure of the product
- Determine test units
- Track coverage
- Test charters with testpoints
- Test design techniques
- Checklists
- ISO 25010 / 9126
- Defect administration

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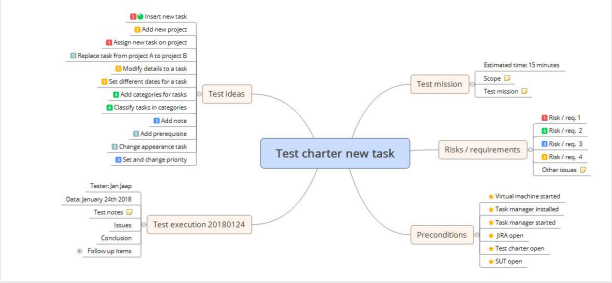
Example test charter



Template test charter SQUERIST

Test charter

General

System under test / scope	
Test mission	
Related risks / requirements / focus	
Estimated time	
Tester	
Date	

Test points

1.
2.
3.

Defects

Nr	Screen	Global description

Session notes

Recap test session

New test points, actions of questions

Nr	P/A/Q	Description

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Case PHPTravels

- Go to www.phptravels.net
- This is a test system!

- Explore the hotel parts
- Make up a test design with
  - Test goals
  - Test points

14:00

17

15:30

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Session based testing

13:30

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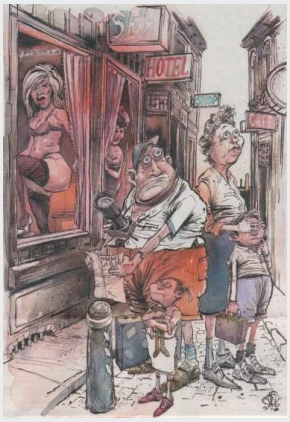
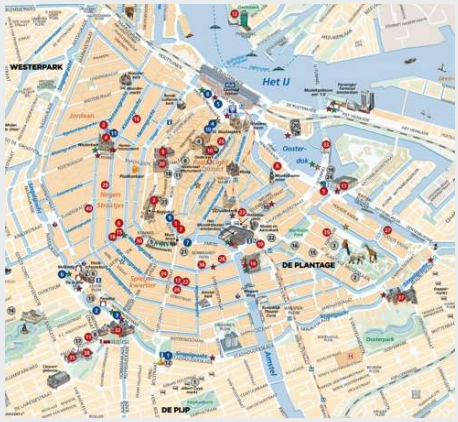
The need for more stucture

Exploratory testing without good guidance is like wandering around a city looking for cool tourist attractions. It helps to have a guide and to understand something about your destination. - James Whittaker





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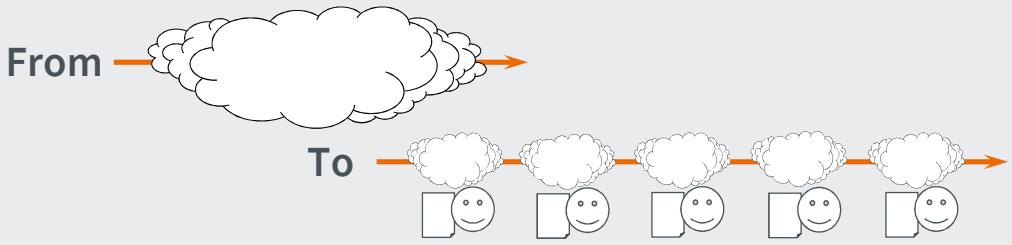
Session based testing

Session-based testing is a software test method that aims to combine accountability and exploratory testing to provide rapid defect discovery, creative on-the-fly test design, management control and metrics reporting

- Wikipedia -



Based on 'Exploratory software testing' by James Whittaker

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Elements session based testing

- Sessions (timebox)
- Mission
- Test charters
- Test points
- Session notes
- Session debrief
- Metrics

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Session

- Timebox
- 60 min. – 90 min. – 120 min.
  - Short enough to report in detail
  - Short enough to plan it easily
  - Long enough to test in depth
  - Long enough to debrief effectively
  - Don't make a detail planning of the session
- Eventually pair testing
  - Tester – tester
  - Tester – product owner
  - Tester – user
  - Tester – developer

Test mission

- Representation of the goal of the test session
- Risk based
- Defined scope

My mission is to test <<the risk you want to cover>> for <<the scope/depth/coverage>>

Test charter

- Also named a session sheet
- Information of the test item
- Mission
- Test points
- Information about the test execusion (optional)
- Defects (or references to the defects in the tool)
- New test charters or new test points

See example

Session notes / session ideas

- Things you want to know
- Things you don’t want to miss
- Things you want to test
- ≈ logical test cases

A good test point starts with a verb

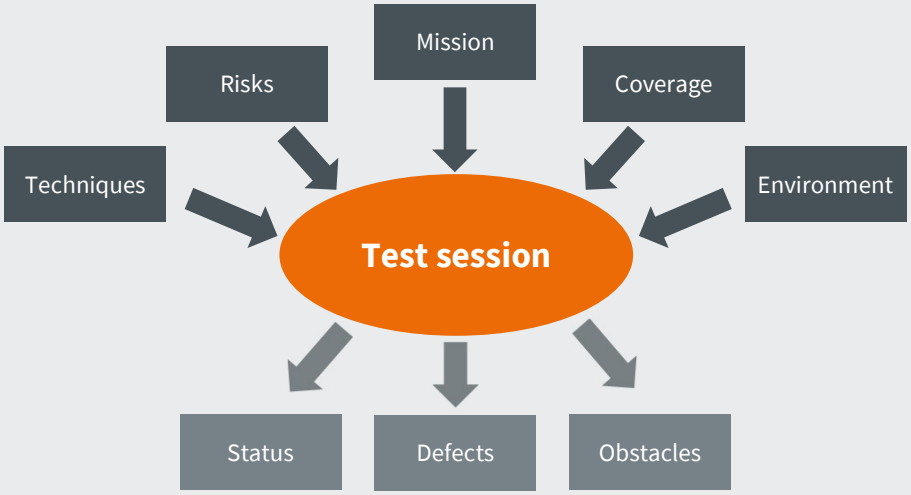
Session notes

- What did I test?
- What didn't I test?
- Why did I test it?
- How did I test it?
- With which coverage and depth did I test it?
- Which test data did I use?
- On which environment did I test?
- What have I found out?
- What defects did I find?
- What more should I test?

Possible follow up items

- Defects
- Questions
- Possible new charters
- Possible new points
- Tests that should be automated
- Tests that should be documented
- Instructions for the next time this charter will be executed

Session debrief



Important skill of an exploratory tester

Focus - defocus

Based on RST 3.0 by James Bach and Michael Bolton

It is finding the balance between

Discipline - freedom

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Choosing the right way to test

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Situational testing bingo

Category	Situation	Scripted testing	Exploratory testing
System	Calculations		
	User interface oriented system		
	Backend oriented system		
	Mobile app		
Test goals	Checking a set of req. / regulation		
	Value based testing		
	Usability		
	Business rules testing		
	Performance		
	Automated checking		
	Security		
Organization	Planning and preperation oriented		
	Young, modern startup		
	Hierarchical, traditional organisation		
	Self management, resp. low in org.		

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Category	Situation	Scripted testing	Exploratory testing
Documentation	A lot and detailed documentation		
	Little documentation		
	Constantly changing doc./req.		
System	Waterval		
	Agile		
Budget	A lot of budget		
	Little budget		
Time	Early involved		
	Late involved		
	A lot of time available		
	Little time available		
Test skills	Analytical, accurate testers		
	Critical thinking (question everything)		
	Flexible		
	Professional testers		
	Non-professional testers		

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Testing is exploration and experimentation
Who doesn't like that?

In case you are interested in a career in QA or testing, please contact me.
All the best with your studies