

# Software Systems Verification and Validation

Vescan Andreea, PHD, Assoc. Prof.

---



Faculty of Mathematics and Computer Science  
Babeș-Bolyai University



2024-2025





# Software Systems Verification and Validation

---

"Tell me and I forget, teach me and I may remember, involve me and I learn."

(Benjamin Franklin)

# (Next)/Today Lecture

- Agile testing
- Exploratory testing

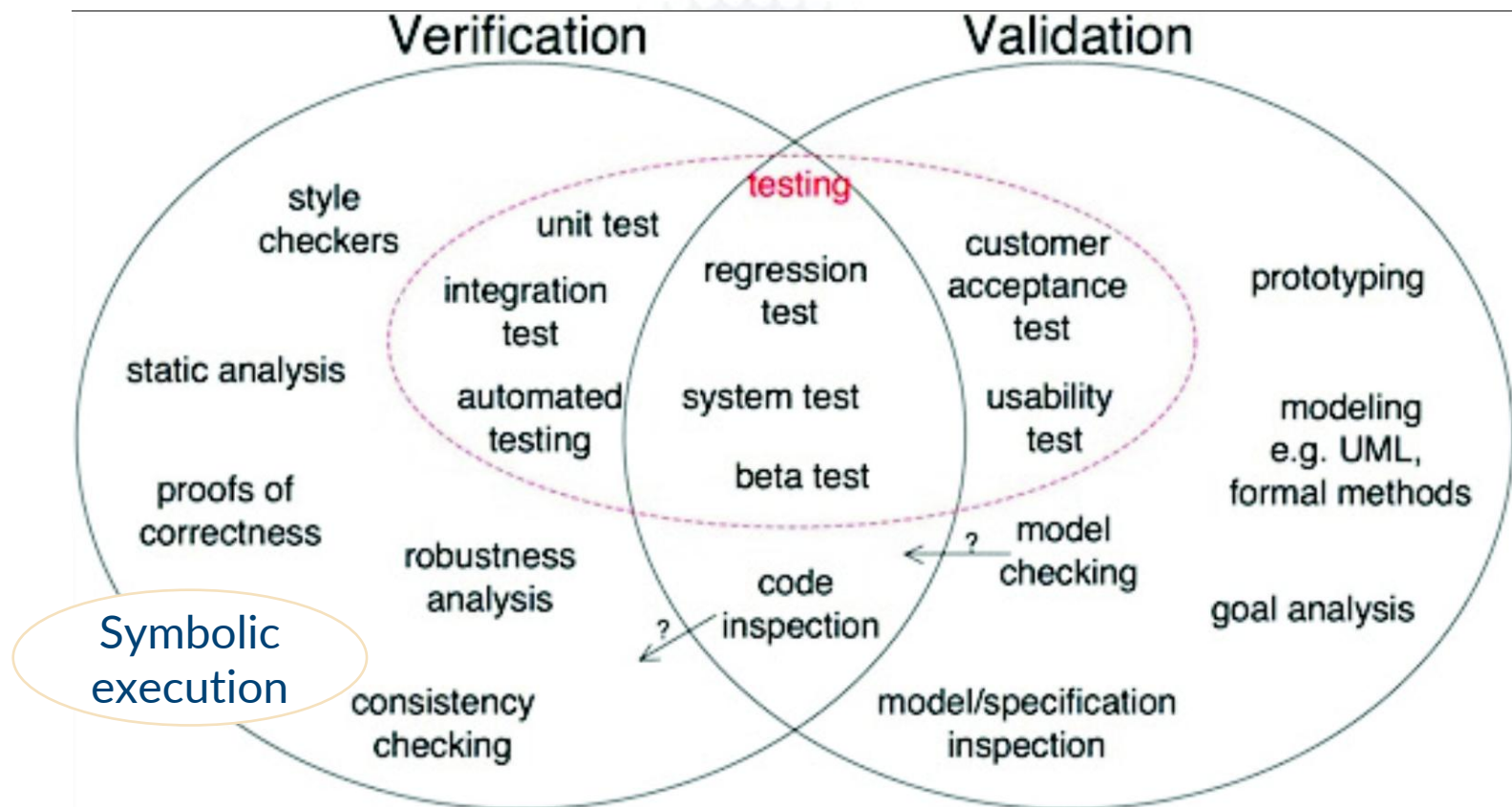


# Outline

- Agile Testing
  - Video presentations – 10 minutes
- Exploratory testing
  - Definition
  - About
  - Video presentations and links
  - Session Based Test Management [SBTM]
    - About
    - Ready for rent?
      - 5 min. - about
      - 25 min. activity
      - 10 min. debriefing
      - 10 min. - questionnaire



# What we will learn!



# Outline

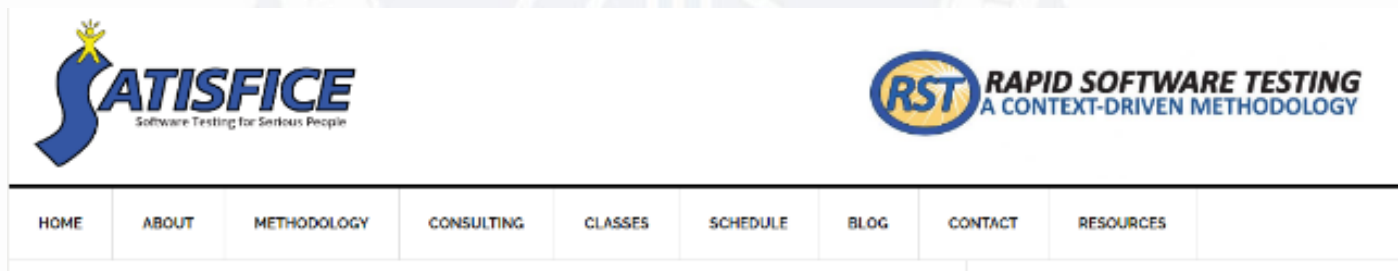
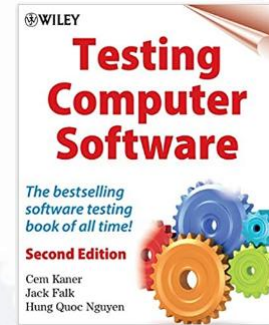
- Agile Testing
  - Video presentations – 10 minutes
- Video presentations (from 2019)
  - Created by a team
  - Each video ~ 5 minutes
    - Audio + written + visual
  - Send by email the link for your video – 1 day before the presentation
- Team 1
- Team 2 - 3:44 – Agile testing - quadrants
- Team 3 - 5:27 – Agile testing - methods
- Team 4

# Outline

- Agile Testing
  - Video presentations – 10 minutes
- **Exploratory testing**
  - Definition(s)
  - About
  - Video presentations and links
  - Session Based Test Management [SBTM]
    - About
    - Ready for rent?
      - 5 min. - about
      - 25 min. activity
      - 10 min. debriefing
      - 10 min. – questionnaire

# Exploratory testing – Definition(s)

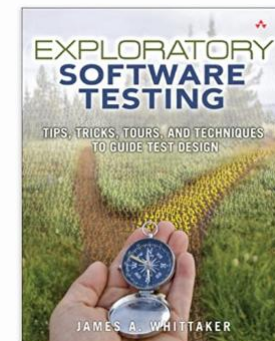
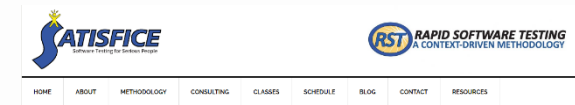
- History of definitions of Exploratory testing
  - <https://www.satisfice.com/blog/archives/1504>
- James Bach, Test consultant and founder of Satisfice Inc., helps understand Exploratory testing in an exclusive interview. (see next slide)
  - [https://www.youtube.com/watch?v=I-ltEKt\\_N\\_s&ab\\_channel=MindtreeLtd.](https://www.youtube.com/watch?v=I-ltEKt_N_s&ab_channel=MindtreeLtd.)





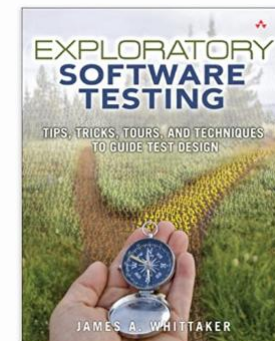
# Exploratory testing – About

- James Bach, Test consultant and founder of Satisfice Inc., helps understand Exploratory testing in an exclusive interview. (6 min. video)
  - [https://www.youtube.com/watch?v=I-ltEKt\\_N\\_s&ab\\_channel=MindtreeLtd.](https://www.youtube.com/watch?v=I-ltEKt_N_s&ab_channel=MindtreeLtd.)
- Elisabeth Hendrickson
  - An explanation of the Who, What, When, Why, and How of exploratory testing. (total 40 min.) **Seconds 25"-2min10"**,  
**Experiential Learning 35"40"** (1 minute)
  - [https://www.youtube.com/watch?v=9FKY1ls0lgs&ab\\_channel=ElisabethHendrickson](https://www.youtube.com/watch?v=9FKY1ls0lgs&ab_channel=ElisabethHendrickson)
- James Whittaker
  - Large-scale Exploratory Testing: Let's Take a Tour (total 47 min.)
  - [https://www.youtube.com/watch?v=fNkYz1hB7r0&ab\\_channel=TechWellHappenings](https://www.youtube.com/watch?v=fNkYz1hB7r0&ab_channel=TechWellHappenings)
- Maaret Pyhajarvi
  - [https://www.youtube.com/watch?v=yXupa6Gtt3E&ab\\_channel=BrowserStack](https://www.youtube.com/watch?v=yXupa6Gtt3E&ab_channel=BrowserStack)
  - **Min. 34min (34'40") to 37 min**



# Exploratory testing – Video presentations and links

- History of definitions of Exploratory testing
  - <https://www.satisfice.com/blog/archives/1504>
- James Bach, Test consultant and founder of Satisfice Inc., helps understand Exploratory testing in an exclusive interview. (6 min. video)
  - [https://www.youtube.com/watch?v=I-ltEKt\\_N\\_s&ab\\_channel=MindtreeLtd](https://www.youtube.com/watch?v=I-ltEKt_N_s&ab_channel=MindtreeLtd).
- Elisabeth Hendrickson
  - An explanation of the Who, What, When, Why, and How of exploratory testing. (40 min.)
  - [https://www.youtube.com/watch?v=9FKY1ls0lgs&ab\\_channel=ElisabethHendrickson](https://www.youtube.com/watch?v=9FKY1ls0lgs&ab_channel=ElisabethHendrickson)
- James Whittaker
  - Large-scale Exploratory Testing: Let's Take a Tour (47 min.)
  - [https://www.youtube.com/watch?v=fNkYz1hB7r0&ab\\_channel=TechWellHappenings](https://www.youtube.com/watch?v=fNkYz1hB7r0&ab_channel=TechWellHappenings)
- Maaret Pyhajarvi
  - [https://www.youtube.com/watch?v=yXupa6Gtt3E&ab\\_channel=BrowserStack](https://www.youtube.com/watch?v=yXupa6Gtt3E&ab_channel=BrowserStack)
  - (44 min.)



# Outline

- Agile Testing
  - Video presentations – 10 minutes
- Exploratory testing
  - Definition(s)
  - About
  - Video presentations and links
  - **Session Based Test Management [SBTM]**
    - About
    - Ready for rent?
      - 5 min. - about
      - 25 min. activity
      - 10 min. debriefing
      - 10 min. - questionnaire



# Session Based Test Management [SBTM]

- A method [SBTM] for measuring and managing exploratory testing.
  - <http://www.satisfice.com/sbtm/>
  - <http://www.satisfice.com/articles/sbtm.pdf>
  - An approach to testing with:
    - No test cases
    - No expected results
    - No pass/fails metrics
  - Testing on a project is divided up into focused “sessions” of exploratory testing.
  - A test session
    - A dedicated and uninterrupted period of exploratory testing.
    - Focused on a set objectives defined in a “charter”
    - Generates notes and lightweight reporting on the testing carried out.
    - The testing task is expected to change and evolve.
- **Exploratory testing**
    - **Is not random**
    - **Is creative and requires intelligent thoughts.**

# Session Based Test Management [SBTM]

- **Planning**
  - Charter: a single sentence that sets the scope of the testing
    - What you will test
    - How you plan to test it
    - The information you hope to provide.
  - That scope should be achieved in 90 minutes.
  - Charter are basis of estimation and coverage.
- **Testing**
  - A dedicated and uninterrupted period of testing (no meetings, no email)
  - Use testing experience or instinct; use your domain knowledge
  - Test scenarios could be ok, but not pre-scripted steps
  - Use the software, observe it and be alert of new questions or test ideas
  - Encourage thinking beyond specific features or tasks in isolation.
  - Fully imagine and describe users of the software
- **Note taking/ Reporting**
  - Not just pass/fail count: What you did. Why you did it. What you saw. What questions and ideas you had. Any frustrations/blocks.

# Session Based Test Management [SBTM]

- Jonathan Bach – course on Session Bases Test Management
- Example:
  - Applied: Sanity and Survey Testing Focus Writer.
  - Software: Focus Writer.
- Computed metrics

Test

Bug

Setup

OffCharter

Note

Question

NextTime

Data

Session end.Duration		52	▼
Number of bugs		4	▼
Time on Test (mins)		44	▼
Time on Setup (mins)		3	▼
Time on Bugs (mins)		3	
Time Off Charter (mins)		1	
Number of questions		5	
Number of ideas for next time		2	
Session Tester	alexandra.casapu@altom.ro		
Session Charter	Perform Sanity Testing and Survey Testing for FocusWriter		
Planned session time (mins)		60	
Environment Info	Windows, Product Version: FocusWriter 1.6.2, Mac OSX version 1.6.2, on MacOSX Sierra		
Area	Menus		
Current Active Tag	Test		
Time remaining (mins):		9	
Session start	SESSION ENDED		

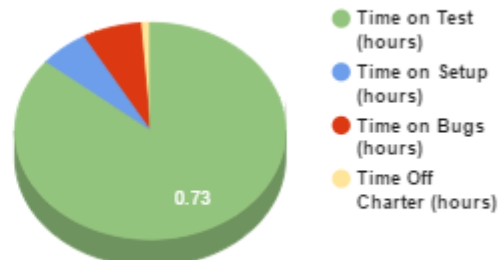


# Session Based Test Management [SBTM]

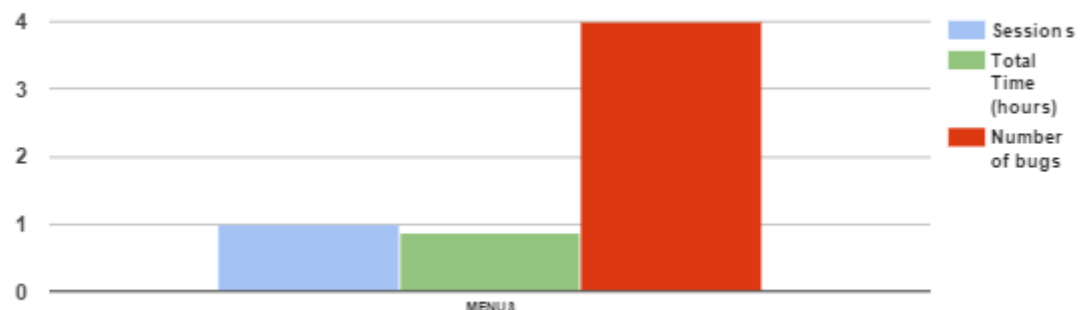
- Jonathan Bach – course on Session Based Test Management [RapidSoftwareTestingCourse\_Altom]
- Example:
  - Applied: Sanity and Survey Testing Focus Writer.
  - Software: Focus Writer.

Overall Summary	
Total Sessions	1
Total Time (hours)	0.87
Total Bugs	4
Time on Test (hours)	0.73
Time on Setup (hours)	0.05
Time on Bugs (hours)	0.06
Time Off Charter (hours)	0.01
Total Questions	5
Total Next Time Ideas	2

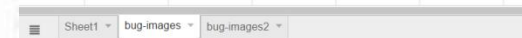
Test/Bugs/Setup/OffCharter



Testing Summary by Area



- [illegible]

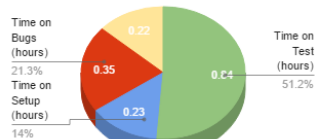


# Session Based Test Management [SBTM]

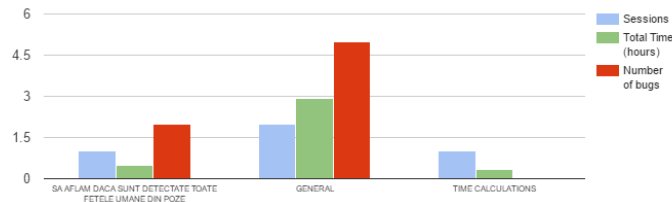
- Use SBTM for an open source application
  - **Suggestion:** Use SBTM for your Bachelor Thesis.
- SBTM template available here:
  - <https://altom.com/version-2-1-of-the-sbtm-session-template-was-released/>
  - **Use your gmail account.**
- Instructions how to use the template
  - <https://altom.com/sbtm-with-itester-and-google-drive/>

Exploratory Testing Summary Report

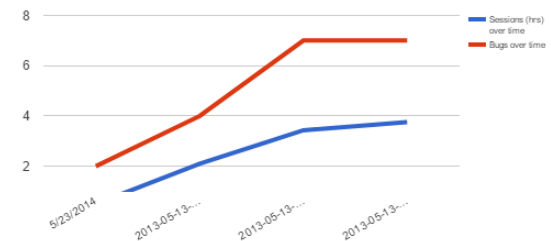
Test/Bugs/Setup/OffCharter



Testing Summary by Area



Sessions and Bugs Over Time






# Grading – Seminar (2)

Portofolio activities

- 1. Portofolio about Inspection
  - Details provided in Lecture 1
  - To be submitted in Seminar 3
  - Team: 3 persons/team
- 2. Portofolio about Test Case Design
  - Details provided in Lecture 3
  - To be submitted in Seminar 4
  - Team: 3 persons/team
- 3. Portofolio about Exploratory Testing
  - Details provided in Lecture 7 (6)
  - To be submitted in Seminar 5
  - Team: 3 persons/team

# Session Based Test Management [SBTM]

- **Demo: Session Testing**
  - **Mission: Ready For Rent?**
    - 5 min. - about
    - **25 min. activity**
    - **5 min. results + voting**
    - 10 min. – questionnaire (+ Debriefing)
      - Debriefing: PROOF
        - Past + Results + Outlook + Obstacles + Feeling
  - **Bonus points = votes**
    - I: 25 XP
    - II: 15 XP
    - III: 5 XP
- 
- Mission = find "bugs" in the v  
search another house.
- Users = Family with 3 kids (2
- Time = 20 minutes



- Each team – at home (by Friday, 11 April 2025, h: 20:00)
  - Create the template with your results, downloaded and submitted in teams under assignment **Bonus\_SSVV\_Exploratory\_study**
- SBTM template available here:
  - <https://altom.com/version-2-1-of-the-sbtm-session-template-was-released/>
  - **Use your gmail account.**
  - Instructions how to use the template
    - <https://altom.com/sbtm-with-itester-and-google-drive/>

[illegible]

# Outline

- Agile Testing
  - Video presentations – 10 minutes
- Exploratory testing
  - Definition
  - About
  - Video presentations and links
  - Session Based Test Management [SBTM]
    - About
    - Ready for rent?
      - 5 min. - about
      - 25 min. activity
      - 10 min. – questionnaire
      - 10 min. debriefing





# References

- Lisa Crispin, Janet Gregory, **Agile Testing: A Practical Guide for Testers and Agile Teams (Addison-Wesley Signature)**, Addison-Wesley Professional; 1 edition (January 9, 2009)
- Janet Gregory, Lisa Crispin, **More Agile Testing: Learning Journeys for the Whole Team (Addison-Wesley Signature Series (Cohn))**, Addison-Wesley Professional; 1 edition (October 16, 2014)
- [SBTM] Jonathan Bach, **Session Based Test Management**,  
<http://www.satisfice.com/sbtm/>  
<http://www.satisfice.com/articles/sbtm.pdf>



# Software Systems Verification and Validation

---

"Tell me and I forget, teach me and I may remember, involve me and I learn."

(Benjamin Franklin)