

GWT



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Agenda

Intro

Devenv Setup

Project Setup

Design

Further Topics

Conclusion

Intro

Who are you?

- 0 GW... what?
- 1
- 2 Hello World should be possible
- 3
- 4
- 5 played around with GWT a little
- 6
- 7
- 8 used GWT in projects
- 9
- 10 I am GWT and I'm just here to verify those 3 guys

What's GWT?

Google Web Toolkit

Compiles Java to JavaScript

- § Enables debugging of Ajax code

- § Use Java tools (Eclipse, JUnit, FindBugs, ...)

Current version: 1.7.1

- § Supports IE 8, Firefox 3.5, Safari 4

- § Using a 1.6 JRE

GWT 2.0 should arrive soon

Apache 2.0 open source license

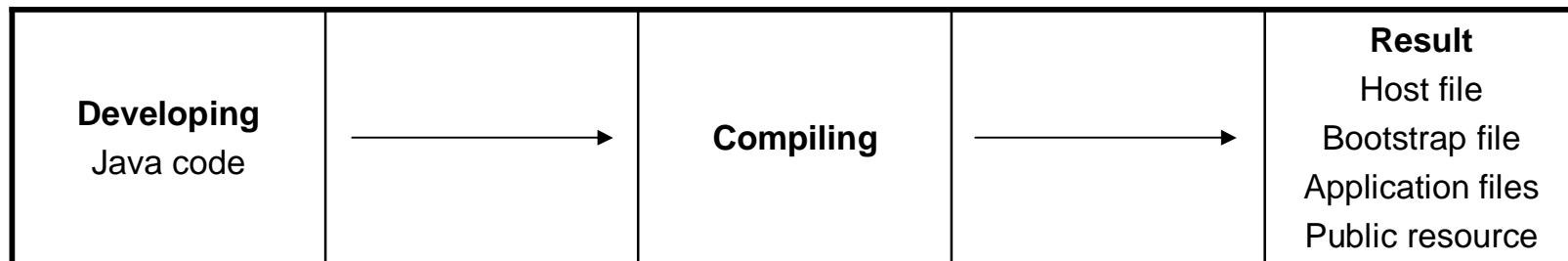


How does it work?

Write GUI in Java

While developing/debugging everything runs in JVM

After compiling: 100% HTML, CSS, JavaScript



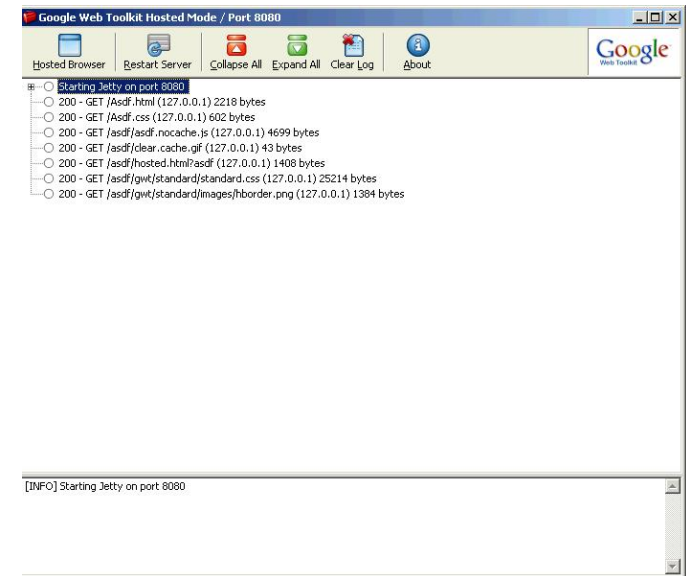
Hosted mode vs. Web mode

Hosted mode

- § During development
- § Byte code in JVM
- § Debugging functionality

Web mode

- § Application compiled into JavaScript, CSS and HTML
- § Has nothing to do with Java any more
- § GWT 2.0: hosted mode in browser and make it work from across the network



Java code

Server side

- § As GWT is about the client
 - è no restrictions

Client side

- § GWT supports a subset of the Java runtime library:
 - § java.lang
 - § java.lang.annotation
 - § java.util
 - § java.io
 - § java.sql
- § <http://code.google.com/webtoolkit/doc/1.6/RefJreEmulation.html>

Devenv Setup

Setup

Without eclipse

- § (install Java SDK)
- § (install Apache Ant)
- § Download and unzip Google Web Toolkit
 - § No installer

With eclipse

- § (install Java SDK)
- § (install Eclipse)
- § Install Google Plugin for Eclipse
<http://code.google.com/eclipse/>

Hello World

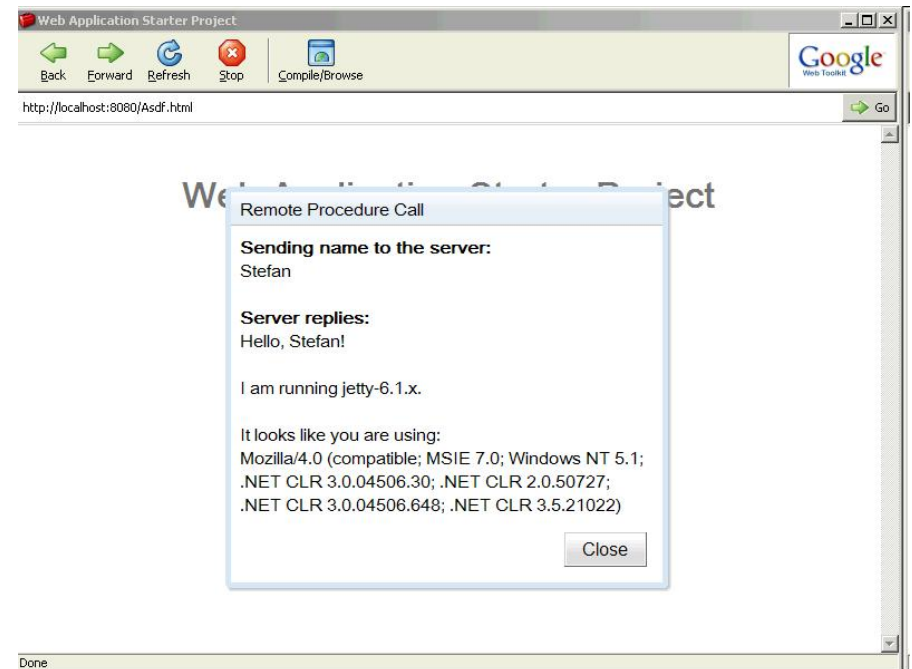
Without Eclipse

```
§ webAppCreator --out MyApplication  
  ch.netcetera.MyApplication
```

```
§ ant hosted (Hosted mode) or ant build (Web mode)
```

With Eclipse

```
§ Demo!
```



Project Setup

GWT & Maven

GWT works well with Maven2

- But not with m2eclipse-Plugin

gwt-maven-plugin:

- <http://mojo.codehaus.org/gwt-maven-plugin/>

Example pom:

```
<plugin>
  <groupId>org.codehaus.mojo</groupId>
  <artifactId>gwt-maven-plugin</artifactId>
  <configuration><module>ch.netcetera.webis8.extGWTGui</module></configuration>
  <executions><execution>
    <configuration><extraJvmArgs>-Xmx256M -Xss256k</extraJvmArgs></configuration>
    <goals><goal>compile</goal></goals>
  </execution></executions>
</plugin>
```

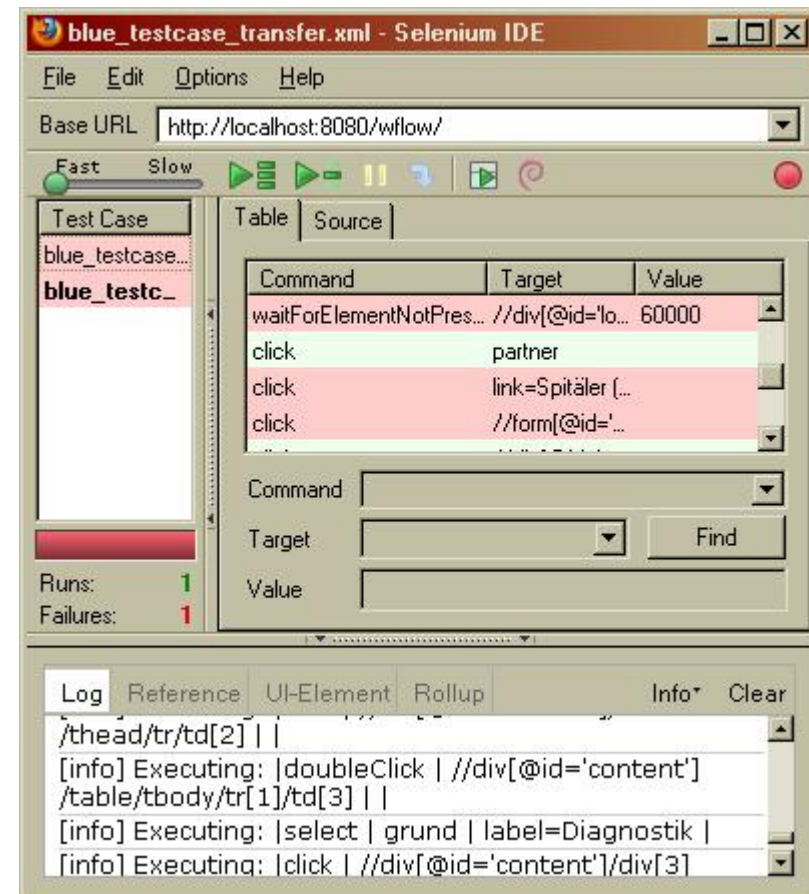
Testing 1

Server-side: „normal“ JUnit-Tests

Client-side: GWTestCase extends junit.framework.TestCase


Front-end / end-to-end: Selenium

- <http://seleniumhq.org/>



Demo (partly powered by Selenium)

• Bluecare



Managed Care Organisation

BLUEEVIDENCE

Praxis 35913
nca
Q150900

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mc-versicherte
kostencontrolling *
auswertung

Zu prüfende Kosten

| Patient | Datum von/bis | Leistungserbringer | Leistungsauslöser | Brutto [CHF] | Leistungsart | Status |
|--|--------------------------|---|--|--------------|--|--------|
| Buchs, Elisabeth, 13.02.1964, f | 21.04.2009 20.05.2009 | Klinik Sonnenhalde AG, Riehen, Psychiatrische Kliniken, Niveau 2 | | 6'930.00 | stationäre Spitalbehandlung akut | |
| Grund: Kostenbetrag grösser als 2000 | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>✓ Visieren</p> <ul style="list-style-type: none"> ▶ Leistung verordnet ▶ Leistung nicht verordnet, aber medizinisch angebracht ▶ Notfall ▶ Anderer Grund </div> <div style="width: 30%;"> <p>✗ Ablehnen</p> <ul style="list-style-type: none"> ▶ Leistung nicht verordnet und nicht medizinisch angebracht ▶ Patient unbekannt ▶ Anderer Grund </div> <div style="width: 30%;"> <p>ℹ Abklären</p> <ul style="list-style-type: none"> ▶ Rechnungskopie anfordern </div> </div> | | | | | | |
| Buchs, Mina, 15.11.1919, f | 01.01.2009 31.01.2009 | Alters- und Pflegeheim Unt. Seetal, Seon, Alters- und Pflegeheime | Praxis 35913, Praxis Brestenberg, Zürich, Allgemeinmedizin | 2'201.00 | stationäre Langzeitpflege | |
| Claytonie, Hanna, 15.02.1934, f | 30.03.2009 30.03.2009 | Jenny, Daniel, Zürich, Oto-Rhino-Laryngologie | | 175.25 | ambulante Behandlung in Praxis | |
| Claytonie, Hanna, 15.02.1934, f | 31.03.2009 31.03.2009 | Burki, Hubert, Wohlen AG, Orthopädische Chirurgie und Traumatologie | | 198.15 | ambulante Behandlung in Praxis | |
| Dornfarn, Peter, 22.10.1942, m | 12.05.2009 19.05.2009 | Eichenberger, Jörg R., Reinach AG, Gastroenterologie | | 1'239.05 | ambulante Behandlung in Praxis | |
| Dornfarn, Peter, 22.10.1942, m | 20.05.2009 20.05.2009 | Kantonsspital Aarau AG, Aarau, Zentrumsversorgung, Niveau 2 | Eichenberger, Jörg R., Reinach AG, Gastroenterologie | 269.05 | Labor (extern) | |

Einträge 1 - 6 von 707

= Manuell prüfen
 = In Abklärung

Drucken ...

Testing 2 (Selenium)

Problems with Selenium

- Async Problem:
 - à Wait until eg. loading.gif disappears
- Problem with click-simulation
 - à Set timeout to .5s and catch Exception
- Change happens
 - à Add IDs to buttons etc.

Selenium:

```
<tr>
  <td>waitForElementPresent</td>
  <td>//div[@id='loading']</td>
  <td>60000</td>
</tr>
<tr>
  <td>waitForElementNotPresent</td>
  <td>//div[@id='loading']</td>
  <td>60000</td>
</tr>
```

Java version:

```
/** Wait a little for the completion of an
asynchronous call. */
private void waitALittle() {
  try {
    Thread.sleep(500);
  } catch (final InterruptedException e) {
    // nevermind, just continue
  }
}
```


Continuous Integration

Nothing special here

GWT works well with Hudson (thanks to Maven)

Hudson search ?

Hudson » blu » blu-001-8 AUTO-AKTUALISIERUNG EINSCHALTEN

[Zurück zur Übersicht](#)

Projekt blu-001-8 [Beschreibung hinzufügen](#)

- [Status](#)
- [Änderungen](#)
- [Arbeitsbereich](#)
- [Jetzt bauen](#)
- [Löschen](#)
- [Konfigurieren](#)
- [Module](#)
- [CVS Abfrage-Protokoll](#)

[Arbeitsbereich](#)

[Letzte Änderungen](#)

[Letztes Testergebnis \(Kein Test fehlgeschlagen.\)](#)

Build-Verlauf [\(Trend\)](#)

| Build # | Time |
|---------|---------------------|
| #208 | 09.11.2009 15:02:06 |
| #207 | 06.11.2009 15:01:59 |
| #206 | 06.11.2009 14:02:02 |
| #205 | 28.10.2009 14:01:55 |

Permalinks

- [Letzter Build \(#208\), vor 20 Minuten](#)
- [Letzter stabiler Build \(#208\), vor 20 Minuten](#)
- [Letzter erfolgreicher Build \(#208\), vor 20 Minuten](#)
- [Letzter fehlgeschlagener Build \(#174\), vor 1 Monat 25 Tage](#)

Trend der Testergebnisse

count

(Nur Fehlschläge anzeigen) Vergrößern

Design

Browser-Issues

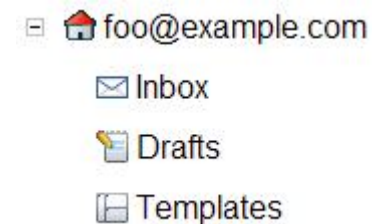
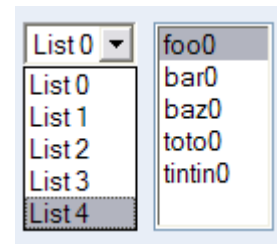
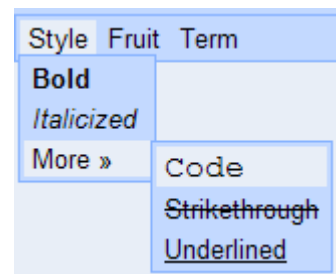
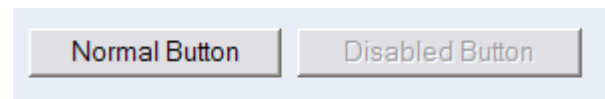
Mostly, it's not GWT,

It's (browser-specific) CSS

Widgets

If you can choose:

just take official GWT widgets



<http://code.google.com/intl/de/webtoolkit/doc/1.6/RefWidgetGallery.html>

Corporate Design

If not:

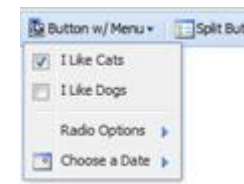
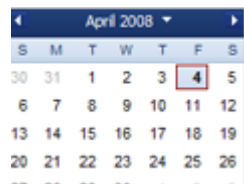
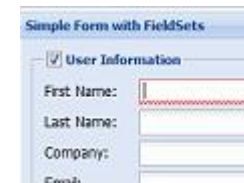
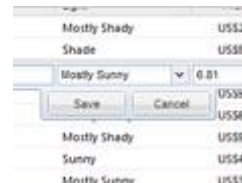
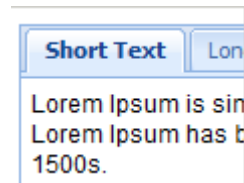
Look for a capable designer ...

Collaboration with designer

... and let him do the work.

External GUI libraries (extgwt,...)

(Mostly) convenient



<http://www.extjs.com/products/gxt/>

Further Topics

I18n

Adequate

```
hello=Hello Jugs  
i18n=Internationalization  
sayHelloTo=Hi {0}  
...
```

```
String hello();  
String i18n();  
String sayHelloTo(String name);
```

Performance

Depends on you!

Security

Be careful:

Think about evil people

Conclusion

Is GWT ready for the real world?



Netcetera has several projects in production

Has its weaknesses

- Eg. missing libs on client-side

Not beta anymore

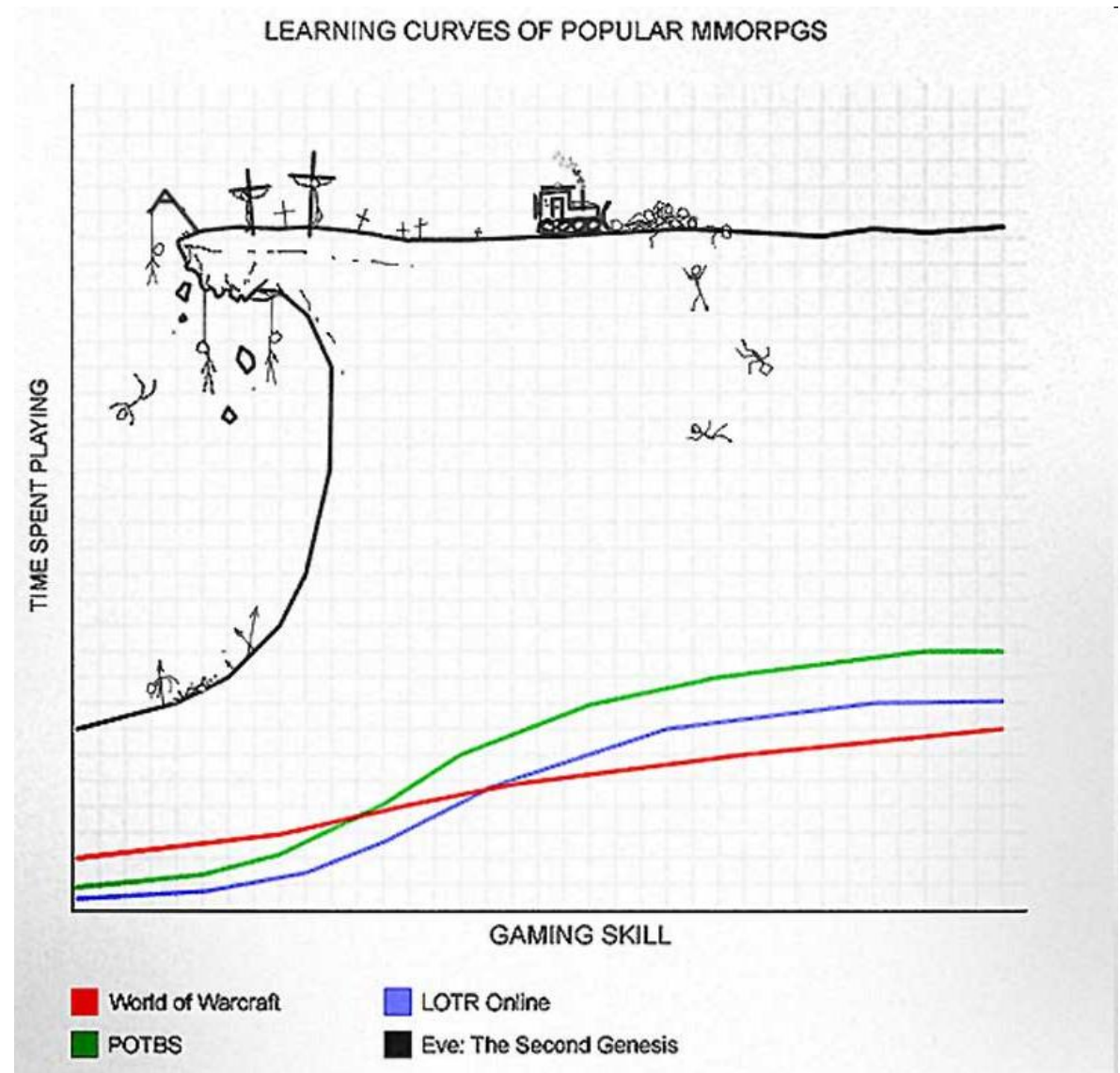
- We started with 1.4.10 - Current version 1.7.1 - 2.0 upcoming

Active community (and Google)

What's the learning curve?

Steep

- Similar to SWT/AWT
- No JavaScript



What are the alternatives (for Java-RIA-development)?

Hand-made AJAX

- Only if very little AJAX needed

Java Script Frameworks / Libraries

- jQuery / Prototype / YUI etc.

Other approaches:

- Server-Side Frameworks
 - Vaadin (uses GWT for presentation)
- Stuff that runs in own VM
 - Applets / JavaFX
 - Flex (based on Flash)

Where can I find more info?

Google:

<http://code.google.com/webtoolkit>

Good forum:

<http://groups.google.com/group/Google-Web-Toolkit>

Get started:

<http://code.google.com/webtoolkit/gettingstarted.html>

Google Plugin:

<http://code.google.com/eclipse/>

Q/A



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