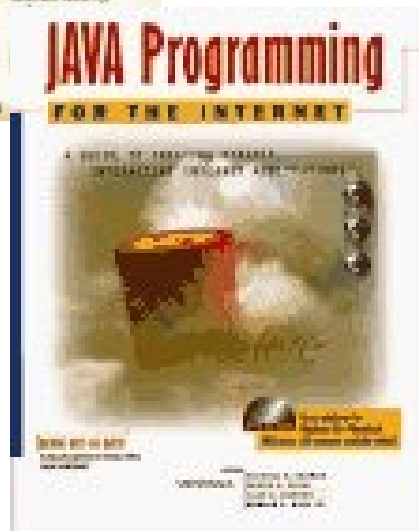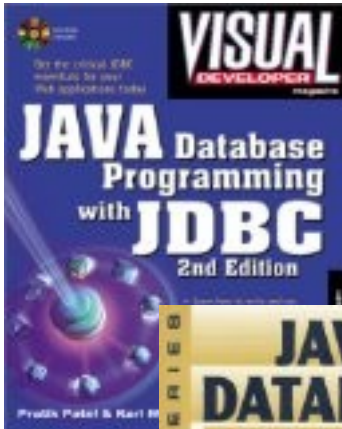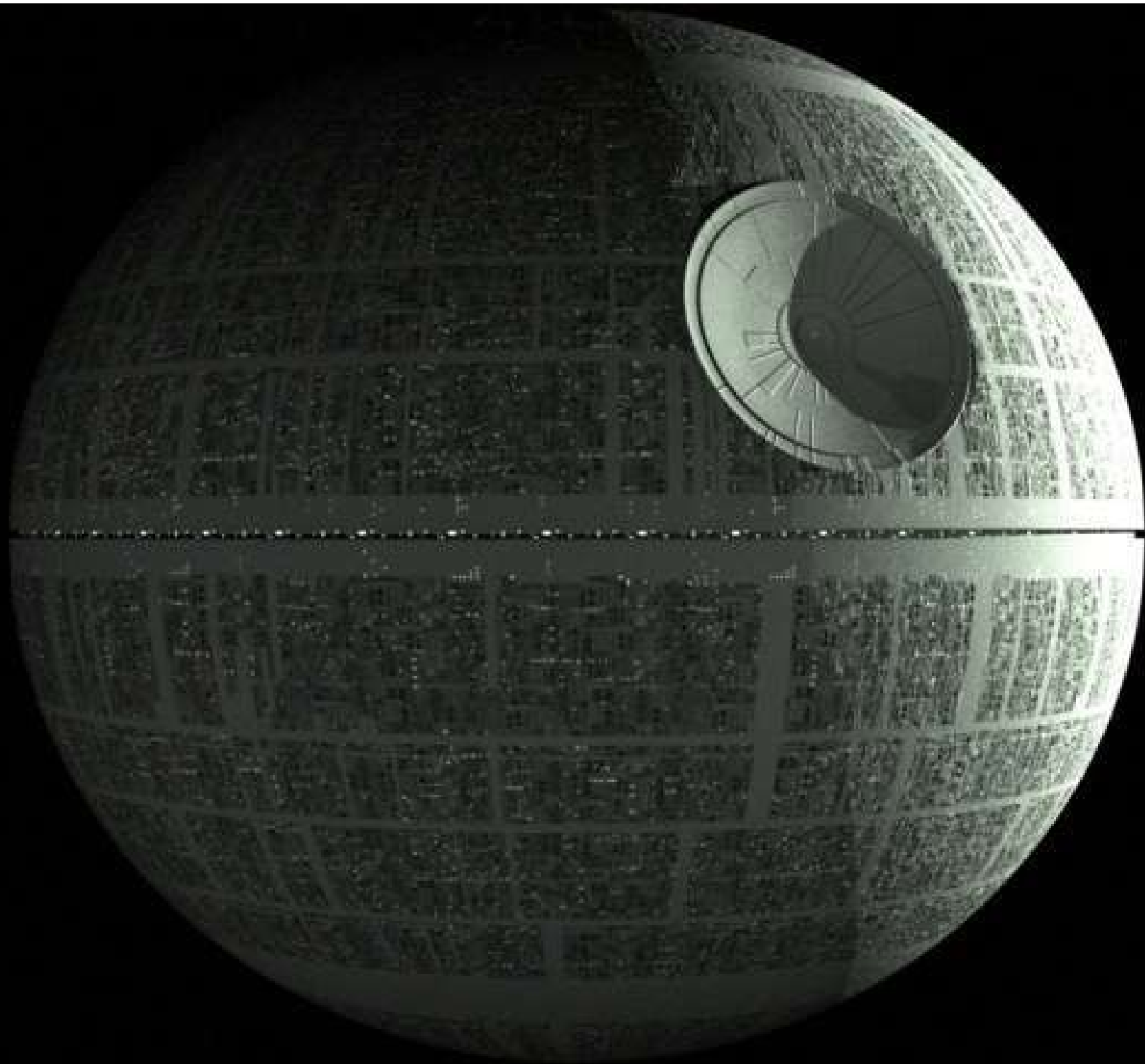# Get RAD with Grails

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About the presenter

- Corporate "architect" by day
- Code hacker by night
- Author & Speaker
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- Code repo:
- http://github.com/prpatel

Atlanta Groovy/Grails meetup (ATL2G)

1 — 4th Wednesday of month in Perimeter area

2 — groovy/grails geeks come together

3 — Come learn, share, and present!

Topics

1   Grails defined

2   Why is Grails good for Rapid Application Development (RAD)?

3   Code demos and more

Grails defined

1 Modern MVC framework, built on convention over configuration

2 Similar to Ruby on Rails – but not a knock-off

3 Plug-in oriented – hence easy to extend

How does it compare to other Web frameworks?

1   Uses Groovy as its underlying language – hence runs on JVM

2   10+ books on Grails!

3   Rapid change-test cycle

For "enterprise" developers: Professional Support and Tooling

1 IDE support: Intellij, Eclipse (STS)

2 Container support: Jetty, Tomcat, Weblogic, Glassfish, JBOSS

3 Professional training and support from SpringSource

Built on stuff you know

1 Spring 3.0

2 Hibernate

3 Groovy – and Java!

Not just a web framework

1 Object persistence with Hibernate

2 All-in-one dev environment

3 Plugins to do almost anything

GORM – Persistence in Grails

1 Natural persistence

2 No DAO's needed – methods injected directly on domain cls

3 Low ceremony

Demo 1: Basic Grails & GORM

Grails domain object

```
class Report {
    String title
    String code
    List items
    static hasMany = [ items : Item ]
    static constraints = {
        title(blank:false)
    }
}
```

We don't need no stinkin DAO's

Static helpers

```
Report.get(1)

Report.findAll()

Report.findByTitle()
```

Dynamic helpers

```
report.save()

report.delete()

report.update()
```

Bootstrapping base data

```groovy
def init = { servletContext ->

populateData()

}

void populateData() {

Report report = new Report(title: "title1", code:
"code1", createDate: new Date())

report.save()

(new Report(title: "title2", code: "code2",
createDate: new Date())).save()

}
```

Constraints

blank	minSize
creditCard	notEqual
email	nullable
inList	range
matches	scale
max	size
maxSize	unique
min	url
	validator

Mappings

autoTimestamp	indexColumn
batchSize	joinTable
cache	lazy
cascade	order
column	sort
discriminator	table
dynamicInsert	type
dynamicUpdate	version
fetch	
id	

What's so RAD?

1 Changes to views didn't require restart

2 GORM let you put together domain model fast

3 Using RichUI plugin we were able to add some bling quickly

Under the hood

1 Comes with in-memory HSQLDB pre-configured for development

2 Jetty/Tomcat integrated

3 Uses Spring so can use any Spring class

More GORM

1   Dynamic Finder methods

2   Query by Example

3   HQL – Hibernate Query Lang

GORM Queries

Report.find("select r from Report r where r.title like ?",

["%my report%"])

Report.find(new Report(title:"my report"))

```
def c = Report.createCriteria()
def results = c {
like ("title", "%my report%")
maxResults(10)
}.list()
```

Grails Controllers

1 URL Mapping by Convention

2 Define actions as closures

3 No need to restart on most changes

Grails URL Mapping

http://localhost:8080/ajugdemo/report/show/1

http://server/appname/controller/action/parameters

Services made easy

1 Groovy or Java class

2 grails-app/services

3 Auto-injection into controllers & other services with declaration

Service injection example

Controller:

```
class ReportController {

def list = {

…

MyService myService

..
```

Service:

```
class MyService

def processMessage = {

println "GOT MESSAGE:\n $it"

def item = new
XmlSlurper().parseText(it)

...
```

Views - GSP

1 Like JSP's but groovier

2 Accessed by convention or explicit name

3 Good taglib's

Service injection example

```
<tr class="prop">

    <td valign="top" class="name">

        <label for="code"><g:message
code="report.code.label" default="Code" /></label>

    </td>

    <td valign="top" class="value ${hasErrors
(bean: reportInstance, field: 'code', 'errors')}">

        <g:textField name="code" value="$
{reportInstance?.code}" title="entry code"/>

        <richui:tooltip id="code" />

    </td>

</tr>
```

More view goodies

1 GrailsUI - RichUI

2 JQuery, YUI, ExtJS, Dojo, Proto

3 Flex, ZK, Swing

Plugin madness – my favourites

1 JMS

2 Functional Test

3 Nimble

There's a plugin for that!

acegi, activemq, amazon-s3, amazonfps, aop, app-engine, appengine-gorm, applet, atmosphere, audit-logging, audit-trail, authentication, auto-delegator, autobase, autorest, avatar, axis2, background-thread, barcode4j, bean-fields, birt-report, blueprint-css, blurb, bubbling, build-test-data, burning-image, c2d, cache, calendar, camel, cas-client, circuit-breaker, ckeditor, clamav, class-diagram, clickstream, clojure, cloud-foundry, cms, code-coverage, code-editor, codenarc, cometd, commentable, compress, confluence, console, constraints, contact-me, contentmanager, converters, cookie, create-domain-uml, criteria, crowd, crypto, cxf, datasources, db-stuff, db-util, dbmapper, dbmigrate, dbmonster-plugin, dbunit-operator, debug, directext, dist-ehcache, djangotemplates, dojo, domain-schema, drilldowns, drools, drools-gorm, dto, dwr, dynamic-jasper, eastwood-chart, easyb, easybtest, echo2, email-confirmation, exchange-rates, export, ext, ext-ui, extended-data-binding, extended-gorm-mappings, facebook-connect, falcone-util, fckeditor, feeds, filter, filterpane, fixtures, flash-player, flex, flex-scaffold, flot, form-helper, freemarker, fsm, func, functional-test, gdsflex, geoip, google-analytics, google-chart, google-data, gorm-couchdb, gorm-hbase, gorm-jpa, gorm-labs, gparallelizer, gpars, grails-template-engine, grails-ui, greenmail, gridgain, growler, gss, gwt, h2, help-balloons, hibernate-filter, hibernate-jpa-provider, hibernate-search, hibernate-stats, i18n-gettext, i18n-templates, ibatis, ibm-i, ic-alendar, image-proxy, include, iui, ivy, iwebkit, j2d, jabber, jackrabbit, jasper, javascript-validator, jawr, jaxrs, jbosscache, jbpm, jcaptcha, jcr, jdbc-pool, jetty, jit, jms, jmx, joda-time, jpa, jqtouch, jquery, jquery-calendar, jquery-ui, jsecurity, jsf, jsunit, jsword, jtopen, jttaglib, ki, laszlo, ldap, ldap-server, license, liferay-exploded, liquibase, localizations, log4j-xml, logdigger-connector, logging, lookups, mail, mapstraction, markdown, menus, message-digest, modalbox, mondrian, monster, mootools, morph-deploy, multi-tenant, multi-tenant-acegi, navigation, neo4j, nimble, ntlm-auth, oauth, ofchart, ohloh, openid, opensso, osworkflow, p6spy, paypal, paypal-pro, pdf, perf4j, php, pluto, portlets, portlets-liferay, portlets-pluto, post-code, pretty-date, pretty-size, pretty-time, profiler, promo, quartz, radeox, rateable, rdfa, recaptcha, ref-code, reloadable-config, remote-constraints, remote-pagination, remoting, resources-first, rest, restore-state, richui, runtime-logging, sakai, scaffold-tags, scala, screen-wiz, screencasts, searchable, searchable14, selenium, selenium-rc, session-temp-files, settings, shiro, shopping-cart, simple-blog, skinnable, smartclient, sound-manager, sparkline, spock, springcache, springmvc, springws, stark-security, static-resources, step2, stitches, struts1, sublog, sumatra, super-file-upload, symmetricds, syntax-highlighter, taggable, taxonomy, terracotta, test-template, testing, testing-labs, tinyurl, tooltip, triggers, twitter, uber-scaffolding, ui-performance, urlrewrite, vaadin, wave, webdav, webdriver, webtest, webtest-coverage, webthumbs, webxml, weceem, weceem-acegi, wicket, wordpress, ws-client, xfire, xmlrpc, xmpp, xtemplates, xwiki-rendering, yui, yui3, zk

Grails as a platform

1	Not just web apps

2	Since it's Java, JEE integration is easy

3	Runs in any JEE container

Integration w/ Java tools and libs

Integrated & Sophisticated Scripting

Groovy Application Console

JMX Using Groovy

Bring GORM to Legacy DB's with JPA Integration

Gradle Build System

JMS Messaging

Web Services

Scripted Workflow and Rules

DSL's

Running Scheduled Jobs

Generating Report data

Email Integration – incoming and outgoing

Demo 2: Functional Test

Integration Testing

1	Quickly glue together components for integration testing
2	Web, JMS, Files
3	XML Parsing, Web Services, REST

Demo 5: Integration Testing

Q&A

- groovy.codehaus.org

- grails.org

- Books
  - Programming Groovy
  - Definitive Guide to Grails
  - Getting Started with Grails (free)

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