

The logo for Redmind, featuring the word "Red" in red and "mind" in grey, both in a sans-serif font, rotated diagonally. A red triangle is visible in the top right corner of the slide.

Redmind

# Automated Testing in Agile Development

Jonas Allared & Petter Österling

## Schedule

1. Introduction
2. LEGO® exercise
3. Clear away & Find places
4. Short talk on the value of Automated Tests

## Who are we?

- Jonas Allared
- Agile Coach & Test Specialist
- Consultant at Redmind, Stockholm
- Petter Österling
- Automation Specialist
- Consultant at Redmind, Stockholm

## LEGO® Exercise

- You are a team that delivers software
- Your software is represented by LEGO® cars
- You will be working in four short sprints
  - 8 min building phase
  - 2 min Retrospective
- At the end of each sprint you will get points for every car delivered that is tested and compliant

## LEGO® Exercise

- Your team has four different roles:
  - Written role descriptions provided
- Product Owner
  - In charge of delivering the requirements to the team
  - Supervises major design decisions
- Scrum Master
  - Responsible for the teams process
  - Facilitates the Retrospective
- Developer(s)
  - Builds LEGO®
- Tester(s)
  - Tests that the cars are compliant
  - Fills in one test specification for each delivered car

## Product Owner

- You are the team's connection to their customer
- Your primary job is to supply the team with new requirements each sprint
  - You can pick these up at the facilitators during the retrospective
  - For the first sprint, come to the facilitators immediately to retrieve the starting requirements
- Your secondary job is to supervise major design decisions

## Scrum Master

- You are responsible for facilitating the retrospective
- You are also responsible for the teams process
- Your PO isn't allowed to give your team new requirements during the retrospective
- Touching the LEGO® during the retrospective is forbidden

## Developer(s)

- Your job is to build cars using LEGO®
  - The car is still a metaphor for your software product, treat it as code
- At the start of the first sprint, send one developer to the facilitators for building materials
- Listen to feedback from your testers, they are very keen on your released product's quality



## Tester(s)

- You test the product, a.k.a. the car(s)
  - Ocular tests are not enough, remember to measure measurements where applicable
- You are responsible for filling out one test report (in the form of the requirement sheet you receive from your PO) per delivered car, each sprint
  - If a report isn't completed before the start of the retro – the car isn't delivered
  - If **any** change has been made to a car since you last filled out a report **you have to redo the testing** – don't assume that something is true just because your developers say so
- Remember that not all customer needs can be posted as requirements. Keep your team to a high quality standard

# Requirements

FUNCTION	Expected	Testresult(Pass/Fail)	Sprint
Car	TRUE		1
Drives forward	TRUE		1
Drives backward	TRUE		1
Max width	7 SLW		1
Max length	18 SLW		1
Driver should fit sitting upright.	TRUE		1
The driver should be enclosed in a cabin that protects him from the weather	TRUE		2
Number of wheels	4		2
Steering wheel	TRUE		3
Max height	5 SLH		3
Wheelbase (Center to center)	10 SLW		4
The car should have front- and tail lights	TRUE		4

## Compliance

This LEGO® piece is 2 SLW wide, 3 SLW long and 1 SLH high by definition of Association General International Lego Entusiasts (AGILE)

SLW=Standard Lego Width unit

SLH=Standard Lego Height unit

## **Sprint 1 Building phase (8 min)**

- You are now allowed to touch your LEGO®
- Product Owners should come here for requirements
- One developer per team should come here for building materials

## Sprint 1 Retrospective (2 min)

- You are not allowed to touch your LEGO®!
- Product Owners should come here for requirements
  - Remember that new requirements should be passed along to the team during the sprint – not the retrospective!

## **Sprint 2 Building phase (8 min)**

- You are now allowed to touch your LEGO®

## Sprint 2 Retrospective (2 min)

- You are not allowed to touch your LEGO®!
- Product Owners should come here for requirements
  - Remember that new requirements should be passed along to the team during the sprint – not the retrospective!

## Automated Tests

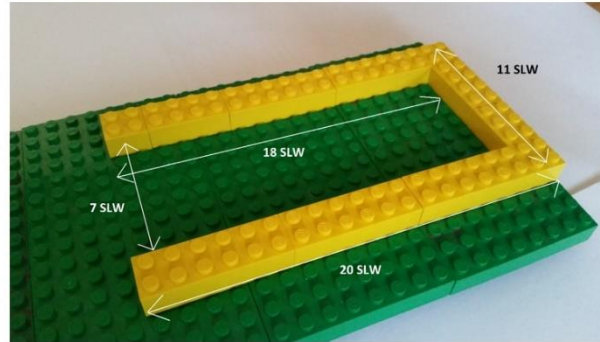
- How many of you have build some Test Automation?
- One tester per team – come here for schematics and materials for an Automated Test



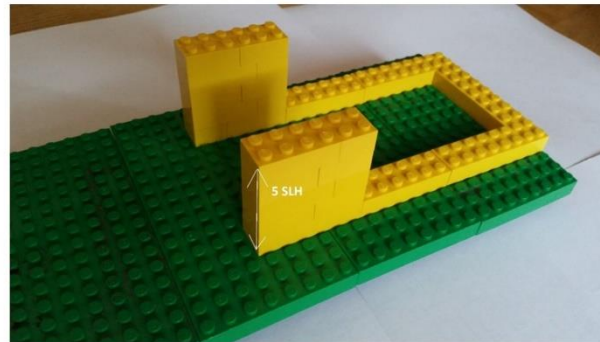
# Auto-tests 1

Build manual for automated test:

Step 1:

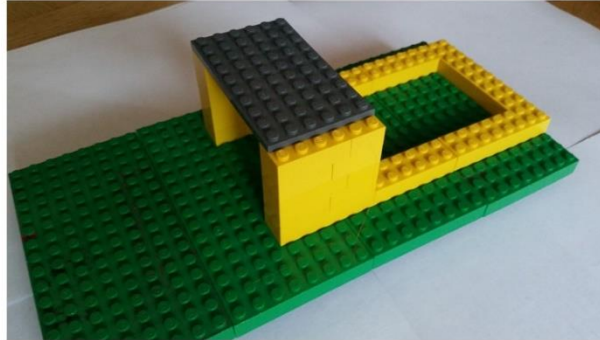


Step 2:



## Auto-tests 2

Step 3:

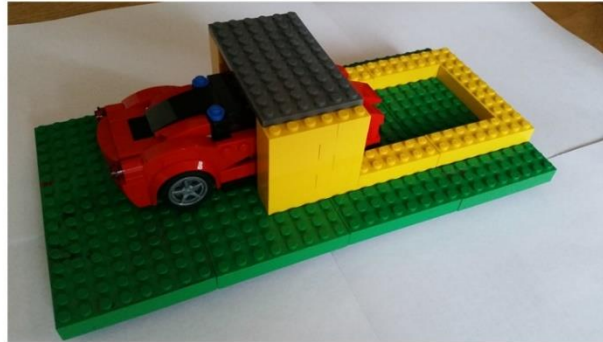


Demonstration 1:

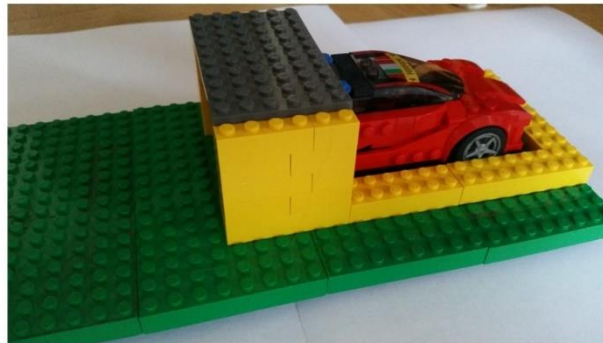


# Auto-tests 3

Demonstration 2:



Demonstration 3:



## **Sprint 3 Building phase (8 min)**

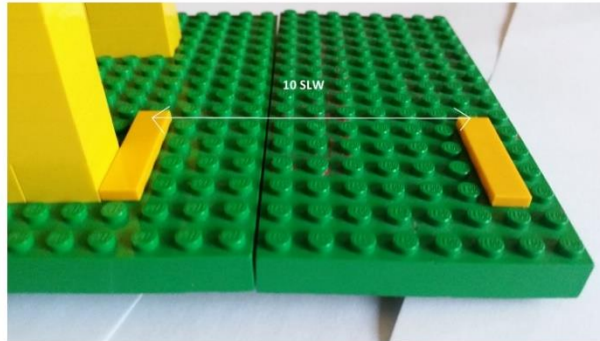
- You are now allowed to touch your LEGO®

## Sprint 3 Retrospective (2 min)

- You are not allowed to touch your LEGO®!
- Product Owners should come here for requirements
  - Remember that new requirements should be passed along to the team during the sprint – not the retrospective!

# Auto-tests 4

Step 4:



Demonstration 4:



## Sprint 4 Building phase (8 min)

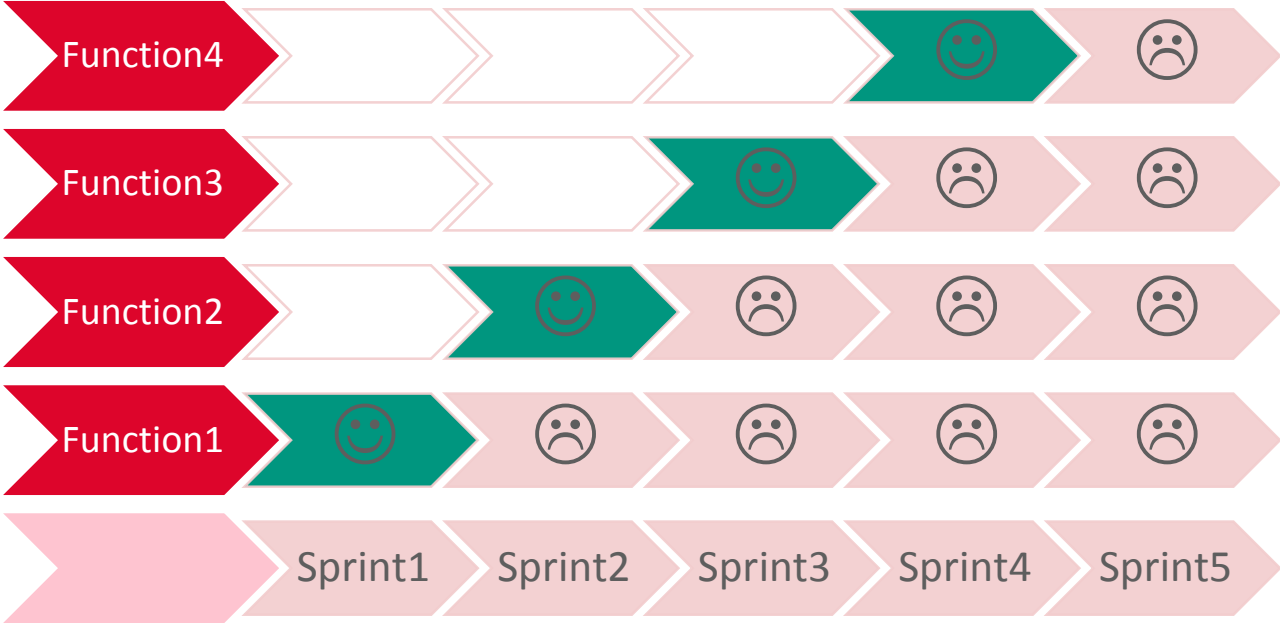
- You are now allowed to touch your LEGO®
- One tester can come here for updated schematics for the Automated Test

## Clear away & Find places

- Hand in your cars and requirement sheets to Jonas
- Please return all the LEGO® to the bags and tidy up quickly
- Find a seat for Petters short talk
- Discuss the following
  - Did your process change during the exercise?
  - Who in your organization would benefit from this exercise?
  - What do take with you from this exercise?



# Regression backpack



<u>iOS</u>	<u>Android</u>	<u>Desktop</u>
<p>iPhone 4, 4S, 5, 5S, 6, 6 Plus, 6S, 6S Plus iPad 2, 3, 4, Air, Air 2, Mini 1, 2, 3 iPod iWatch</p> <hr/> <p>OS 6.0, 7.0, 8.0, 8.1, 8.2, 9.0, 9.1, 9.2, 9.3, 9.4</p> <hr/> <p>Safari Chrome</p> <hr/> <p>Applications</p> <hr/> <p><b>Total: 432(at least)</b></p>	<p>Samsung Huawei Sony LG Nexus HTC</p> <hr/> <p>OS 2.2, 2.3, 2.3.3, 2.3.4, 2.3.5, 2.3.6, 2.3.7, 2.3.8, 2.3.9, 2.3.10, 2.3.11, 2.3.12, 2.3.13, 2.3.14, 2.3.15, 2.3.16, 2.3.17, 2.3.18, 2.3.19, 2.3.20, 2.3.21, 2.3.22, 2.3.23, 2.3.24, 2.3.25, 2.3.26, 2.3.27, 2.3.28, 2.3.29, 2.3.30, 2.3.31, 2.3.32, 2.3.33, 2.3.34, 2.3.35, 2.3.36, 2.3.37, 2.3.38, 2.3.39, 2.3.40, 2.3.41, 2.3.42, 2.3.43, 2.3.44, 2.3.45, 2.3.46, 2.3.47, 2.3.48, 2.3.49, 2.3.50, 2.3.51, 2.3.52, 2.3.53, 2.3.54, 2.3.55, 2.3.56, 2.3.57, 2.3.58, 2.3.59, 2.3.60, 2.3.61, 2.3.62, 2.3.63, 2.3.64, 2.3.65, 2.3.66, 2.3.67, 2.3.68, 2.3.69, 2.3.70, 2.3.71, 2.3.72, 2.3.73, 2.3.74, 2.3.75, 2.3.76, 2.3.77, 2.3.78, 2.3.79, 2.3.80, 2.3.81, 2.3.82, 2.3.83, 2.3.84, 2.3.85, 2.3.86, 2.3.87, 2.3.88, 2.3.89, 2.3.90, 2.3.91, 2.3.92, 2.3.93, 2.3.94, 2.3.95, 2.3.96, 2.3.97, 2.3.98, 2.3.99, 2.3.100</p> <hr/> <p>Samsung browser Chrome Firefox HTC Browser, Huawei Browser</p> <hr/> <p>Applications</p> <hr/> <p><b>Total: 1536(at least)</b></p>	<p><b>Mac OSX</b></p> <hr/> <p><b>Windows</b> XP, Vista, 7.0, 8.0, 8.1, 10</p> <hr/> <p>Internet Explorer 8.0, 9.0, 10.0, 11.0 Edge Chrome Firefox</p> <hr/> <p><b>Total: 45 (at least)</b></p>

**At least 2013 devices!**

## The End

- Thanks for playing!
- We are available for questions, discussions, and comments during the entire conference – catch us anytime!
- The winning team can come to Jonas to receive their prize!

## Contact

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