A close-up, artistic photograph of a human eye, looking slightly to the right. The eye is the central focus, with its iris and eyelashes clearly visible. The background is a soft, out-of-focus teal color, matching the overall theme of the slide.

# Knowledge is Power:

## Do you know where your quality is tonight?

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*BREDEX GmbH*

# Introduction to the team

▶ **Project lead: Achim**



▶ **Manager: Gandalf**



▶ **Test lead: Alex**



## Where we are

- ▶ **In a project using a classic process model**  
Development period followed by internal release  
Internal release handed over to QA  
After testing, final release produced
- ▶ **Just released V1.0 of the software**
- ▶ **All testing done manually**
- ▶ **Lessons learned / Action plan**



# Version 1.0 Lessons learned



## ▶ POSITIVE

...

## ▶ NEGATIVE

Customer expectations  
Quality lacking  
Late release  
Dev team irritated



## ▶ POSITIVE

...

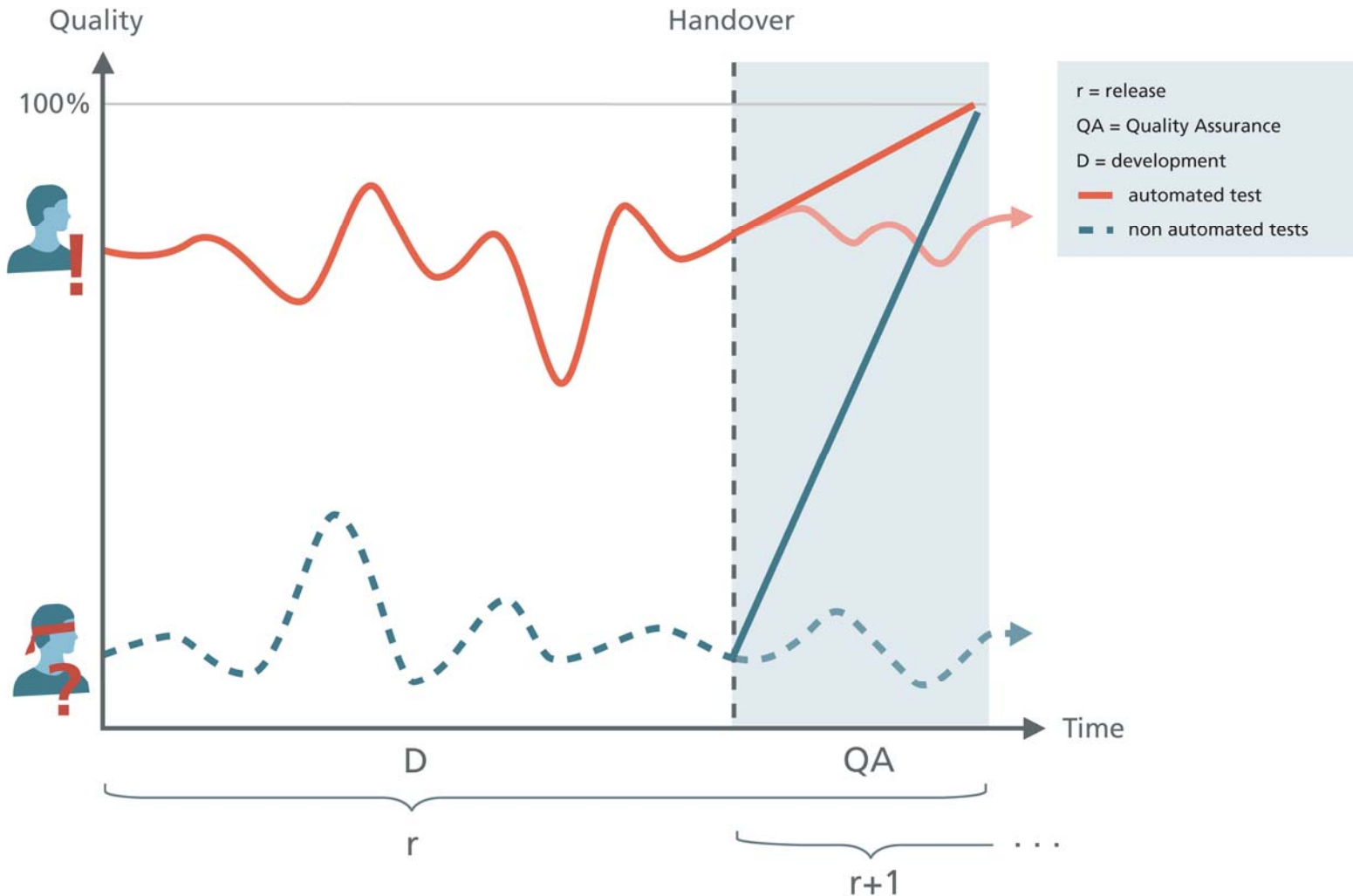
## ▶ NEGATIVE

Exhausting, crippling  
Boring, frustrating  
Time consuming, inefficient  
Square one again for V2.0?!





# Where we are/where we want to be



## Action Plan



- ▶ **Start automating tests**

User perspective

Through the GUI, black-box

→ Coding standards, checkstyle & JUnit not enough

- ▶ **Start automating basic, critical features**

Safety net

- ▶ **Pay attention to modularity, reusability etc.**





## V2.0 Lessons learned



### ▶ POSITIVE

Release less stressful  
Quality improvement

### ▶ NEGATIVE

...



### ▶ POSITIVE

Automated tests

### ▶ NEGATIVE

Wasting time on fixed bugs



## Action plan

- ▶ **Tests alone aren't enough**

Need to be informed of current quality state

- ▶ **Continuous integration introduced**

Nightly builds & continuous integration testing

Involved large effort from development team

Took a while to get stable



# Continuous integration

▶ **Environment problems:**

Dependencies

Updates

Unknown state of machine

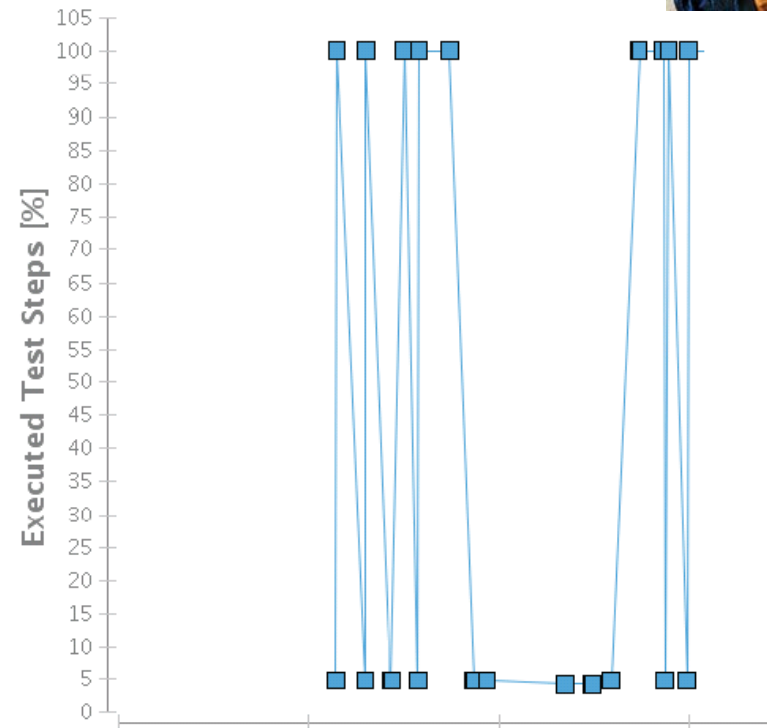
→ no quality knowledge

▶ **Solution:**

Dedicated test machines

▶ **Best practice:**

CI from outset for new projects





## V3.0 Lessons learned



### ▶ **POSITIVE**

CI works now

Quicker feedback

### ▶ **NEGATIVE**

Stressful release



### ▶ **POSITIVE**

Wasting less time

### ▶ **NEGATIVE**

Ignoring test results

## Action plan

- ▶ **Communication of test results**

  - Analysis of test results every morning

  - Daily stand up meetings

- ▶ **Decision for each error**

  - Immediate fix or write a ticket

- ▶ **More stability in tests**

  - Don't fail totally because of one error







## V4.0 Lessons learned



▶ **POSITIVE**

Clarifying problems quickly

▶ **NEGATIVE**

Need to shorten meetings

Developers feel monitored



▶ **POSITIVE**

Tests more stable

Results being acted on

▶ **NEGATIVE**

Communication issues

# Communication



- ▶ **Unknown changes break tests**  
Time wasted, false impression of quality
- ▶ **No discussion from tester perspective**  
Usability  
Testability  
Concepts
- ▶ **Too many misunderstandings**
- ▶ **No testable requirements**

# Action plan

## ▶ Include testers and their perspective:

Release planning, weekly meetings, feature discussions

## ▶ Introduce story cards

One card per feature – placeholder for conversation

→ include acceptance test criteria

→ reduces unnecessary documentation

## ▶ Planning poker

Improve communication about estimations and possible issues

## ▶ Show and tell

Quick feedback about features

Incorporate suggestions









## V5.0 Lessons learned



### ▶ POSITIVE

Customer pleased

### ▶ NEGATIVE

Hard to learn to communicate  
Process very transparent



### ▶ POSITIVE

Features better designed  
Easier to write good tests  
Quality better  
Developers offering demos!

### ▶ NEGATIVE

...



# Project end: Best practices

▶ **Automation alone is not sufficient**

▶ **Quality knowledge at forefront**

Stable test environment and tests

Continuous integration

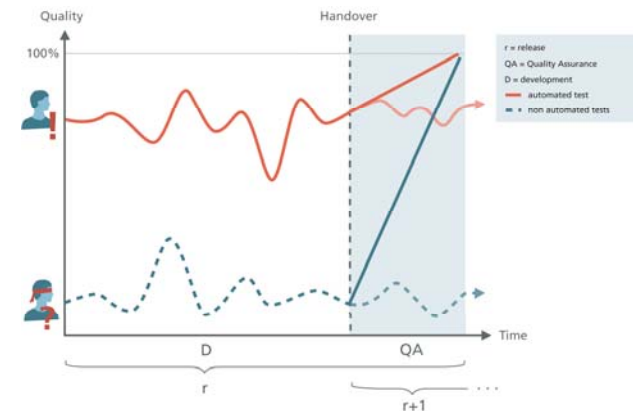
Communication essential

Responsibility for errors

Product belongs to whole team

▶ **Agile techniques improve quality knowledge**

▶ **Management buy-in essential**



## Project end: Benefits

- ▶ **Customer pleased**

Scope and quality

- ▶ **Company pleased**

Low/no service

- ▶ **Team pleased**

Quicker reaction times

Constant feedback seen as positive

Shorter, more pleasant manual test phase

More exploratory testing

Proud of common achievement



**Thank you!**

▶ **Any questions?**

