

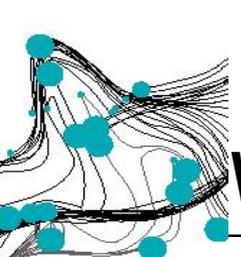


# GAMIFICATION OF TEST QUALITY CONTROL

Arend Rensink, University of Twente

SKE Symposium, 6 July 2017

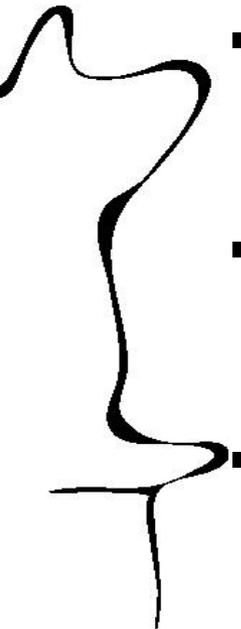




# WHAT IS THE PROBLEM?

- The Examination Board has to safeguard test quality
  - For this, they need information
- Chosen instrument: course dossier
  - To contain all information relevant to testing
  - To be maintained in by examiners
- Observation: this is *not* working
  - Examiners do not know about it, forget about it, have no time
  - Programme management does not insist (strongly enough)
- There is no reward (carrot) for performing this task
  - There is a *stick*: the need for (re-)accreditation
  - Task is important, but not urgent

What information?  
Hold your breath!

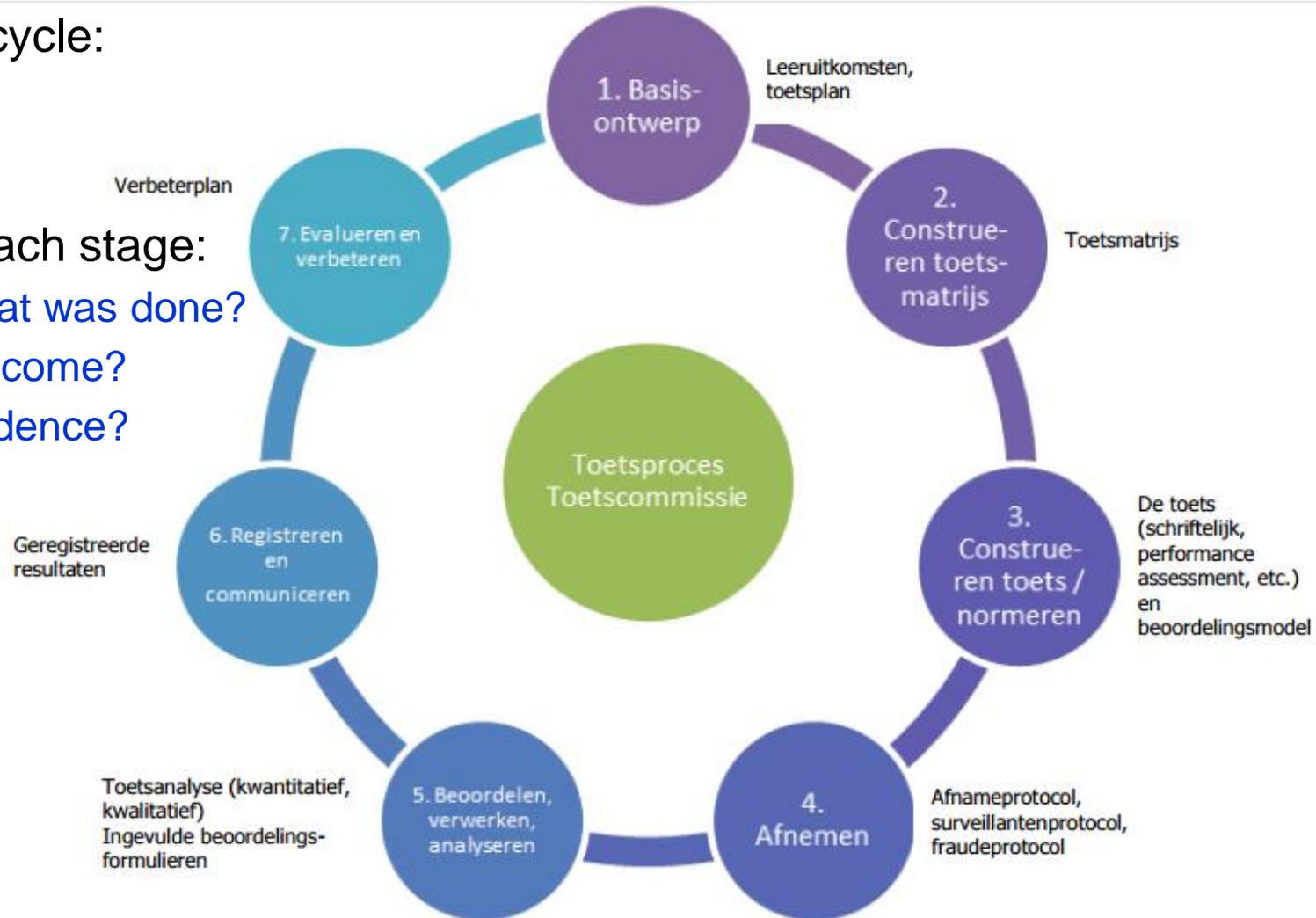


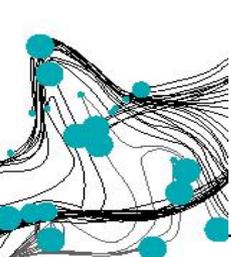
# WHAT IS IT WE NEED TO KNOW ABOUT TESTS?

- Test cycle:

- For each stage:

- What was done?
- Outcome?
- Evidence?





# SOLUTION IDEA: USE PRINCIPLES OF GAMIFICATION

1. **Fast Feedback:** Immediate feedback or response to actions

2. **Transparency:**

3. **Goals:** Show

4. **Badges:** Ev

5. **Leveling U**

6. **Onboardin**

7. **Competitio**

8. **Collaborati**

9. **Community**

10. **Points:** Tar

Not all of these

**Feedback:** Encourage users to continue or adjust their activities with onscreen notifications, text messages or emails

metrics that matter to you and to your audience.

interaction, and educate users about what is valued and possible

is especially in a community and its value

achievements, status within a community

unlock new missions, badges, activities, and rewards

engaged immediately, rather than being stumped by an unfamiliar interface or a detailed manual

tasks, to drive competition, and to encourage knowledge sharing

and other things that participating participants

creates energy in the community by making people aware of what others are doing



Source: *Loyalty 3.0: How to Revolutionize Customer and Employee Engagement with Big Data and Gamification* Rajat Paharia, 2013

# EXAMPLE FORM (WRITTEN)

Ideally, every test should directly

Question		
✓ Are there explicit learning outcomes?	<input type="radio"/>	<input type="radio"/>
✓ Can the test be linked to the learning outcomes?	<input type="radio"/>	<input type="radio"/>
✓ Is there a test matrix?	<input type="radio"/>	<input type="radio"/>
✓ Is there an answer key?	<input type="radio"/>	<input type="radio"/>
✓ Were there any incidents during the test?	<input type="radio"/>	<input type="radio"/>
✓ Is there an analysis of the test outcome?	<input type="radio"/>	<input type="radio"/>

A test matrix gives a connection of individual test questions to learning outcomes. This helps to ensure that no learning outcomes for the test are forgotten. More information [here](#)

The analysis is based on the actual grades: was the test well or badly made? Were there questions that scored especially well? How do you explain these effects? More information [here](#)

Where can they be found?

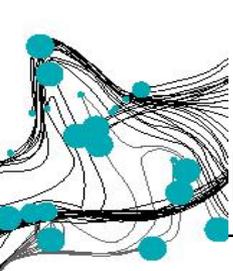
Please provide:

Upload

Fill in

Your analysis:

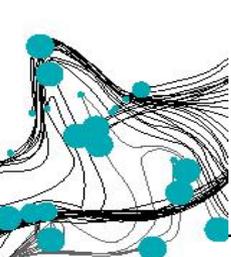
70% passed the test. This is normal. Question 5 was very badly answered; the question was not well-posed. The scoring scheme has been adjusted accordingly.



# INITIAL THOUGHTS ON DESIGN

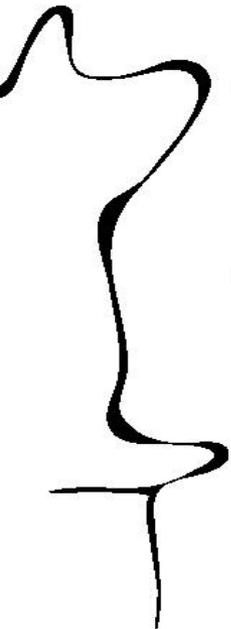
- Clarity about what is being asked & how to provide answers
  - Explanations immediately available
  - Document upload or free-text fields
- Any answer turns the question green (for “answered”)
  - Upon “No”, the radio button turns orange
  - Upon “Yes”, the radio button turns blue
    - Optional evidence is asked: link, free text, document
  - The percentage of “yes” questions is the score for the form
  - Total form green: task done, form can be closed
- Examiners get immediate “thank you” mail when closing a form
  - Monthly reminders for outstanding forms
- Scoreboard containing scores of all examiners
  - You go there when you close a form
  - Opt-out possibility: name is still on board, but marked “opted out”
- Quarterly award for “top quality examiner”
  - Publicly announced





# OBJECTIONS?

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- Childishness
    - “I’m too old for this sh\*t”
    - Offer a choice: this way or your own way, *no way* is not an option
  - Privacy (wrt colleagues)
    - Privacy is the enemy of transparency: why should data be private?
    - Publish only *what* others have done? Opt out?
  - Security of data
    - E.g., answer models
    - Do not include sensitive data as long as this problem is unsolved
  - Insufficient coverage
    - It’s (too?) easy to enter “No”
    - This is still way better than no information!
    - You are *reminded* of the thing you did not do
  - Misuse of information
    - E.g., for personal evaluation
    - Should be explicitly ruled out
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# WHY ARE TASKS NOT PERFORMED?

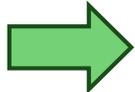
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- Lack of understanding what the task consists of
  - The person does not understand what he/she is supposed to do

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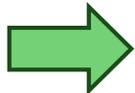
- Lack of ability to carry out the task
  - The person does not have the skills to carry it out



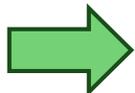
- Lack of intrinsic interest or pleasurability of the task
  - The task is found to be boring

BKO

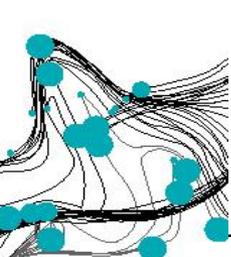
- Lack of (perceived) importance of the task
  - Not carrying out the task has little or no negative consequences



- Lack of urgency of the task
  - The task can be delayed with little or no penalty

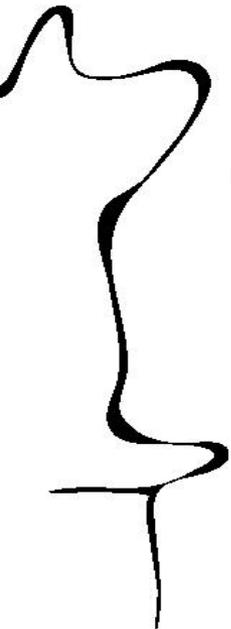


- Lack of time to carry out the task
  - The task takes an inordinate amount of time



# IMPLEMENTATION

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- Worked-out proposal to Programme Directors
    - Part of “Leergang Onderwijskundig Leiderschap”
    - Volunteers for pilot: one course/quarter/programme
    - Partial roll-out from 2018-2019
  - Topic for CS design course (BSc, 1<sup>st</sup> quarter)
    - Prototype in November
    - Pilot started in 2<sup>nd</sup> quarter, repeated in quarters afterwards
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