Exploratory Testing on Agile Projects
Effective, Efficient and Engaging

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Outline

- Exploratory Testing
- Session-Based Test Management (SBTM)
- Thread-Based Test Management (TBTM)
- xBTM
- Summary and Conclusions
Big Questions

• Why do we test?
• What is quality?
• Who is responsible for quality?
• Who decides what is a bug?

The Objective of Testing

• In testing we
  • Execute tests and observe how the software responds
  • Record and store test results

• However, the goal of testing is not the execution or the artifacts

• But what learn about the product

• The goal of testing should be information, i.e. knowledge
Exploratory Testing

Exploratory Testing

What is Exploratory Testing?
- A software testing approach
- Simultaneous learning, test design and test execution
- Introduced by Cem Kaner in 1983

Why the name Exploratory Testing?
- To distinguish it from ad hoc testing
- To emphasise the exploration
Exploratory Testing on Agile Projects

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Testing Spectrum

Manual Scripted  ↓  SBTM  ↓  TBTM  ↓  Exploratory

Session-Based Test Management

Session-Based Test Management
Session-Based Test Management

• What is Session-Based Test Management (SBTM)?
  ‣ Work in sessions
  ‣ Time-box
  ‣ Uninterrupted
  ‣ Reviewable
  ‣ Feedback (debriefing)
  
  • Test charter: Mission for the session
  • Session report
  
  • Introduced by Jonathan Bach and James Bach in 2000

Session-Based Test Management

• Why use SBTM?
  ‣ Structured and documented exploratory testing
  ‣ Management control
  ‣ Metrics reporting
  ‣ Accountability

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Session-Based Test Management

- Test Charter
  - Mission for the session
  - How to test
  - What kind of problems to look for
  - Often created in advance
  - Extent and level of detail flexible

* Michael Kelly

Session Report

- Date, Time & Tester
- Test charter
- Function area
- Time break-down
  - Test design
  - Test execution
  - Test reporting
  - Test setup
  - Other (e.g. interruptions)
- Bugs found
- Issues found
- Opportunity vs. Charter
- Notes
Thread-Based Test Management

What is Thread-Based Test Management (TBTM)?

- Activity-based approach
- Introduced by James Bach in 2010
- Embraces the fact that activities change over time
- Cf. conversation threads
Thread-Based Test Management

- What is a thread?
  - A test idea or test activity
  - A thread can be interrupted and resumed
  - Parallel threads

- What differs a thread from a session?
  - A session charter is a commitment to complete a task
  - A session is time-boxed
  - TBTM is a generalization of SBTM

Threads – Example
Threads – Example

Thread-Based Test Management

- The essence of TBMT:
  - Activities change over time
  - "For me ‘test’ is a verb. Testing is something that I do, not so much something that I create."*
  - Focus on “doing” and not “getting done”

Thread-Based Test Management

**Why TBTM?**
- Works even in chaotic and difficult environments
- A way to handle interruptions
- Can have very long or very short threads (not limited by time-boxing)
- Easy and quick to get started
- Traceability and documentation as needed

**How do you do it?**
- List ideas for test activities – each activity is a thread
- Arrange threads in a *mind map*
  - Function Areas
  - Test Techniques
- Which thread is most important right now?
- Threads dropped and picked up, parallel threads
Thread-Based Test Management

- How do you keep track of threads?
  - Assign threads
  - Mark progress
  - Make notes
  - Let threads evolve
**xBTM**

**What is xBTM?**
- Created by Michael Albrecht, AddQ Consulting, and Christin Wiedemann in 2011
- Combines *Session-Based Test Management* (SBTM) and *Thread-Based Test Management* (TBTM)

**Why the name xBTM?**
- Cf. xUnit (collection of code-driven testing frameworks)
- $x = S$ (*Session*) or $T$ (*Thread*)
- Best of both worlds!
- Choose SBTM and/or TBTM depending on context

**How is it done?**
- Start by making a mind map – test plan
- Use SBTM when possible
  - Group threads to create charters
  - Write session reports
- Use TBTM when SBTM is not an option
  - Test threads
- Update mind map continuously – test status report
Traditional Workflow

- **Waterfall**
  - Consecutive phases

- **Agile**
  - All phases repeated in every iteration
**Planning**
- List ideas for test activities in mind map
- Group by function area and/or test technique
- Group threads into sessions (optional)
- Estimate number of charters needed (optional)

**Design, Execution, Reporting**
- Simultaneous
- Update mind map
- Session reports (optional)
- Update test charters (optional)
- Add threads
- Create additional test charters (optional)
Summary and Conclusion

- Exploratory testing can be very structured
- Exploratory testing can be thoroughly documented
- Mind maps are great for visualization and collaboration
- Use SBTM when possible
- Use TBTM when environment is too hectic

• Adapt the method to your needs


Links – Mind Mapping

- XMind: Powerful tool with a lot of nice features, used in examples
  • http://www.xmind.net
- mindmeister: Collaborative tool.
  • http://www.mindmeister.com
- FreeMind: The simpler of the mind mapping tools, but still very useful.
  • http://freemind.sourceforge.net/wiki/index.php/Main_Page
Links – SBTM Tools

- Rapid Reporter: A note taking tool for exploratory testing sessions.
  - [http://testing.gershon.info/reporter/](http://testing.gershon.info/reporter/)

- Session Tester: A tool for recording and managing exploratory testing session.
  - [http://sessiontester.openqa.org](http://sessiontester.openqa.org)

- SBTExecute: A tool that produces summary reports and calculates metrics from an Excel session report template.
  - [http://www.addq.se/utforskande-testmetodik-xbtm/](http://www.addq.se/utforskande-testmetodik-xbtm/) (scroll down to bottom of page for English)