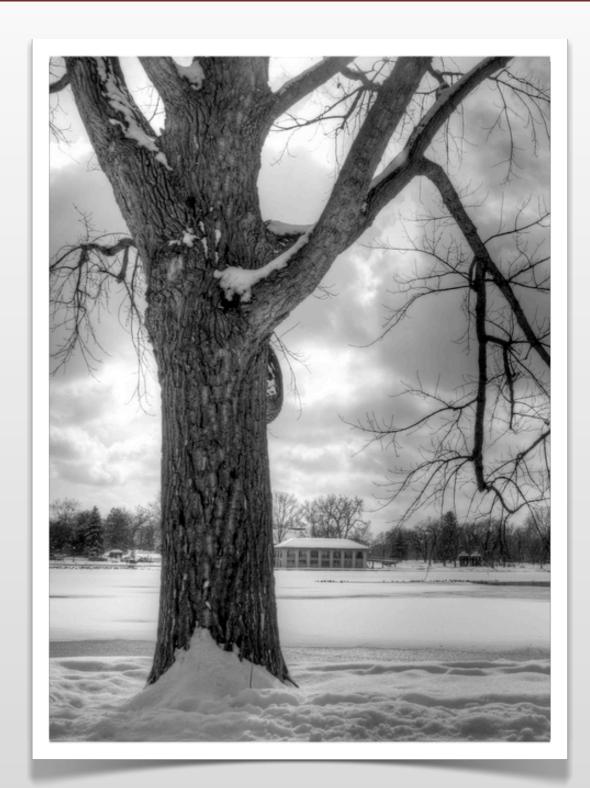


Introductions



- Your experience with web development?
- Your experience with Java EE development?
- What do you want to get from this session?
- Experience with Grails, GWT, Rails, Spring MVC, Wicket, Tapestry or Play?



Clients and Open Source

















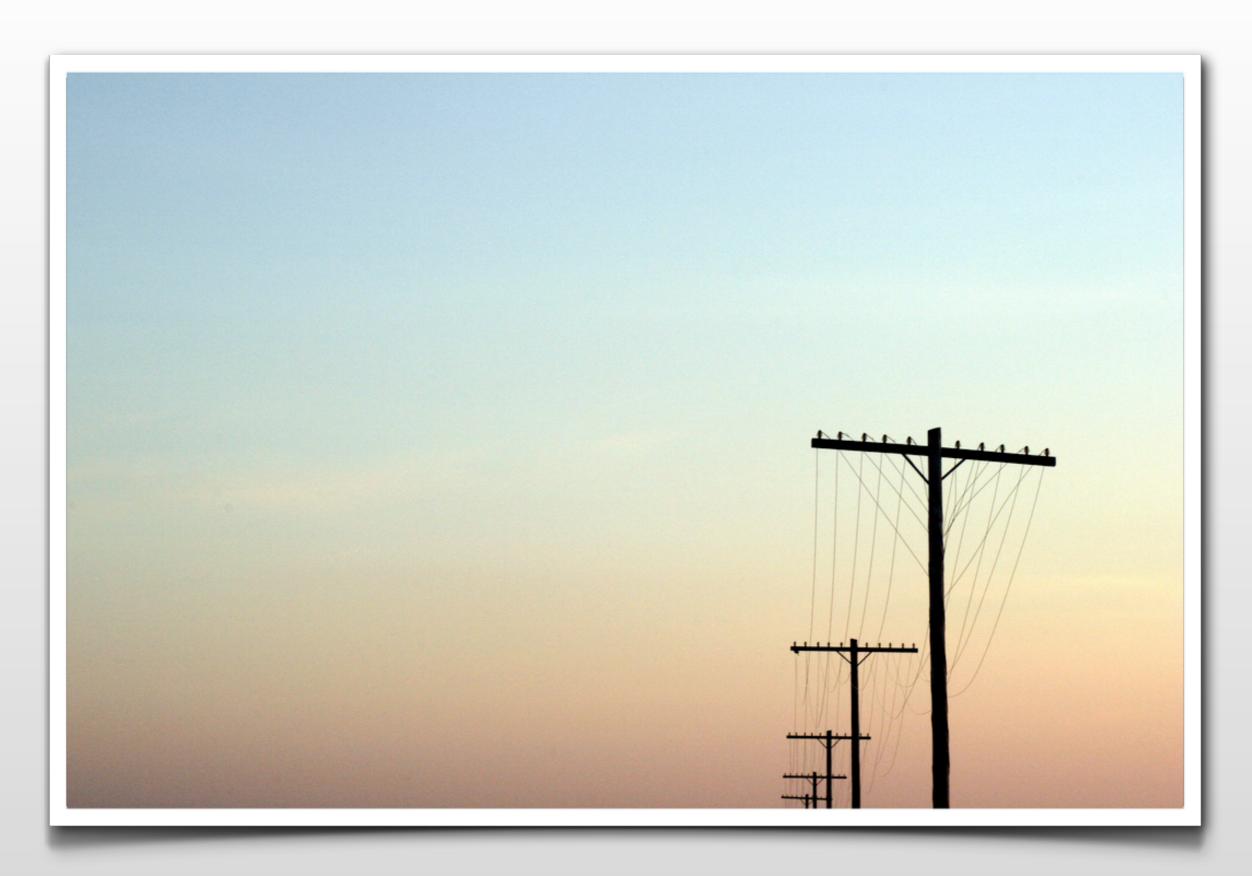












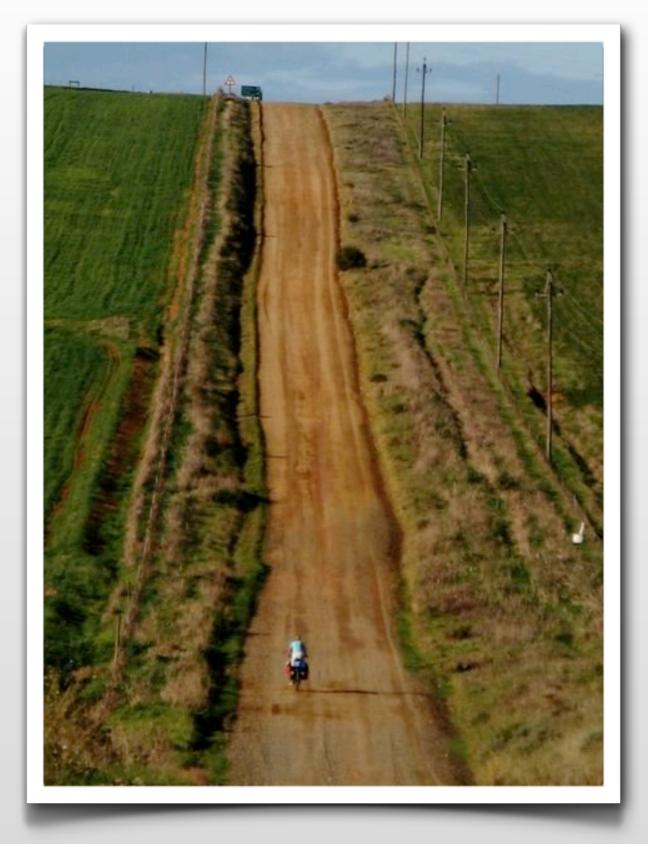
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http://www.flickr.com/photos/mraible/2644737051/



http://www.travelblog.org/Photos/1597321.html









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Session Agenda



- The Problem with Web Frameworks
- The Candidates
- Comparison Points
- The Matrix
- Conclusion
- Q and A



The Problem















tapestry















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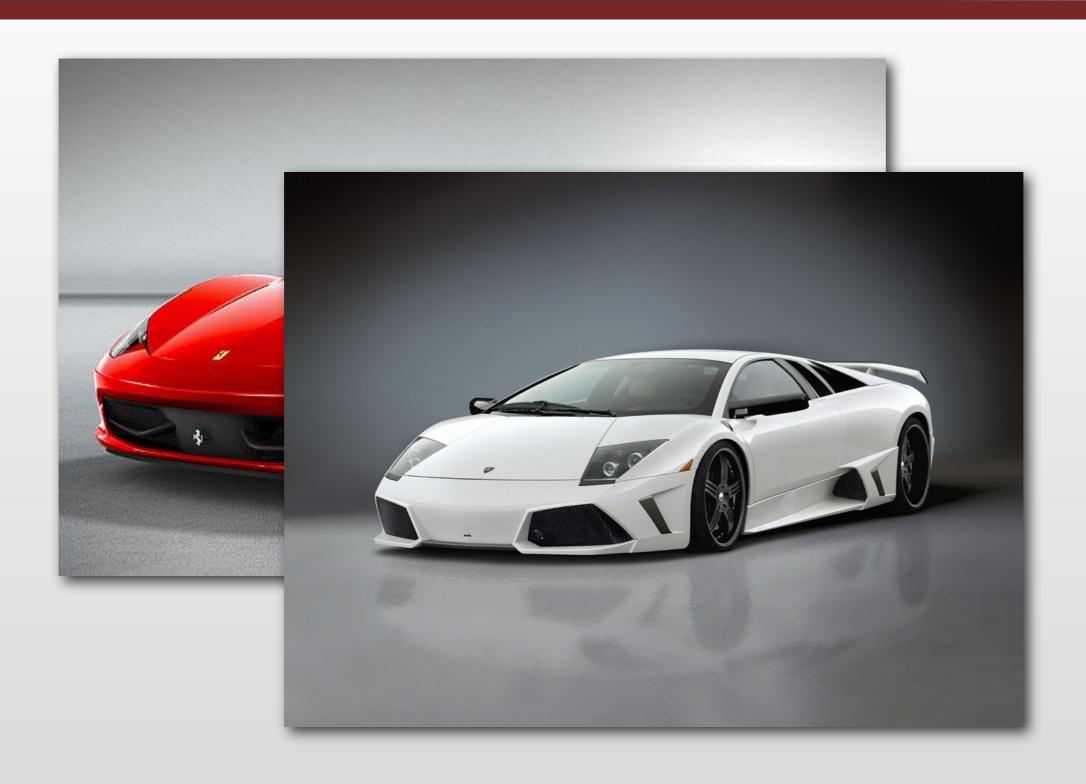
The Real Problem





The Real Problem





The Real Problem





How do you choose?

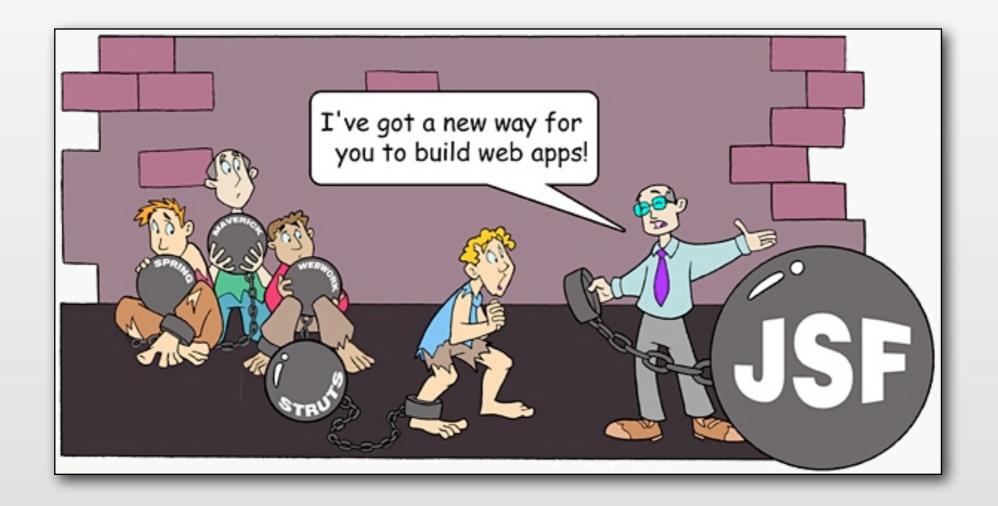






Eliminate, Don't Include





Craig McClanahan on Rails



... while I'd *love* to see life made simpler for Java web developers, and a lot of the things happening in Struts2 are going that way -- it won't be me doing it.

I've gone over to the dark side :-) and much prefer to develop in Rails -- for the conciseness mentioned above, but also because I don't ever have to do a "build" or "deploy" step during my development cycle any more. But you guys and gals need to be reminded that *this* is the kind of thing you are competing against if you expect to attract Rails developers ... or to avoid even more "previously Java web developer" defectors like me :-).

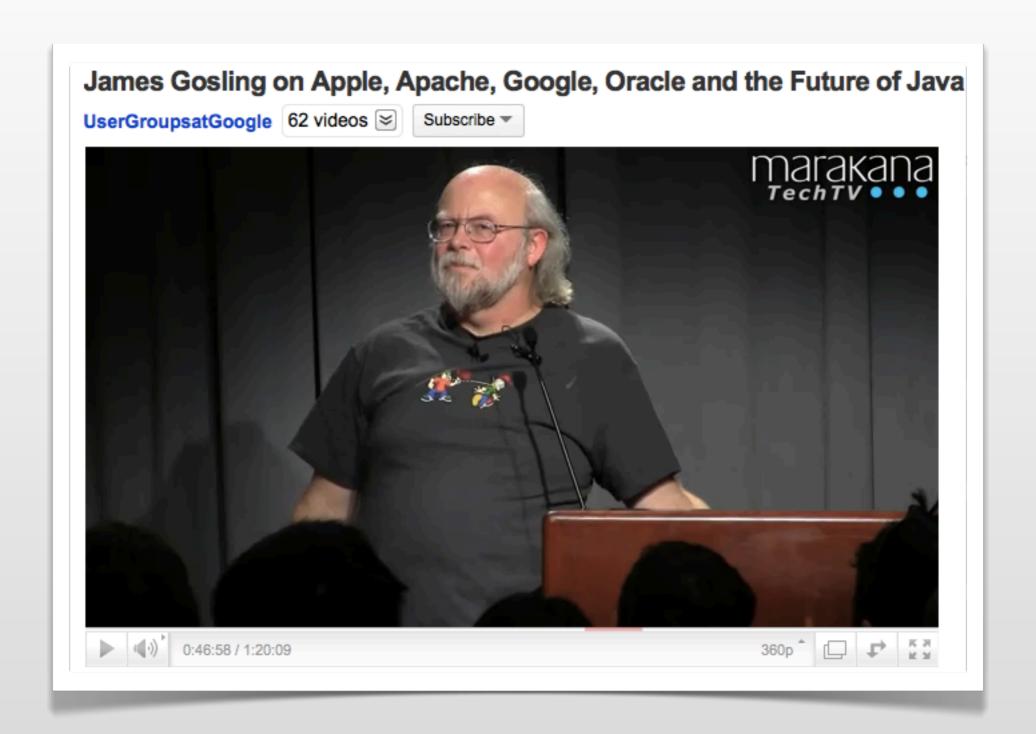
-- Craig McClanahan, 10/23/2007

http://markmail.org/thread/qfb5sekad33eobh2

24

James Gosling on JSF





http://www.youtube.com/watch?v=9ei-rbULWoA#t=47m



- Developer Productivity
- Developer Perception
- Learning Curve
- Project Health
- Developer Availability
- Job Trends





- Templating
- Components
- Ajax
- Plugins or Add-Ons
- Scalability
- Testing Support

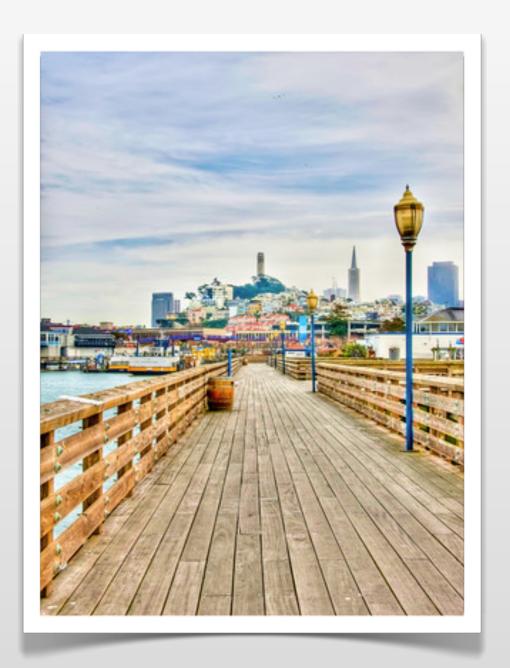




- ▶ i18n and l10n
- Validation
- Multi-language Support (Groovy / Scala)
- Quality of Documentation/Tutorials
- Books Published
- REST Support (client and server)



- Mobile / iPhone Support
- Degree of Risk



Comparison Matrix

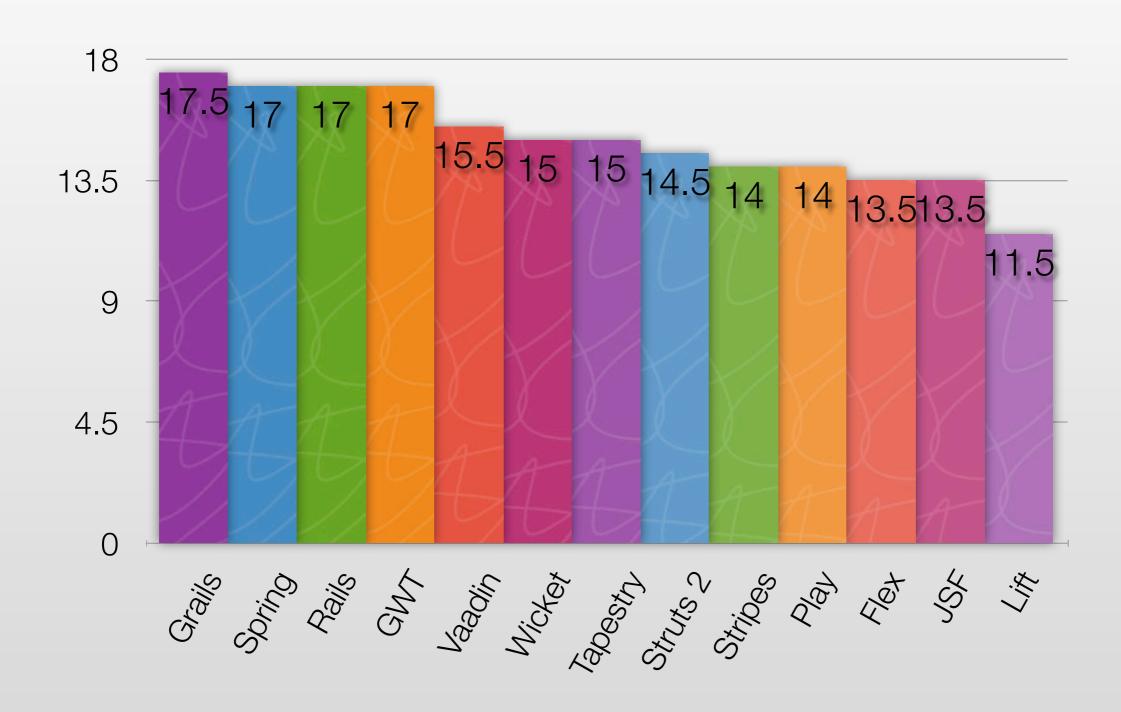


Criteria	Struts 2	Spring MVC	Wicket	JSF 2	Tapestry	Stripes	GWT	Grails	Rails	Flex	Vaadin	Lift	Play
Developer Productivity	0.50	0.50	0.50	0.50	1.00	0.50	1.00	1.00	1.00	0.00	1.00	0.50	1.00
Developer Perception	0.50	1.00	1.00	0.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Learning Curve	1.00	1.00	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	0.50	1.00
Project Health	0.50	1.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00	0.50	1.00	1.00	1.00
Developer Availability	0.50	1.00	0.50	1.00	1.00	0.50	1.00	0.50	1.00	1.00	0.50	0.00	0.50
Job Trends	1.00	1.00	0.50	1.00	0.50	0.00	1.00	0.50	1.00	1.00	0.00	0.00	0.50
Templating	1.00	1.00	1.00	0.50	1.00	1.00	0.50	1.00	1.00	0.50	0.50	0.50	0.50
Components	0.00	0.00	1.00	1.00	1.00	0.00	0.50	0.50	0.50	1.00	1.00	0.00	0.00
Ajax	0.50	1.00	0.50	0.50	0.50	0.50	1.00	0.50	0.50	0.50	1.00	1.00	0.50
Plugins or Add-Ons	0.50	0.00	1.00	1.00	0.50	0.00	1.00	1.00	1.00	1.00	1.00	0.50	1.00
Scalability	1.00	1.00	0.50	0.50	0.50	1.00	1.00	0.50	0.50	0.50	0.50	1.00	1.00
Testing	1.00	1.00	0.50	0.50	1.00	1.00	0.50	1.00	1.00	0.00	0.50	0.50	1.00
i18n and I10n	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	0.50	0.50	1.00	1.00	1.00
Validation	1.00	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50
Multi-language Support (Groovy / Scala)	0.50	0.50	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.50
Quality of Documentation/Tutorials	0.50	1.00	0.50	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Books Published	1.00	1.00	0.50	1.00	0.50	0.50	1.00	1.00	1.00	1.00	0.50	0.50	0.00
REST Support (client and server)	0.50	1.00	0.50	0.00	0.50	0.50	0.50	1.00	1.00	0.50	0.50	0.50	0.50
Mobile / iPhone Support	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	1.00	1.00	1.00
Degree of Risk	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.50	0.50
Totals	14.5	17	15	13.5	15	14	17	17.5	17	13.5	15.5	11.5	14

http://bit.ly/jvm-frameworks-matrix

Matrix Results





Matrix Results



- Grails (17.5)
- GWT (17)
- Ruby on Rails (17)
- Spring MVC (17)
- Vaadin (15.5)
- Tapestry and Wicket (15)



Weighted Matrix



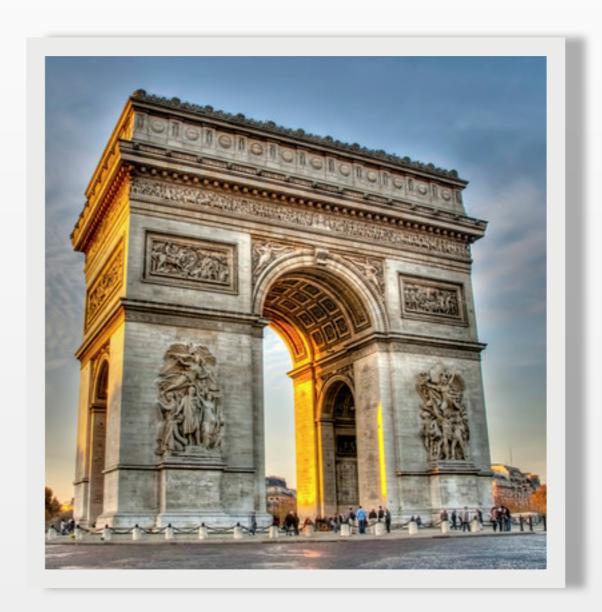
			Spring											
Weight	Criteria	Struts 2	MVC	Wicket	JSF	Tapestry	Stripes	GWT	Grails	Rails	Flex	Vaadin	Lift	Play
10	Developer Productivity	5.00	5.00	5.00	5.00	10.00	5.00	10.00	10.00	10.00	0.00	10.00	5.00	10.00
0	Developer Perception	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Learning Curve	5.00	5.00	2.50	2.50	2.50	5.00	5.00	5.00	5.00	5.00	5.00	2.50	5.00
5	Project Health	2.50	5.00	5.00	5.00	2.50	2.50	5.00	5.00	5.00	2.50	5.00	5.00	5.00
5	Developer Availability	2.50	5.00	2.50	5.00	5.00	2.50	5.00	2.50	5.00	5.00	2.50	0.00	2.50
0	Job Trends	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Templating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Ajax	2.50	5.00	2.50	2.50	2.50	2.50	5.00	2.50	2.50	2.50	5.00	5.00	2.50
5	Plugins or Add-Ons	2.50	0.00	5.00	5.00	2.50	0.00	5.00	5.00	5.00	5.00	5.00	2.50	5.00
10	Scalability	10.00	10.00	5.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	5.00	10.00	10.00
10	Testing	10.00	10.00	5.00	5.00	10.00	10.00	5.00	10.00	10.00	0.00	5.00	5.00	10.00
0	i18n and I10n	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Validation	5.00	5.00	5.00	2.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.50	2.50
10	Multi-language Support (Groovy / Scala)	5.00	5.00	10.00	10.00	10.00	10.00	0.00	10.00	0.00	0.00	10.00	0.00	5.00
10	Quality of Documentation/Tutorials	5.00	10.00	5.00	5.00	5.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
0	Books Published	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	REST Support (client and server)	5.00	10.00	5.00	0.00	5.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	5.00
10	Mobile / iPhone Support	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00
0	Degree of Risk	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	Weighted Totals	70	85	67.5	62.5	75	77.5	80	90	82.5	50	82.5	62.5	82.5

33

Weighted Results



- Grails (90)
- Spring MVC (85)
- Ruby on Rails (82.5)
- Vaadin (82.5)
- ▶ Play (82.5)
- GWT (80)



Fighting for 5th



Top at Devoxx 2010

- GWT
- Rails
- Spring MVC
- Grails
- Wicket / Struts 2



Fighting for 5th



Top at Rich Web Experience 2010

- Grails
- GWT
- Rails
- Spring MVC
- Tapestry / Vaadin



Fighting for 5th



Top at TheServerSide Java Symposium 2010

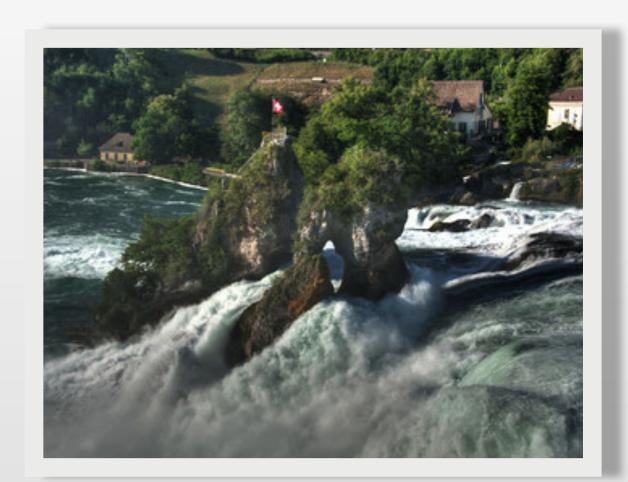
- Grails
- GWT
- Rails
- Spring MVC
- Vaadin



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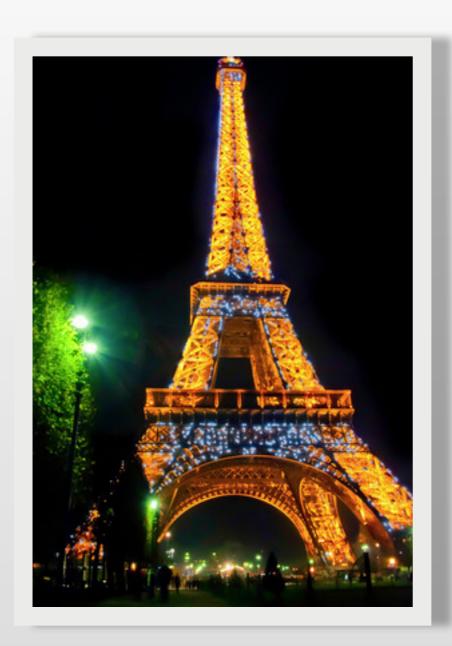


- Developer Productivity
- Developer Perception
- Learning Curve
- Project Health
- Developer Availability
- Job Trends





- Templating
- Components
- Ajax
- Plugins or Add-Ons
- Scalability
- Testing Support



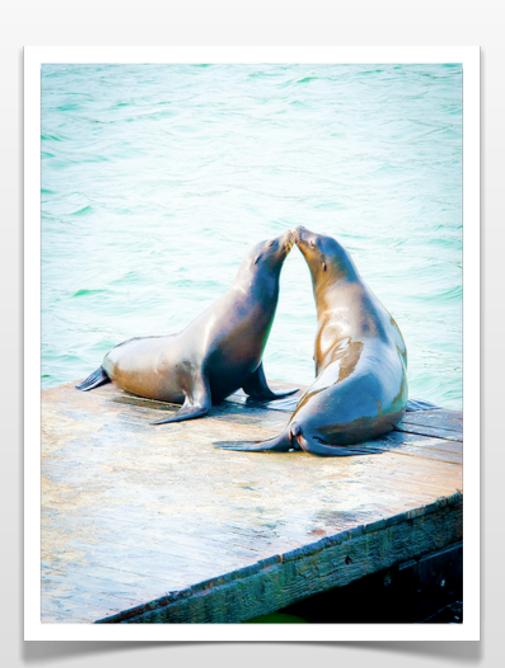


- ▶ i18n and l10n
- Validation
- Multi-language Support (Groovy / Scala)
- Quality of Documentation/Tutorials
- Books Published
- REST Support (client and server)



- Mobile / iPhone Support
- Degree of Risk

http://raibledesigns.com/rd/entry/ how i calculated ratings for



David Pollack's Lift Ratings



- Developer Productivity: Lift gets a 11, Rails gets a 5, most Java-based frameworks get a 1 or less.
- Developer Perception: Every web framework gets a 1.
- Learning Curve: Lift gets a 2.
- Job Trends, yep, it's zero.
 - * Matt's scale is 0-1 and my ratings are on Matt's scale, except mine goes to 11.

http://lift.la/my-take-on-matt-raibles-spreadsheet

Peter Thomas's Perfbench



- Seam / JSF vs. Wicket Performance Comparison
 - January 2009: Seam 2.1.1 and Wicket 1.3.5
 - Average page response time in milliseconds

	Seam / JSF				Wicket					
action	users-1	users-5	users-10	users-15	users-20	users-1	users-5	users-10	users-15	users-20
get login	569	521	406	385	747	154	40	37	45	63
post login	392	626	979	973	1189	303	166	191	268	296
ajax post search	35	117	158	288	336	15	40	95	152	224
get view hotel	19	106	154	250	294	8	43	49	88	82
post book hotel	28	71	118	181	207	28	43	82	77	96
ajax post cc number	23	59	84	148	152	4	11	19	28	23
ajax post cc name	18	61	88	132	119	3	3	10	22	18
post booking details	16	52	111	149	105	9	20	37	53	42
post confirm booking	33	126	273	488	756	29	159	317	471	808
get logout	15	24	292	107	180	8	58	71	44	46

Peter Thomas's Perfbench



On the Seam / JSF side, the 20 sessions each take up about 800 KB adding up to around 16 MB total. On the Wicket side the 20 sessions add up to around 1.5 MB.

	Seam / JSF	Wicket
Heap Size (bytes)	23,947,512	9,496,312
Classes	6,344	4,489
Objects	585,123	179,028
Class Loaders	370	234

 + Lots of banter between Peter and Seam developers @ http://bit.ly/3X50Gc

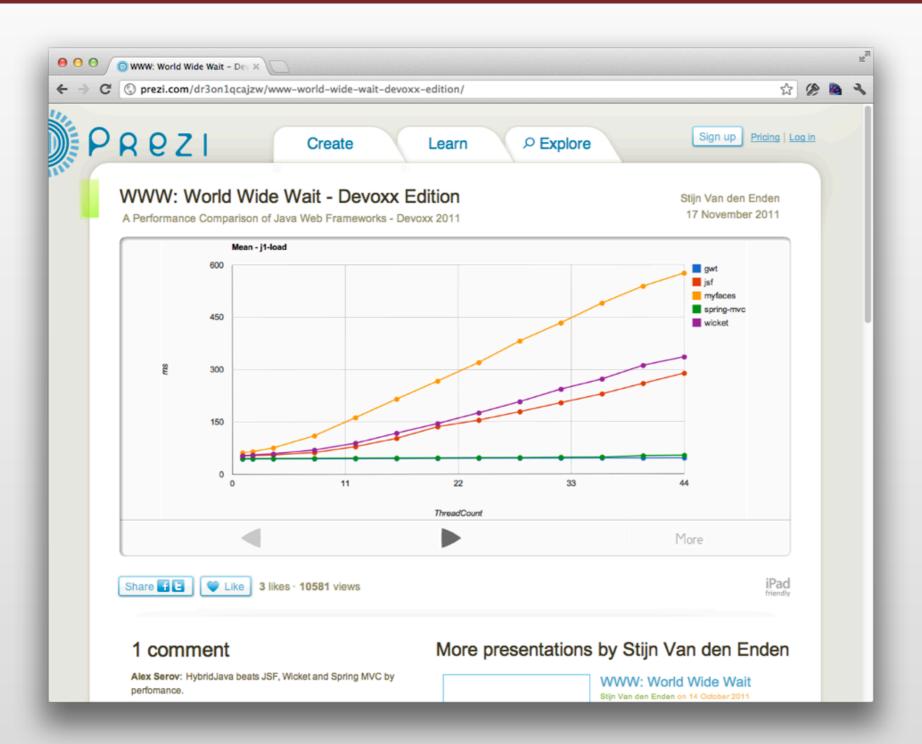
Peter Thomas's Perfbench



Peter's Observations:

- Grails was far more productive than Tapestry 5.
- Grails still has some ways to go in terms of performance.
- Overall, Wicket is fastest, with Tapestry coming a close second.
- Wicket takes up the least amount of heap.
- Session usage of the Seam + JSF combination is significantly higher compared to the rest.





http://www.parleys.com/d/2942

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1	10			St	atist10
•		M	JSF	() spring	G
	# Loc	332	121	137	637
	> # other	5	7	4	9
	js #Loc	0	0	71	0
	war	14.7	15.4	17.4	35.6
		Wicket Extensions	Mojarra 2.1.2 ** Myfeiri	8/ <u>16/</u>	▲ GWT-P ② RestyGWT
	Overview Page S	57353	47327 Mojarra 2.1.2 26194	24781	GIN 14901* * only json data

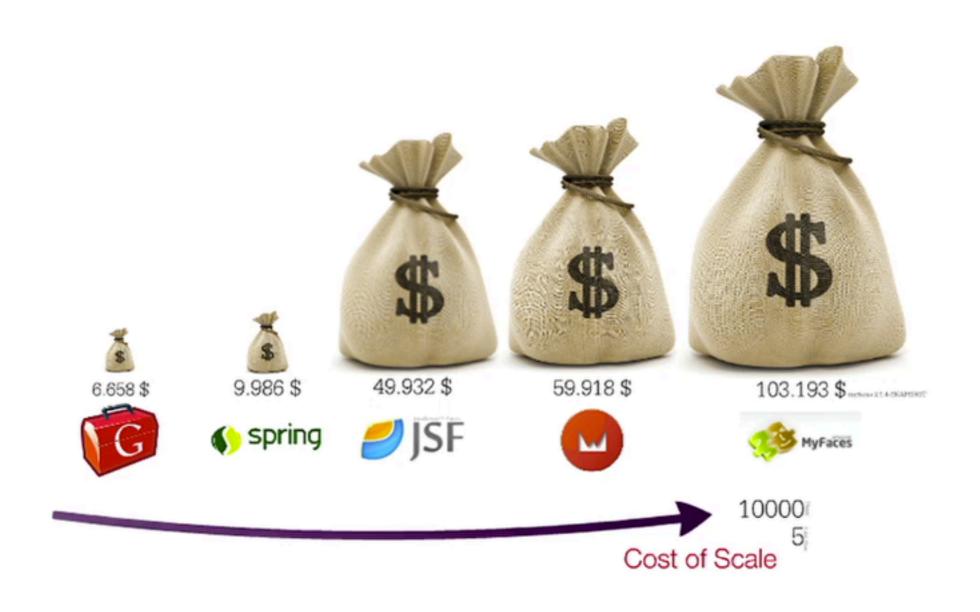


16
GB of data

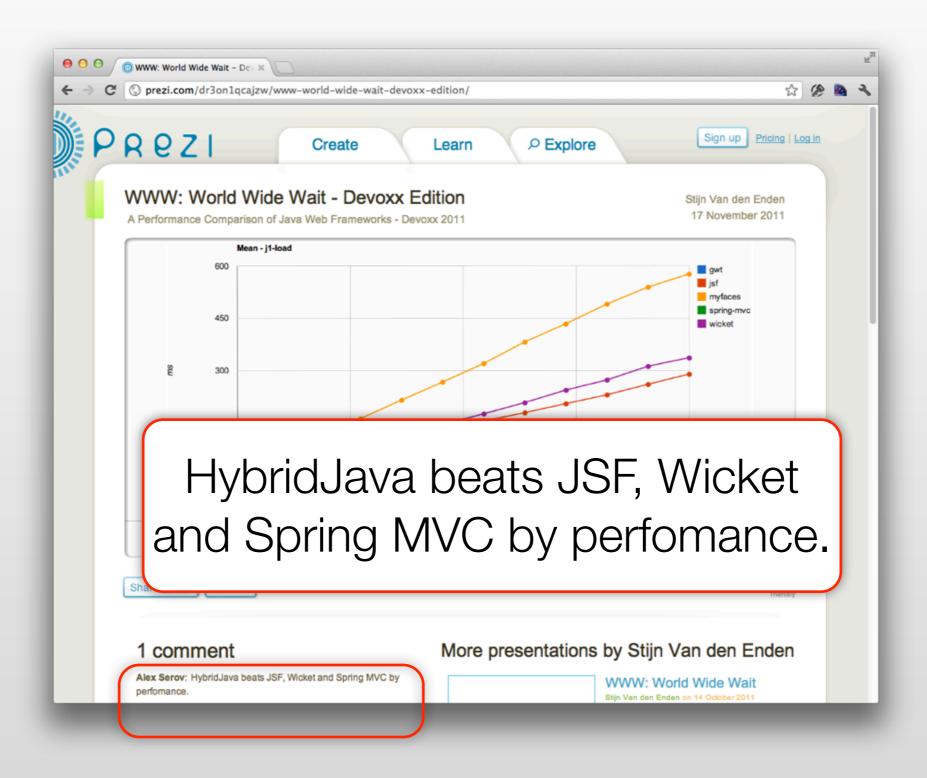


>700 hours of test runs









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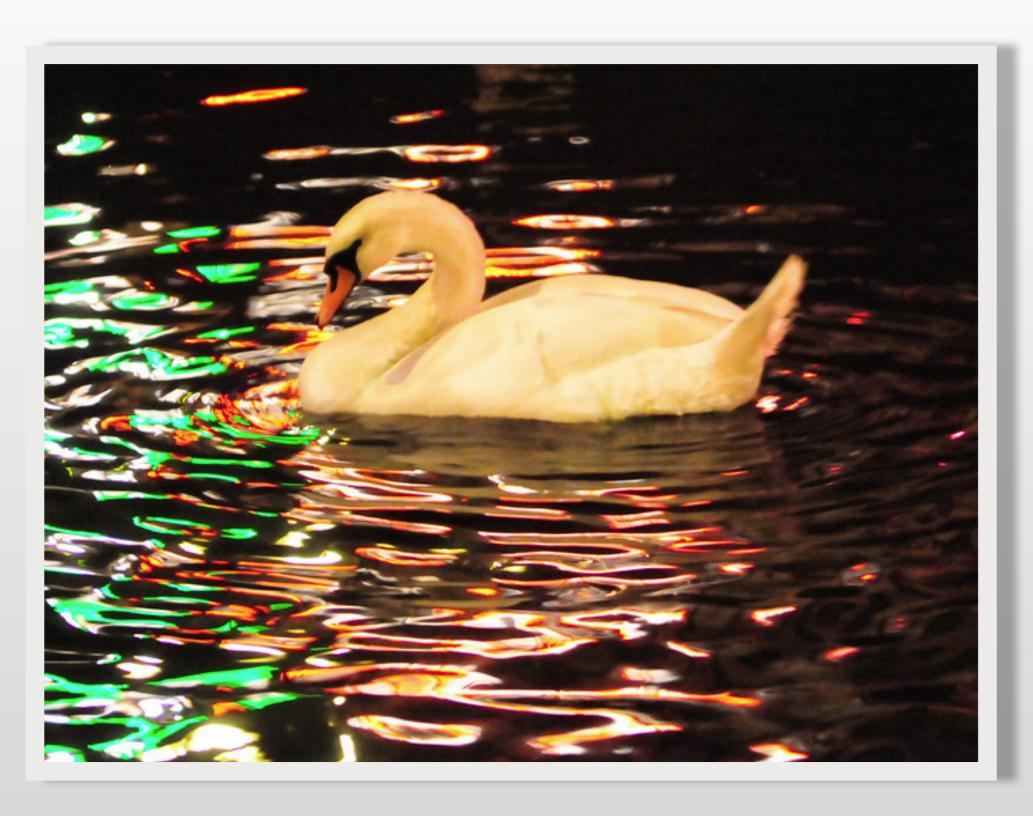
HybridJava - Really?





Pros and Cons





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Grails



Pros

- Easy dynamic language transition for Java Developers
- Groovy
- Plugins for all types of applications

▶ Cons

- Groovy learning targets Java Developers
- Stack traces are horrendous
- Knowledge of underlying frameworks not required, but helpful

GWT



Pros

- Write Java => Produces Optimized JavaScript
- Easy to learn and develop with standard Java Tools
- Vibrant Community

- You have to know Java
- Slow to compile, difficult to test
- More like a JSP Tag Library than a web framework

Ruby on Rails



Pros

- Easy to learn and understand for Web Developers
- Lots and lots of documentation
- Passionate Community

- Slightly less performant by default
- Dynamic language means more tests
- Development Tools and Debugging

Spring MVC



Pros

- Easy Configuration with Annotations and Conventions
- Integrates with many view options seamlessly: JSP/ JSTL, Tiles, FreeMarker, Excel, PDF, JSON
- Excellent REST Support

Cons

- Instant reload not built-in, need JRebel or Spring Roo
- No open development process, need to be SpringSource
- Ajax requires 3rd-party library (can be a good thing!)

Vaadin



Pros

- Uses GWT API for developing view
- Vibrant Community and company backing
- Excellent Themes and Layouts support

- Large memory footprint, state stored in session
- Sketchy (?) because backed by a commercial organization
- Joonas keeps telling me my cons are wrong

Wicket



Pros

- Great for Java Developers
- Tight binding between pages and views
- Active community support from creators

- No Jobs or Developers
- Stateful by default
- HTML Templates live next to Java code by default

Tapestry



Pros

- Live Class Reloading
- Development emphasis on performance and scalability
- Excellent Exception Reporting

- No Jobs
- Prototype baked in for JS Library
- Annotations vs. Conventions

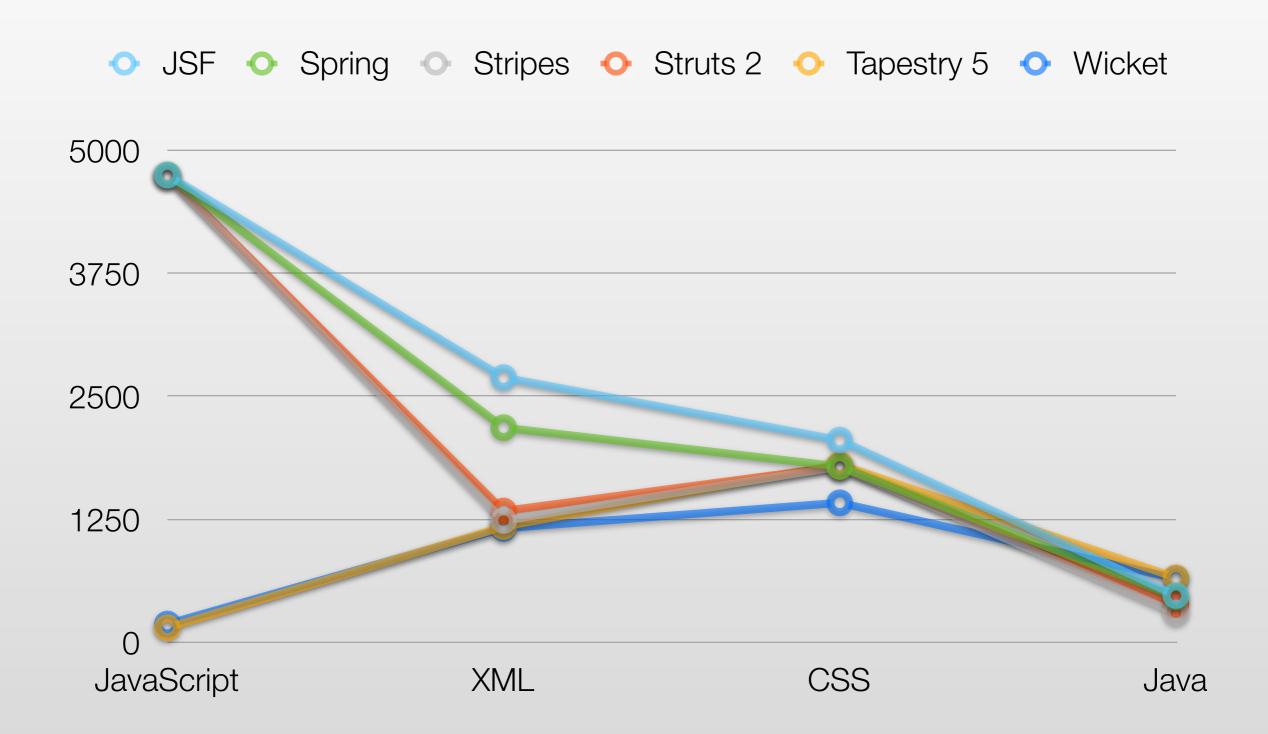




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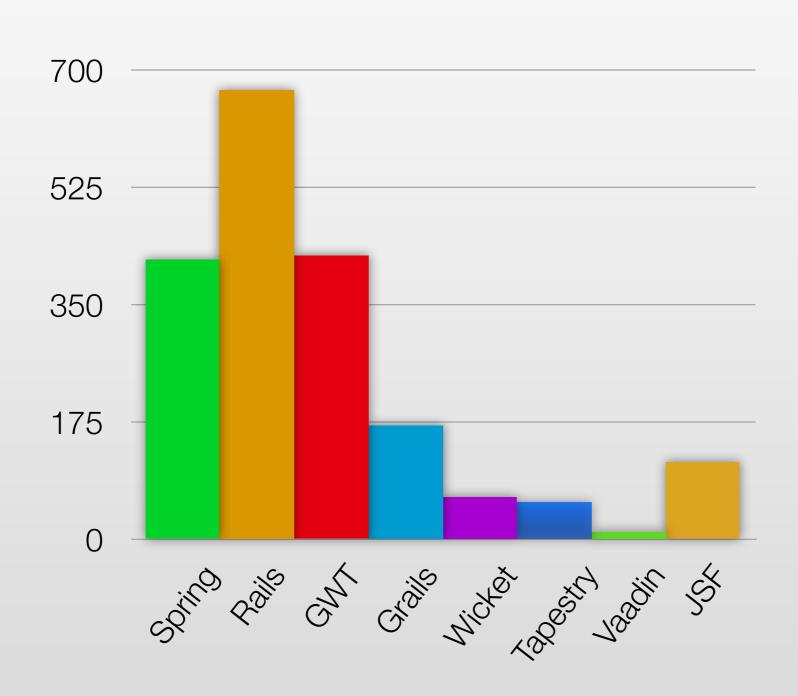
LOC in AppFuse Light





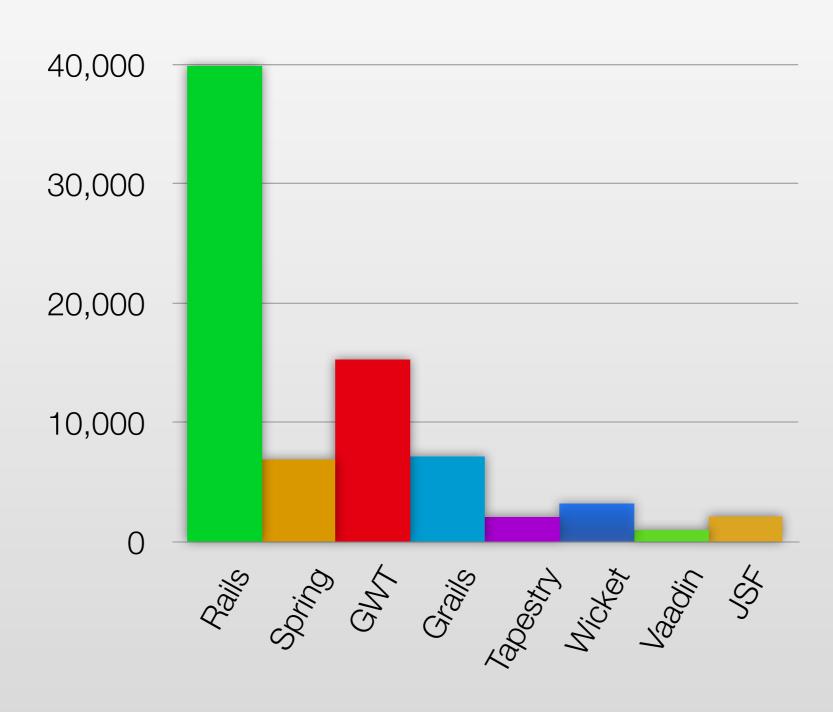
Jobs on Dice (World)





LinkedIn Skills (World)









grails, gwt, ruby on rails, spring mvc, vaadin,

Search Trends

Tip: Use commas to compare multiple search terms.

Searches Websites

- Scale is based on the average worldwide traffic of grails in all years. Learn more
- An improvement to our geographical assignment was applied retroactively from 1/1/2011. Learn more

grails 1.00 gwt 2.85 ruby on rails 3.75 spring mvc 0.60

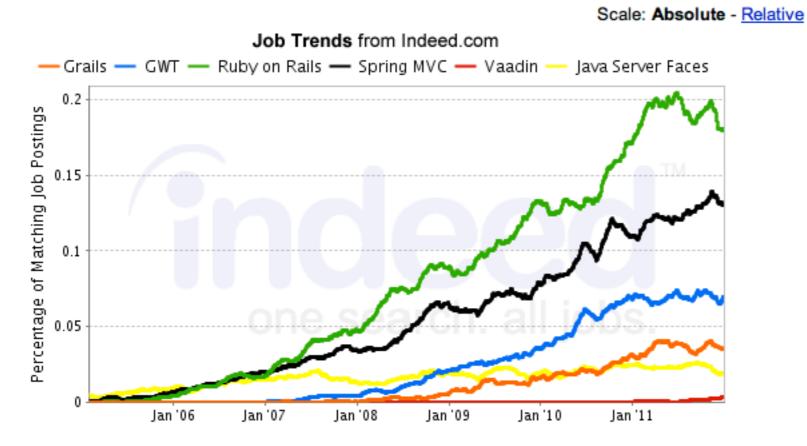
vaadin 0.15

Showing only first 5 terms





Grails, GWT, Ruby on Rails, Spring MVC, Vaadin, Java Server Faces Job Trends



Indeed.com searches millions of jobs from thousands of job sites.

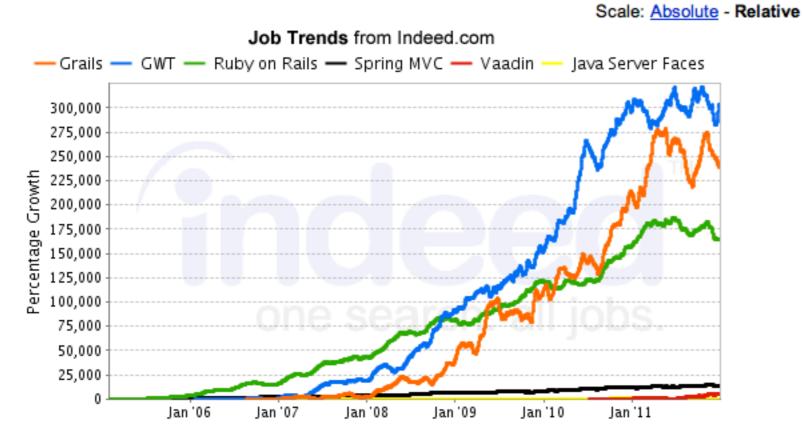
This job trends graph shows the percentage of jobs we find that contain your search terms.

- ▶ Email to a friend
- Post on your blog/website

- HTML5
- MongoDB
- 3. <u>iOS</u>
- 4. Android
- Mobile app
- Puppet
- Hadoop
- jQuery
- 9. PaaS
- 10. Social Media



Grails, GWT, Ruby on Rails, Spring MVC, Vaadin, Java Server Faces Job Trends



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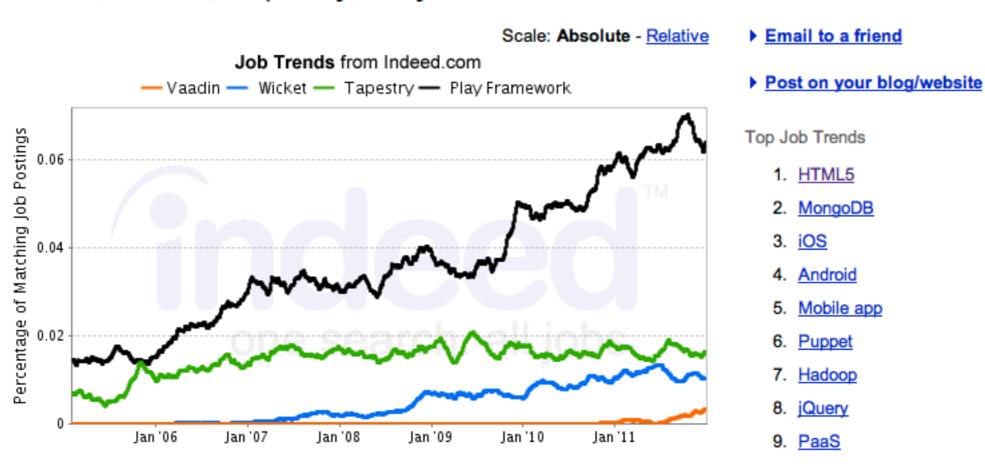
This job trends graph shows relative growth for jobs we find matching your search terms.

- ▶ Email to a friend
- ▶ Post on your blog/website

- HTML5
- MongoDB
- 3. iOS
- Android
- Mobile app
- Puppet
- Hadoop
- jQuery
- 9. PaaS
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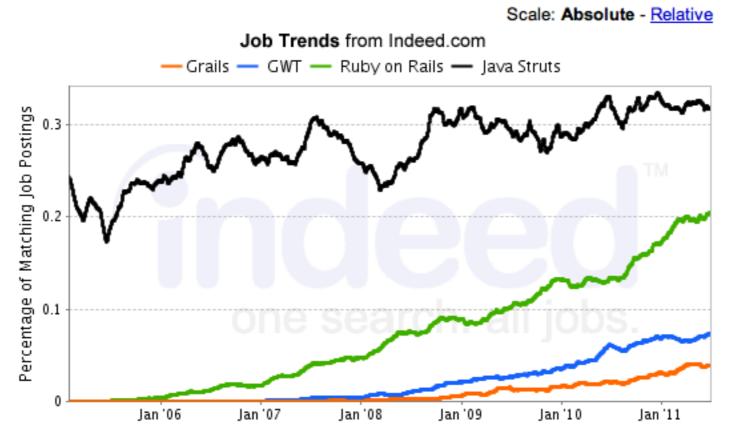


Vaadin, Wicket, Tapestry, Play Framework Job Trends





Grails, GWT, Ruby on Rails, Java Struts Job Trends



Indeed.com searches millions of jobs from thousands of job sites.

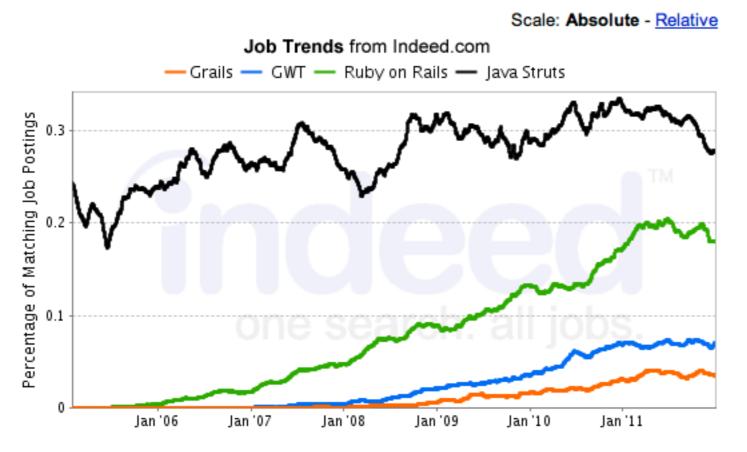
This job trends graph shows the percentage of jobs we find that contain your search terms.

- ▶ Email to a friend
- Post on your blog/website

- 1. HTML5
- Mobile app
- 3. Android
- Twitter
- jQuery
- Facebook
- 7. Social Media
- 8. iPhone
- 9. Cloud Computing
- 10. Virtualization



Grails, GWT, Ruby on Rails, Java Struts Job Trends



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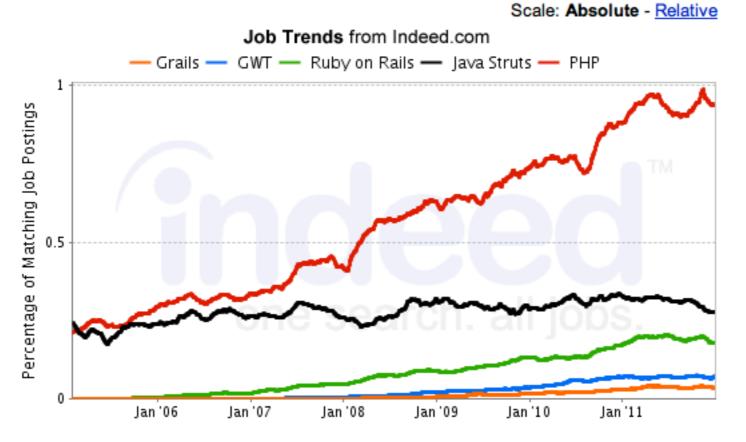
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- 7. Hadoop
- jQuery
- PaaS
- Social Media



Grails, GWT, Ruby on Rails, Java Struts, PHP Job Trends



Indeed.com searches millions of jobs from thousands of job sites.

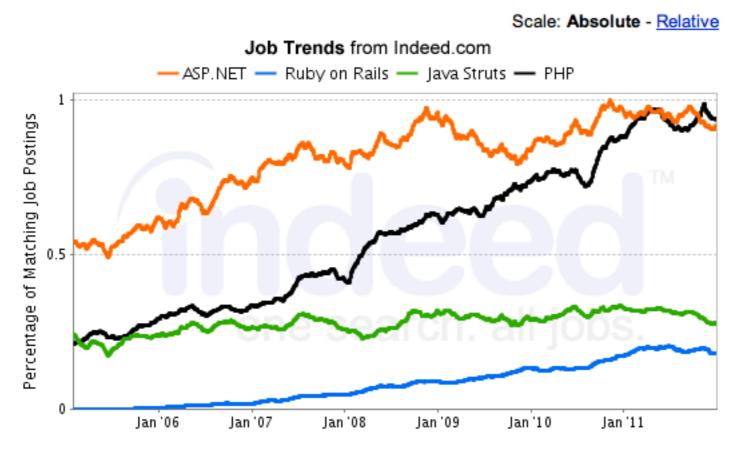
This job trends graph shows the percentage of jobs we find that contain your search terms.

- ▶ Email to a friend
- Post on your blog/website

- 1. <u>HTML5</u>
- MongoDB
- 3. iOS
- Android
- 5. Mobile app
- 6. Puppet
- Hadoop
- jQuery
- PaaS
- Social Media



ASP.NET, Ruby on Rails, Java Struts, PHP Job Trends



Indeed.com searches millions of jobs from thousands of job sites.

This job trends graph shows the percentage of jobs we find that contain your search terms.

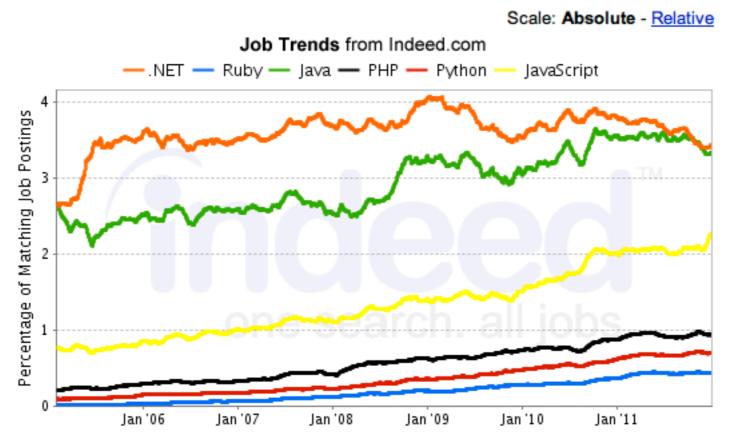
- Email to a friend
- ▶ Post on your blog/website

- HTML5
- MongoDB
- iOS
- Android
- Mobile app
- 6. Puppet
- Hadoop
- jQuery
- 9. PaaS
- 10. Social Media

Pretty Graphs



.NET, Ruby, Java, PHP, Python, JavaScript Job Trends



Indeed.com searches millions of jobs from thousands of job sites.

This job trends graph shows the percentage of jobs we find that contain your search terms.

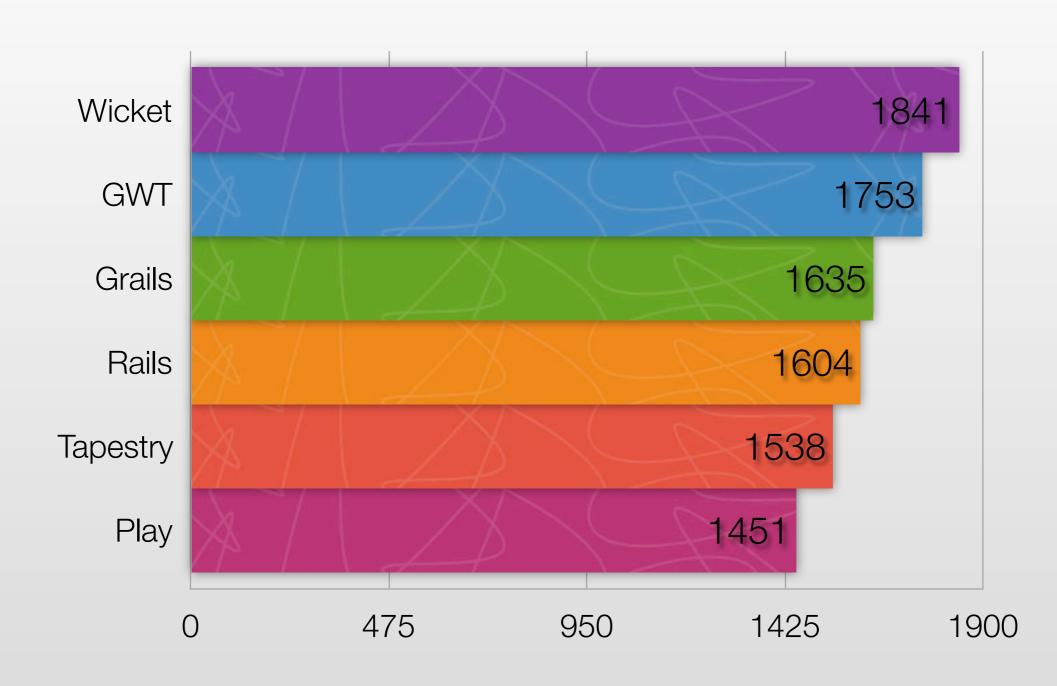
- Email to a friend
- Post on your blog/website

Top Job Trends

- HTML5
- MongoDB
- 3. iOS
- 4. Android
- Mobile app
- Puppet
- Hadoop
- jQuery
- 9. PaaS
- 10. Social Media

Mailing List Traffic

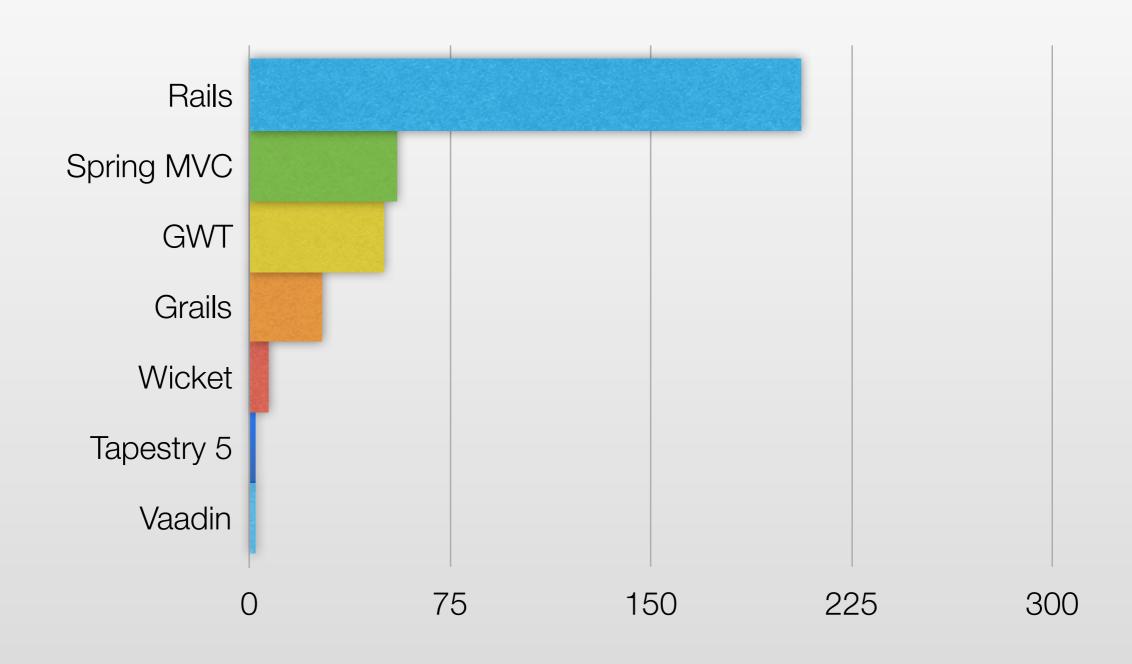




^{*} Spring MVC and Vaadin use Forums, which don't provide this data.

Books on Amazon

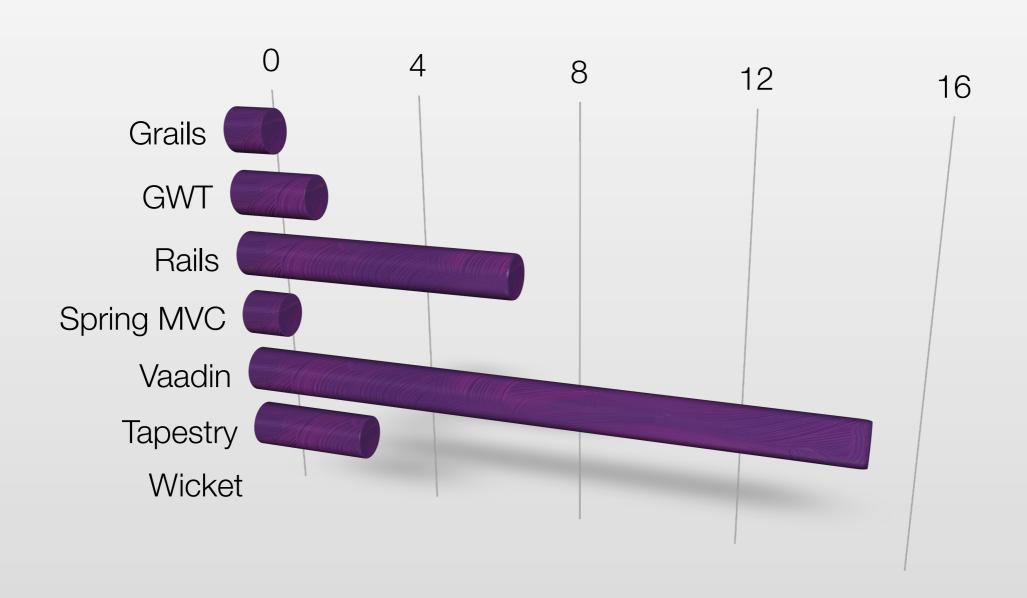




2011 Releases

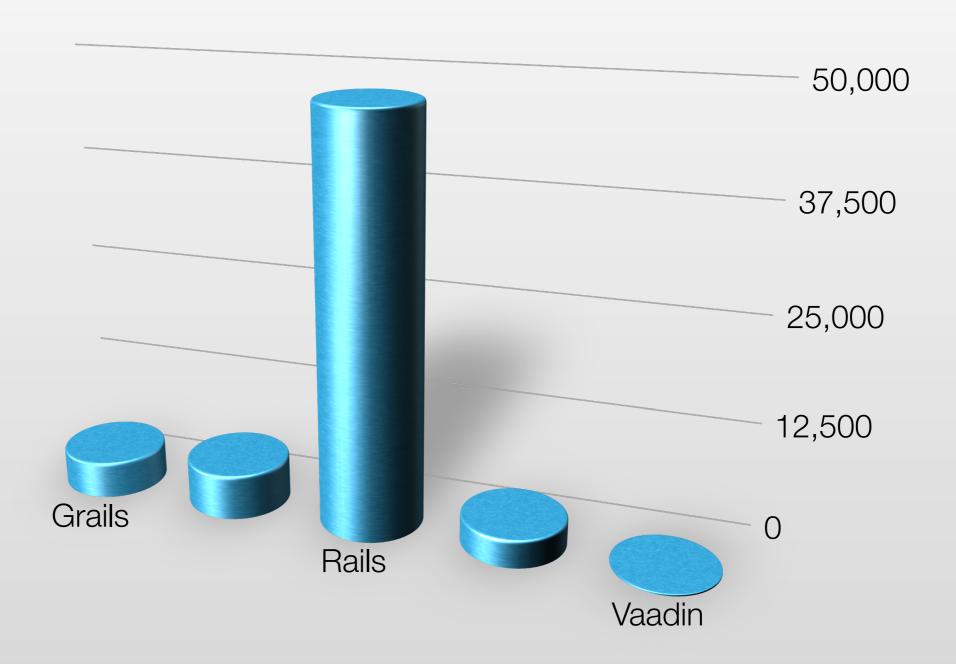


As of August 24, 201



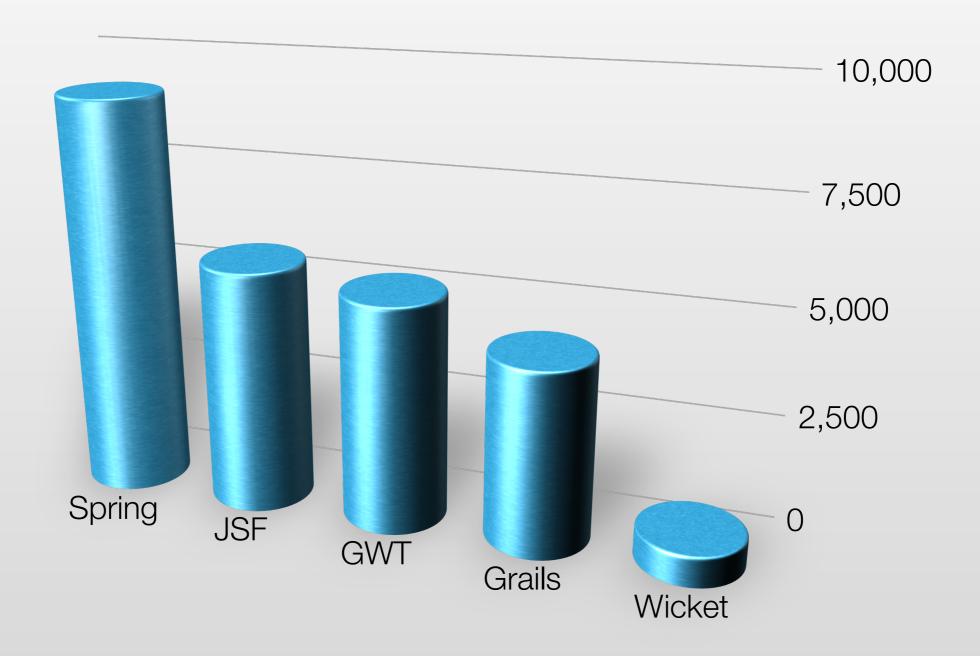


Tagged Questions (August 24, 2011)



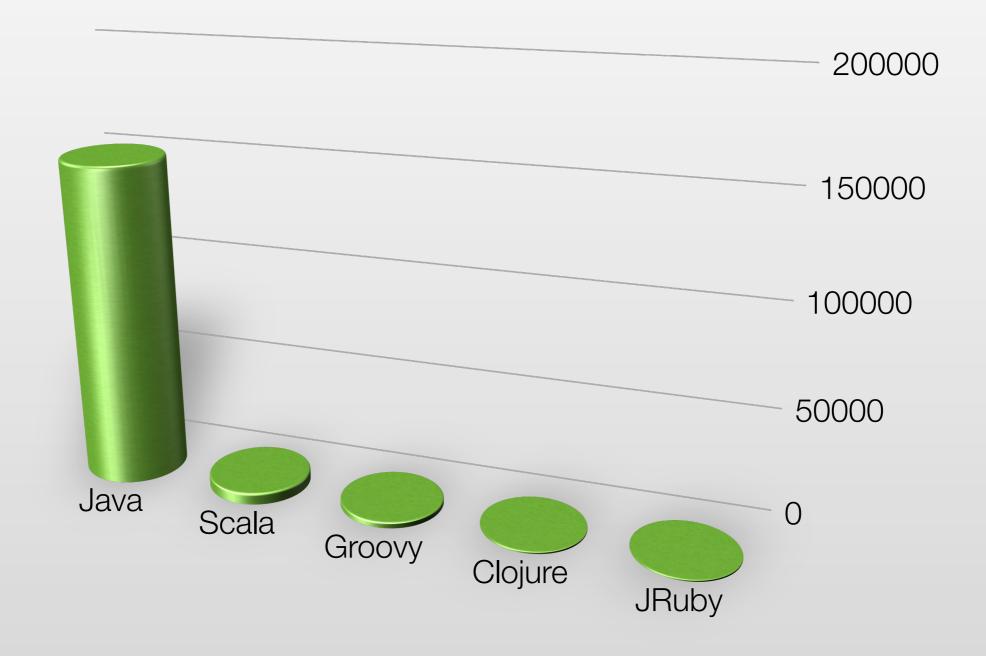


Tagged Questions (August 24, 2011)



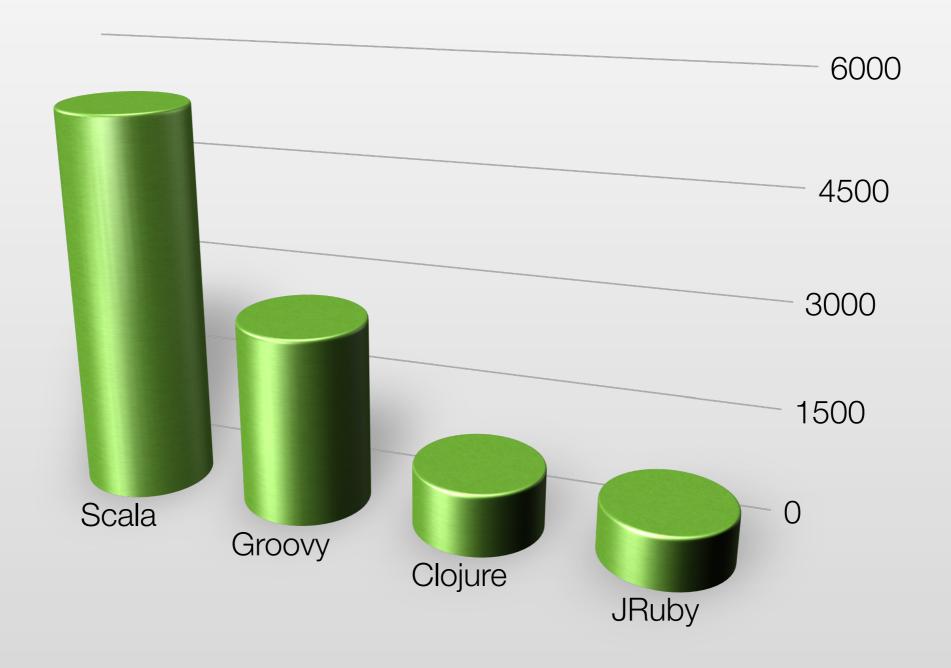


Tagged Questions (August 24, 2011)





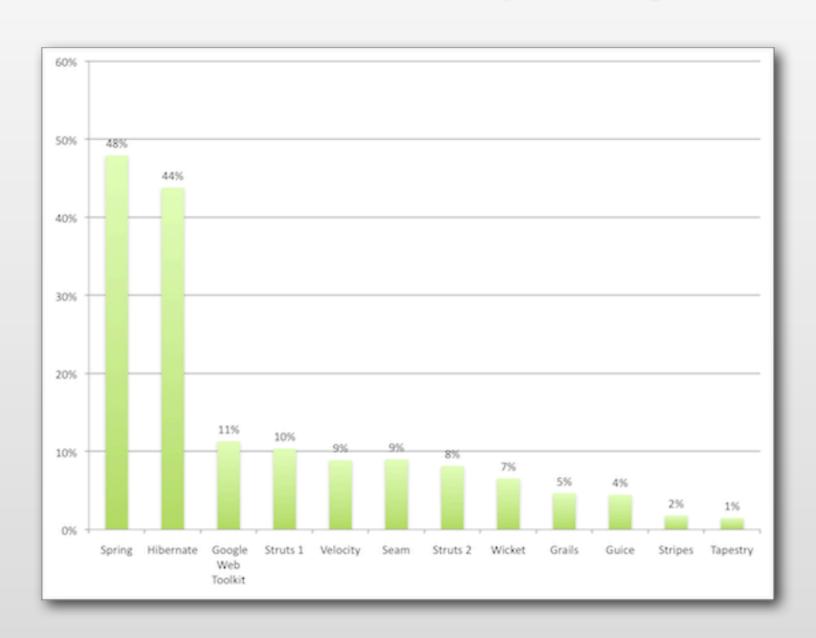
Tagged Questions (August 24, 2011)







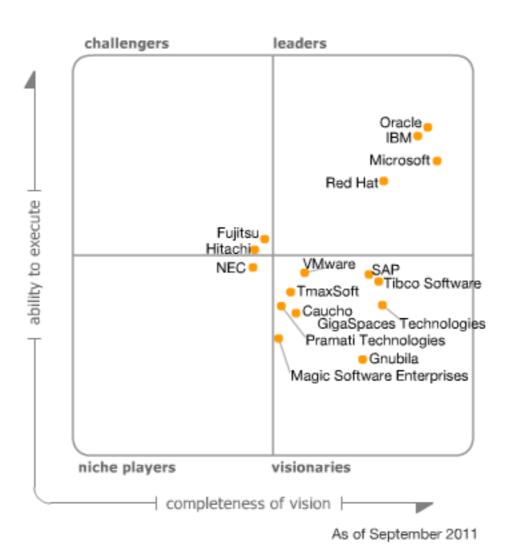
Framework Popularity



Source: ZeroTurnaround's Java EE Productivity Report 2010

What we need is...





Innovators



Struts

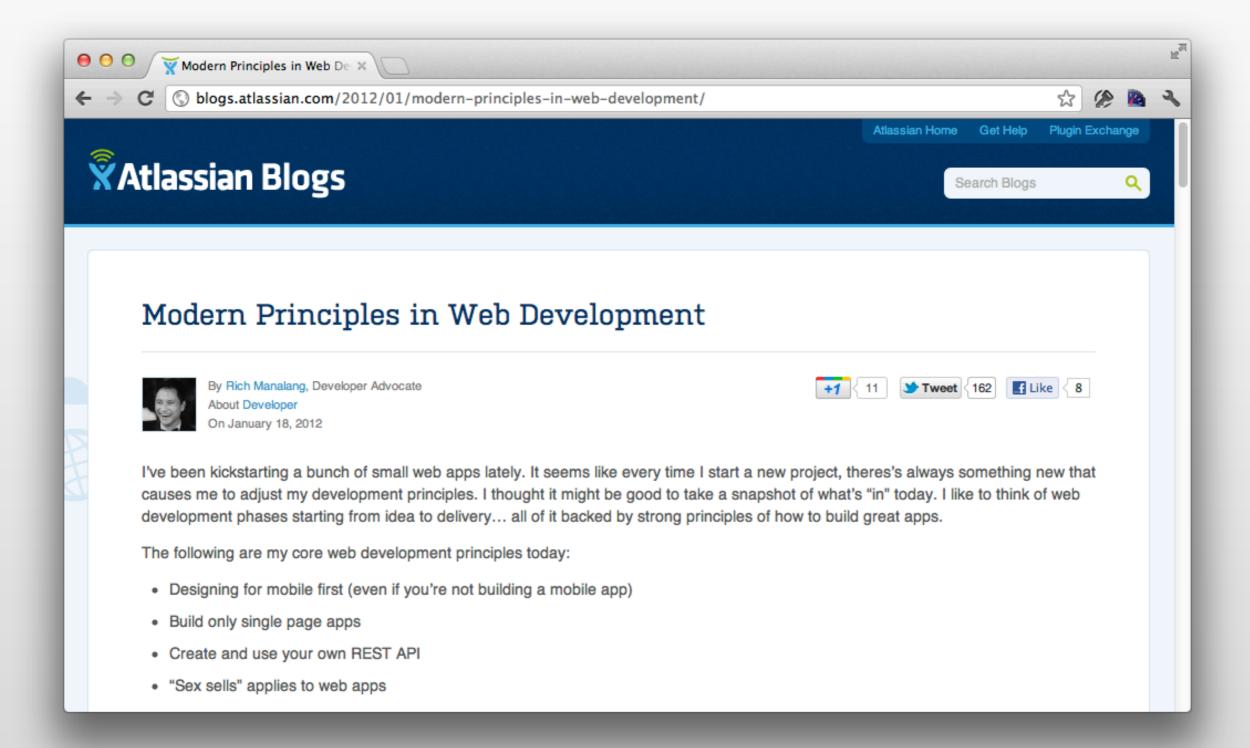






Modern Principles





Web Developers







If you call yourself a web developer, but don't know JavaScript or CSS, it's time to do some learning.

8:22 AM - 8 Feb 12 via Twitter for iPhone · Embed this Tweet



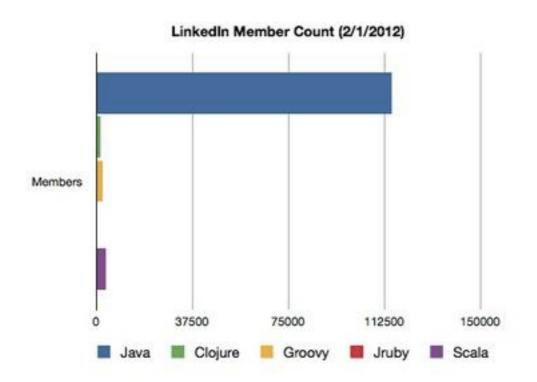




Java Developers



"Java remains – in spite of the fragmented programming language landscape – a viable, growing language."



http://redmonk.com/sogrady/2012/02/08/language-rankings-2-2012/

The Modern Web Developer



- ... embraces JavaScript
- ... is learning mobile frameworks
 - jQuery Mobile, Sencha Touch, PhoneGap or Native
- ... is using HTML5 and CSS3
- ... is developing REST APIs with the stateless framework that best supports their language
- ▶ IE6 is dead, IE7 isn't far behind...

You have to decide...



Are you a web developer?



You have to decide...



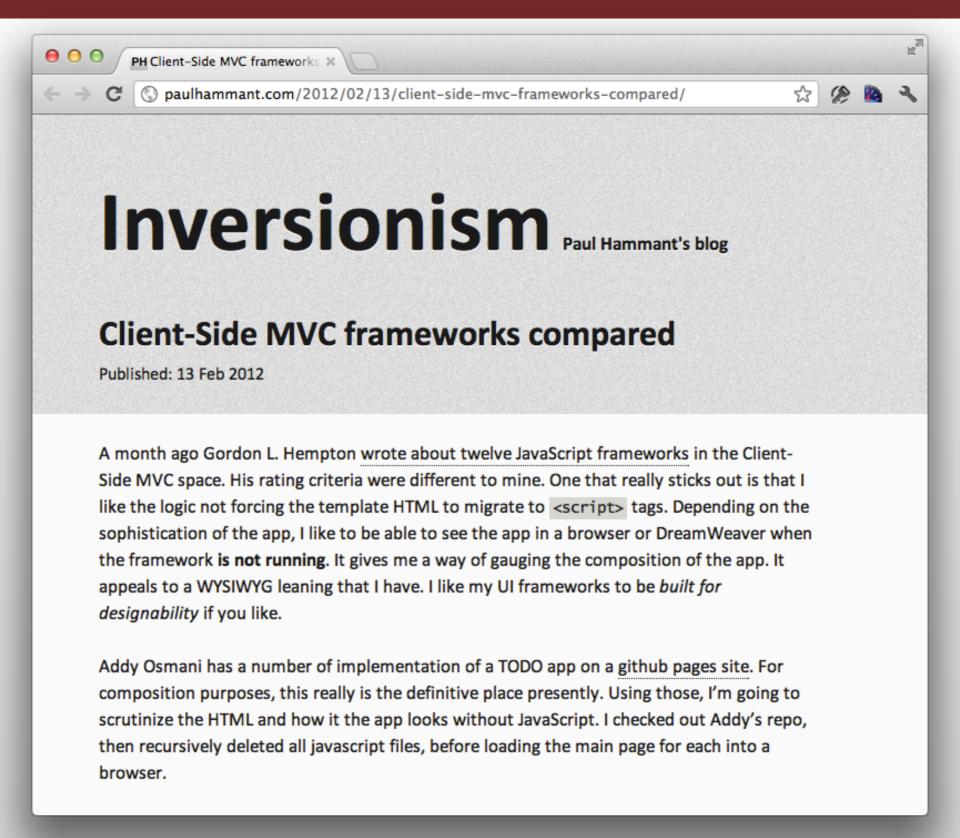
Or are you a services developer?



Client-Side MVC

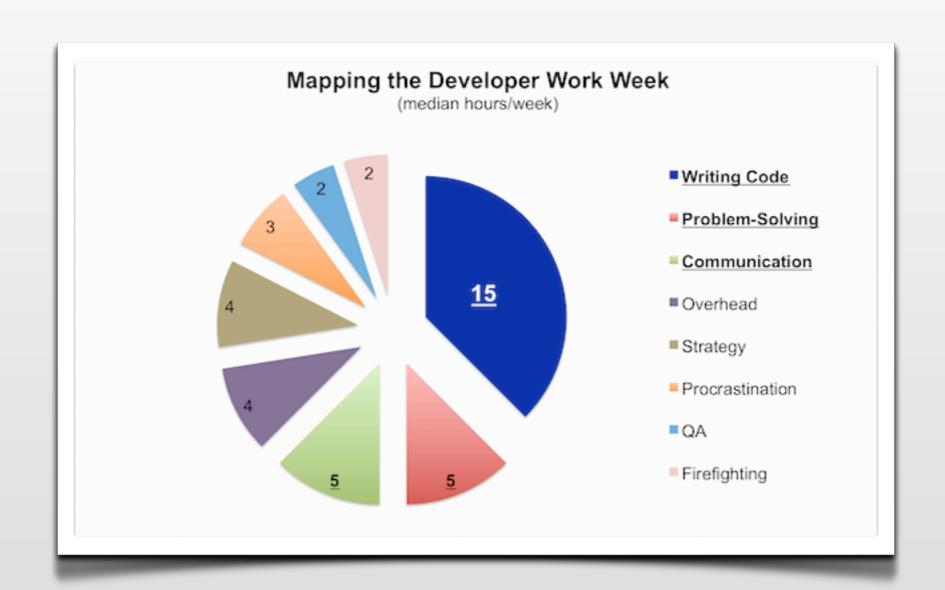


90



Developer Productivity

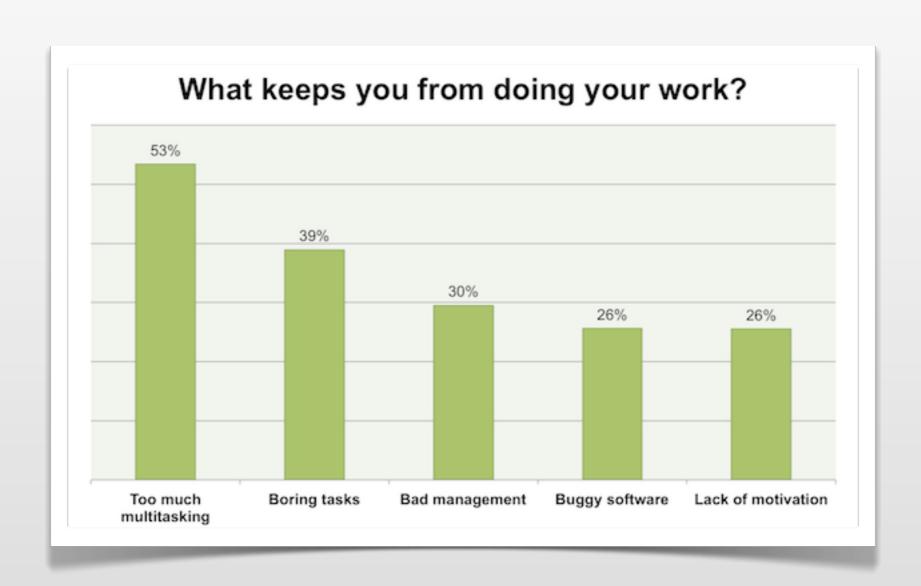




http://zeroturnaround.com/blog/ developer-productivity-report-part-1-developer-timesheet/

Developer Productivity





http://zeroturnaround.com/blog/ developer-productivity-report-part-3-developer-efficiency/

There is no "best" framework





Just lots of awesome choices...

Don't listen to me!





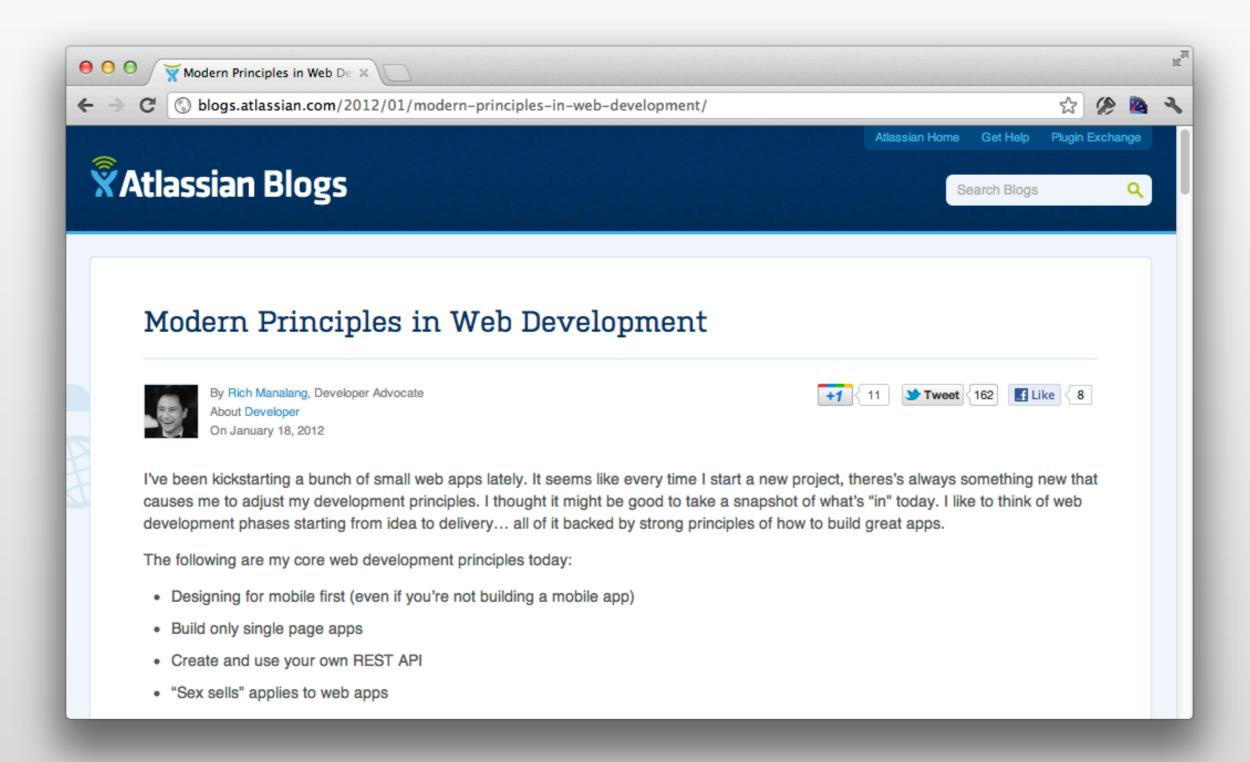
Choose your own!



- Prioritize a list of features that are important to your application.
- Pick 3-4 frameworks and do a 1-week spike with each, developing the same application.
- Document and rank each framework against your list of features.
- Calculate and choose!
- Or just pick one and get to work...

But don't forget...





Questions?



Contact

- http://raibledesigns.com
- @mraible

Download

- http://slideshare.net/mraible

