



# TESTFABRIK

## Rule-Based Testing

Die Zukunft der Test-Automatisierung

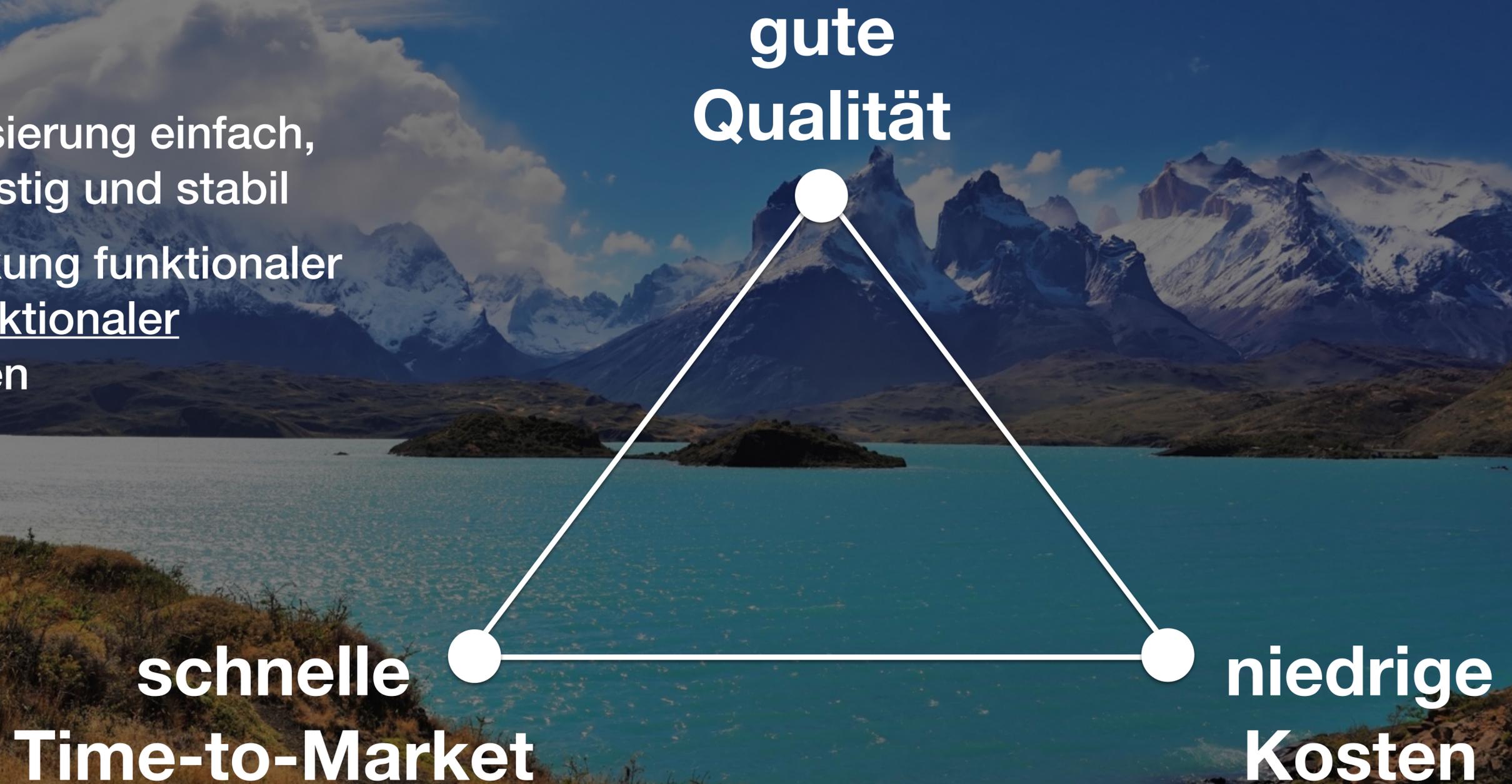
?

# DIE IDEALE WELT

- Testautomatisierung einfach, schnell & günstig und stabil
- Hohe Abdeckung funktionaler und nicht-funktionaler Anforderungen

# DIE IDEALE WELT

- Testautomatisierung einfach, schnell & günstig und stabil
- Hohe Abdeckung funktionaler und nicht-funktionaler Anforderungen



# DIE REALITÄT

- Manuelles Testen bleibt Standard
- Kompromisse bei Qualität
- Testen bleibt Flaschenhals
- Kosten sowieso zu hoch

# DIE REALITÄT

- Manuelle Standard
- Komplex
- Testen
- Kosten sowieso zu hoch

**Was macht den Tester  
so unverzichtbar?**



# **RULE-BASED TESTING**

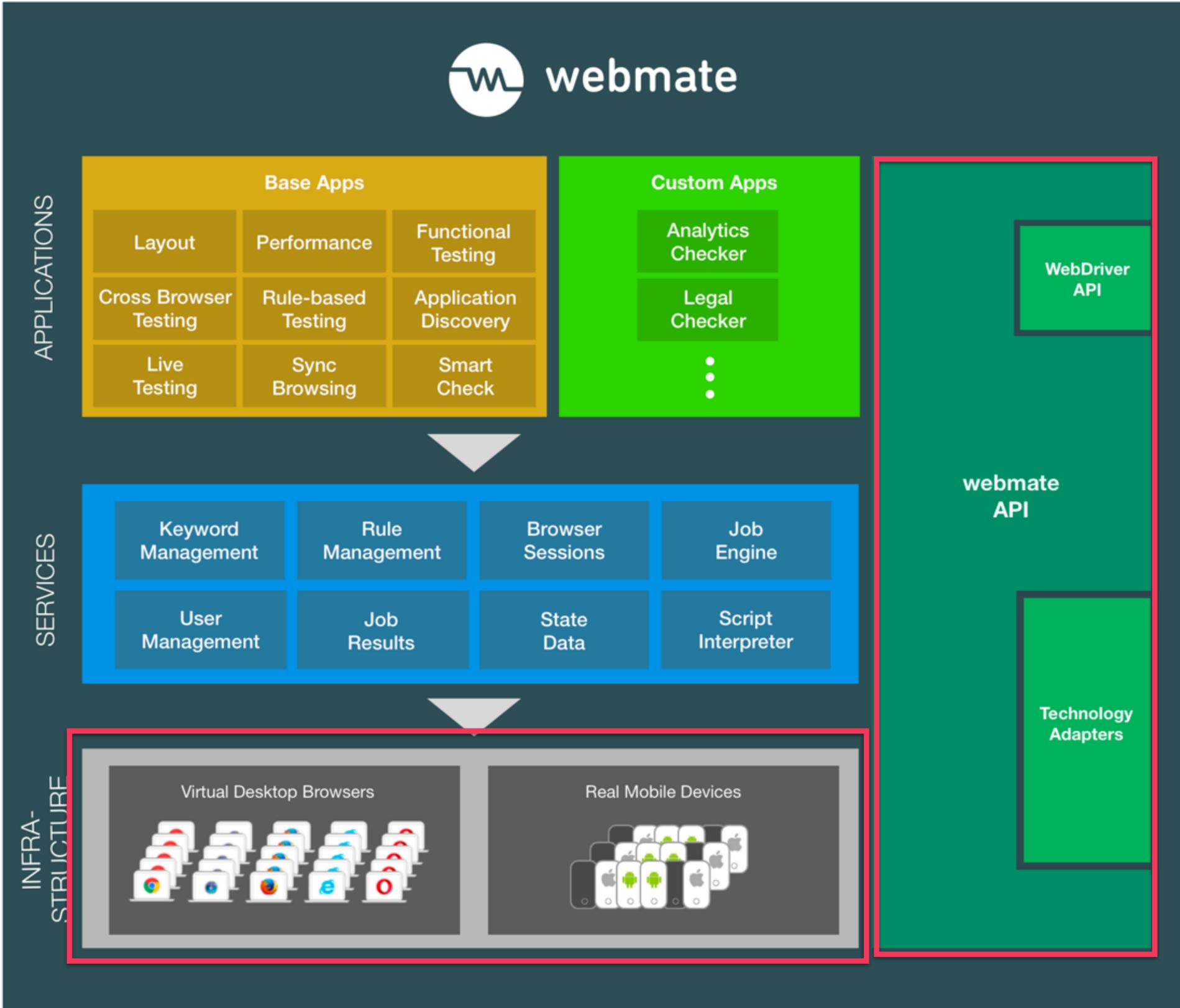
**Rule-Based Testing ist ein modell-basiertes Testverfahren, das on-the-fly auf einem regelbasierten Systemmodell operiert.**

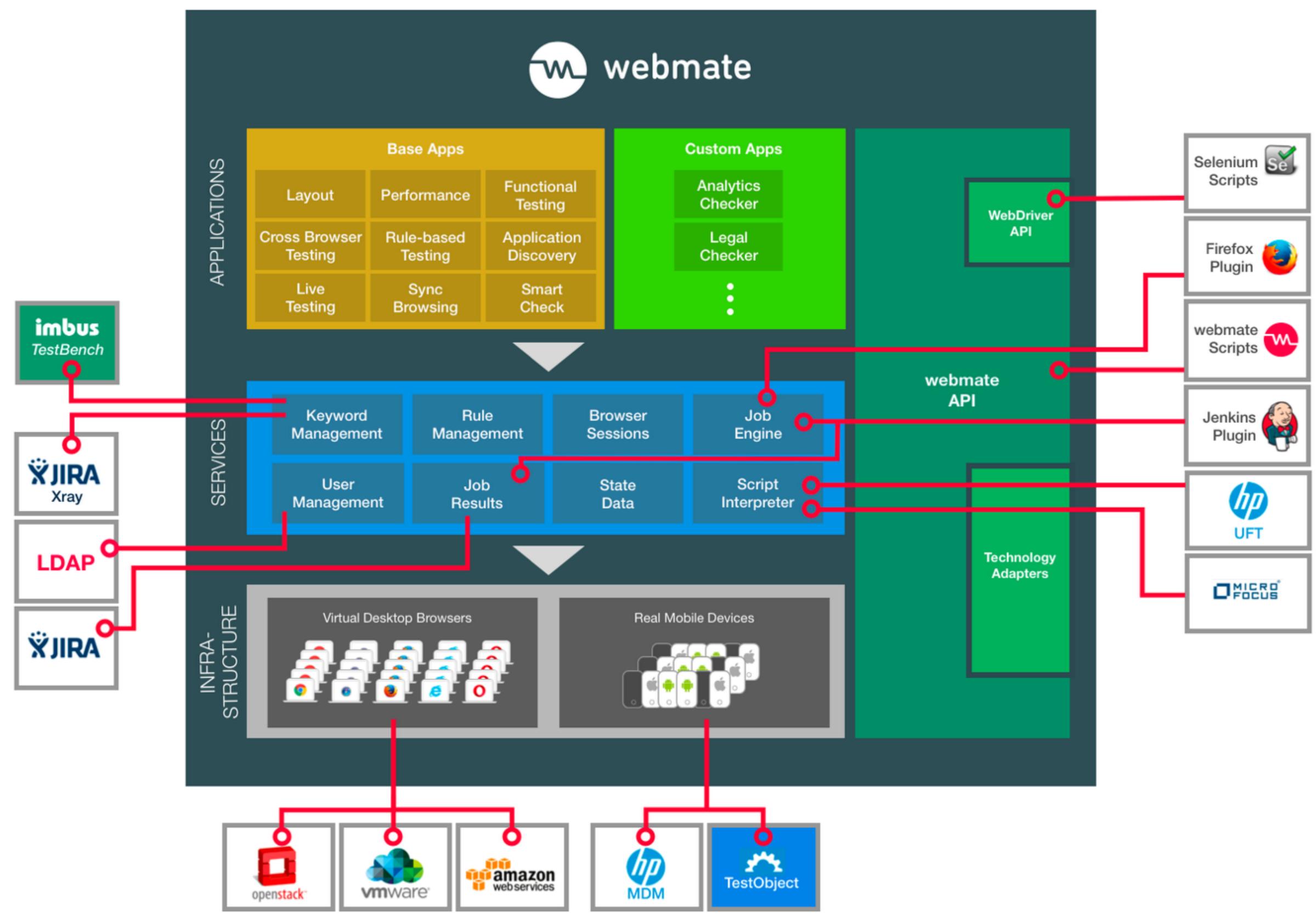
Eine Möglichkeit hierbei ist das sogenannte »on-the-fly«-Testen, bei dem nicht der vollständige Zustandsraum des Systems explizit erzeugt wird, um daraus dann die Tests abzuleiten, sondern der Zustandsraum dynamisch exploriert wird, während dessen entsprechende Testfälle erzeugt und ausgeführt werden. Das Systemmodell wird dabei quasi selbst als Testtreiber genutzt.

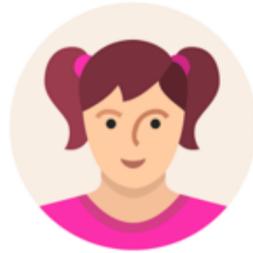
Quelle: Basiswissen modellbasierter Test

**das heißt: die Anwendung wird durch Regeln beschrieben**









Öffne URL  
"https://amazon.de"

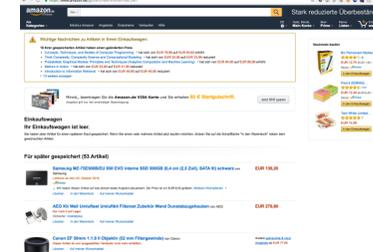
Klick auf  
Artikel-Link

Klick auf "Gemerkte  
Produkte"

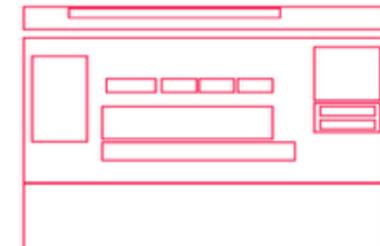
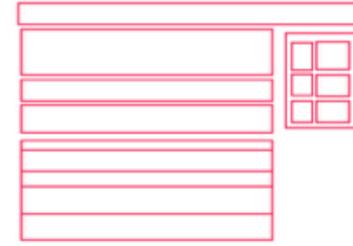
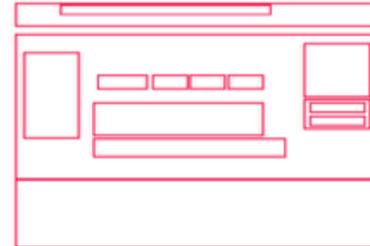
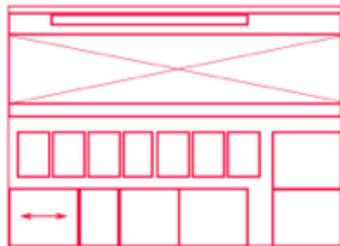
Klick auf  
Artikel-Link

Zeit

## Screenshots



## Layout



## Netzwerk



Driver

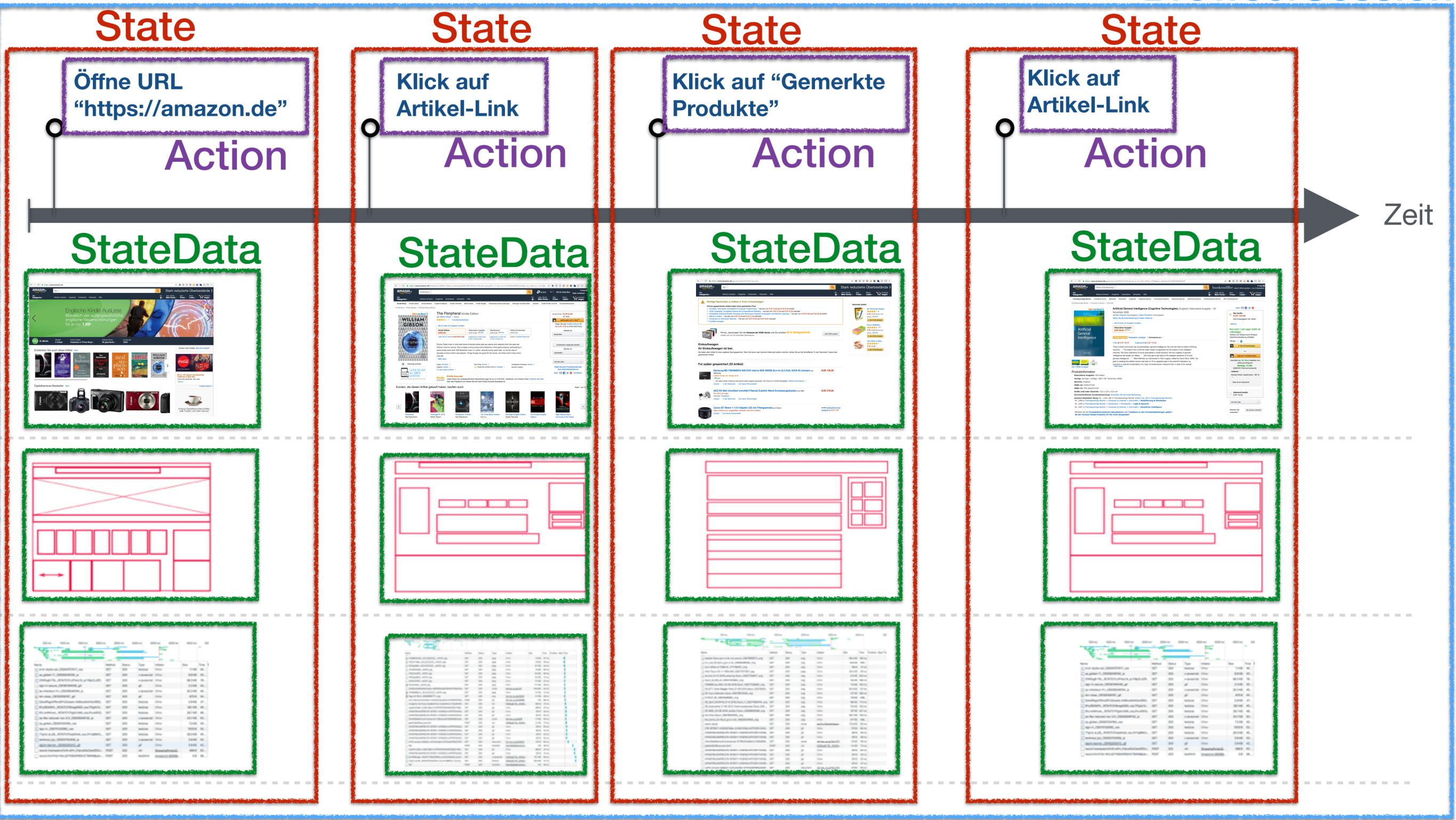


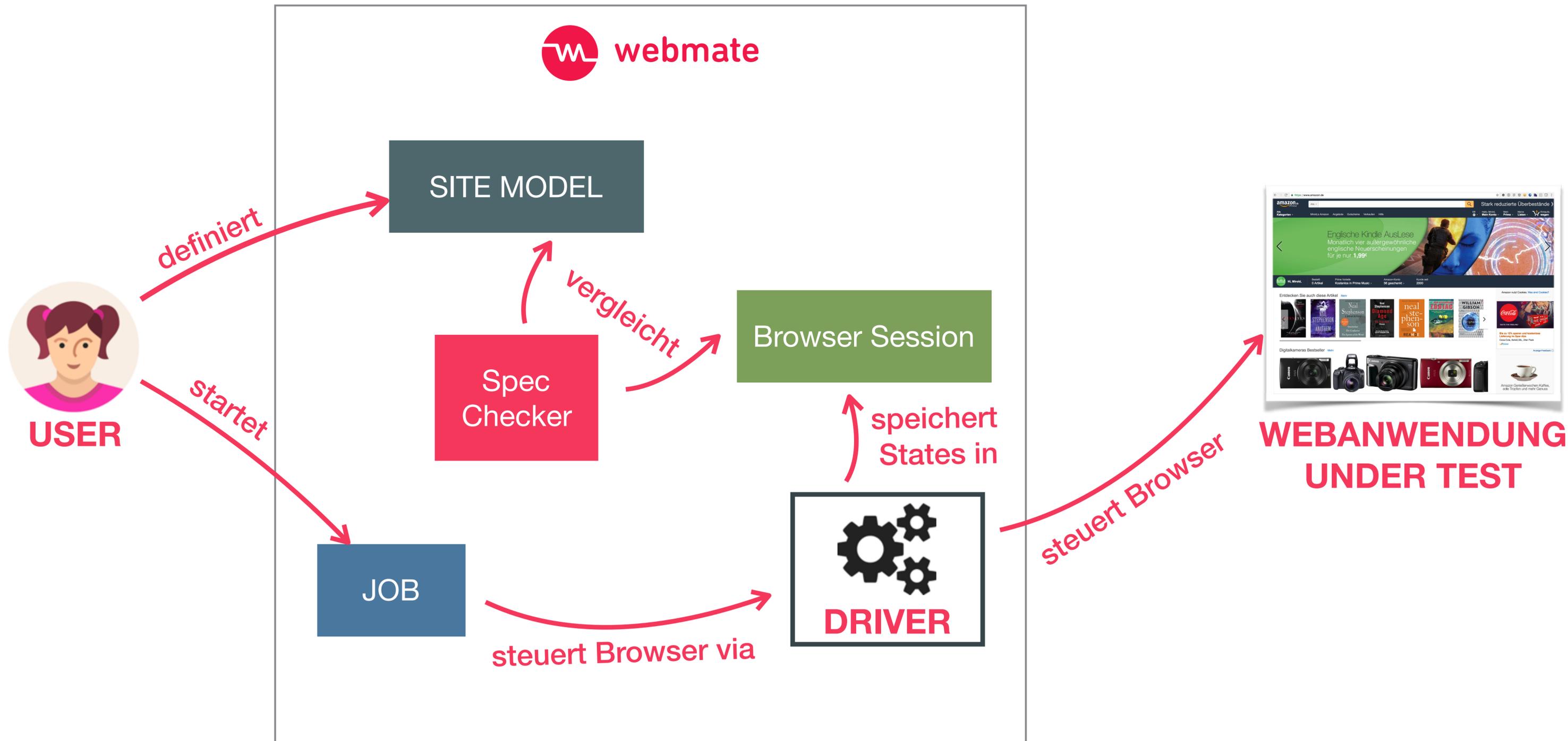
Functional Test  
Crawler

Screenshots

Layout

Netzwerk





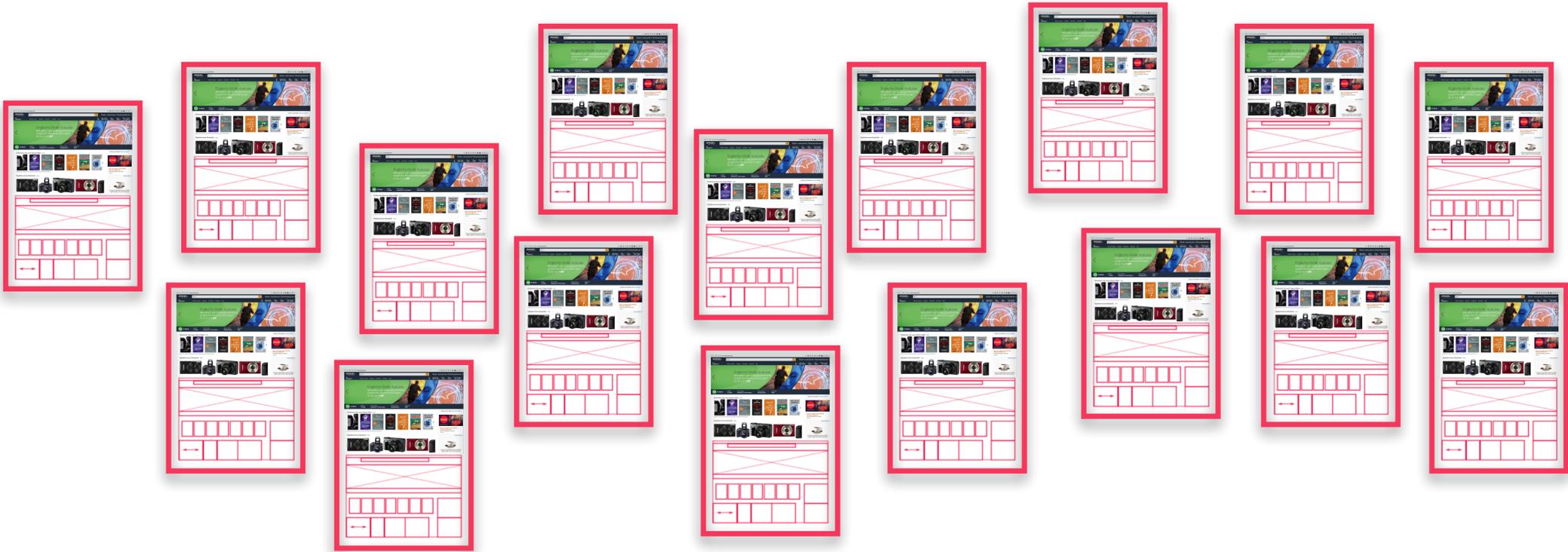
**Browser Sessions**

=

**Ist-Modell**

=

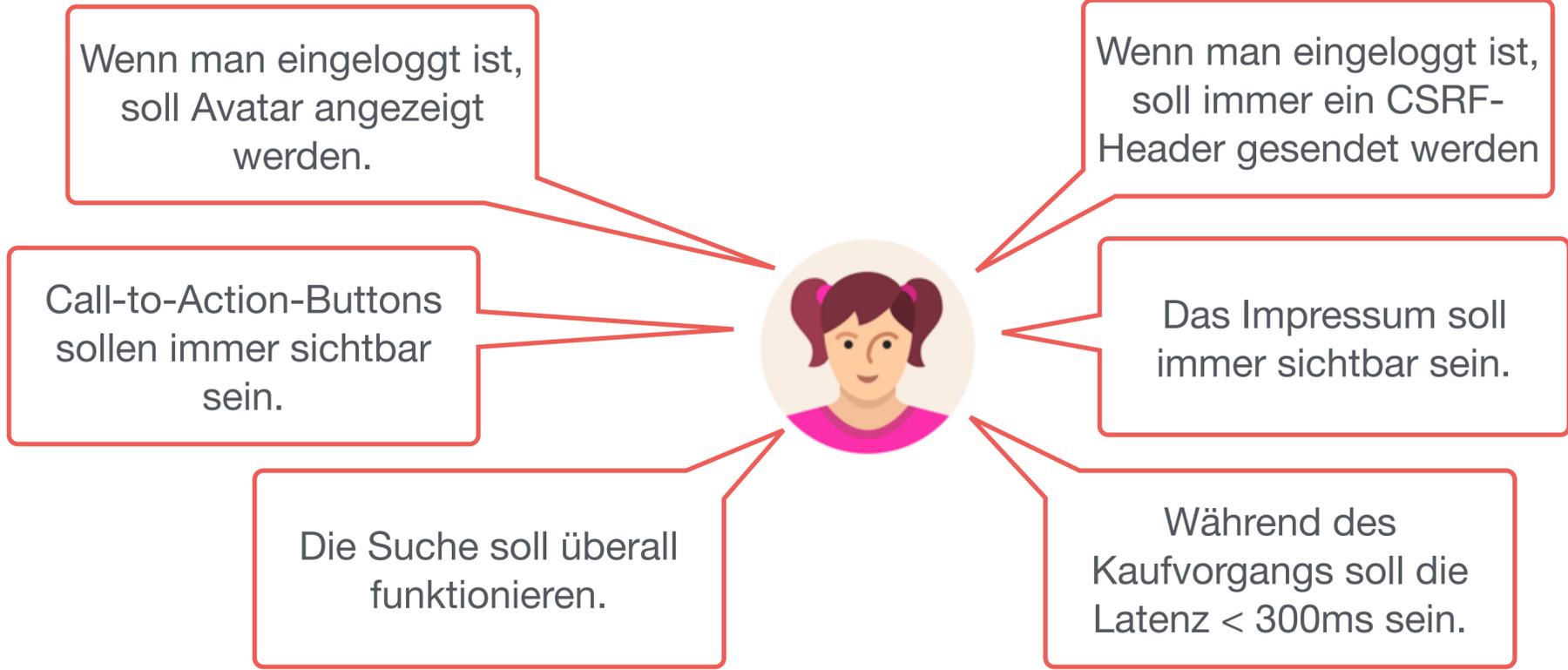
**“Realität”**



**Soll-Modell**

=

**State Rules**



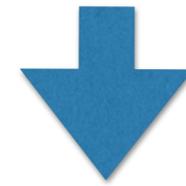
Wenn diese Bedingung zutrifft, gelten folgende "Fakten"

RULE DEFINITIONS

CONDITION	FACTS
<p><b>Main Navigation visible</b></p>	<p><b>Layout Spec</b></p> <ul style="list-style-type: none"> <li>user avatar centered right position</li> <li>main navigation items horizontally aligned</li> </ul> <p><b>Structure Spec</b></p> <ul style="list-style-type: none"> <li>user avatar visible</li> </ul> <p><b>State Action</b></p> <ul style="list-style-type: none"> <li>Go to Home</li> <li>Log out</li> <li>Go to Shopping Cart</li> <li>Go to Profile</li> </ul>
<p><b>Dashboard View visible</b></p>	<p><b>State Tag</b></p> <ul style="list-style-type: none"> <li>DASHBOARD</li> </ul>
<p><b>DASHBOARD</b></p>	<ul style="list-style-type: none"> <li>CSRF protected</li> <li>imprint visible within 500ms</li> </ul>
<p><b>URL contains „shoppingcart“</b></p>	<p><b>Network Spec</b></p> <ul style="list-style-type: none"> <li>SHOPPINGCART</li> <li>Ajax Requests &lt; 300ms</li> </ul>
<p><b>+ ADD CONDITION</b></p>	<p>FACTS</p>

**DEMO**

Open <https://app.webmate.io>



Login as [vdallmeier@testfabrik.com](mailto:vdallmeier@testfabrik.com)



Launch Quicktest for <http://www.google.de>

```
#!/usr/bin/env ruby
```

```
require "webmate"
```

```
require_relative "qstag/credentials"
```

```
webmate = Webmate.new_session(TestCredentials::QSTagCredentials,  
                              "http://tfred-services-001.dc.tfred.tc.testfabrik.com:8876/v1")
```

```
jobrun = webmate.start_job(:name => "interactive-script-driver",  
                           :browser => "CHROME_53_WINDOWS_7_64",  
                           :project_id => "eb460b76-492c-4b8e-97c5-49ae0a8c8adf")
```

```
session = jobrun.get_scriptsession
```

```
session.do "Open https://app.webmate.io"
```

```
session.do "Login as vdallmeier@testfabrik.com"
```

```
session.do "Launch Quicktest for http://www.google.de"
```

```
session.terminate
```



PROJECTS / WEBMATE LANDINGPAGE

EDIT PROJECT

- DASHBOARD
- JOBS & TESTS
- REPORTS
- RULE DEFINITIONS**
- APPLICATIONS

RULE DEFINITIONS

Filter Rule Definitions

ADD RULE

+ ADD CONDITION

FACTS



# LIVE TESTING



Desktop Machine

Mobile Session



### Windows 7 64-bit / IE11

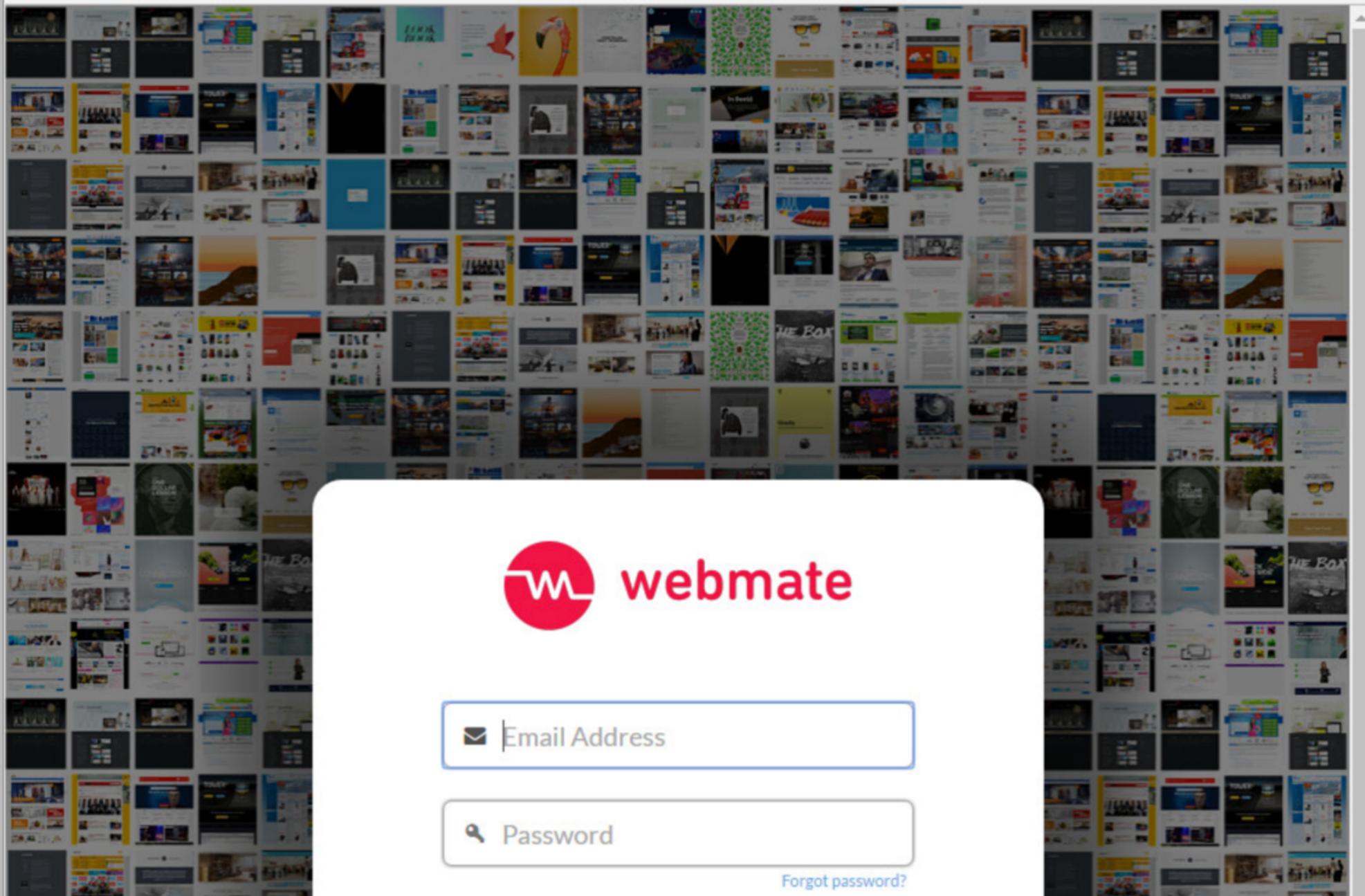
Status: **on**  
Created: Today at 10:59 AM  
Automated Tests **can run** on Machine  
Cost: 1 Webmate Credit per Minute active

 Win 7 64-bit	 IE 11
	 Chrome 46-54
	 Firefox 42-49



webmate - Sign In x

← → ↻ <https://app.webmate.io> ☆ ⋮





[Forgot password?](#)

```
~/D/qstag-2016 >>> ./test.rb
```

```
Got job id 1f919472-1d32-4d09-a8c8-b4a1bfbea9a9.
```

```
Started JobRun with id ec6094d5-7d2c-4832-9d38-f7fb6179b355
```

```
Executing 'Open https://app.webmate.io'
```

```
OK
```

```
Executing 'Login as vdallmeier@testfabrik.com'
```

```
OK
```

```
Executing 'Launch Quicktest for http://www.google.de'
```

```
OK
```

```
Terminating session 3ce6ed83-55fa-4475-a974-9dd374934b6b
```

```
~/D/qstag-2016 >>> █
```

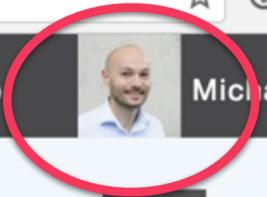
```
#!/usr/bin/env ruby

require "webmate"

require_relative "qstag/credentials"

webmate = Webmate.new_session(TestCredentials::QSTagCredentials,
                              "http://tfred-services-001.dc.tfred.tc.testfabrik.com:8876/v1")

webmate.set_sitemodel(
  project_id: "eb460b76-492c-4b8e-97c5-49ae0a8c8adf",
  sitemodel: [{
    :conditions => [{ :predicate => 'metadata.urlContainsText', :text => 'workbench' }],
    :facts => [{
      :type => 'SpecCheck', :name => 'gravatar-visible',
      :predicate => 'structure.elementIsVisible', :id => 'nav-user-gravatar'
    }]
  }]
)
```



# WORKBENCH

Launch Quick Test

Add New Test

TEST NAME	LAST RUN	DIFF. FOUND	REFERENCE BROWSER	CROSS BROWSER	TYPE	ACTIONS
webmate.io	09/01/2016	0	FF 46 (Win 7 64)		URL	
shift.com/cars/san-francisco	06/02/2016	?	FF 39 (Win 7 64)		URL	
Cornelsen	05/12/2016	20	GC 37 (Win 7 64)		URL	
cornelsen.de	05/12/2016	10	FF 39 (Win 7 64)		URL	
reddit.com	04/18/2016	74	FF 39 (Win 7 64)		URL	
adac.de	03/31/2016 <b>failed</b>	?	FF 39 (Win 7 64)		URL	
webmate.io	03/12/2016 <b>canceled</b>	?	FF 39 (Win 7 64)		URL	
sueddeutsche.de	02/28/2016	19	FF 39 (Win 7 64)		URL	

## RULE DEFINITIONS

Filter Rule Definitions

ADD RULE

CONDITION

 URL contains „workbench“

FACTS

 Element visible  
id is "nav-user-gravatar"

 ADD CONDITION

FACTS

```
~/D/qstag-2016 >>> ./test.rb
```

```
Got job id faab9202-7530-4928-83f1-2e0c611a70c0.
```

```
Started JobRun with id a7f680e0-991f-435f-9c1c-8907ee3cc257
```

```
Executing 'Open https://app.webmate.io'
```

```
OK
```

```
Executing 'Login as vdallmeier@testfabrik.com'
```

```
OK
```

```
Executing 'Launch Quicktest for http://www.google.de'
```

```
OK
```

```
Terminating session 651402a2-4119-4c00-a1f2-d66c07222569
```

```
~/D/qstag-2016 >>> █
```

```
#!/usr/bin/env ruby

require "webmate"

require_relative "qstag/credentials"

webmate = Webmate.new_session(TestCredentials::QSTagCredentials,
                              "http://tfred-services-001.dc.tfred.tc.testfabrik.com:8876/v1")

webmate.set_sitemodel(
  project_id: "eb460b76-492c-4b8e-97c5-49ae0a8c8adf",
  sitemodel: [{
    :conditions => [{ :predicate => 'metadata.urlContainsText', :text => 'workbench' }],
    :facts => [{
      :type => 'SpecCheck', :name => 'gravatar-visible',
      :predicate => 'structure.elementIsVisible', :id => 'nav-user-gravatar'
    }]
  }], {
    :conditions => [{ :predicate => 'metadata.urlContainsText', :text => 'workbench' }],
    :facts => [{
      :type => 'SpecCheck', :name => 'gravatar-visible',
      :predicate => 'structure.elementIsVisible', :id => 'nav-user-gravatarBLA'
    }]
  })
```



## RULE DEFINITIONS

Filter Rule Definitions

ADD RULE

CONDITION

☰ URL contains „workbench“

FACTS

🏠 Element visible  
id is "nav-user-gravatar"

CONDITION

☰ URL contains „workbench“

FACTS

🏠 Element visible  
id is "nav-user-gravatarBLA"

+ ADD CONDITION

FACTS

```
~/D/qstag-2016 >>> ./test.rb
```

```
Got job id cb7c56d4-c109-4944-ac18-384c7a718e8d.
```

```
Started JobRun with id 8fd41348-b22c-4035-9edc-d109eb9927fb
```

```
Executing 'Open https://app.webmate.io'
```

```
OK
```

```
Executing 'Login as vdallmeier@testfabrik.com'
```

```
Spec violations found:
```

```
* Spec violation detected for spec 'gravatar-visibleBLA': Unable to find element with id 'nav-user-gravatarBLA'
```

```
Executing 'Launch Quicktest for http://www.google.de'
```

```
Spec violations found:
```

```
* Spec violation detected for spec 'gravatar-visibleBLA': Unable to find element with id 'nav-user-gravatarBLA'
```

```
Terminating session 0a6d236d-3210-4151-a8f4-cb1299f53453
```

```
~/D/qstag-2016 >>> █
```

# ROADMAP



- Rule-based Testing via API
- einfache Spec-Typen: Meta-Daten und DOM-Struktur

- Neuer Spec-Typ: Netzwerk

- Rule Management via UI
- Integration Galen für Layout-Specs

- Intelligentes Crawling via Action-Facts
- Anwendungs-Modellierung via "Pages"



10 / 2016

- Rule-based Testing via API
- einfache Spec-Typen: Meta-Daten und DOM-Struktur

**Sind Sie ein “Early Adopter”?**

- Intelligentes Crawling via Action-Facts
- Anwendungs-Modellierung via “Pages”

**DANKE FÜR IHRE  
AUFMERKSAMKEIT :-)**

