

Web Applications 2014

Course Presentation

Content

A practical introduction to the area

- The standards (recommendations)
- The techniques
- Different approaches to architecture and design of web applications

We will get things up and running

- The major challenge in course

Area is far too big to cover in a single course

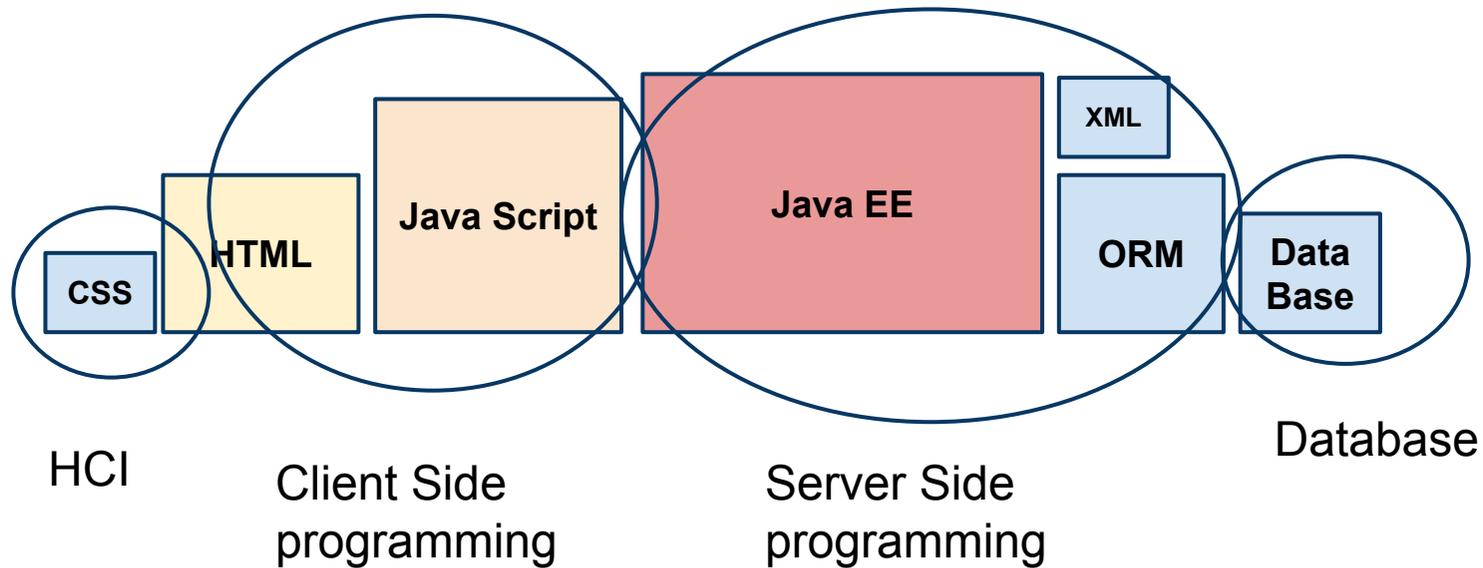
- Let's say it's an inspiration course

What you will Gain

Area and technology overview

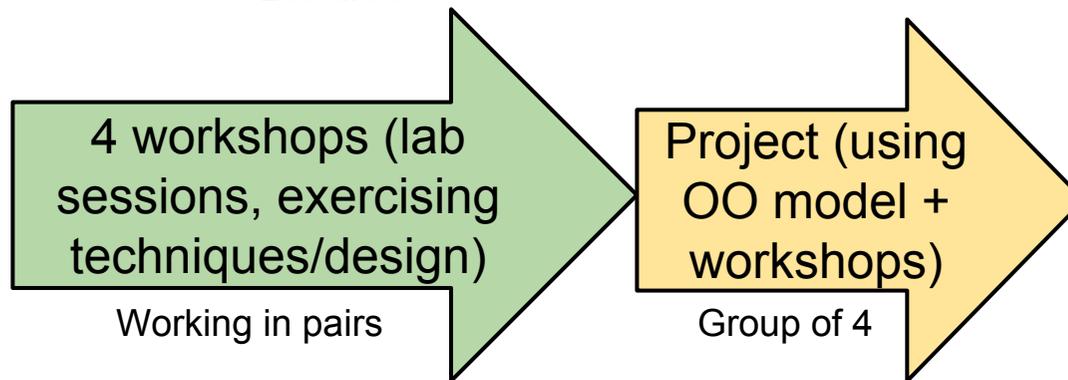
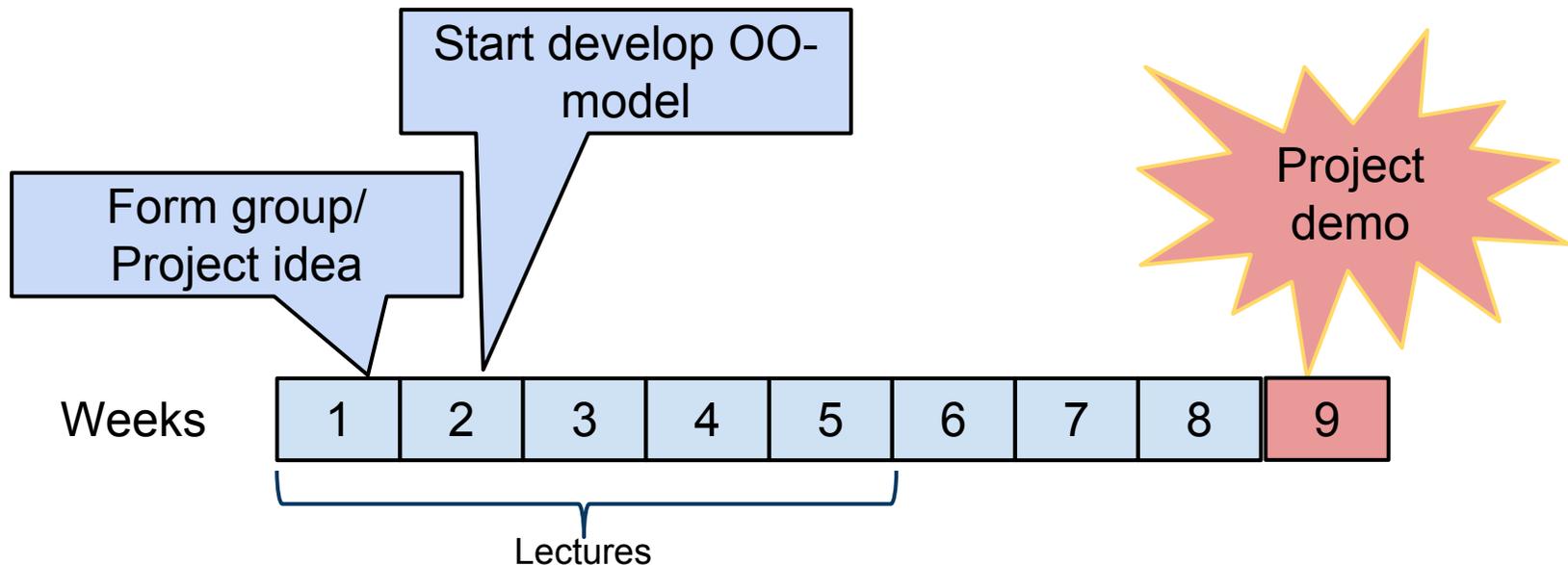
- Increased programming, design and architecture skills (programming in the large)
- Very valuable experience if targeting any kind of SE master program
- Hands on experience with potentially very complicated/large software systems (touching many courses in one application)
- Knowledge of standards and specifications, deeper understanding of API's,

Technical Content



This is an applied technical
(programming) course

Course Planning



There are "red" markings in schedule, we'll probably run anyway. See news page for announcements

Lectures

Traditional with slides and code samples

- There are 5 slide series
- Questions welcome

I'll try to speak a bit more freely (based on slides)

- I.e. each and every slide will probably not be shown
- Recommended to review the slides

Slides and Code samples

- Have tried to name samples close to slides content
- Should be possible to match, if not contact assistants
- Last sample is a full design for the approach (request-, service-, ... etc approach)

Literature, Links and Samples

Central access point for everything is [course page](#)

Many links on course page and in slides!

- Have to be careful on the Web, there are bad advices, contradicting advices, ...

Many code samples on course page!

- Will save you a lot of time (students tends to realize this too late)

Very hard to find a single (or even multiple < 10) book(s)

- [Recommended](#)

- Also, ... area is moving too fast... books quickly deprecated

Skills Needed

Very good programmer!!!

Good at solving problems in general

- It's not just programming, other problems will show up ...
- ... not always obvious where the problem comes from...
- ... can't guarantee bug-free environment (or code samples) , must be able to do "workarounds"
- ... must be able to carefully and thoroughly browse and read (often veeeeeeeeery loooooooong) error messages
- Good at speed-browsing documentation, searching information (or be willing to exercise it)

Hmmm...

```
Severe: Exception while loading the app
Severe: Undeployment failed for context /primefaces-push
Severe: Exception while loading the app : CDI deployment failure:WELD-001408 Unsatisfied dependencies for type [Validator] with qualifiers [@Default]
at injection point [[UnbackedAnnotatedField] @Inject private org.hibernate.validator.internal.cdi.interceptor.ValidationInterceptor.validator]
org.jboss.weld.exceptions.DeploymentException: WELD-001408 Unsatisfied dependencies for type [Validator] with qualifiers [@Default] at injection point
[[UnbackedAnnotatedField] @Inject private org.hibernate.validator.internal.cdi.interceptor.ValidationInterceptor.validator]
    at org.jboss.weld.bootstrap.Validator.validateInjectionPointForDeploymentProblems(Validator.java:403)
    at org.jboss.weld.bootstrap.Validator.validateInjectionPoint(Validator.java:325)
    at org.jboss.weld.bootstrap.Validator.validateInterceptor(Validator.java:554)
    at org.jboss.weld.bootstrap.Validator.validateInterceptors(Validator.java:530)
    at org.jboss.weld.bootstrap.Validator.validateDeployment(Validator.java:479)
    at org.jboss.weld.bootstrap.WeldBootstrap.validateBeans(WeldBootstrap.java:536)
    at org.glassfish.weld.WeldDeployer.event(WeldDeployer.java:216)
    at org.glassfish.kernel.event.EventsImpl.send(EventsImpl.java:131)
    at org.glassfish.internal.data.ApplicationInfo.load(ApplicationInfo.java:328)
    at com.sun.enterprise.v3.server.ApplicationLifecycle.deploy(ApplicationLifecycle.java:493)
    at com.sun.enterprise.v3.server.ApplicationLifecycle.deploy(ApplicationLifecycle.java:219)
    at org.glassfish.deployment.admin.DeployCommand.execute(DeployCommand.java:491)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl$2$1.run(CommandRunnerImpl.java:527)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl$2$1.run(CommandRunnerImpl.java:523)
    at java.security.AccessController.doPrivileged(Native Method)
    at javax.security.auth.Subject.doAs(Subject.java:360)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl$2.execute(CommandRunnerImpl.java:522)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl.doCommand(CommandRunnerImpl.java:546)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl.doCommand(CommandRunnerImpl.java:1423)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl.access$1500(CommandRunnerImpl.java:108)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl$ExecutionContext.execute(CommandRunnerImpl.java:1762)
    at com.sun.enterprise.v3.admin.CommandRunnerImpl$ExecutionContext.execute(CommandRunnerImpl.java:1674)
    at com.sun.enterprise.v3.admin.AdminAdapter.doCommand(AdminAdapter.java:534)
    at com.sun.enterprise.v3.admin.AdminAdapter.onMissingResource(AdminAdapter.java:224)
    at org.glassfish.grizzly.http.server.StaticHttpHandler.service(StaticHttpHandler.java:297)
    at com.sun.enterprise.v3.services.impl.ContainerMapper.service(ContainerMapper.java:246)
    at org.glassfish.grizzly.http.server.HttpHandler.runService(HttpHandler.java:191)
    at org.glassfish.grizzly.http.server.HttpHandler.doHandle(HttpHandler.java:168)
    at org.glassfish.grizzly.http.server.HttpServerFilter.handleRead(HttpServerFilter.java:189)
    at org.glassfish.grizzly.filterchain.ExecutorResolver$9.execute(ExecutorResolver.java:119)
    at org.glassfish.grizzly.filterchain.DefaultFilterChain.executeFilter(DefaultFilterChain.java:288)
    at org.glassfish.grizzly.filterchain.DefaultFilterChain.executeChainPart(DefaultFilterChain.java:206)
    at org.glassfish.grizzly.filterchain.DefaultFilterChain.execute(DefaultFilterChain.java:136)
    at org.glassfish.grizzly.filterchain.DefaultFilterChain.process(DefaultFilterChain.java:114)
    at org.glassfish.grizzly.ProcessorExecutor.execute(ProcessorExecutor.java:77)
    at org.glassfish.grizzly.nio.transport.TCPNIOTransport.fireIOEvent(TCPNIOTransport.java:838)
    at org.glassfish.grizzly.strategies.AbstractIOStrategy.fireIOEvent(AbstractIOStrategy.java:113)
    at org.glassfish.grizzly.strategies.WorkerThreadIOStrategy.run0(WorkerThreadIOStrategy.java:115)
    at org.glassfish.grizzly.strategies.WorkerThreadIOStrategy.access$100(WorkerThreadIOStrategy.java:55)
```

This is 50%
of a short
message

Passing the course

Only 2 mandatory moments

1. Do the workshops (U-G)

2. Handle in an acceptable project (U-5, U-VG)

- As an individual you must have contributed sufficiently to the project

Course grade given by project

- Individual grad may vary

- See Course- and Project-PM on course page

Course Development 2014

Concept change

- Project should now focus on deepening the understanding of one approach presented (previous tried to cover all).

All slides series restructured and updated

- Many (most?) slides reworked

All code samples reviewed/rework

- Highlighting similarities in different approaches

All workshops reviewed

- Workload reduced, clarifications, more start code

Course content streamlined ...

Content Streamlining 2014

- Upgrade from Java EE 6 to 7. More unified style, simpler for students.
- XML parts reduced, time saving
- Dropping one of two different ways to implement persistence handling. Less and simpler
- Introduce Arquillian for testing of JEE components. Possible to produce more robust code
- Introducing Angular JS (Javascript framework). Reduced need for low level JavaScript

A Note on the Workshops

Very complex to create

- Keeping everything in synch
- Communicating what to do
- Course budget (time) is limited ...

There will probably be errors and/or unclear points

- Should not have to struggle for days with non-relevant problems
- If strange or very time consuming errors contact assistant

Spotify Guest Lecture

Approx week 42 there will be a guest lecture by Spotify (backend developer)

- Topic: JavaScript
- Will be announced in "news" , see course page

Possibly guest lecture "Functional Web Programming"