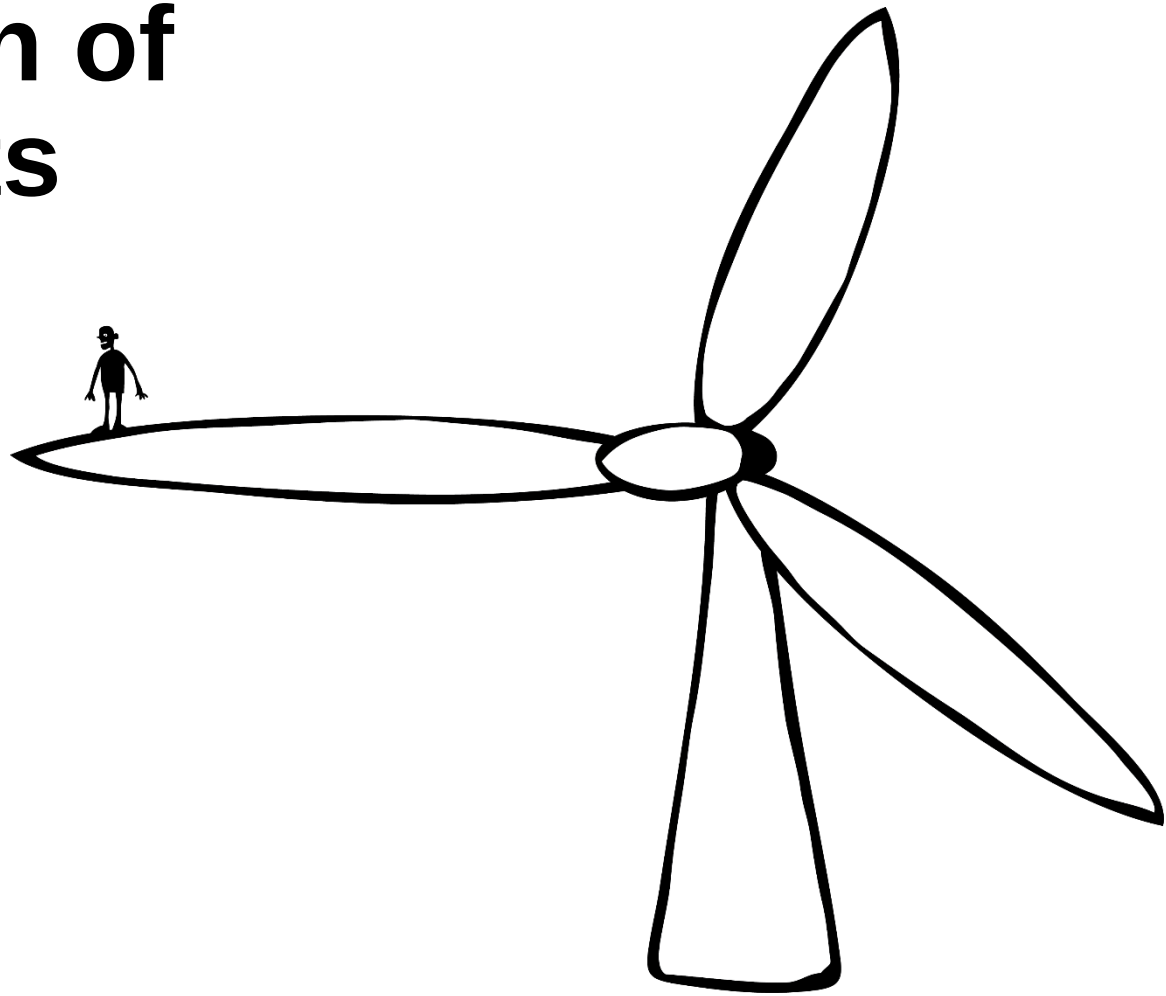
Robot Framework for automation of e2e UI tests



by Wojciech Górecki

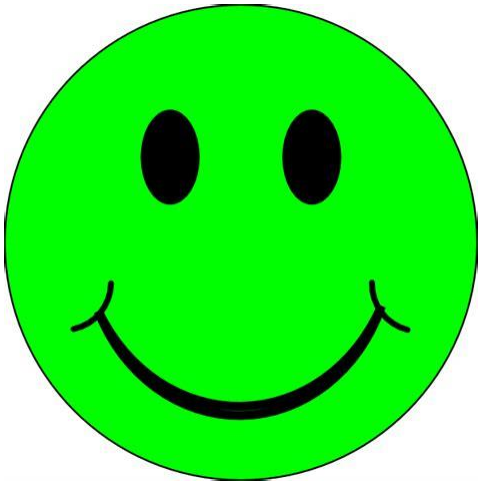
Automated testing – what for?

- To (eventually) lower workload
- To eliminate „human error”
- For regression

Advantages of automated testing

Automated testing is perfect for

- regression/repetitive testing
- long lasting tests
- testcases with a lot of input data
- Test scenarios with many middle steps



Disadvantages of automated testing

- Long time of creating a testcase
- Requires detailed description of tested functionality
- Requires discipline among testers (same test stack)
- Some scenarios are to complexed to be covered by automated testcases
- Lack of libraries to cover some interfaces

Robot Framework

What is Robot Framework?

- **Robot Framework** is a generic test automation framework for acceptance testing and acceptance test-driven development (ATDD). It has easy-to-use tabular test data syntax and it utilizes the keyword-driven testing approach.

Robot Framework

- Robot Framework is operating system and application independent. The core framework is implemented using Python and runs also on Jython (JVM) and IronPython (.NET).

Libraries

Standard	External
• BuiltIn • Operating System • String • Process • DateAndTime • XML Etc.	• **Android Library** • Archive Library • Database Library (Java) • Django Library • FTP Library • HTTPRequestLibrary (Java) • JavaFXLibrary • Database Library (Python) • Eclipse Library • **iOS library** • MongoDB Etc.

It’s simple as that!

Search e-bay for BMX bicycles (testcase name)

Given e-Bay site is opened (keyword)

When item BMX Bike is searched (keyword)

Then item BMX Bike is shown in results (keyword)

Gherkin style test structure

- **Given** (preconditions)
- **When** (actual testcase content)

  should describe action
- **Then** (all the checks)

Should describe state

Examples

Measurements through Rapid Procket

```
*** Test Cases ***
Measure DAQ card AO
    [Tags]  TEST 1
    [Documentation]  Measures DC signal generated on DAQ card analog output 0 (only for the presentation).
    WHEN Voltage is set on AO0 with 3 V
    AND Voltage is measured on AI1
    THEN readout is between 2.9 and 3.1 V

Measure DUT voltage
    [Tags]  TEST 2
    [Documentation]  Measures DUT voltage through the test needle.
    WHEN Voltage is measured on AI0
    THEN readout is between 2.5 and 3.1 V
```


Etteplan