Comparing JVM Web Frameworks

Flex, Grails, GWT, Seam, Struts 2 and Wicket

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Today's Agenda

- Introductions
- Pros and Cons
- Pretty Graphs
- How do you choose?
- Q and A

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Introductions

- Your experience with webapps?
- Your experience with Java EE?
- What do you want to get from this session?
- Experience with Maven, Tomcat, Hibernate, Spring?
- Web Framework Experience:
  - Struts, JSF
  - Seam, Grails, Rails
  - Wicket, GWT

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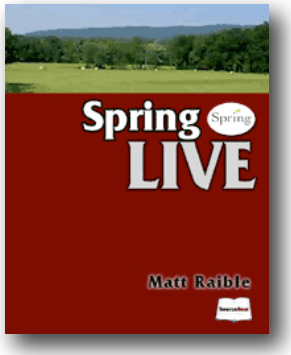
Who is Matt Raible?

- Power user of Java Open Source Frameworks
- Author of Spring Live and Pro JSP 2.0
- Founder of AppFuse and AppFuse Light
- Member of Java EE 5, JSF 1.2 and Bean Validation Expert Groups
- Committer on Apache Projects: Roller and Struts
- Java Blogger since 2002



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Struts 2

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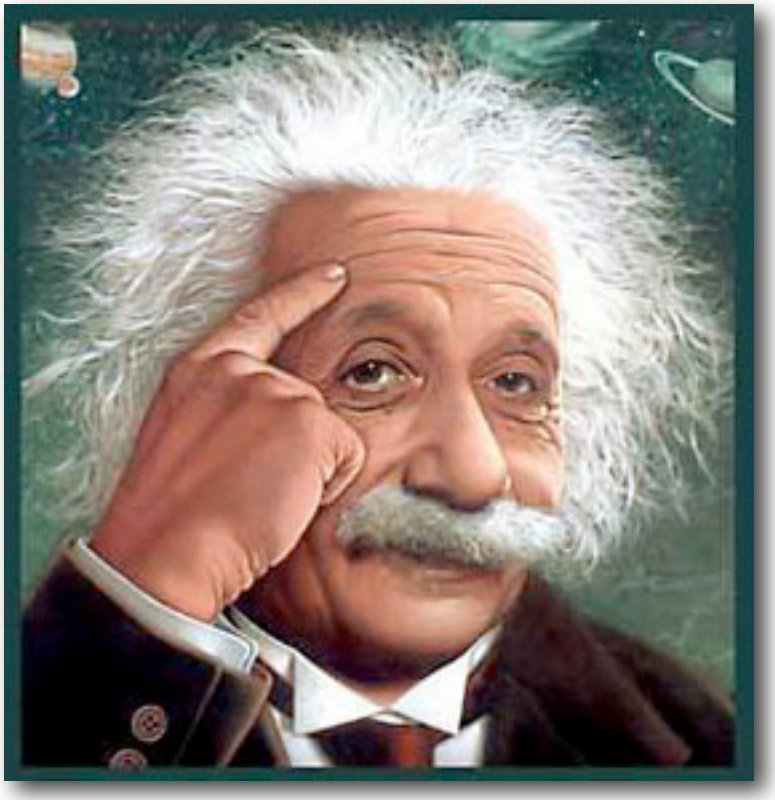
My Experience



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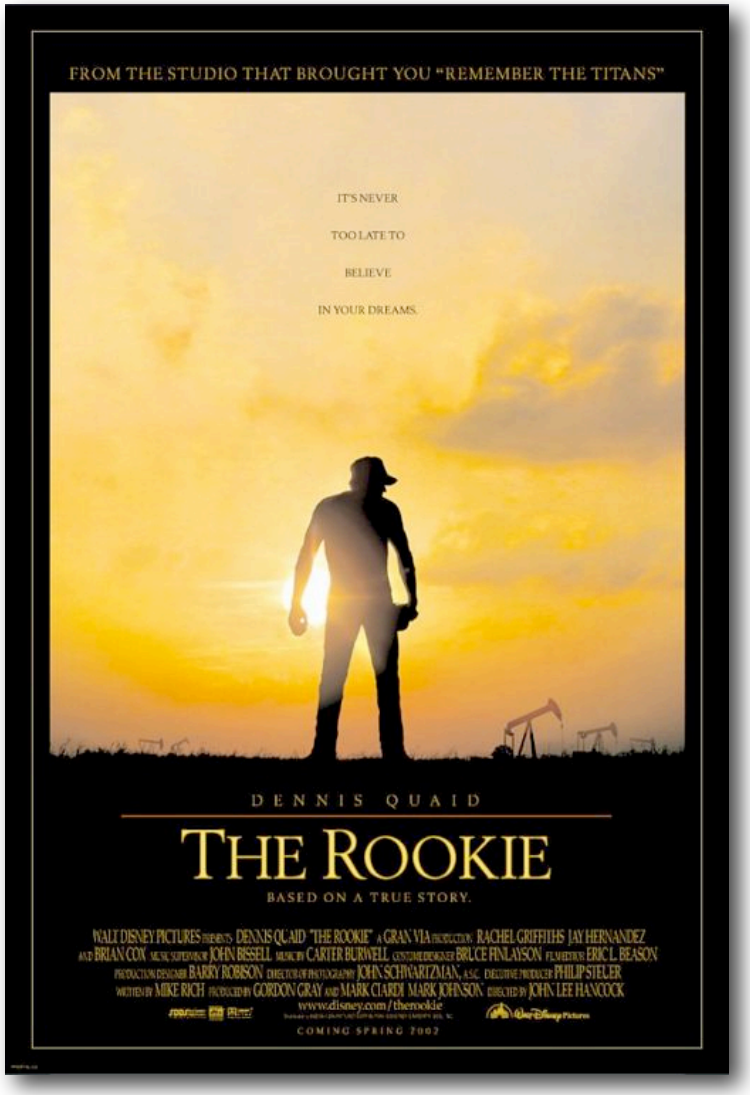
My Experience



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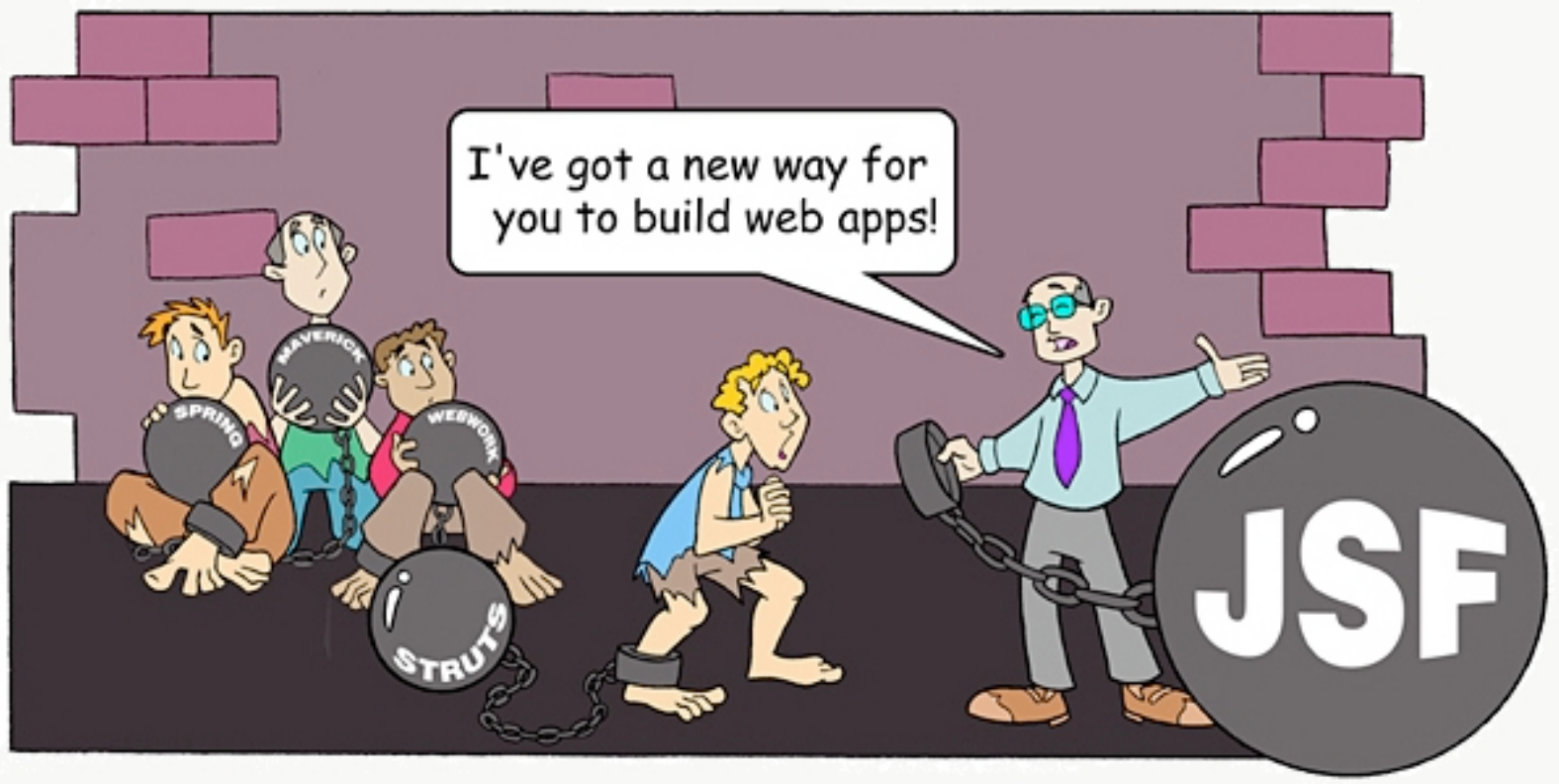
Pros and Cons



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Flex

- Pros:
  - Produces Flash UI
  - Funded by Adobe
  - Has a “poster child” in Picnik
- Cons:
  - Not Search Engine Friendly
  - Doesn’t render HTML content well
  - Doesn’t print well by default

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Grails

- Pros:
  - Less LOC => awesome productivity
  - Groovy is easy to learn for Java Developers
  - Using Spring and Hibernate at its foundation
- Cons:
  - Not as performant as using the raw frameworks
  - Can be hard to sell to stakeholders who like Java
  - Virtually unknown outside of blogs

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GWT

- Pros:
  - Write Java => Produces JavaScript
  - Can easily create SOFEA applications
  - Easy to learn and develop with standard Java Tools
- Cons:
  - It's hard to attach GWT on top of existing code
  - Lack of Java 5 Support is really painful
  - Lack of Advanced Widgets (GWT-Ext fixes)

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Seam

- Pros:
  - Full-Stack framework with CRUD Generation
  - Conversations with jBPM
  - Heavily Funded by JBoss/Red Hat
- Cons:
  - JSF
  - Works best on JBoss Application Server
  - Designed for EJB 3

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Struts 2

- Pros:
  - Simple architecture - easy to extend
  - Tag Library output is easy to customize with FreeMarker or Velocity
  - Controller-based or page-based navigation
- Cons:
  - Documentation is poorly organized
  - Growing pains moving to Apache
  - Googling results in Struts 1.x documentation

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Wicket

- Pros:
  - Great for Java developers, not web developers
  - Tight binding between pages and views
  - Active community - support from the creators
- Cons:
  - HTML templates live next to Java code
  - Need to have a good grasp of OO
  - The Wicket Way - everything done in Java

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What about the rest?

- In the interest of time, I limited the number of frameworks
- The ones discussed are the ones that represent the future of Java Web Development **in my opinion**
- Opinions are like ...
- The Community seems to agree, but everything could change in the next several months

http://raibledesigns.com/rd/entry/comparing_web_frameworks_time_for

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What about Spring MVC and Stripes?

- Stripes has a small community and no books
- Spring MVC works well, but I like Struts 2's programming model better
- Spring MVC is chosen often because Spring is used in the middle-tier and backend
- All are pretty similar - with Spring MVC and Struts 2 continuing to "borrow" ideas from Stripes

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What about Tapestry?

- Will it be rewritten again for Tapestry 6?
- No desire for backwards compatibility between releases
- Significant drop in jobs and other statistics in the last 6 months

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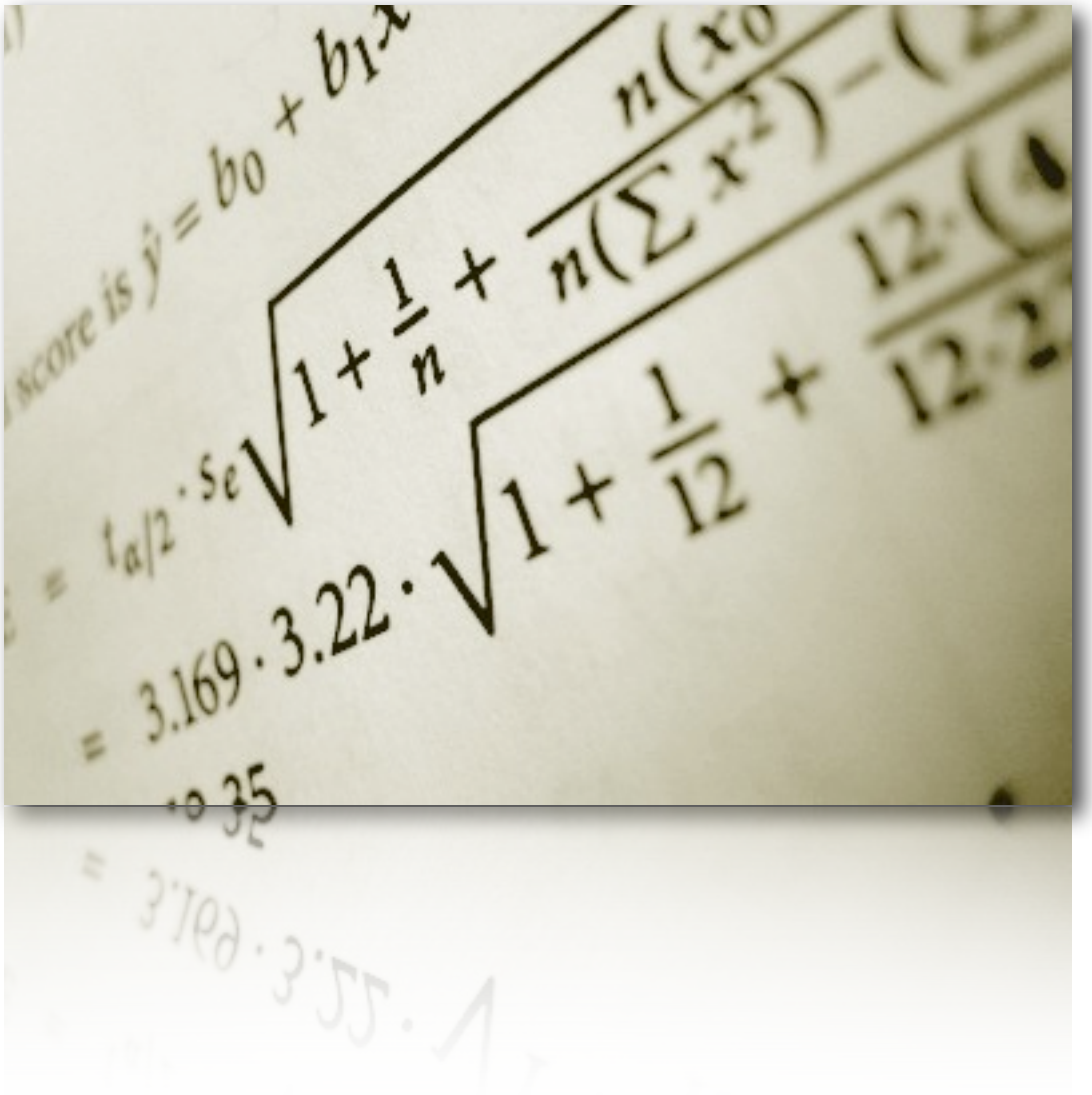
Pretty Graphs



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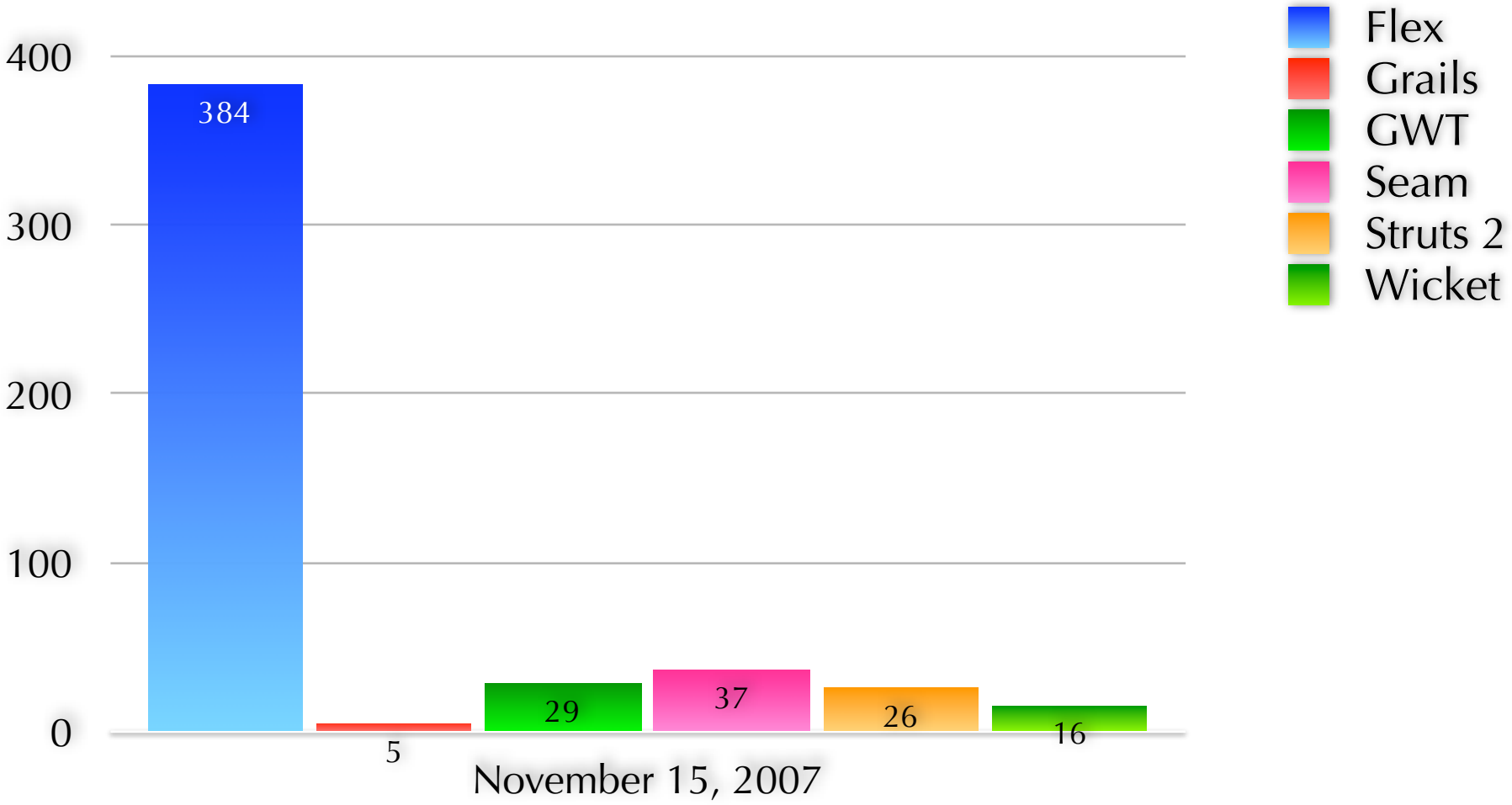
Dice.com Job Count



** WebWork had 51 hits as well, but these were not counted for Struts 2's results.*

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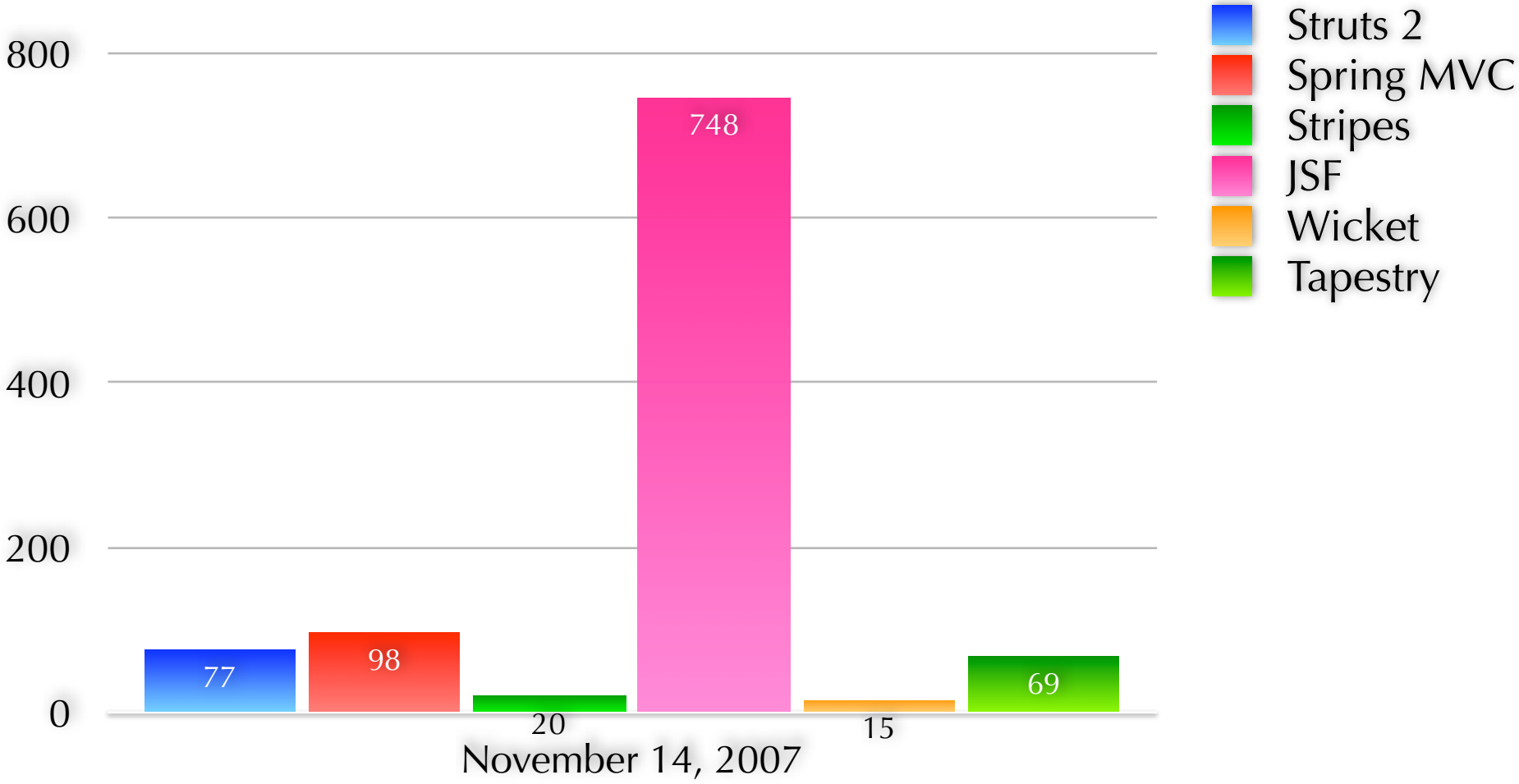
Other Frameworks?



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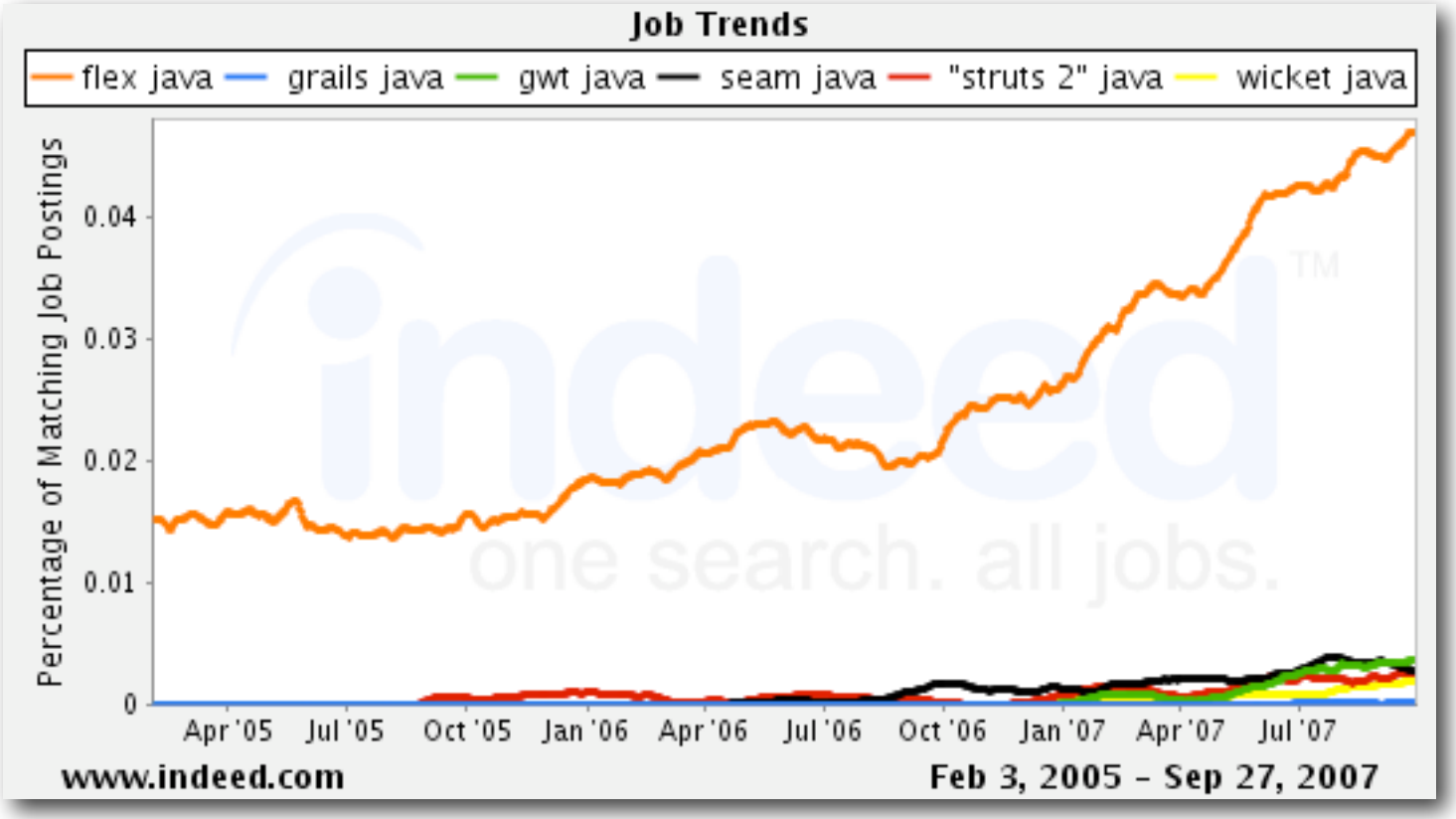
Job Trends



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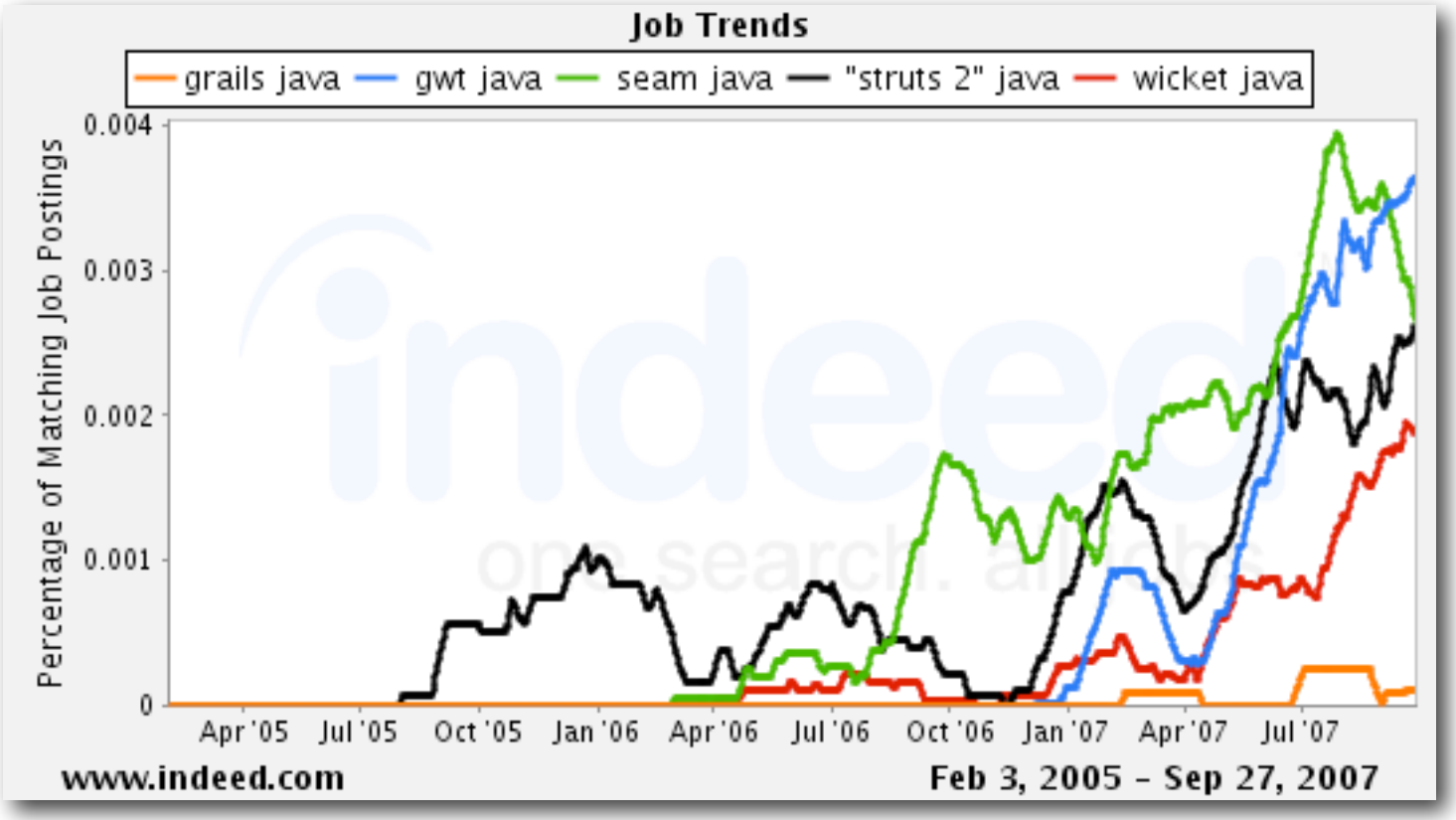
Job Trends w/o Flex



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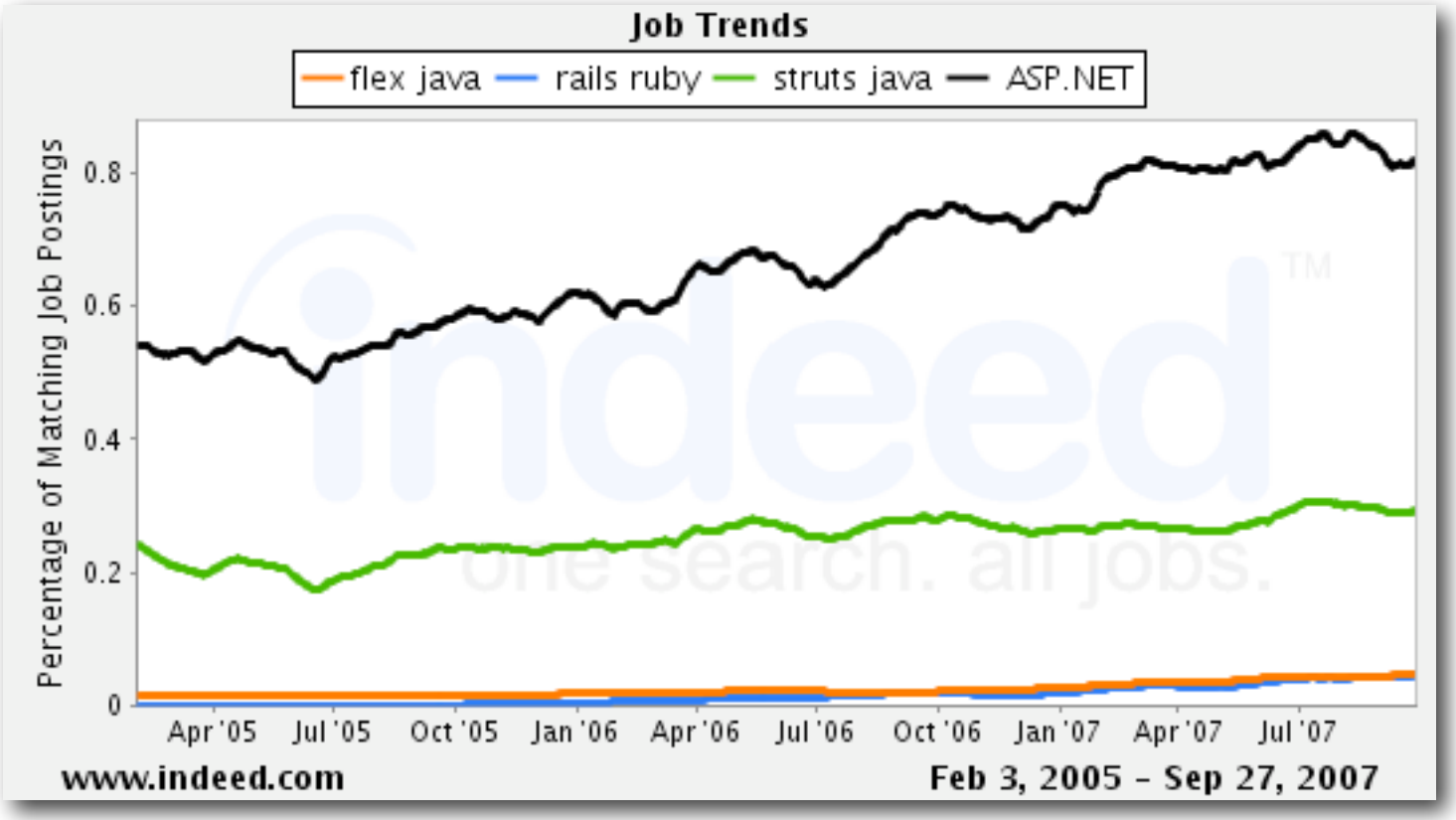
Most Popular Frameworks



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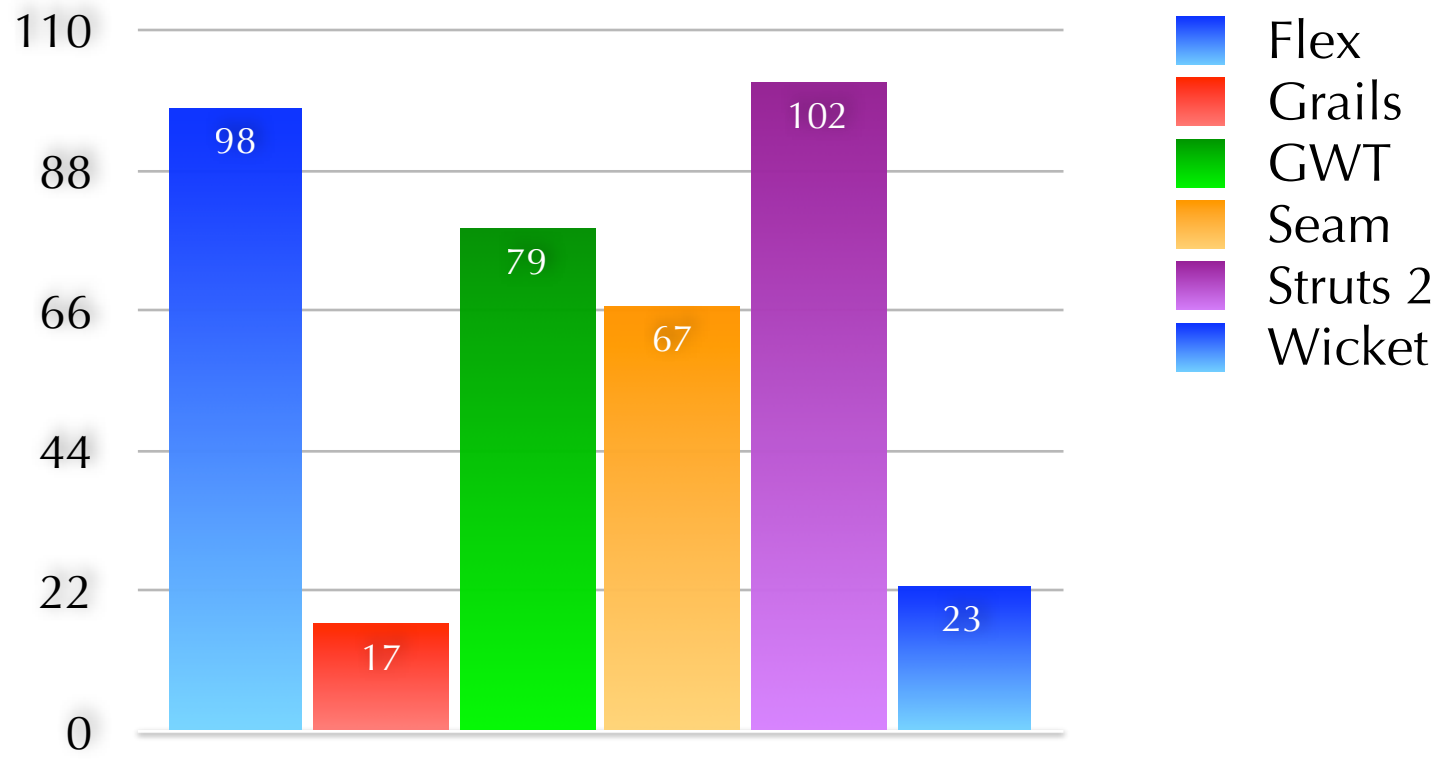
Employer Search on Monster.com
Resumes posted in last month



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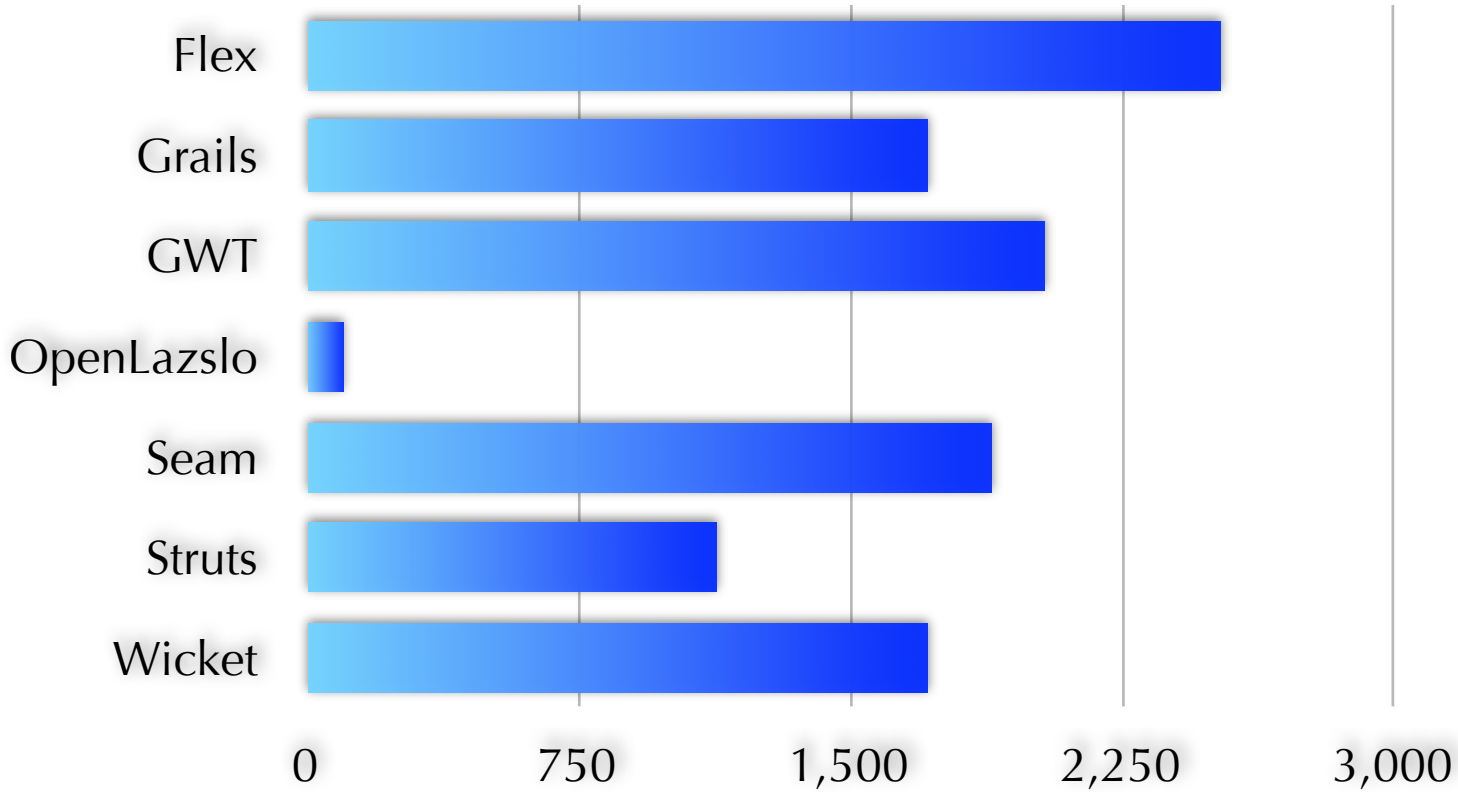
Mailing List Traffic



** Seams numbers were reported by Gavin King counting his e-mail notifications.*

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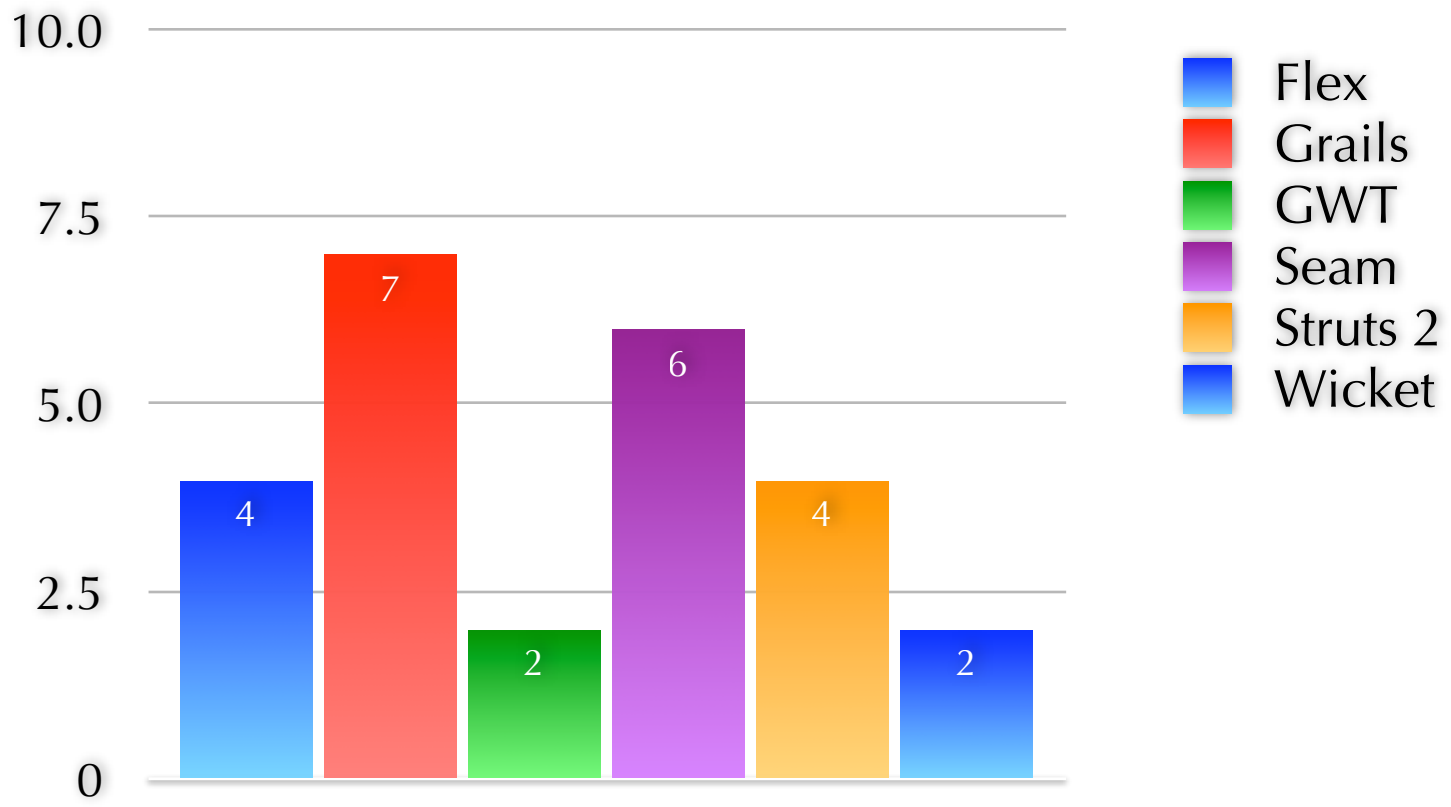
Releases in 2007



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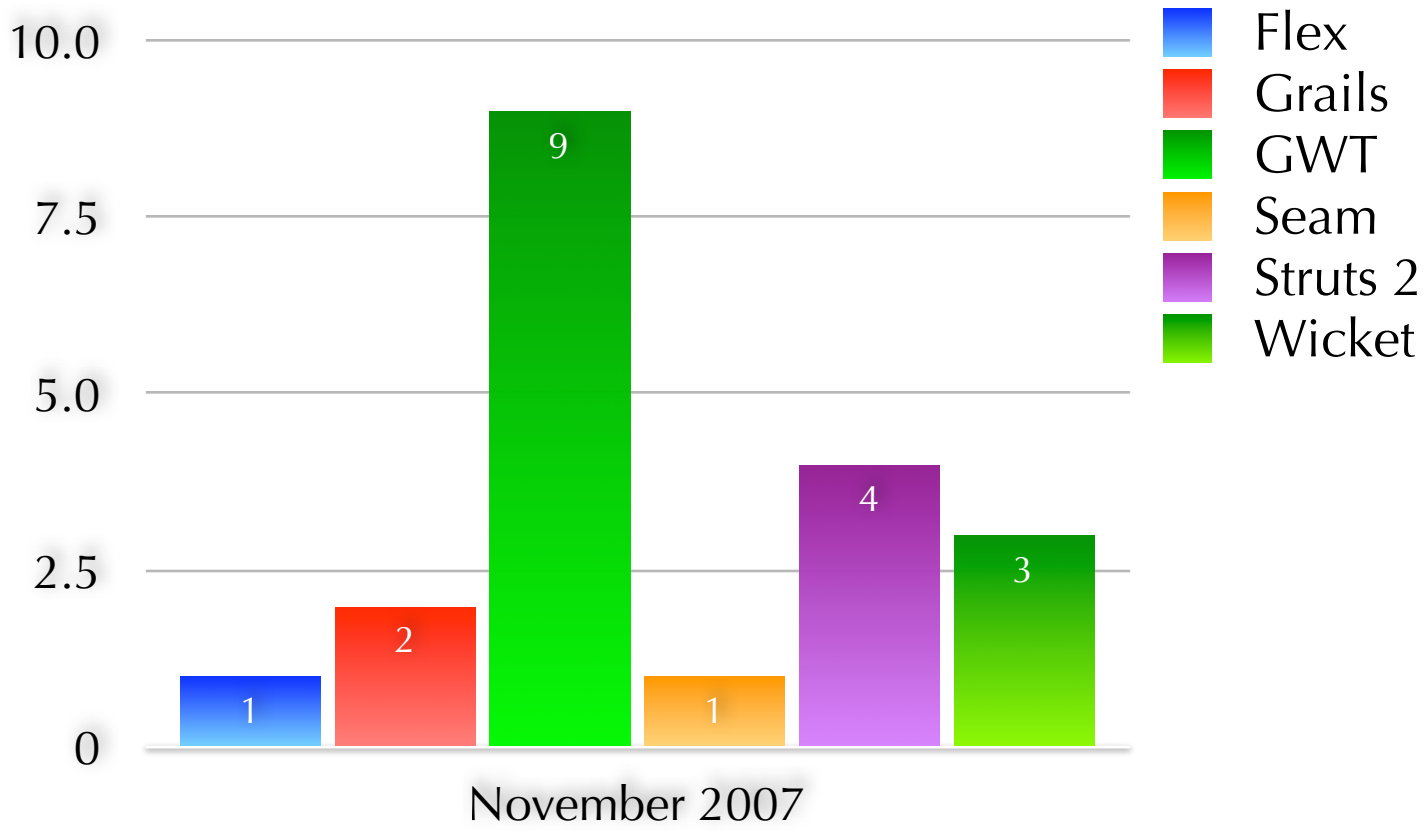
Tools Available



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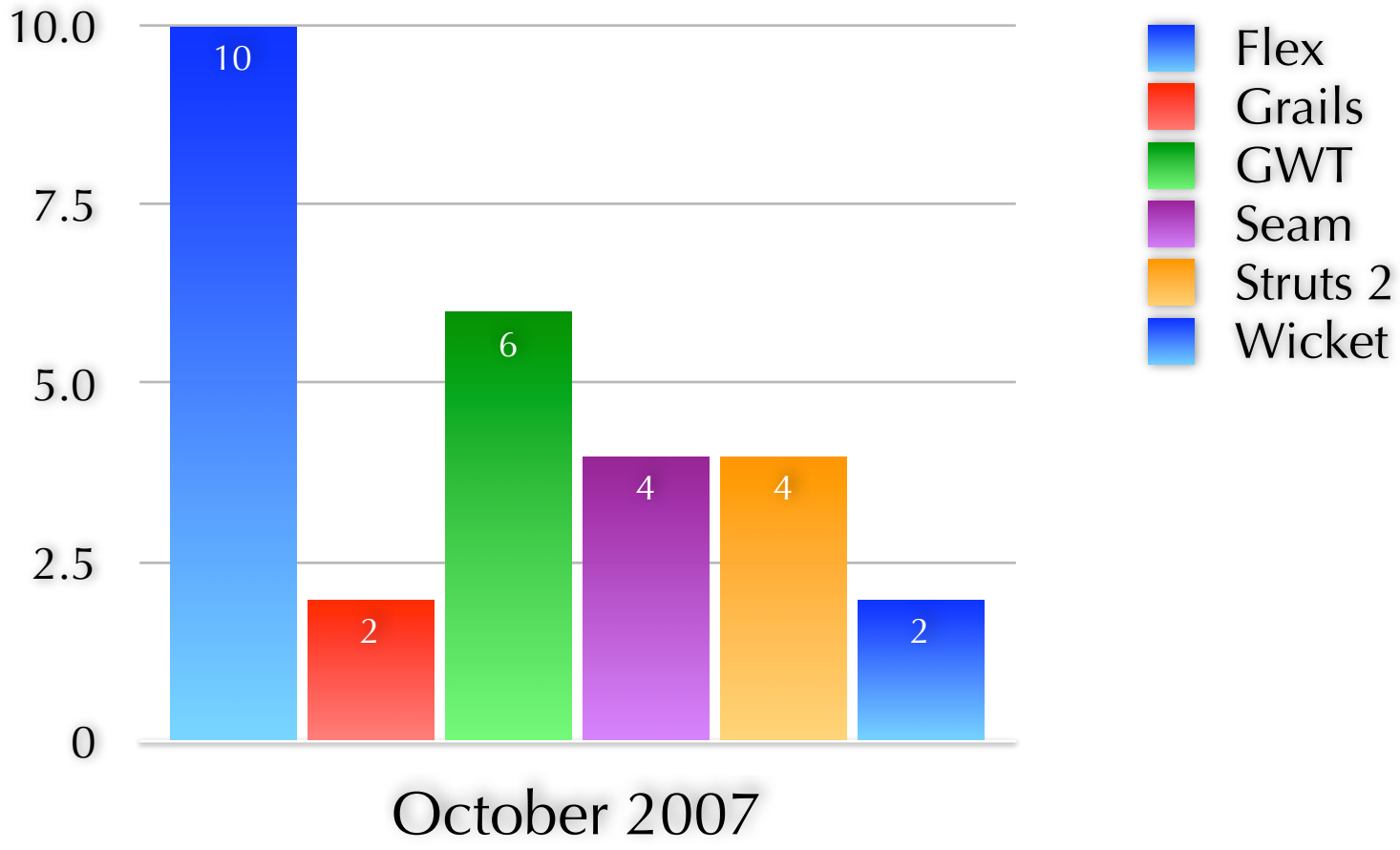
Books on Amazon



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How do you choose?

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Eliminate, Don't Include

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6 Important Factors

- What type of Application are you building?
- Ease of Development / Is full-stack an option?
- Project Community
- Project Future and Roadmap
- Maintenance
- Technical Features

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Don't believe the Hype

- Don't believe blogs and articles
- Try it yourself
- Believe developers, not evangelists
- Believe developers that are experienced with the framework and have used it in production
- Beware of corporate interests - they can twist marketing
- Books are a good sign

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Best Tool for the Job

- Frameworks have sweet spots - is your application one of them?
- Pick 2-3 frameworks for your type of application...
- ... and prototype!
- If prototyping is painful, switch
- Make sure you prototype more than one and do a presentation comparing the pros and cons of each

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After Choosing...

- Document the reasons for your decision
- Allow developers to challenge it
- Allow your prototype to be written with other frameworks
- Don't be afraid to try new frameworks
- Don't be afraid to use old frameworks
- Don't be afraid to keep your existing framework

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What do I think?

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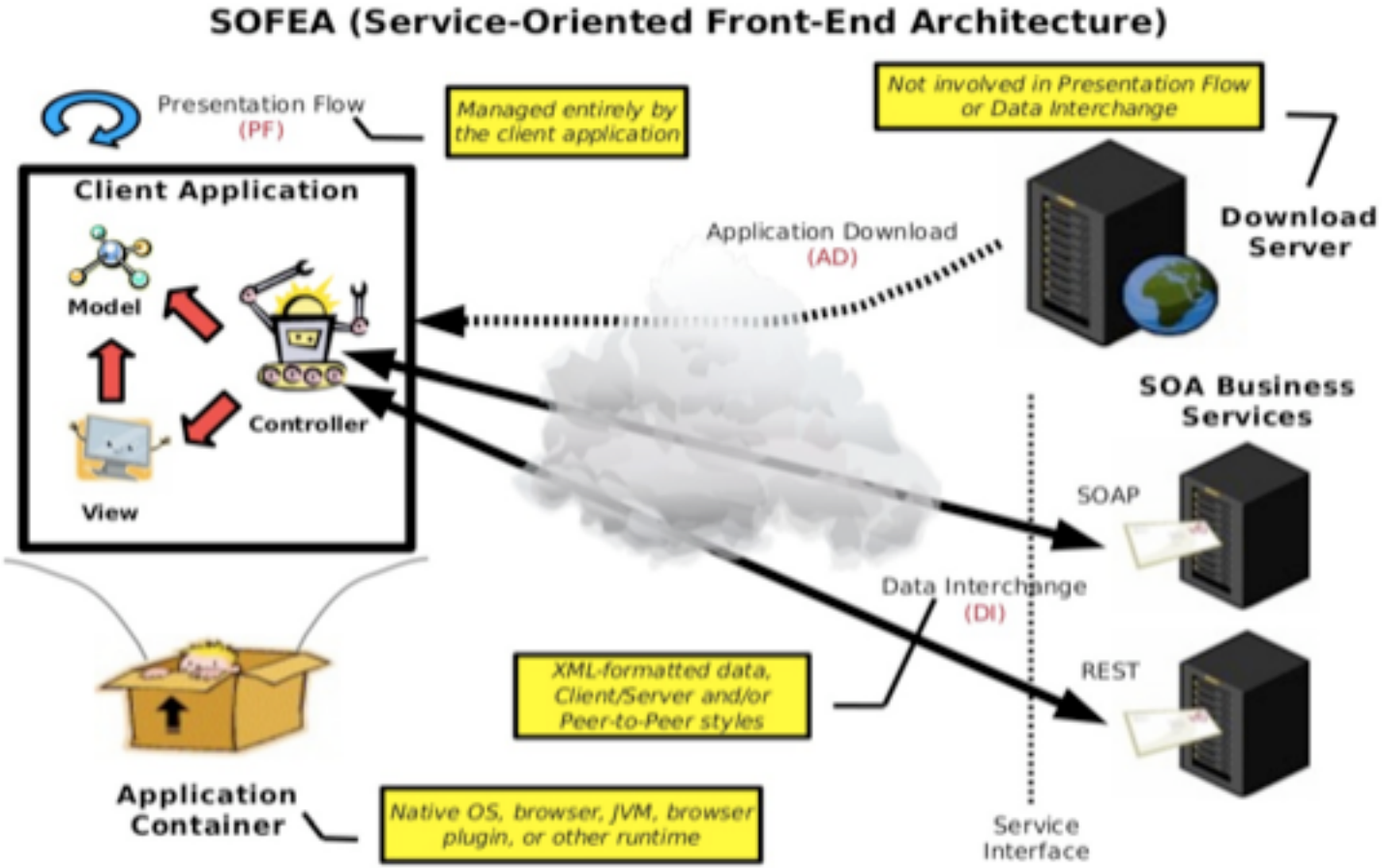

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Conclusion

- The future is bright because of all the competition
- Developers should know more than one web framework
- You should try a framework before dissing it
- The plethora of web frameworks is a good thing!
- Doing proper research can save time and money
- Testing is the best path to future maintenance

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Questions?

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