WEB TEST AUTOMATION USING TTCN-3 AND MBT

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THE SET-UP

TTCN-3 for Web?

Overcomplexity vs Underperformance

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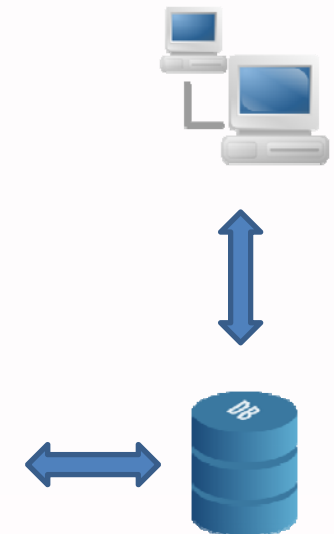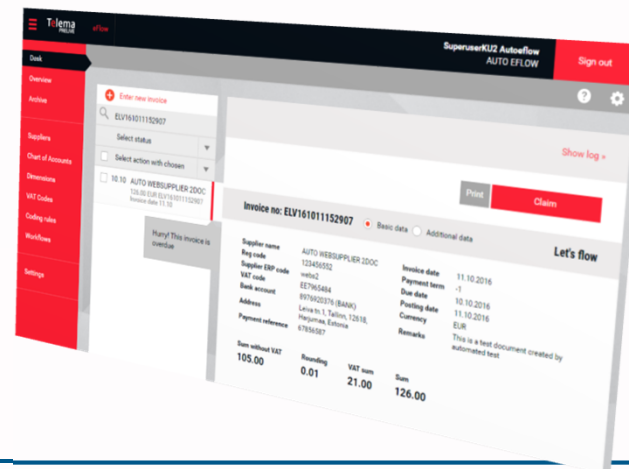
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THE HOOK

Telema Document Service

Management of Orders and Invoices

- Structured data

- Many relations

- 2 interfaces: Web and EDI

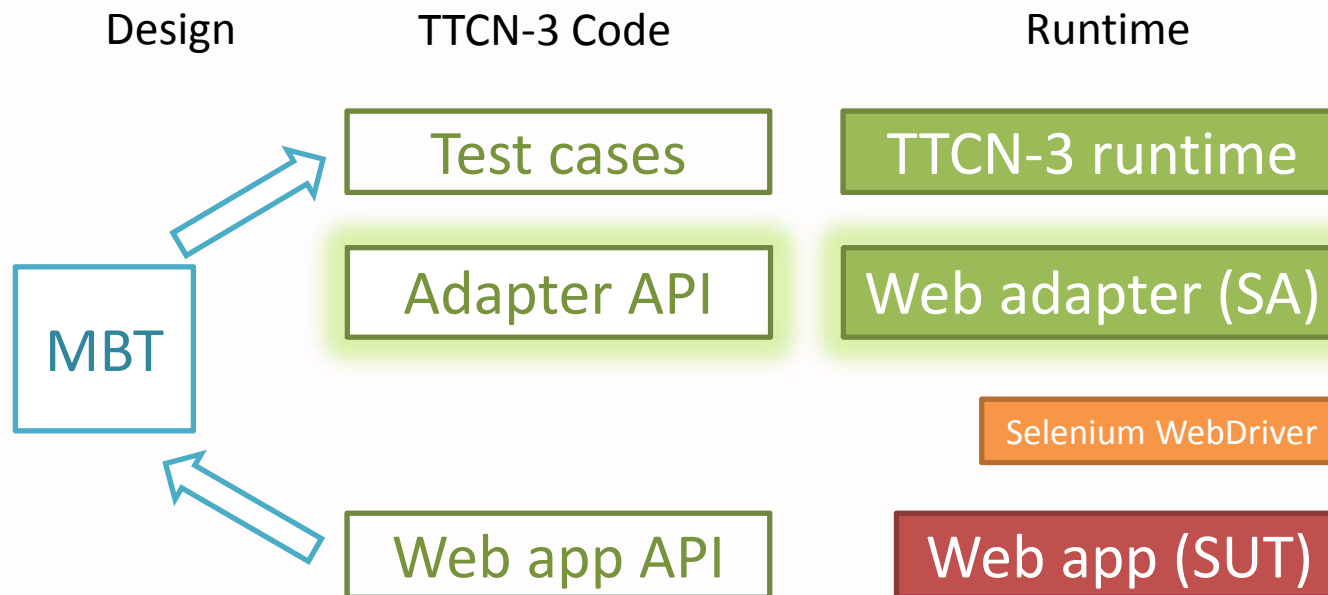- High level of automation, time-critical

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THE TALE

Web Testing Framework

Layers and Players

Design   TTCN-3 Code   Runtime

Test cases	TTCN-3 runtime
Adapter API	Web adapter (SA)
	Selenium WebDriver
Web app API	Web app (SUT)

MBT

THE WIRE

Mapping TTCN-3 to Web Apps

Web Adapter API: **Actions**

Click a button

```
type record LogInButton with {encode "id=loginBtn"};
tp.send(LogInButton:{});
```

Read a label

```
type String RedTipText with {encode "xpath=..."};
tp.receive(RedTipText:"Hurry");
```

Text input/output

```
type String Username with {encode "id=..."};
```

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Web Adapter API: **Structures**

```
type record SupplierDataList{
   SupplierHeader supplierHeader optional,
   ...
}
with {encode (supplierHeader) "xpath=...";}


type record SupplierHeader {
   universal charstring supplierName,
   ...
} with {encode (supplierName) "relative=//h3";}
```

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In Action

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Problems?

- Management of element **locators**
- Selenium ignoring **out-of-sight** items
- Web **designers**

JavaScript

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THE SHUT-OUT

Using Abstraction to Manage Complexity

Talking the Testers' Language

- Complexity
  - Low level functions of Selenium WebDriver
  - Syntax and semantics of TTCN-3 behavioral constructs

- TTCN-3 SA as abstraction layer above Selenium

- MBT to provide simpler behavior descriptions

- TDL: a version of MBT to define test sequences
  - Drawback: no literal values

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To Take Home…

- The **power of TTCN-3** can be applied in testing interfaces that it wasn't originally designed for

- Complexities may be **abstracted away** in multiple levels: MBT, TDL, TTCN-3

- In (web) application testing, there's an inherent conflict between **designers and testers**

…all it takes is a little Confidence. (The Sting)

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Thank You!

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