



# Good Testers Are Often Lucky

using serendipity in software testing

Nordic Testing Days, 6 June 2014

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# Serendipitous Life

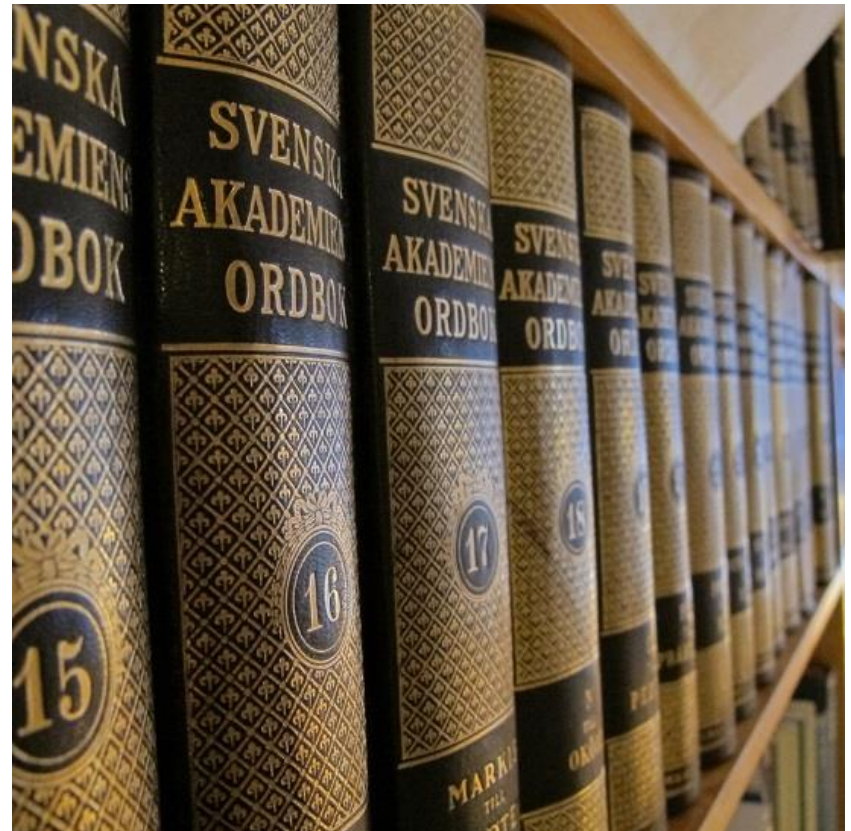
- ▶ Childhood
- ▶ Friends
- ▶ Education
- ▶ Job
- ▶ Family



- ▶ *It's about creating opportunities for good luck*

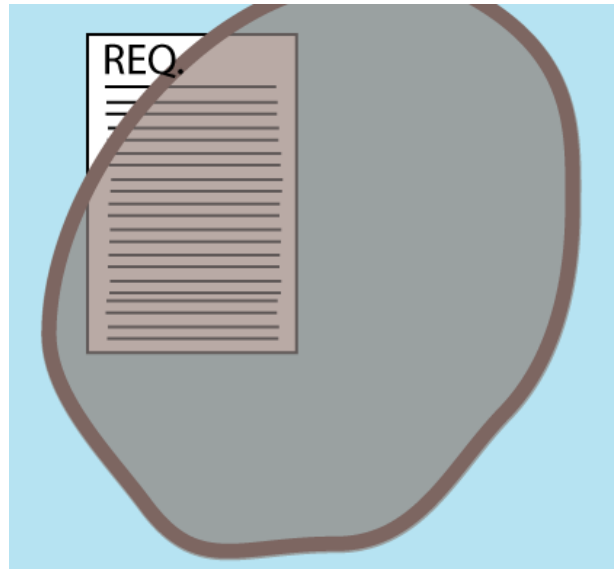
# Serendipity Definition

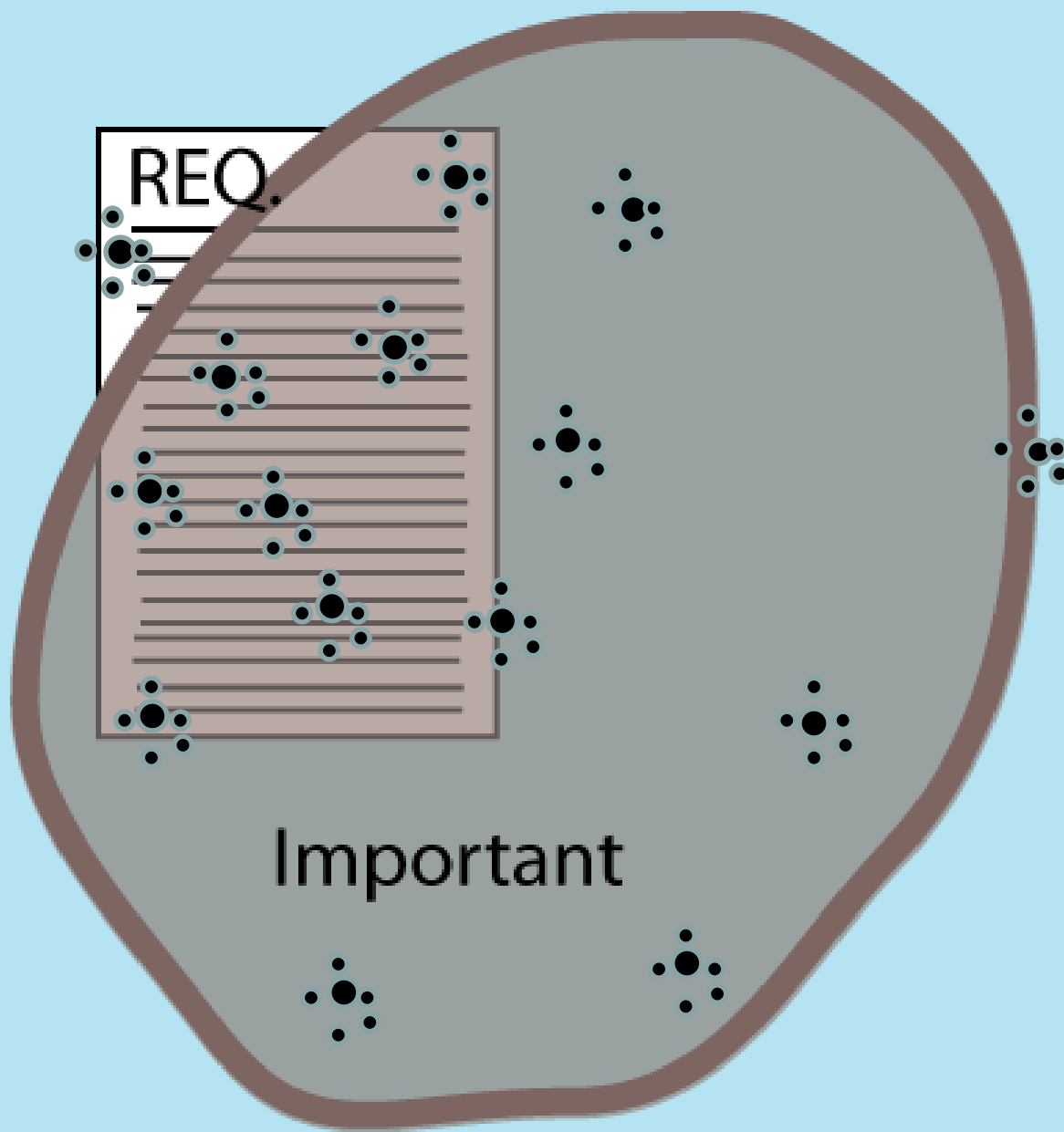
- ▶ “finding something valuable when looking for something else, thanks to an observant mind
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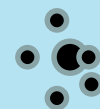
# Sampling & Serendipity

- ▶ We can't test everything, we sample.
- ▶ We can observe carefully.
- ▶ We want to make many, rich tests.
- ▶ We change sampling strategy as we learn more.





Important



Everything



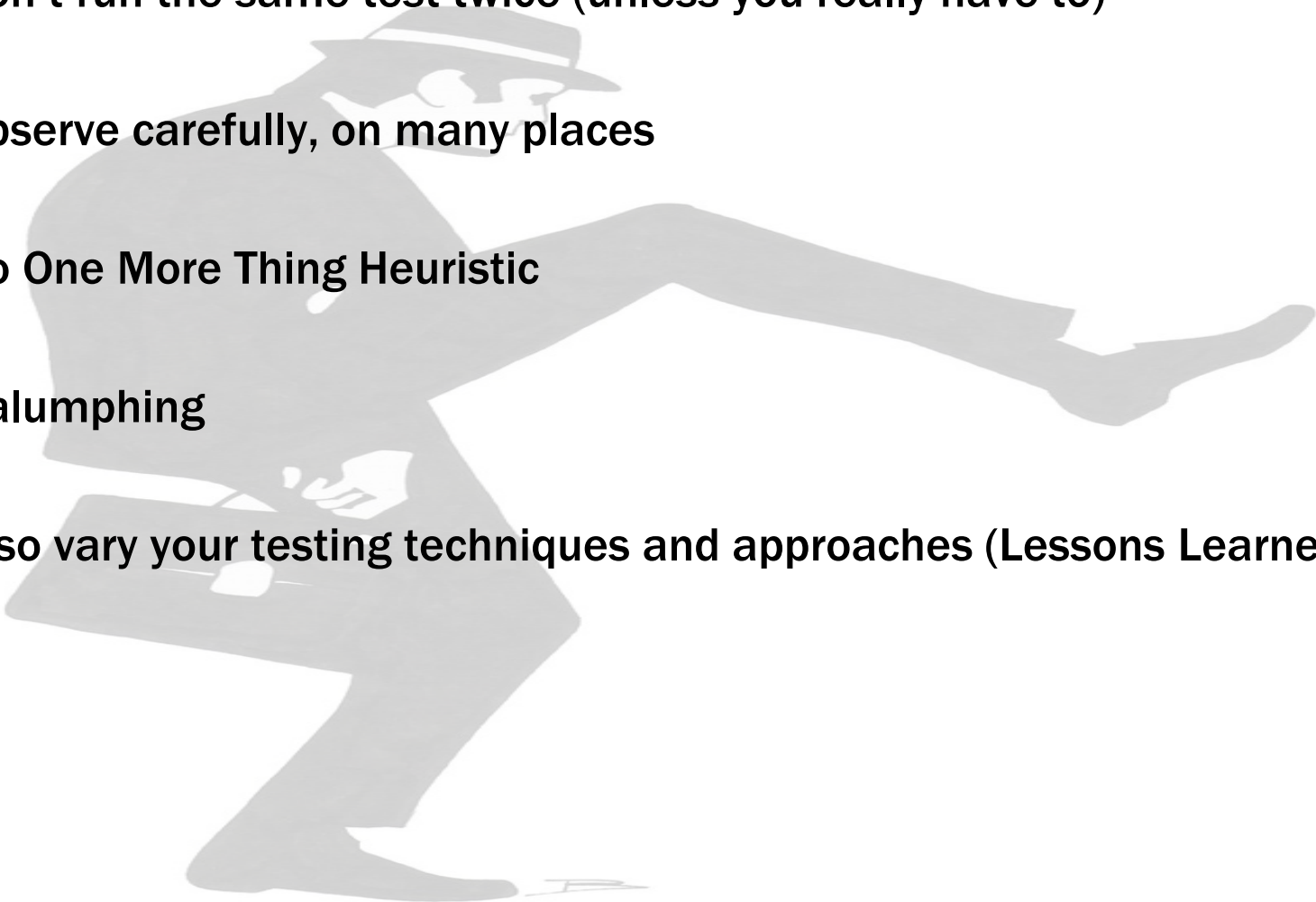
# Prepare for Serendipity

- ▶ Error-Prone Machine
- ▶ Background Complexity Heuristic



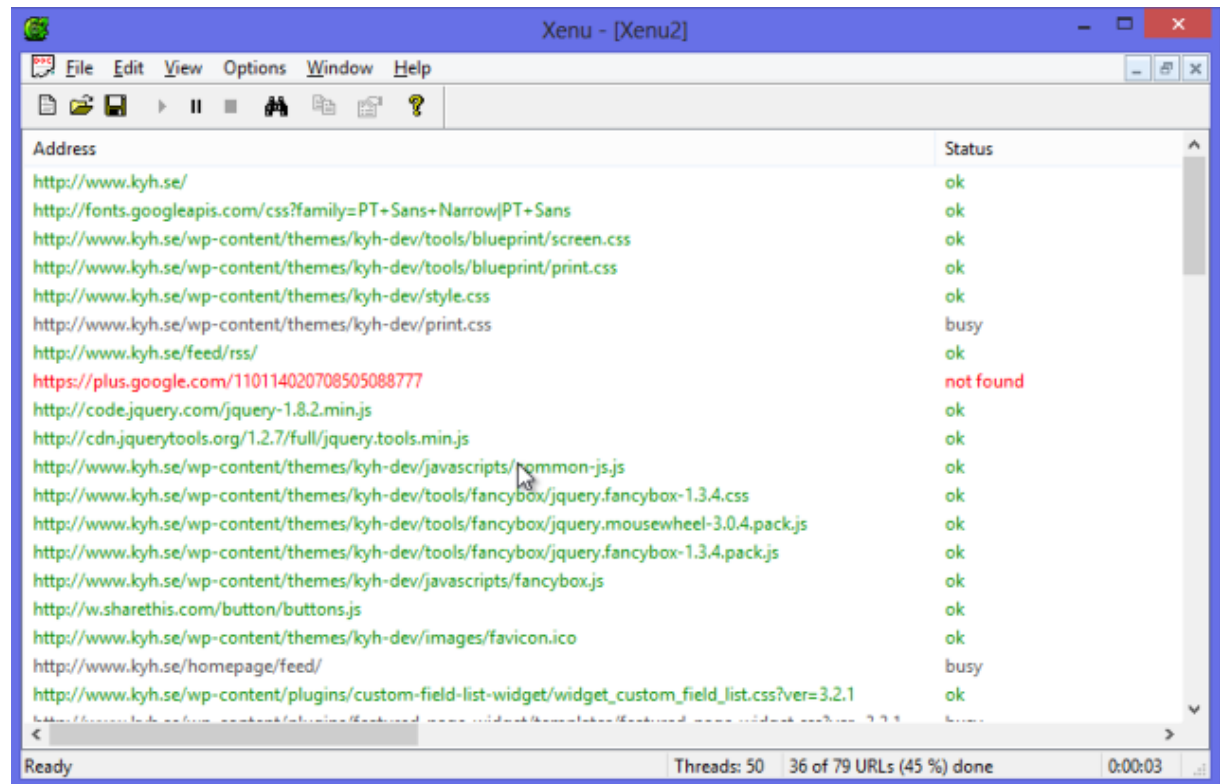
# Vary for Serendipity

- ▶ Don't run the same test twice (unless you really have to)
- ▶ Observe carefully, on many places
- ▶ Do One More Thing Heuristic
- ▶ Galumphing
- ▶ Also vary your testing techniques and approaches (Lessons Learned 283)



# Serendipity Observation Examples

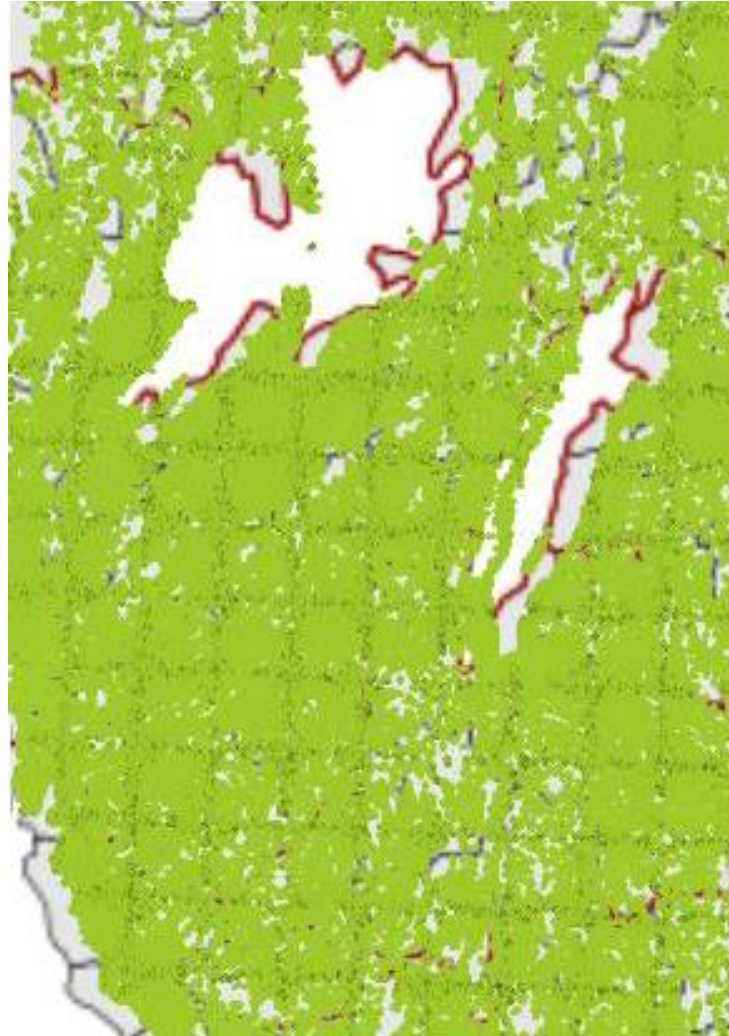
- ▶ Look carefully
- ▶ Notepad Heuristic
- ▶ Visualizing





# Serendipity Observation Examples

- ▶ Look carefully
- ▶ Notepad Heuristic
- ▶ Visualizing



# Ongoing Serendipity

- ▶ Things we know always matter, can be tested “for free”
- ▶ Make tests richer.



# Ongoing Serendipity

**IT-bility.** *Is the product easy to install, maintain and support?*

**Capability.** *Can the product perform valuable functions?*

**Compatibility.** *How well does the product interact with software and environments?*

**Reliability.** *Can you trust the product in many and difficult situations?*

**Usability.** *Is the product easy to use?*

**Supportability.** *Can customers' usage and problems be supported?*

**Testability.** *Is it easy to check and test the product?*

**Charisma.** *Does the product have "it"?*

**Maintainability.** *Can the product be maintained and extended at low cost?*

**Security.** *Does the product protect against unwanted usage?*

**Portability.** *Is transferring of the product to different environments enabled?*

- Reusability: can parts of the product be re-used elsewhere?

- Supportability: can the product support a different environment?

- Interoperability: can the product support common interfaces or official standards?

- Portability: can the product be moved to a different environment?

- User Interface-robustness: will the product look equally good when translated?

**Portability.** *Is transferring of the product to different environments and languages enabled?*

**Performance.** *Is the product fast enough?*

# Connect for Serendipity

- ▶ Daniel Liestman wrote an article about serendipity for library research.
  - *who wants to admit they found it by chance?*
- ▶ Perseverance – thoroughness and hard work
  - Look often, and at many places, use variations.
- ▶ Altamirage – tacit knowledge
  - Hidden heuristics and invisible skills
- ▶ Sagacity – ability to make good judgments
  - Connect observations and experience, the more you know, the better...





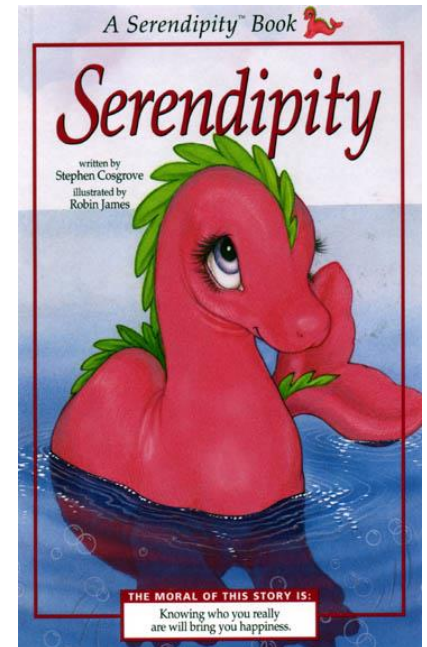
# Serendipity Quotes

- ▶ *you can see lot by just looking* (Yogi Berra)
- ▶ *this serendipity is what makes doing qualitative research and analysis so much fun* (Strauss/Corbin)
- ▶ *chance favors the prepared mind* (Pasteur)
- ▶ *rely less on top-down planning and focus on maximum tinkering and recognizing opportunities* (Taleb)
- ▶ *computers are marvellous, but they suck at serendipity* (Edgren)
- ▶ *wouldn't it be interesting to...* (your next great idea)



# Serendipity Summary

- ▶ Software testing is oozing with serendipity.
- ▶ Serendipity can be your friend and rescue, don't hide it.
- ▶ Learn a lot, prepare, do many tests and observe!

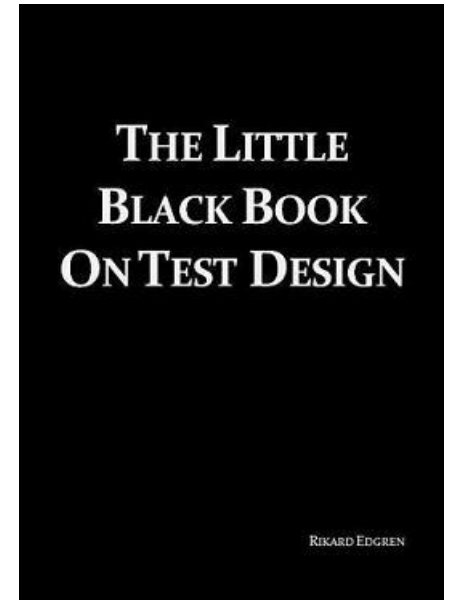


# Questions

▶ ???

▶ Further reading:

- Liestman, Chance in the Midst of Design: Approaches to Library Research Serendipity
- Edgren/Emilsson/Jansson, Software Quality Characteristics  
[http://thetesteye.com/posters/TheTestEye\\_SoftwareQualityCharacteristics.pdf](http://thetesteye.com/posters/TheTestEye_SoftwareQualityCharacteristics.pdf)
- Edgren/Emilsson/Jansson, 37 Sources for Test Ideas  
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- Edgren: The Little Black Book on Test Design  
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