



17-19 NOVEMBER 2014



INTER EXPO CENTER (IEC), SOFIA

mobile day  
3 CONFERENCES  
2 DAYS  
1 PLACE

# TEST ATTD AUTOMATION

**USING ROBOTFRAMEWORK LIBRARIES**

**BROUGHT TO YOU BY  
STOJAN PESHOV**





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# ETF, FEIT, FINKI

EUREKA, FREELANCE, GENREP, POLAR CAPE

# 2002: INTRODUCTION WITH JAVA

PORTALS (CMS), ETL, HIBERNATE

# EE SINCE 2007

SPRING, JSF, J2EE

# CURRENT PROJECTS

MOBILE (CORDOVA, ANGULARJS), TEST AUTOMATION

# JUGMK CO-FOUNDER

**ME, MYSELF AND JAVA**





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- 
- 1 ROBOT FRAMEWORK**
    - 1A ATTD**
    - 2A TEST AUTOMATION**
  - 2 RF LIBRARIES**
  - 3 TESTERONE**
  - 4 DEMO**
  - 5 SUMMARY**

COVERAGE

**AGENDA = REQUIREMENTS**

# TEST AUTOMATION FRAMEWORK

FOR

## ACCEPTANCE TESTING

AND

## ACCEPTANCE TEST-DRIVEN DEVELOPMENT (ATDD)

**ROBOT FRAMEWORK IS A...**



## ACCEPTANCE TESTING

TEST IF THE REQUIREMENTS ARE MET

## TDD ADJUSTED TO CUSTOMER

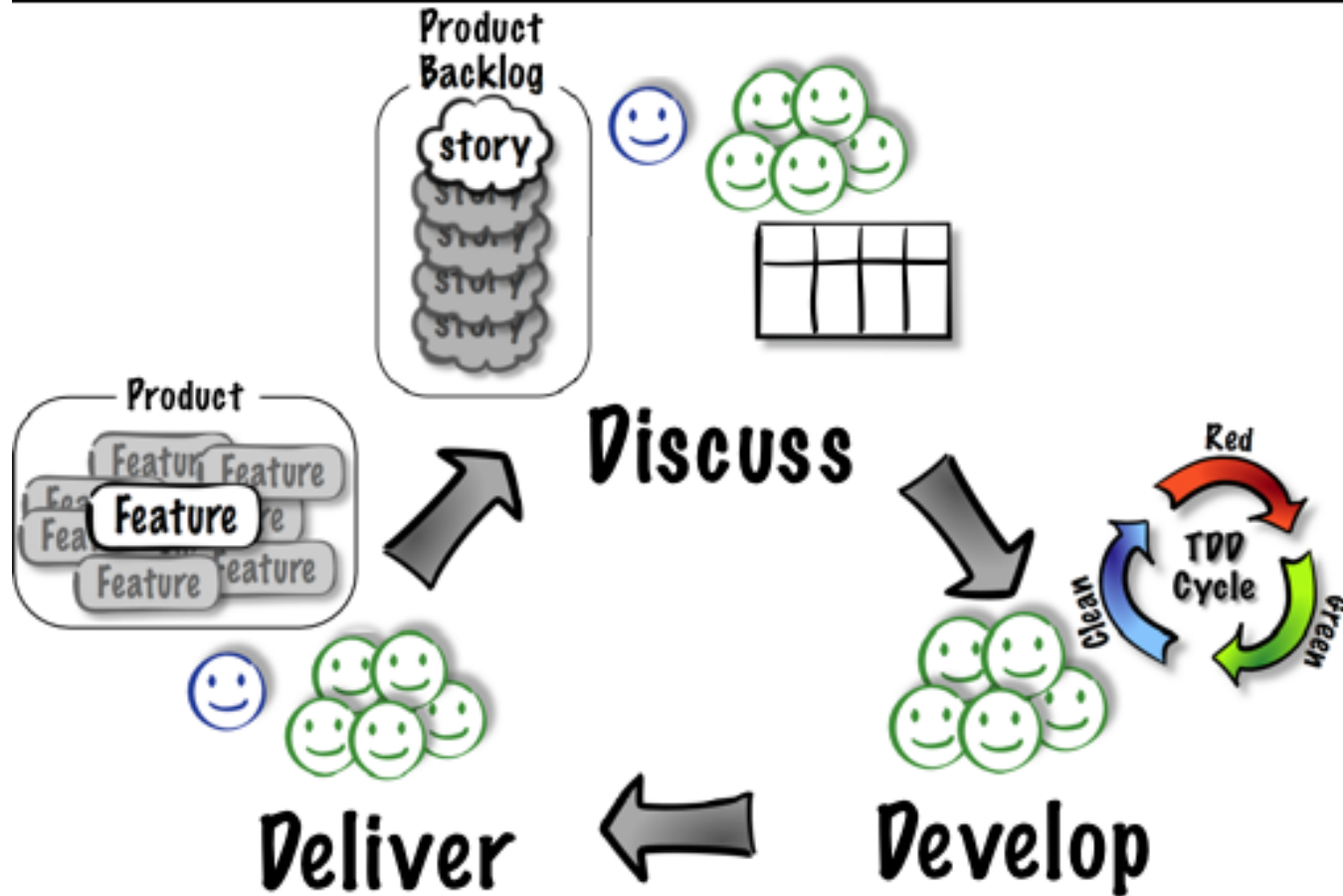
ATDD TESTS SHOULD BE READABLE BY THE CUSTOMER

## SPECIFICATION BY EXAMPLE (SBE)

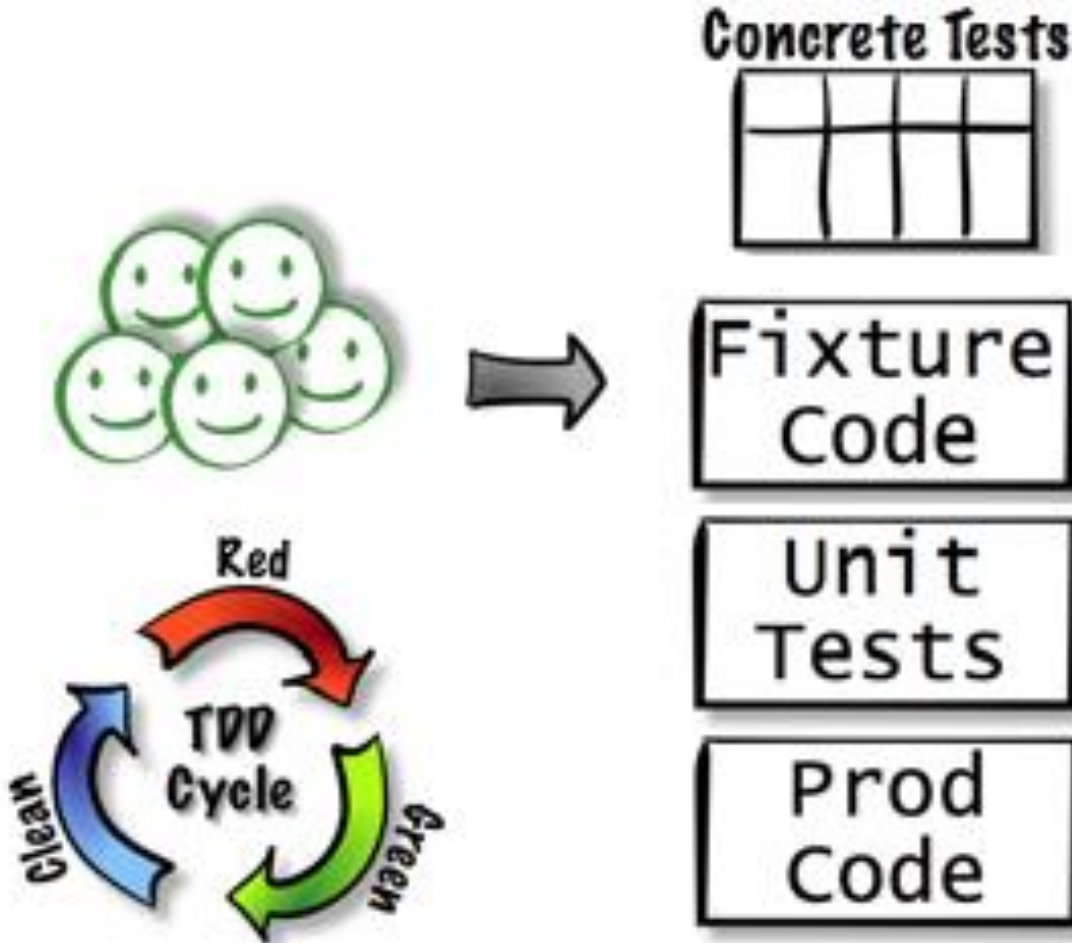
BDD - AGILE

ATTD IS A...





**ATTD ... CYCLE**



**ATTD: DEVELOP PHASE**



- **COMPREHENSIBLE EXAMPLES OVER COMPLEX FORMULAS**
- **CREATE DOMAIN SPECIFIC LANGUAGE**
- **CLOSE COLLABORATION**
- **DEFINITION OF DONE**
- **TRUST AND COMMITMENT**

**ATTD: BENEFITS**

# SOFTWARE, NOT HUMAN NOT LAZY TESTER

## ACTUAL V.S. PREDICTED OUTCOMES

**1 CODE DRIVEN TESTING**  
UNIT FRAMEWORKS

**2 GUI TESTING**  
RECORD AND PLAYBACK  
TEST SCRIPTS

**TEST AUTOMATION IS A...**





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# ROBOT FRAMEWORK

**INTRODUCTION**



Delivering Business Value Through IT

- **GENERIC TEST AUTOMATION FRAMEWORK**

- UTILIZES THE KEYWORD-DRIVEN TESTING APPROACH

- **IMPLEMENTED WITH PYTHON**

- PYTHON SUPPORTED FULLY AND IRONPYTHON INITIALLY
- OTHER LANGUAGES SUPPORTED VIA XML-RPC BASED REMOTE INTERFACE

- **OPEN SOURCE**

- APACHE 2.0 LICENSE
- SPONSORED BY NOKIA SIEMENS NETWORKS
- ACTIVE DEVELOPMENT AND GROWING COMMUNITY
- HOSTED ON GOOGLE CODE



**ROBOTFRAMEWORK IS**

- **TXT / HTML FORMAT**
- **KEYWORD, DATA AND BEHAVIOR – DRIVEN**
- **MODULAR ARCHITECTURE (LIBRARIES)**
- **CUSTOMIZABLE REPORTS**
- **JENKINS PLUGIN**
- **REMOTE INTERFACE**



**RF FEATURES**

Test Data

Test data syntax

Robot Framework

Test library API

Test Libraries

Test Tools

Application interfaces

System Under Test



Source path: [hg/](#) [src/](#) [java/](#) [org/](#) robotframeworkBranch: 

Directories	Filename	Size
▶ robotframework	<a href="#">RobotFramework.java</a>	2.2 KB
	<a href="#">RobotRunner.java</a>	822 bytes
	<a href="#">RunnerFactory.java</a>	1.5 KB

**USE RF IN JAVA**

```
16 package org.robotframework;
17
18 import org.python.core.PyObject;
19 import org.python.util.PythonInterpreter;
20
21 /**
22  *
23  * Helper class to create an Jython object and coerce it so that it can be used
24  * from Java.
25  *
26  */
27 public class RunnerFactory {
28
29     private PyObject runnerClass;
30
31     public RunnerFactory() {
32         runnerClass = importRunnerClass();
33     }
34
35     private PyObject importRunnerClass() {
36         PythonInterpreter interpreter = new PythonInterpreter();
37         interpreter.exec("import robot; from robot.jarrunner import JarRunner");
38         return interpreter.get("JarRunner");
39     }
40
41     /**
42     * Creates and returns an instance of the robot.JarRunner (implemented in
43     * Python), which can be used to execute tests.
44     */
45     public RobotRunner createRunner() {
46         PyObject runnerObject = runnerClass.__call__();
47         return (RobotRunner) runnerObject.__tojava__(RobotRunner.class);
48     }
49 }
```



```

20 public class RobotFrameworkRunner {
21
22     public static final String DEFAULT_TESTS_DIR = "tests";
23     private static final String DEFAULT_OUTPUT_DIR = "output";
24
25     public void run() {
26
27         if (testCasesDirectory == null) {
28             testCasesDirectory = new File(DEFAULT_TESTS_DIR);
29         }
30         outputDirectory = new File(DEFAULT_OUTPUT_DIR);
31
32         String[] runArguments = generateRunArguments();
33         int rc = RobotFramework.run(runArguments);
34         if (rc == 0) {
35             System.out.println("All tests passed");
36         } else if (rc <= 250) {
37             System.out.println(rc + " tests failed.");
38         } else {
39             System.out.println("Error occurred, code: " + rc);
40         }
41

```

```

16 package com.lib;
17
18 /**
19  *
20  * @author stojan
21  */
22 public class Lib {
23
24     public void hello(String name) {
25         System.out.println("Hello, " + name);
26     }
27
28 }
    
```

## SIMPLE LIBRARY

```
1  *** Settings ***
2  Library          com.lib.Lib
3
4  *** Test Cases ***
5  Hello Test
6  Hello           JavaDay!
```

## SIMPLE TEST CASE

- **CUSTOM IDE (RIDE) NOT WORKING ON MAC**
- **NO CONTROL OVER DIRTY CODE (TXT)**
- **PYTHON DEPENDENCY**
- **REMOTE LIBRARY HAS ERRORS**
- **EXPECT CLIENTS TO WRITE AND MAINTAIN TESTS**

**RF LIMITATIONS**

- 
- 1 ROBOT FRAMEWORK**
  - 2 RF LIBRARIES**
  - 3 TESTERONE**
  - 4 DEMO**
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COVERAGE

**AGENDA**

**SELENIUM 2 LIBRARY**  
AUTOMATES BROWSER



**AUTOIT**  
AUTOMATES WINDOWS APPS



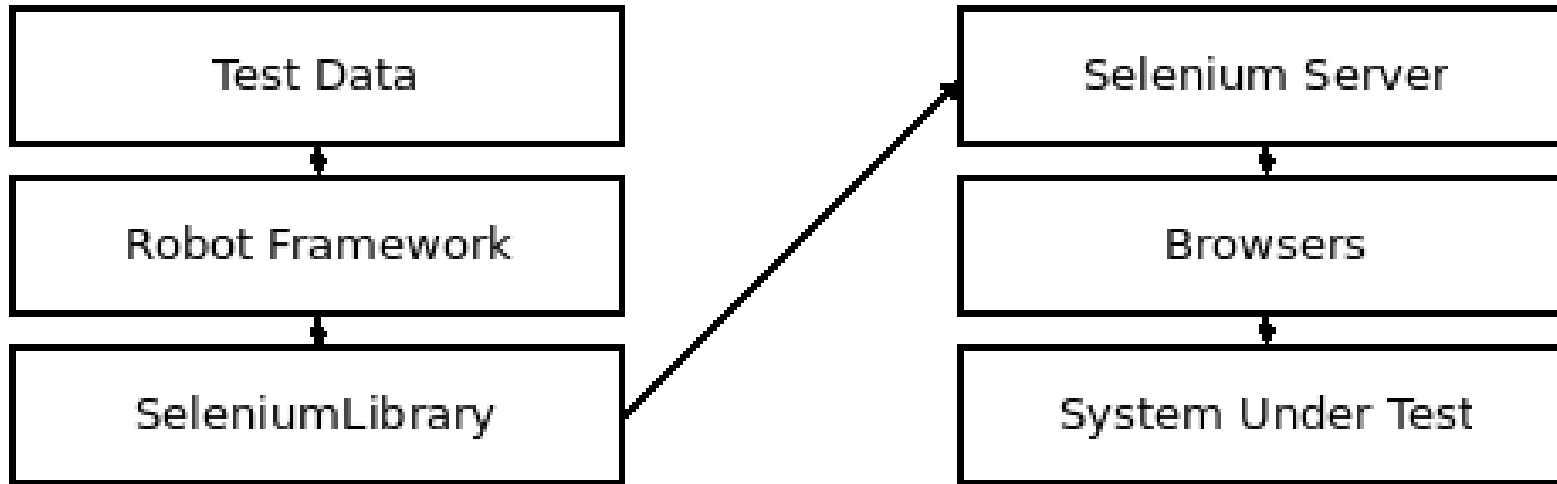
**MONKEYTALK**  
AUTOMATES DEVICES (MOBILE)



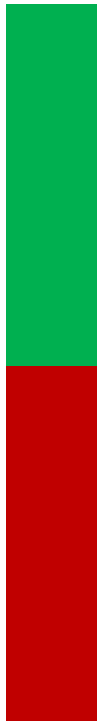
**OTHER**  
OPERATINGSYSTEM, TELNET, SCREENSHOT, STRING, ...  
SWINGLIBRARY, SSSLIBRARY, DBLIBRARY

**RF LIBRARES**

# SELENIUM AUTOMATES BROWSERS



# SELENIUM LIBRARY EXPOSES SELENIUM API AS KEYWORDS

- 
- 1 ROBOT FRAMEWORK**
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# TESTERONE





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# FOCUS ON BUSINESS FLOWS

LEAVE THE TECHNICAL STUFF TO TECHNICAL STAFF

# REUSE COMPONENT DEFINITIONS

FOR CUSTOMERS: CLICK IS CLICK, INPUT IS INPUT

# GAIN MORE CONTROL

DESKTOP, WEB AND DEVICE TESTING

**TESTERONE MOTIVATION**



Delivering Business Value Through IT



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**EXCEL / DB STORAGE  
KEYMAP  
STORE VARIABLES  
CONTINUOUS INTEGRATION  
MAVEN  
NO PYTHON DEPENDENCY**

**TESTERONE FEATURES**



**FUTURE:**

**GUI / SERVICES** 

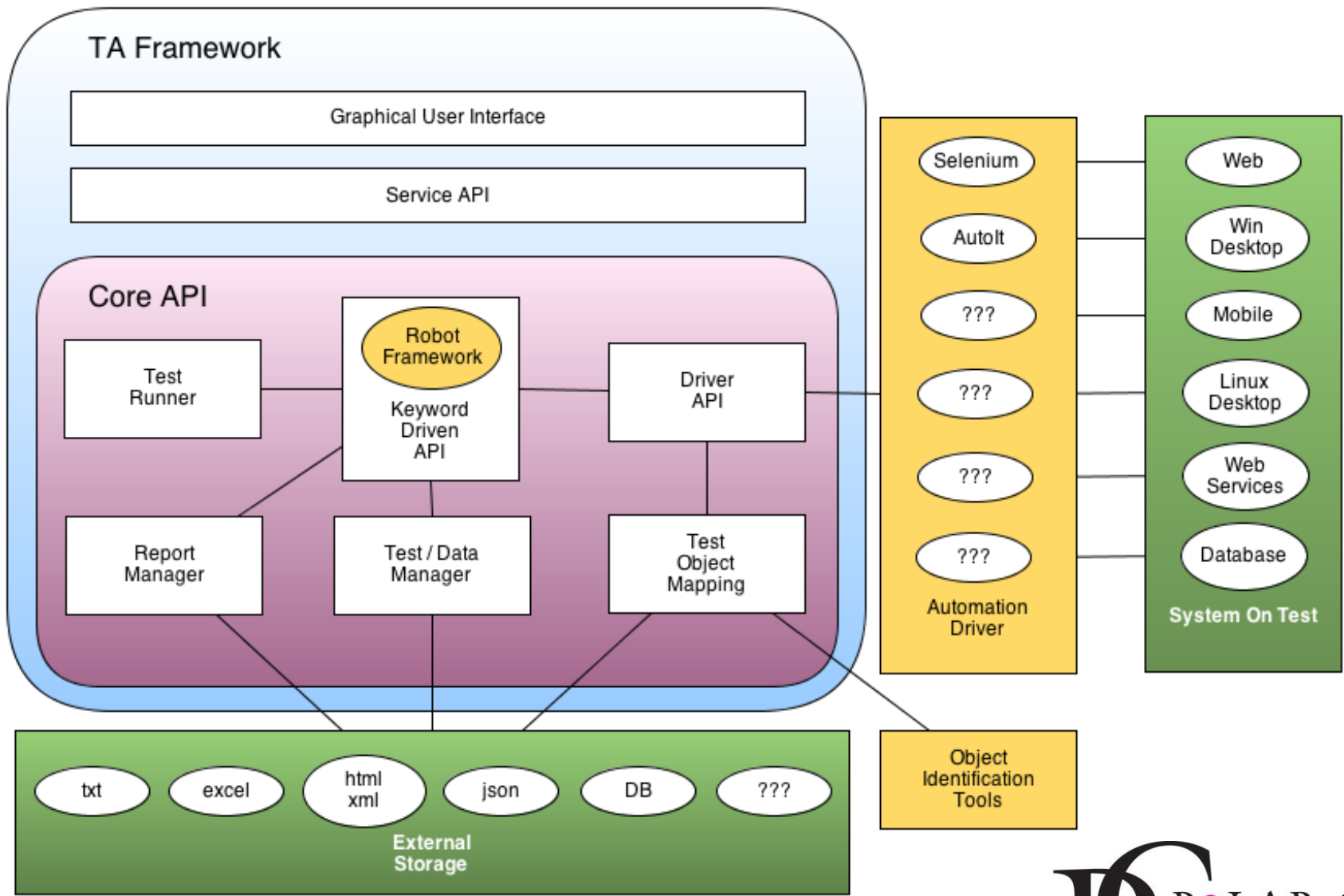
**OBJECT IDENTIFICATION** 

**TEST CASE / SUITE MANAGEMENT** 

**REPORT MANAGEMENT**

**REMOTE LIBRARY**

**TESTERONE FEATURES**



# ARCHITECTURE

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**AGENDA**



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# DEMO

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## TESTING IS WORTH THE EFFORT

PRACTICE IT

**TDD IS GOOD,  
ATTD IS BETTER,  
ATTD + TA IS BEST**  
DO YOU AGREE?

**DEVELOP WHILE TESTING  
COMMUNICATE WITH TESTS**

**SUMMARY**



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## **BRIDGING THE COMMUNICATION GAP**

**GOJKO ADZIC**

## **PRACTICAL TDD AND ATDD FOR JAVA DEVELOPERS**

**LASSE KOSKELA**

## **ROBOTFRAMEWORK**

**[ROBOTFRAMEWORK.ORG](http://ROBOTFRAMEWORK.ORG)**

**[CODE.GOOGLE.COM/P/ROBOTFRAMEWORK/WIKI/USERGUIDE](http://CODE.GOOGLE.COM/P/ROBOTFRAMEWORK/WIKI/USERGUIDE)**

## **REFERENCES**



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# THANK YOU

## QUESTIONS?



PO

