Our second spring

Current state of testing with AI

Gerald de Vrieze
Hannie van Kooten
Marco Verhoeven
Okto Wahjuwibowo
Sander Mol

Introduction

workgroup Testing with AI
since January 2018

many developments
summarized in our whitepaper

AGENDA

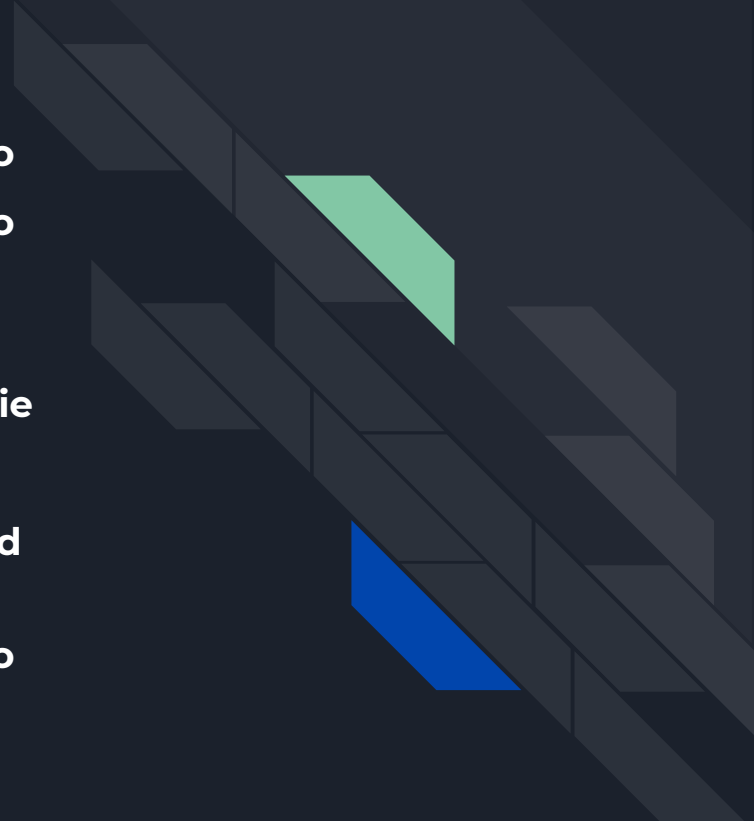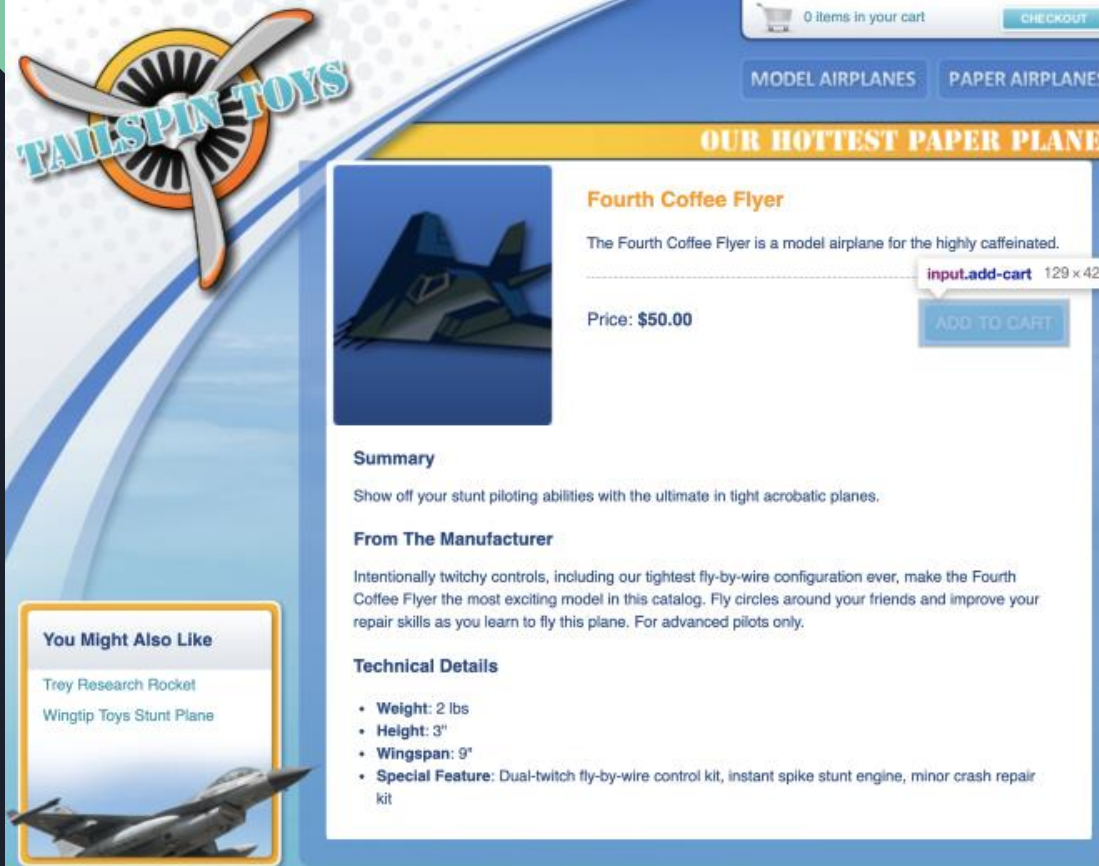|	
Opportunities and challenges	**Marco**
AI in the testing process	**Marco**
Four practical cases with:	
AI test tools	**Hannie**
AI services	**Okto**
AI DIY	**Gerald**
The future of the tester	**Marco**

Opportunities

Recognize objects on the screen

Finding its own way through the application

Recognize trends in data

Recognize text

Generate data

Opportunities

Opportunities

JSON OUTPUT

"status": "Succeeded",
"succeeded": true,
"failed": false,
"finished": true,
"recognitionResult": {
  "lines": [
    {
"text": "ADD TO CART",
        "words": [
          {
          "boundingBox": [
          1237,
          251,
          1266,

Opportunities

Recognize objects on the screen

Finding its own way through the application

Recognize trends in data

Recognize text

Generate data

Opportunities

Recognize objects on the screen

Finding its own way through the application

Recognize trends in data

Recognize text

Generate data

Opportunities

Recognize objects on the screen

Finding its own way through the application

Recognize trends in data

Recognize text

Generate data

Opportunities

Recognize objects on the screen

Finding its own way through the application

Recognize trends in data

Recognize text

Generate data
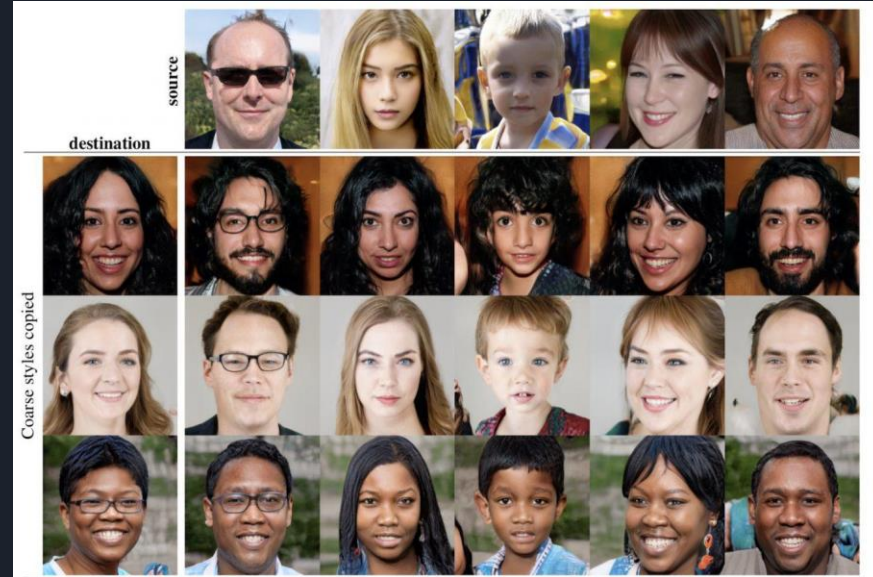
Challenges

Distrust and high expectations

Dependency on data

Limited explainability of test results

No absolute certainty of the results

Large amount of results to interpret

AI in the testing process

Test management

Test engineering

Testing support

Test management	Plannen	Risico management	Beheer	Rapportage	Bevindingen-beheer	
Test engineering	Voorbereiden	Specificeren	Uitvoeren	Afronden	Infrastruc-tuur	Testdata-management

Test tools

Purchase AI test tool
- on own environment
- upload to cloud

AI decrease as a service

Build AI yourself for testing

Case 1:
Too many tests for the pipeline

Legacy CRM system

Partly automated testing, partly manually

Historical data from test execution
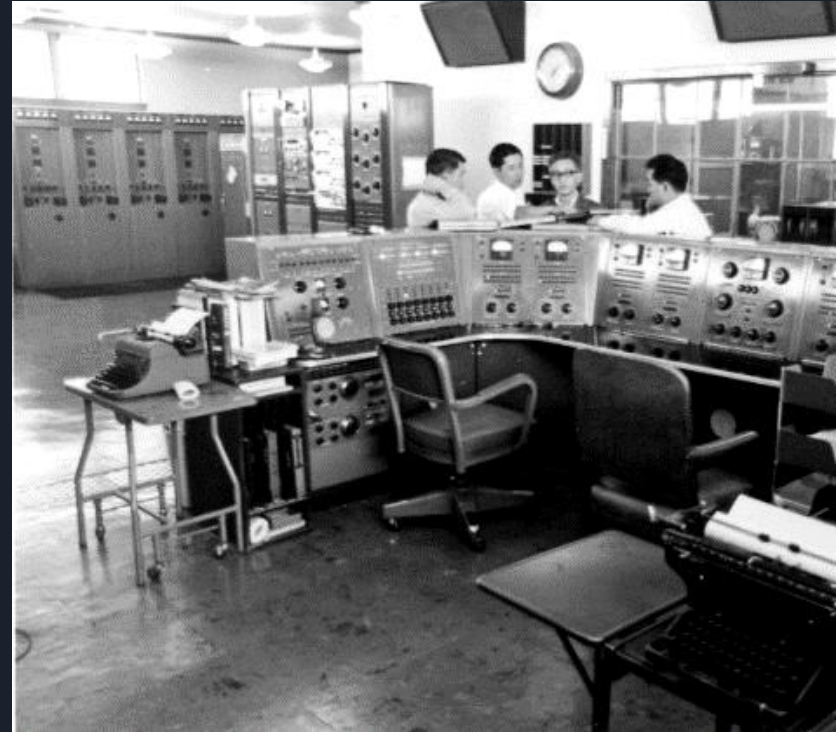
Case 2:
Many users and devices, small budget

App for the Olympic Games

Short lifecycle, fast delivery

Many devices and screen resolutions etc.

Favorite teams, scores

High focus on usability

In a large number of countries

Case 3:
Breaking test cases

Existing webshop

Medium in size

Many Selenium tests and history

Many adjustments and deliveries due to new front-end technology
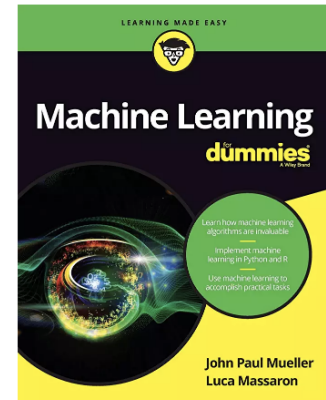
Machine Learning For Dummies
by John Paul Mueller and Luca Massaron |

⭐⭐⭐⭐⯨ ⌄ 3

Paperback
€21.55

✓prime Get it by **Monday, May 13**
FREE Delivery by Amazon

More buying choices
€20.04 (22 used & new offers)

Kindle Edition
€18.32

Case 4:
Tests do not match production use

Existing web application

Payment system with privacy sensitive data

Quite a lot of tests are run every build

Still many errors in the live environment
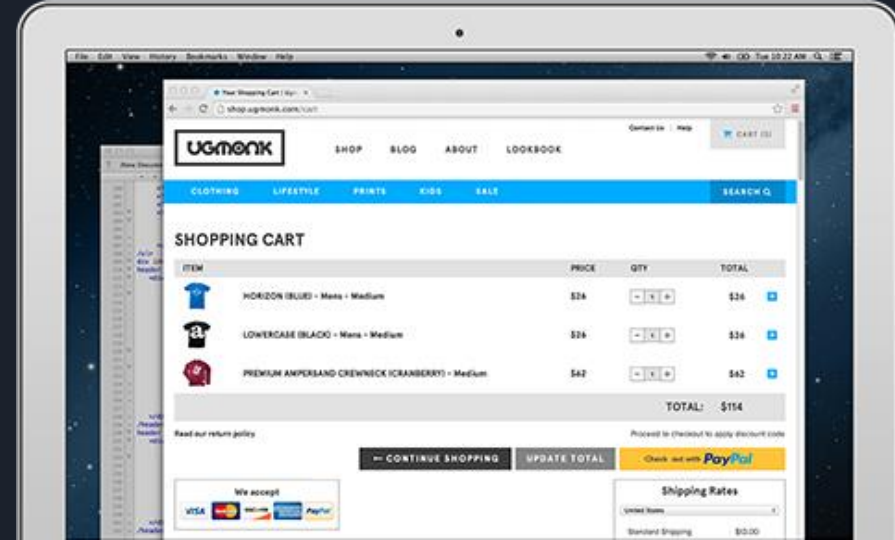
Choosing existing AI test tools?

Advantages

Large selection of tools

Easy to pick up

Very little AI knowledge required

Local or cloud

Cloud services for telephone apps

Disadvantages

Cost

Need multiple tools?

Inner working is unknown

AVG versus tools from outside the EU

New market, many suppliers compete with each other with a lot of marketing and hype

Choosing AI as a service for your testing?

Advantages

Using via API is easy

Proven functionality

Add on on existing test tools

AI used / well trained by many

Disadvantages

Limited in what it can do

Large suppliers / little choice

Choosing to build your own AI for testing?

Advantages

'Free'

Unique solutions that are not available elsewhere

Adaptable to need

Data remains in-house

No data from elsewhere that can affect your AI model outcomes

Disadvantages

Need knowledge

Testing your AI

Time to train and tune AI

Lots of data needed

Limited scalability

The future of the tester

Tools
- Selection
- AI training (data)
- Interpret results

Dealing with the real world
- Functional testing
- Understand the users and the real world

De workgroup continues!

New name:

Testing <u>and</u> AI

New focus for now:

Testing <u>of</u> AI

New members:

You?

Have any questions or ideas, let us know!