

COMPARING KICK~ASS WEB FRAMEWORKS

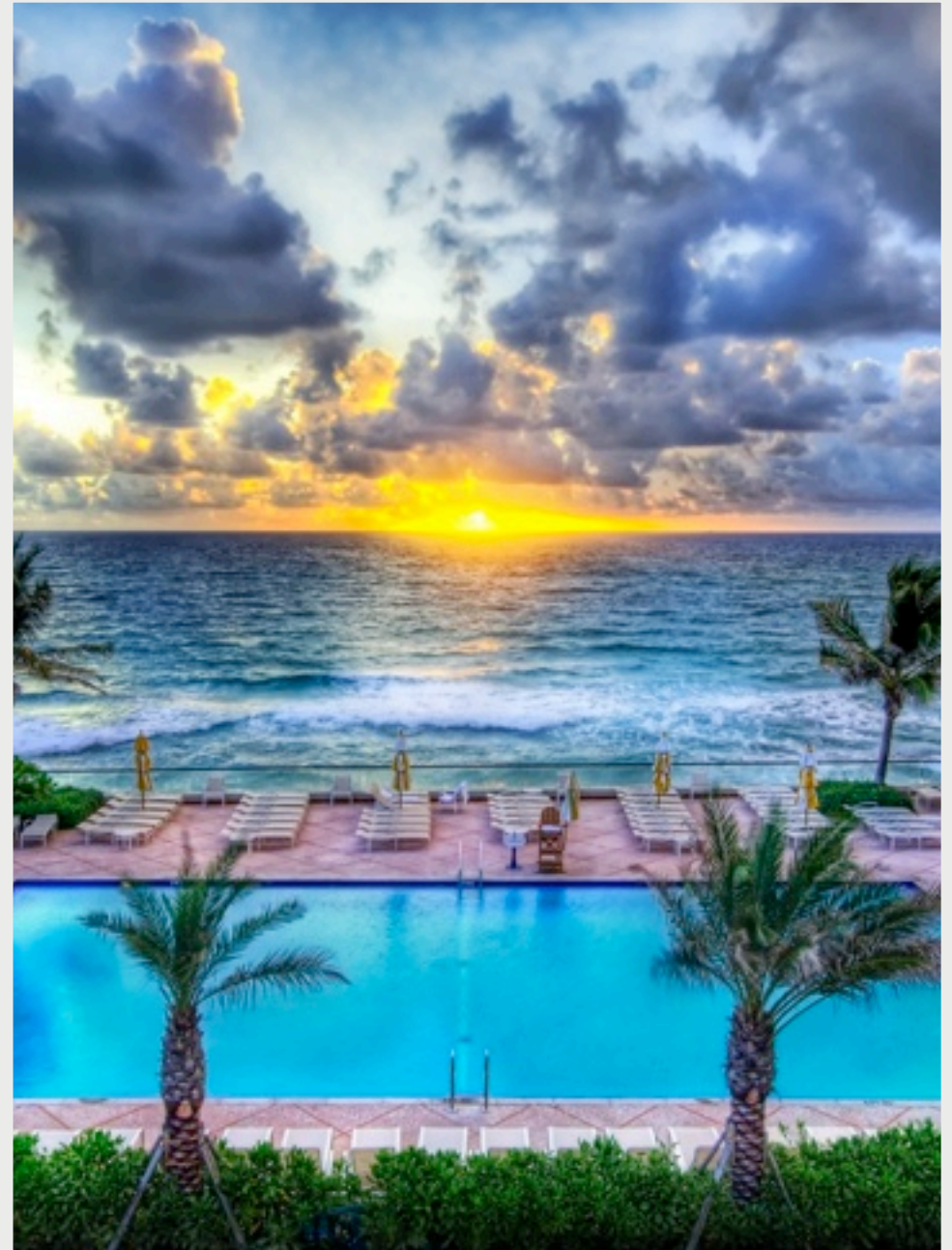
Matt Raible
<http://raibledesigns.com>

Images by Stuck in Customs - <http://www.flickr.com/photos/stuckincustoms>

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INTRODUCTIONS

- Have you heard of SOFEA?
- Are you using GWT?
- Experience with Rails?
- What do you want to get from this session?



Blogger on raibledesigns.com

Father, Skier,
Cyclist

Founder of [AppFuse](#)

Web Framework Connoisseur

Who is **Matt Raible**?



SESSION AGENDA

- The Problem with Web Frameworks
- SOFEA and SOUI
- REST Backends
- Rich Frontends
- Conclusion
- Q and A



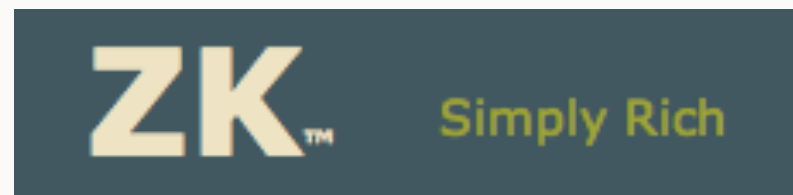
THE PROBLEM



tapestry



Struts²



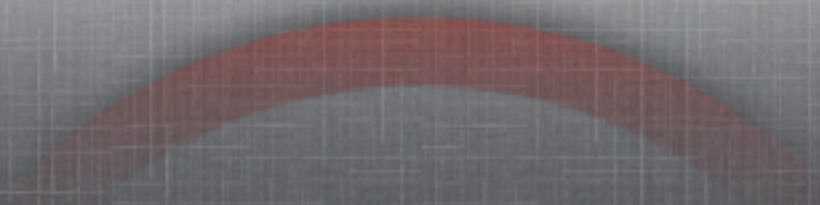
django





HOW DO YOU CHOOSE?

ELIMINATE, DON'T
INCLUDE



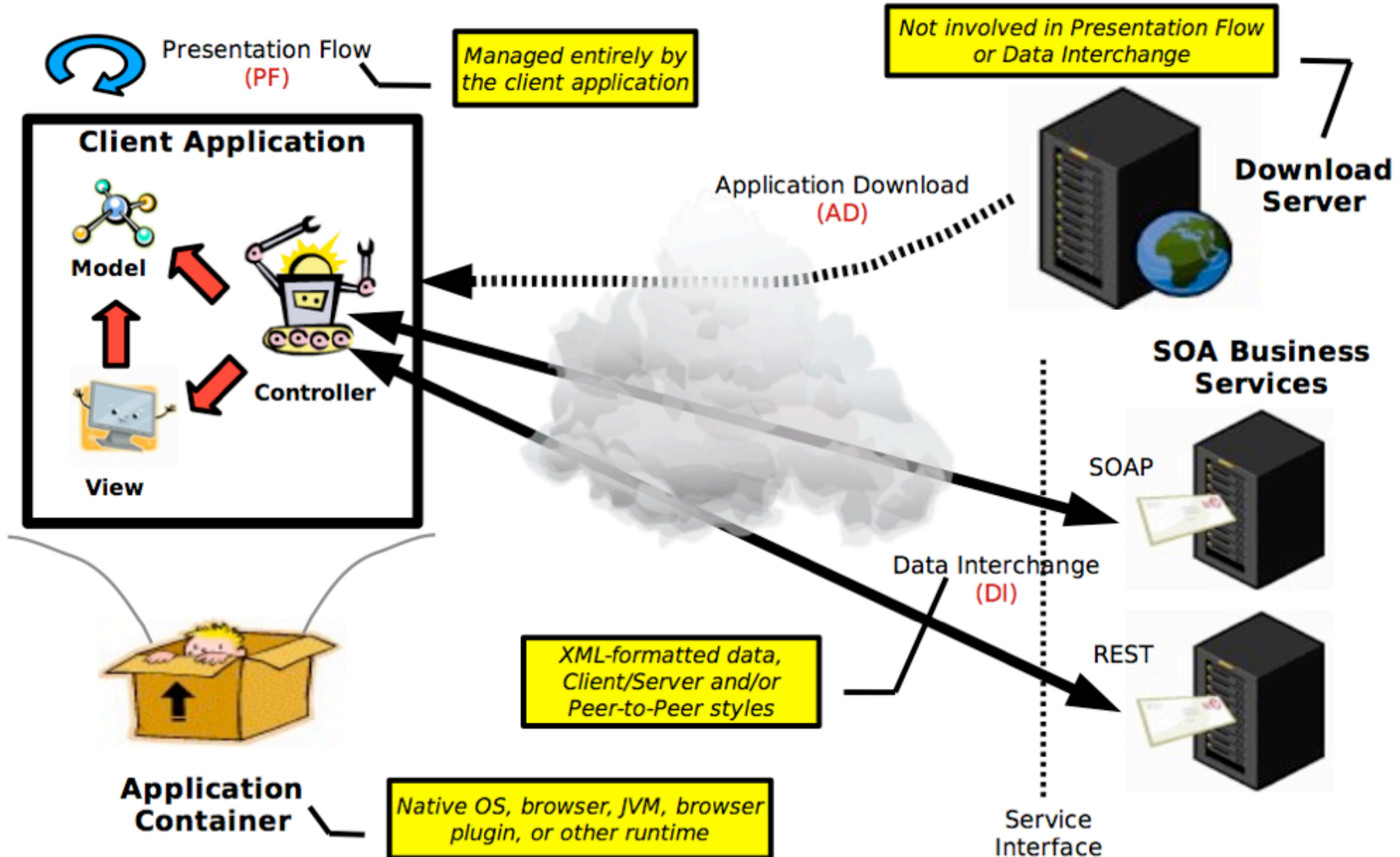
SOFEA & SOUI

- SOFEA first introduced in Life above the Service Tier on 10/12/2007.
- http://www.theserverside.com/news/thread.tss?thread_id=47213
- SOUI introduced by Nolan Wright and Jeff Haynie in early November 2007.
- <http://www.infoq.com/news/2007/11/soui-death-of-mvc2>

SOFEA PRINCIPLES

- Decouple the three orthogonal Presentation Tier processes of **Application Download**, **Presentation Flow** and **Data Interchange**. This is the foundational principle of SOFEA.
- Explore various Application Download options to exploit usefully contrary trade-offs around client footprint, startup time, offline capability and a number of security-related parameters.
- Presentation Flow must be driven by a client-side component and never by a server-side component.
- Data Interchange between the Presentation Tier and the Service Tier must not become the weakest link in the end-to-end application chain of data integrity.
- Model-View-Controller (MVC) is a good pattern to use to build the Presentation Tier.

SOFEA (Service-Oriented Front-End Architecture)



RECOMMENDED FRAMEWORKS

- DHTML / AJAX frameworks for Modern Browsers
 - Handcoded with third party JavaScript libraries
 - Google Web Toolkit
 - TIBCO General Interface Builder
- XML Dialects for Advanced Browsers
 - XForms and XHTML 2.0
 - Mozilla XUL
 - Microsoft SilverLight / XAML

RECOMMENDED FRAMEWORKS

- Java frameworks
 - Java WebStart (with / without Spring Rich Client)
 - JavaFX
- Adobe Flash-based frameworks
 - Adobe Flex
 - OpenLaszlo



EPIPHANY AFTER READING ABOUT SOFEA

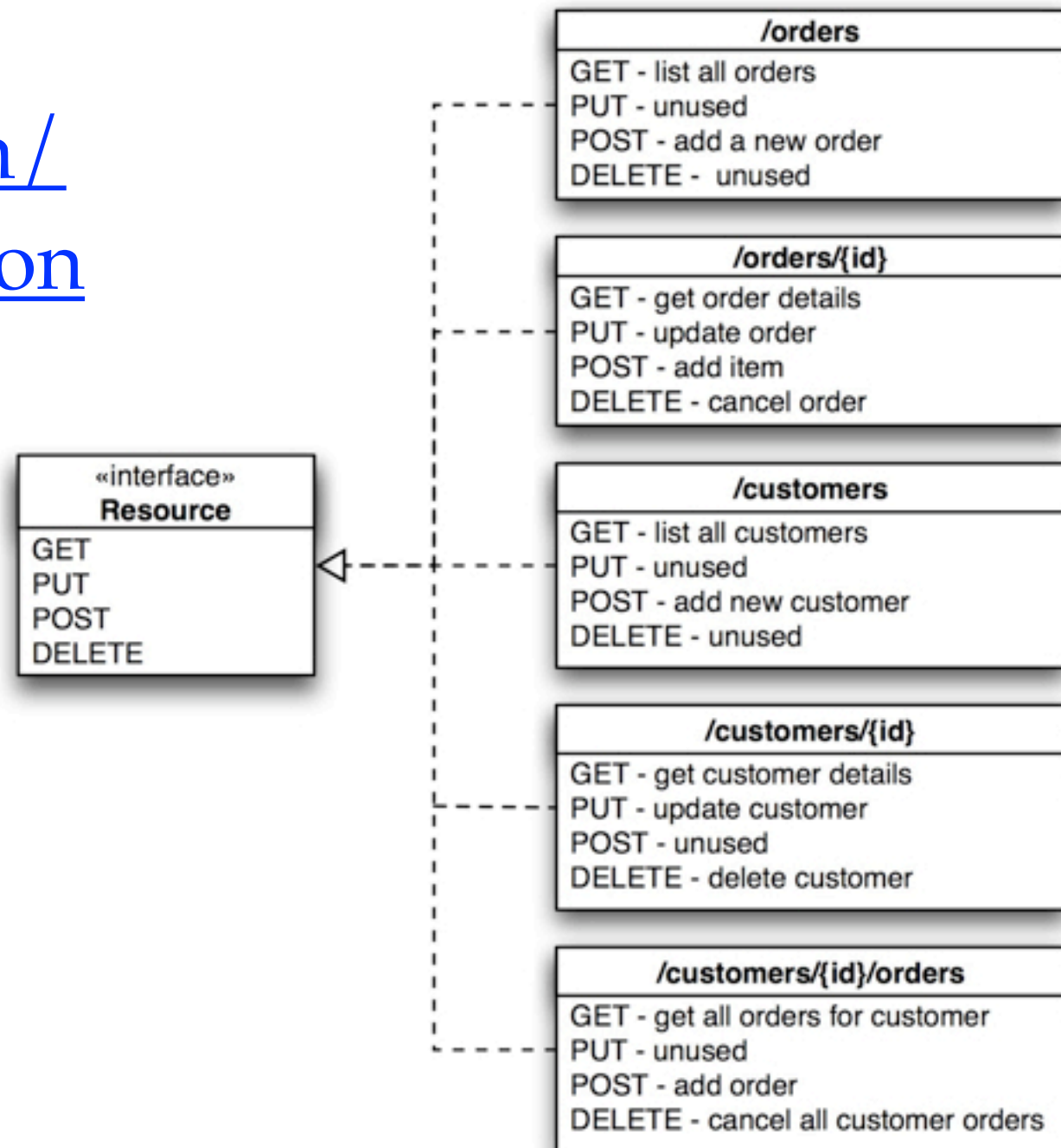
"I hope to develop with Flex, Grails, GWT or YUI + Struts 2 in the next 6 months."

[http://raibledesigns.com/rd/entry/re life above the service](http://raibledesigns.com/rd/entry/re%20life%20above%20the%20service)

REST

<http://www.infoq.com/articles/rest-introduction>

API



RUBY ON RAILS



- REST is enabled by default with Scaffolding
- Scaffolding doesn't support one-to-many UI
- ActiveSupport fixes one-to-many, supports REST and adds Ajax



RAILS CONTROLLER

```
class ResumesController < ApplicationController
  layout 'default'
  active_scaffold

  def name
    "Resumes"
  end
end
```


RESTFUL RAILS

Rich Resume | Users

http://localhost:3000/users

Search Create New

Users

Full Name	Email	Company Name	Homepage
-----------	-------	--------------	----------

Update User: Matt Raible

Email

Full Name

Nickname

Company Name

Photo URL

Tags

Phone

Homepage

Resumes (hide)

Summary

Create Another

Update Cancel

1 Found

Done

YSlow 2.381s

Mozilla Firefox

http://localhost:3000/users/1.xml

Google

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0" encoding="UTF-8" />
<user>
  <email>matt@raibledesigns.com</email>
  <fn>Matt Raible</fn>
  <id type="integer">1</id>
  <n>Matt</n>
  <org>LinkedIn</org>
  <photoUrl nil="true"/>
  <tags nil="true"/>
  <tel nil="true"/>
  <url nil="true"/>
</user>
```


GRAILS



- Grails 1.x has REST support built-in
- Scaffolding does not support REST by default
- Adding REST support to Scaffolding
 - <http://fbflex.wordpress.com/2008/05/15/rest-service-xml-output-in-grails-via-content-negotiation/>
- Scaffolding insufficiently supports one-to-many UI
- One-to-many support possible if you modify templates
 - [http://www.stainlesscode.com/site/comments/grails one to many scaffolding](http://www.stainlesscode.com/site/comments/grails_one_to_many_scaffolding)

GRAILS CONTROLLER

```
import grails.converters.*

class ResumeController {

    def index = { redirect(action:list,params:params) }

    // the delete, save and update actions only accept POST requests
    static allowedMethods = [delete:'POST', save:'POST', update:'POST']

    def list = {
        if (!params.max) params.max = 10
        withFormat {
            html { [resumeList: Resume.list(params)] }
            xml { render Resume.list(params) as XML }
            json { render Resume.list(params) as JSON }
        }
    }
}
```


RESTFUL GRAILS

Edit Resume

http://localhost:8080/richresume/resum

GRAILS

Home Resume List New Resume

Edit Resume

Summary: My Resume

Affiliations: Add Affiliation Associate Affilia

Educations: Add Education Associate Educa

Experiences: Add Experience Associate Exper

Publications: Add Publication Associate Public

Skills: Add Skill Associate Skill

Update Delete

Mozilla Firefox

http://localhos

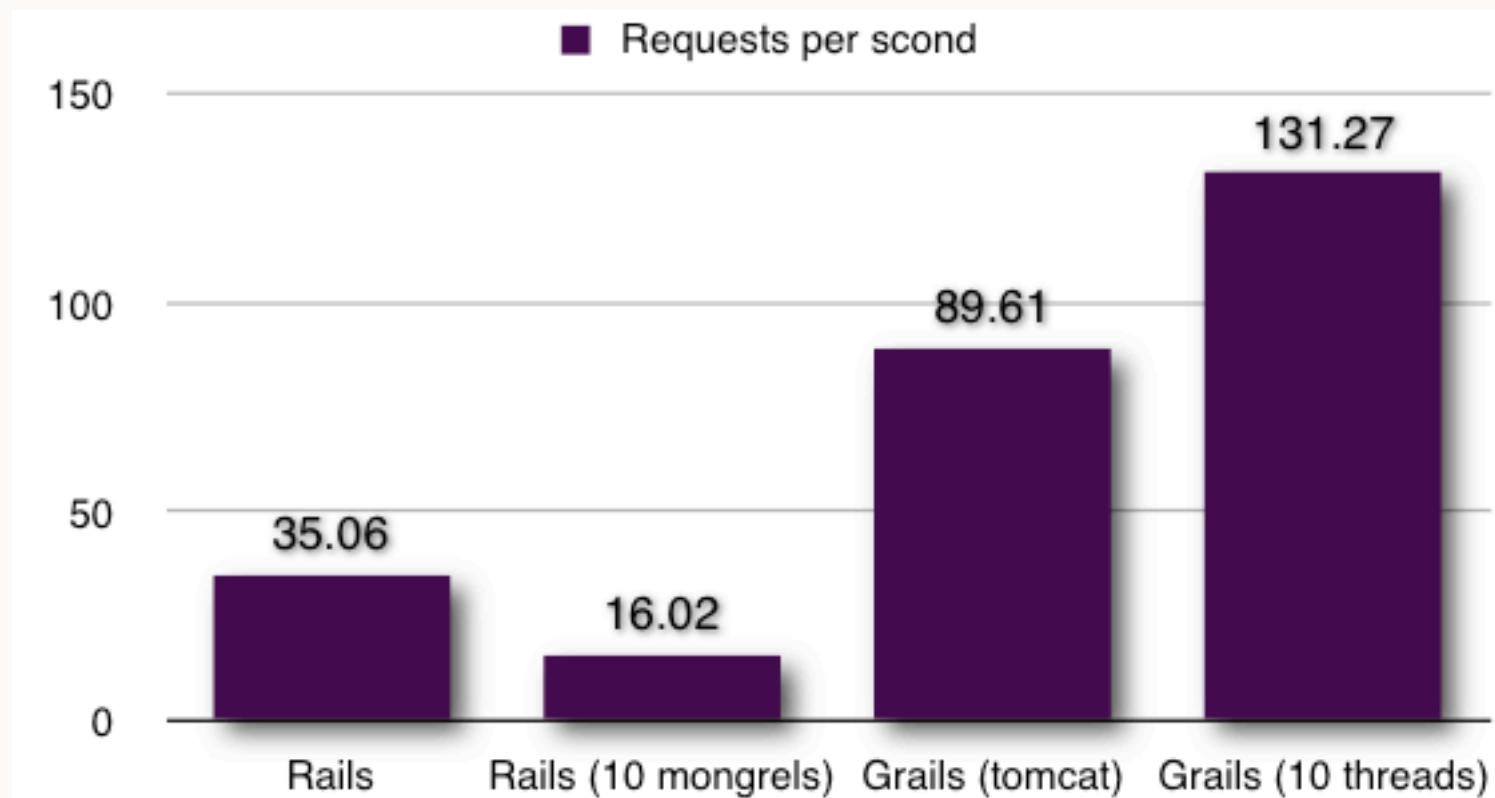
This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0"?>
<resume id="1">
  <affiliations/>
  <educations/>
  <experiences/>
  <publications/>
  <skills/>
  <summary>My Resume</summary>
</resume>
```

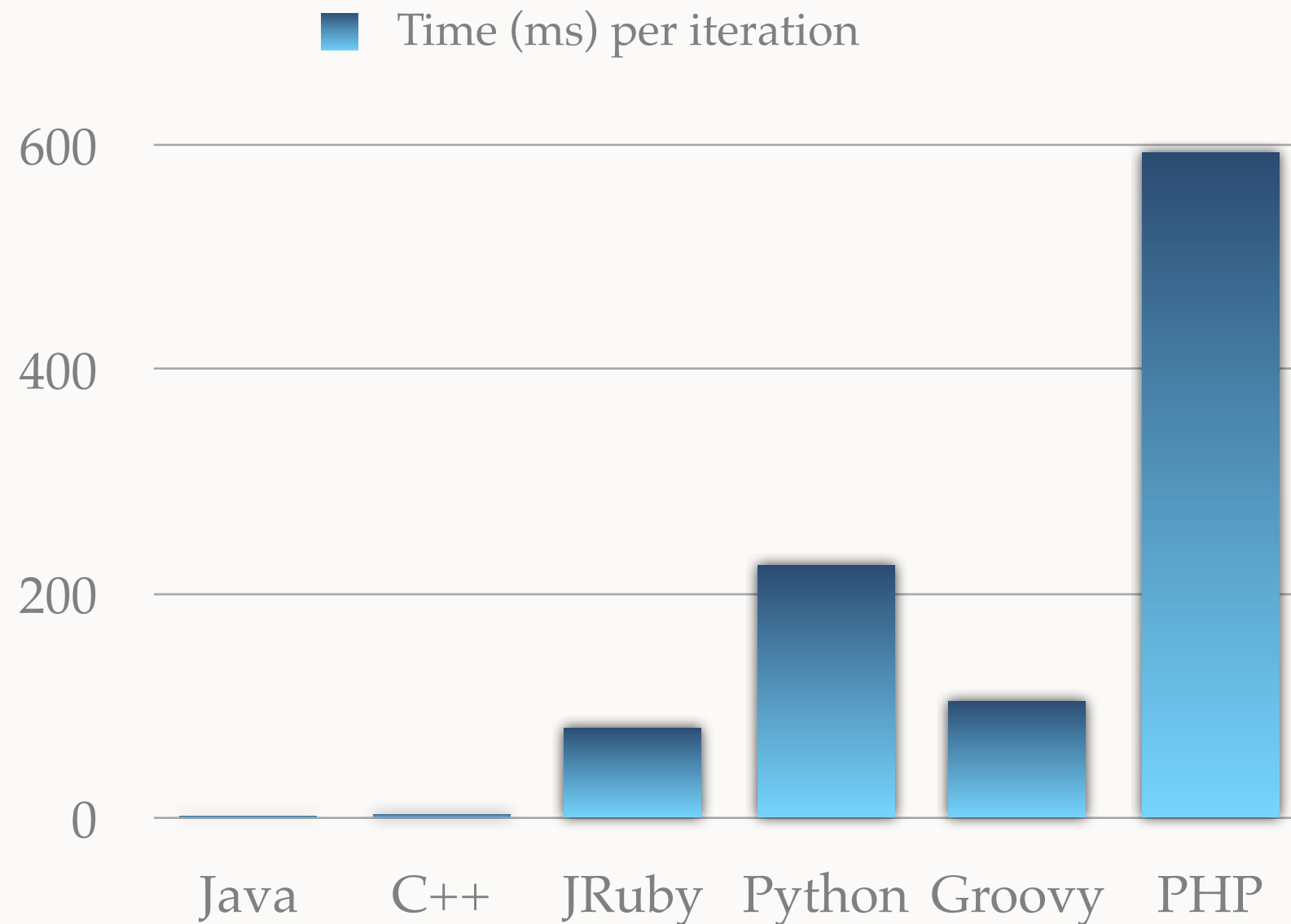

RAILS VS. GRAILS

• <http://grails.org/Grails+vs+Rails+Benchmark>

• Grails: 40 requests per second, Rails: 32

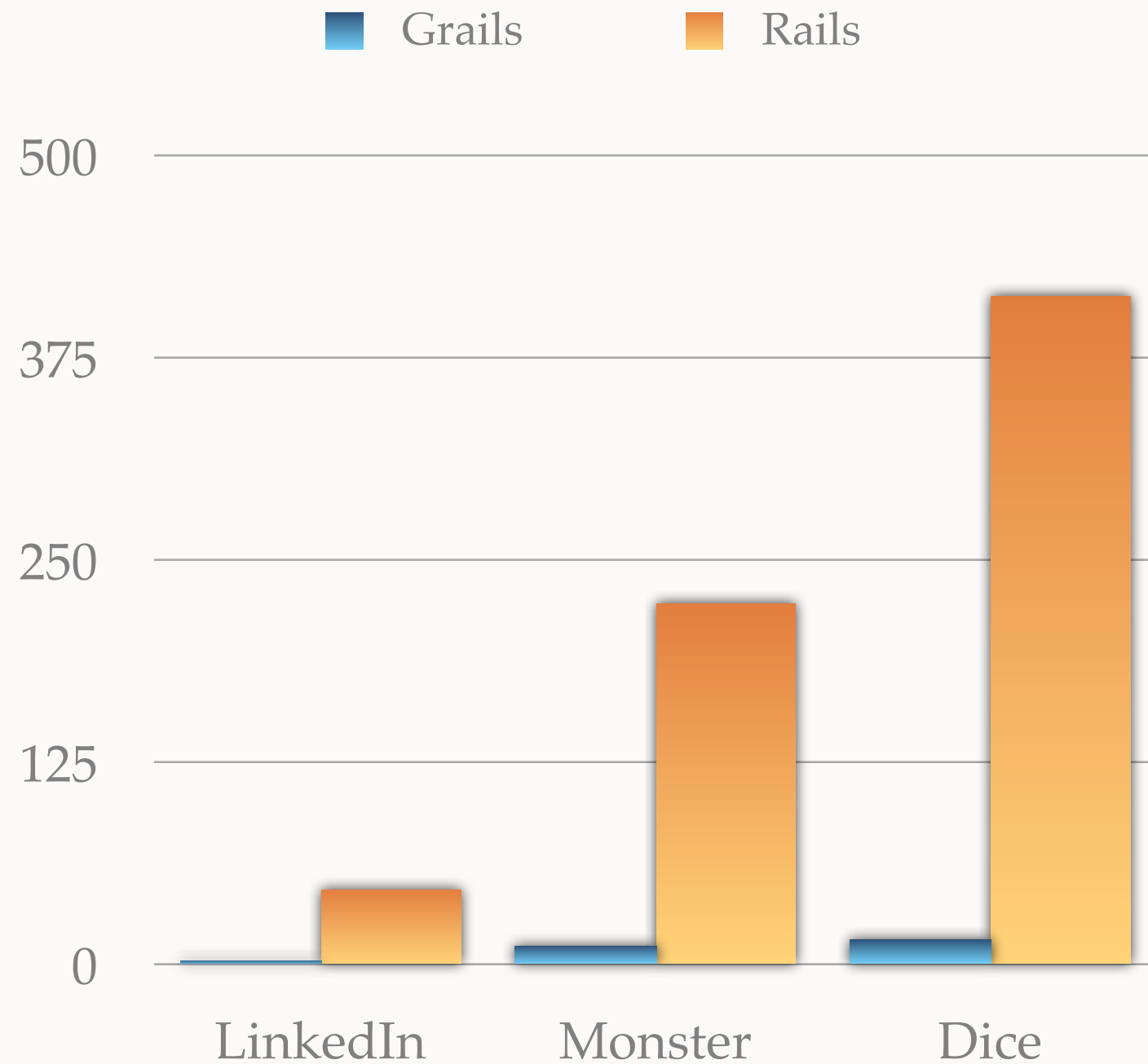


LANGUAGE PERFORMANCE

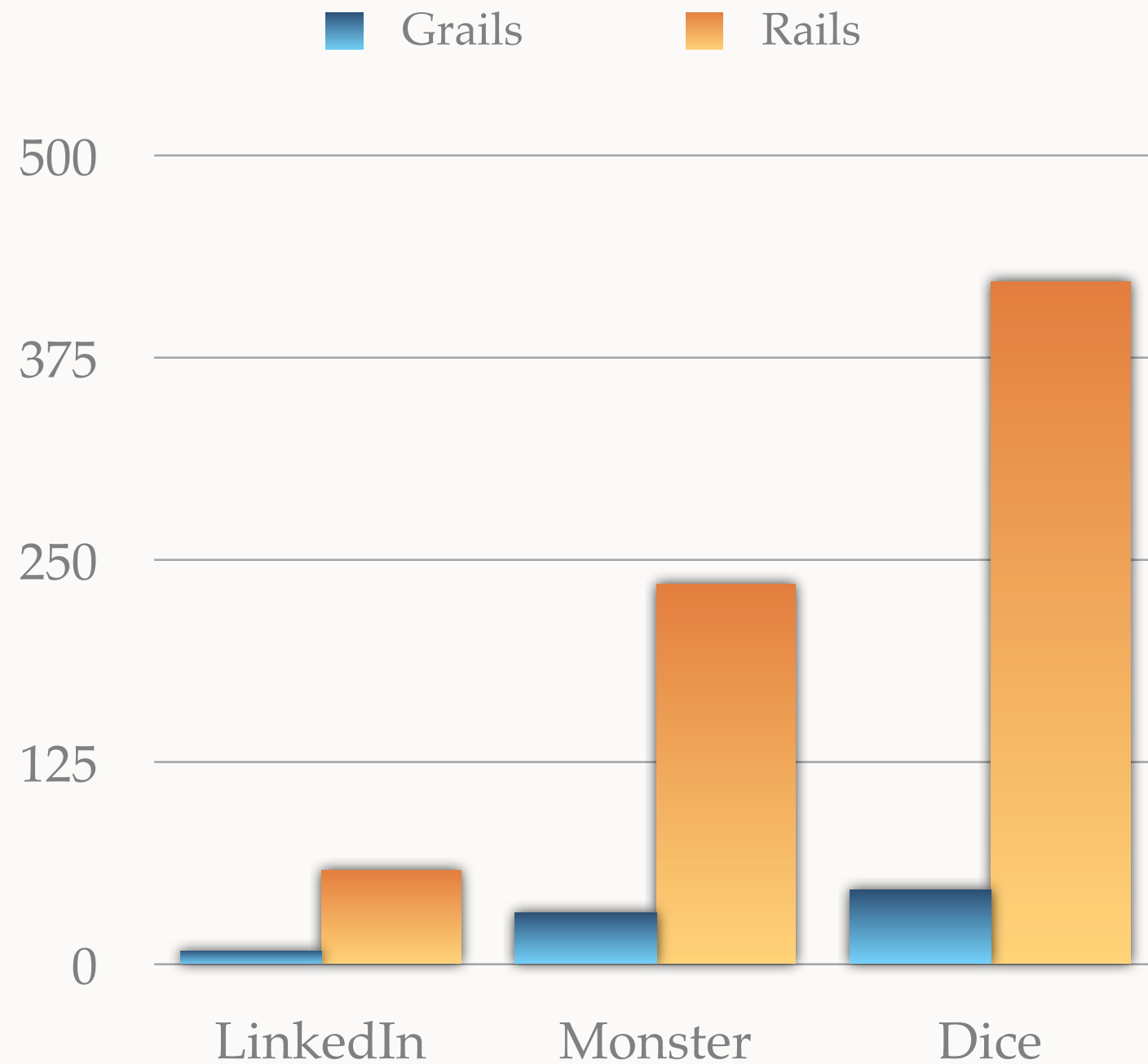


<http://blog.dhananjaynene.com/2008/07/performance-comparison-c-java-python-ruby-jython-jruby-groovy/>

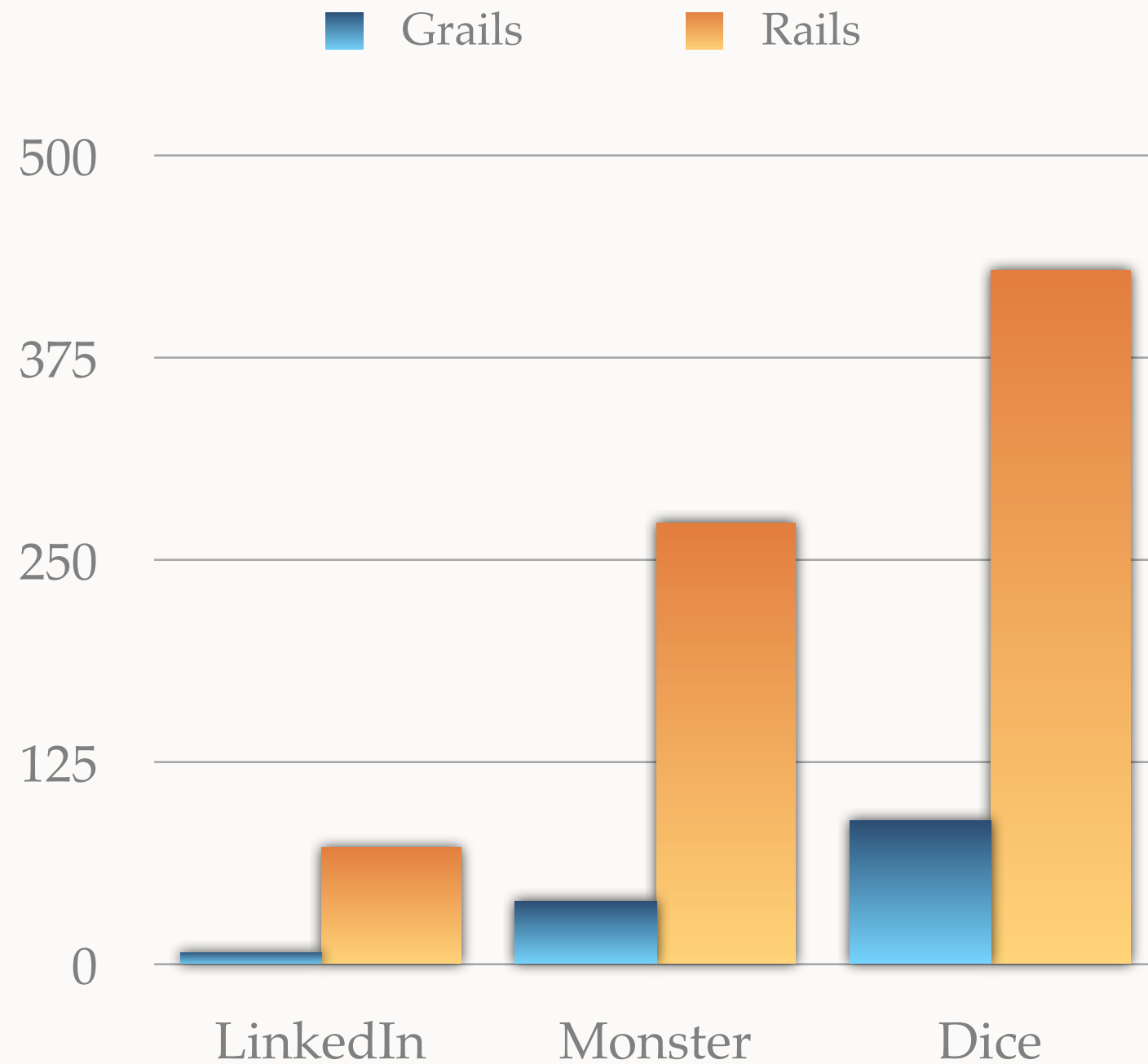
JOBS IN 2008



JOBS IN 2009

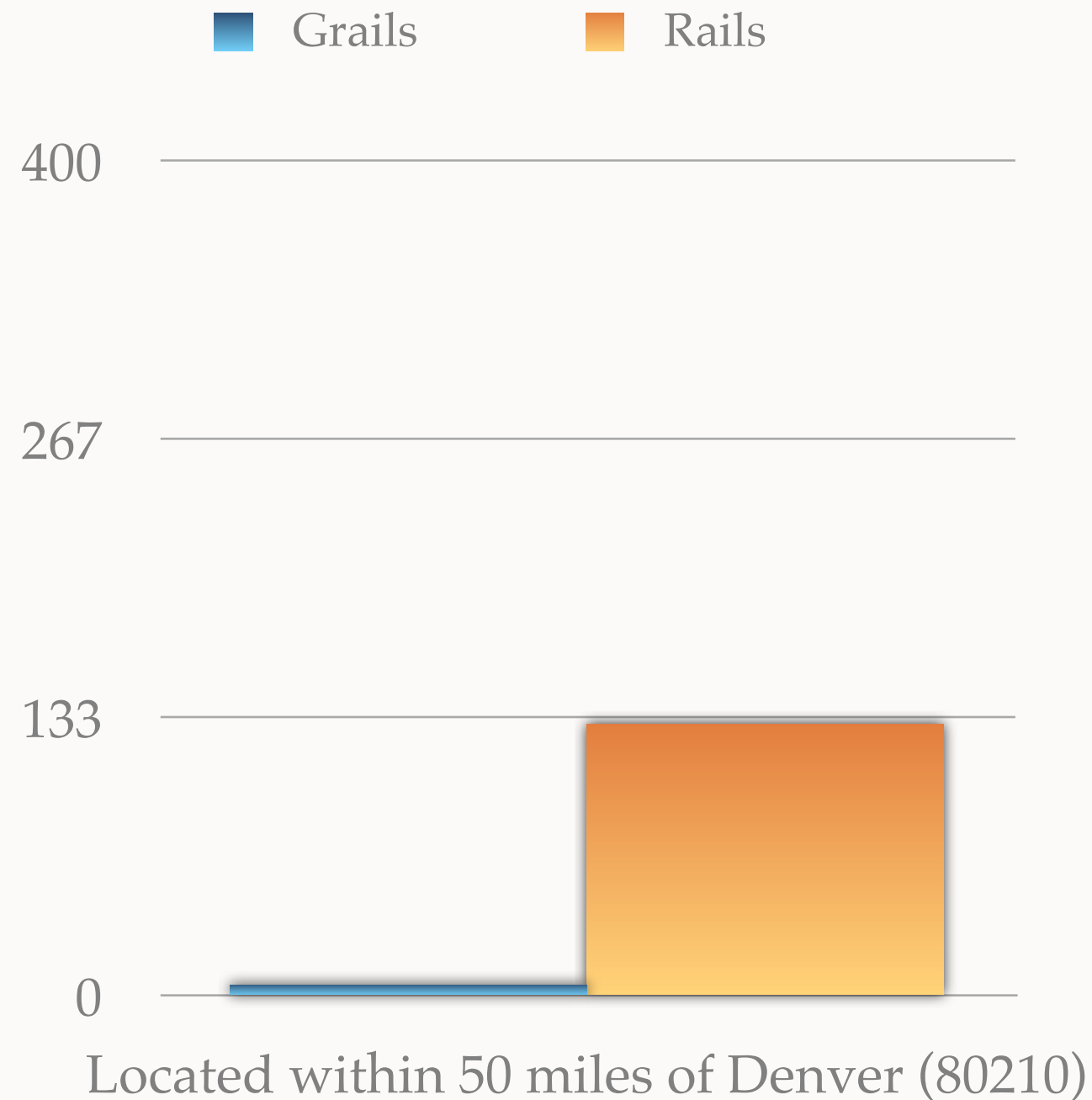


JOBS IN 2010



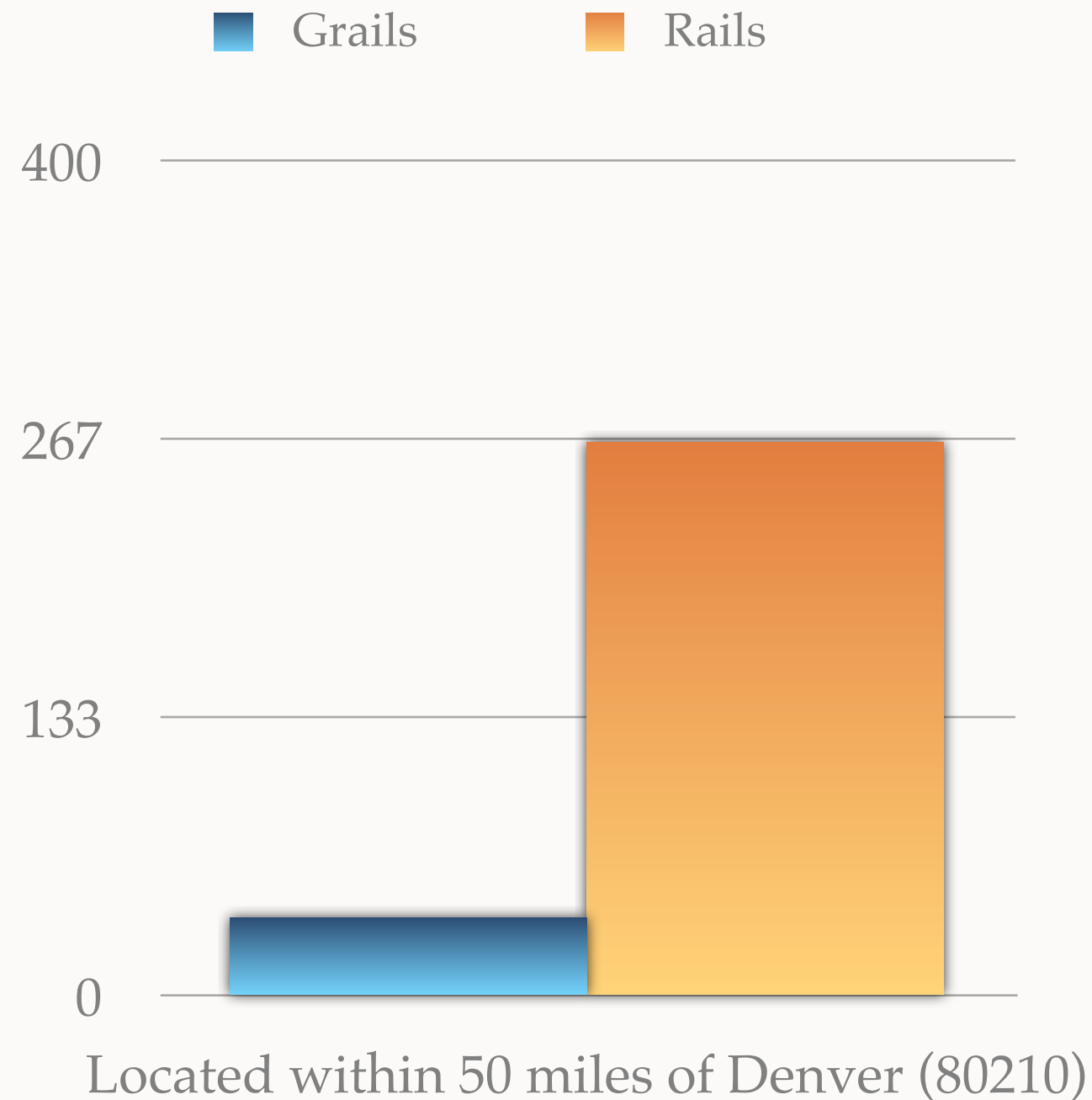
MY **Linked** NETWORK

2008



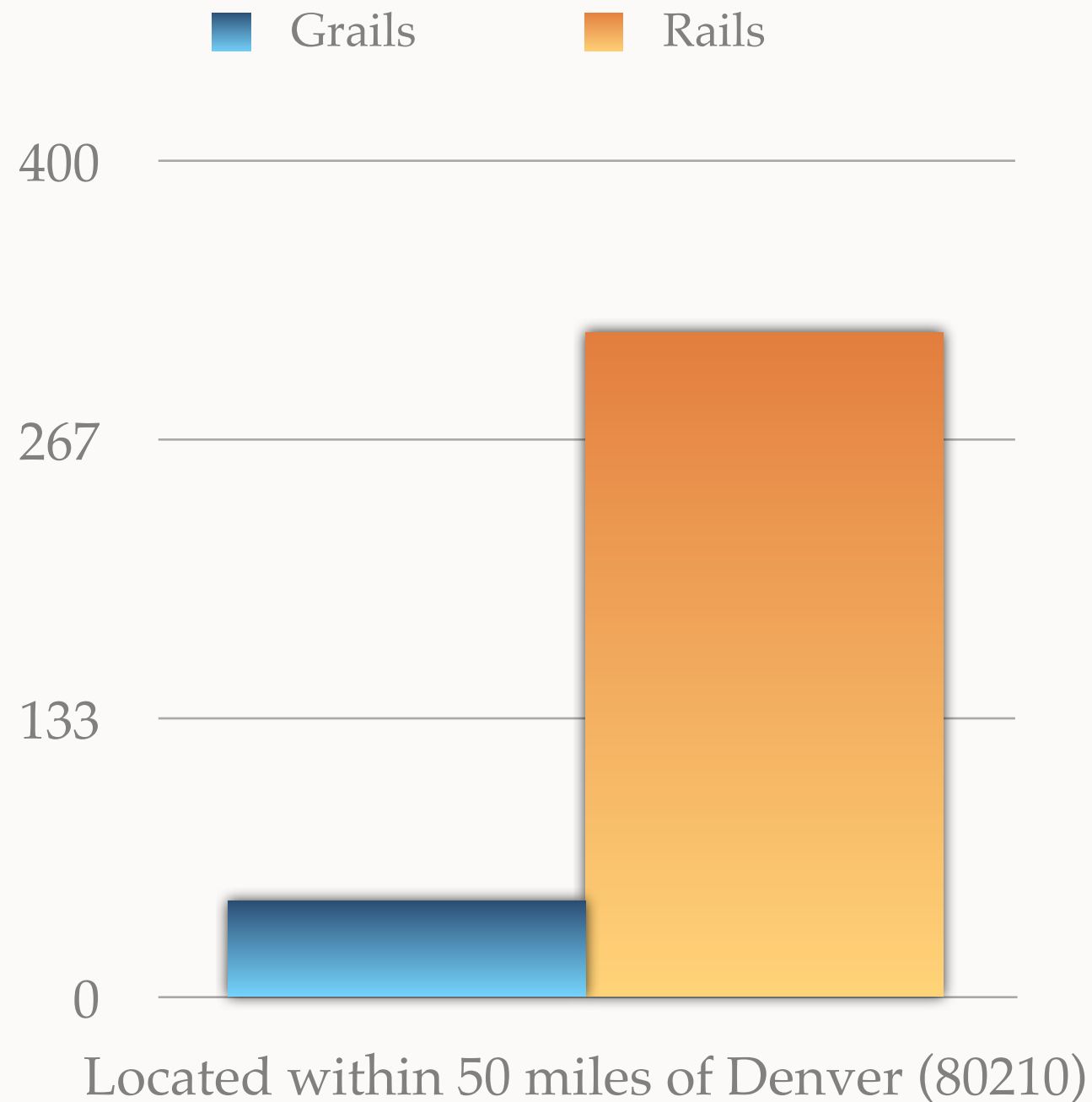
MY **Linked** NETWORK

2009



MY **Linked** NETWORK

2010



FLEX + RAILS

- Flex Scaffold
 - <http://www.railslodge.com/plugins/717-flex-scaffold>
- Flex e-Genial Scaffold
 - <http://rubyforge.org/projects/flexscaffold>
- WebORB for Ruby on Rails
 - <http://www.themidnightcoders.com/weborb/rubyonrails/index.htm>
- `<mx:HTTPService id="..." url="..." resultFormat="..." HTTPMethod="..." result="..." />`

GWT + GRAILS

- GWT Plugin
 - <http://grails.org/GWT+Plugin>
 - Uses Server-side RPC
- RequestBuilder and Overlay Types
 - ProxyServlet handy for development
 - http://raibledesigns.com/rd/entry/developing_and_testing_gwt_client
- RestyGWT and Restlet



GWT VS. FLEX SMACKDOWN!

TEXT

Left-to-right languages
unsupported in Flex



DRAWING

Flex can draw



Fx

PRINTING

Flex has issues printing
from the browser



DRAG N' DROP

Flex has easy drag n' drop
support

Fx



CSS

GWT has CSS support, not
like Flex's proprietary
support



VALIDATORS & FORMATTERS

Flex has effects, form
layout, validators and
formatters

Fx



JSON SUPPORT

GWT supports JSON out-of-the-box



IE6 SUPPORT

Flex works across all
browsers



Fx

IPHONE SUPPORT

GWT works on the iPhone



VIDEO

Flash Video is the absolute
number one video format
on the web



Fx

PERFORMANCE

Making your app “pop”



COMPONENTS

Tour de Flex



Fx

TOOLS

Speed Tracer
IDEs



PROGRAMMING MODEL

“GWT is nothing more
than a JSP Tag Library”

-- *Matt Raible*



FLEX

- Pros:
 - Produces Flash UI
 - Funded by Adobe
 - Has many successful client stories
 - Supports REST easily
- Cons
 - Not Search Engine Friendly
 - Doesn't render HTML content well
 - Doesn't print well by default
 - No Zero Turnaround w/o IDE



GWT

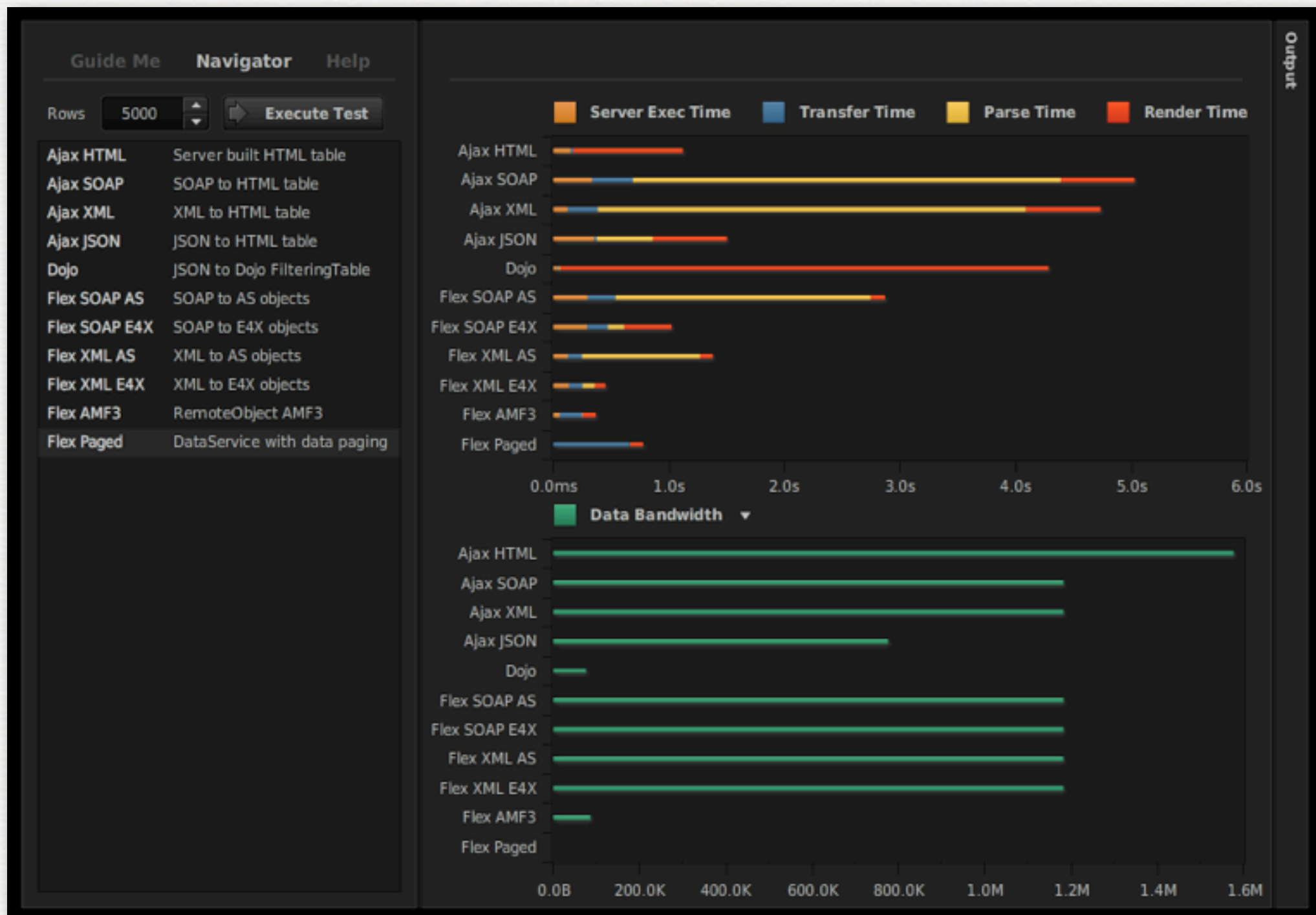
- Pros:
 - Write Java => Produces JavaScript
 - Easy to learn and develop with standard Java tools
 - Vibrant Community
 - Zero Turnaround in Development Mode
- Cons:
 - You have to know Java
 - Slow to compile and test with GWTTestCase
 - More like a JSP Tag Library than a web framework



FLEX VS. GWT

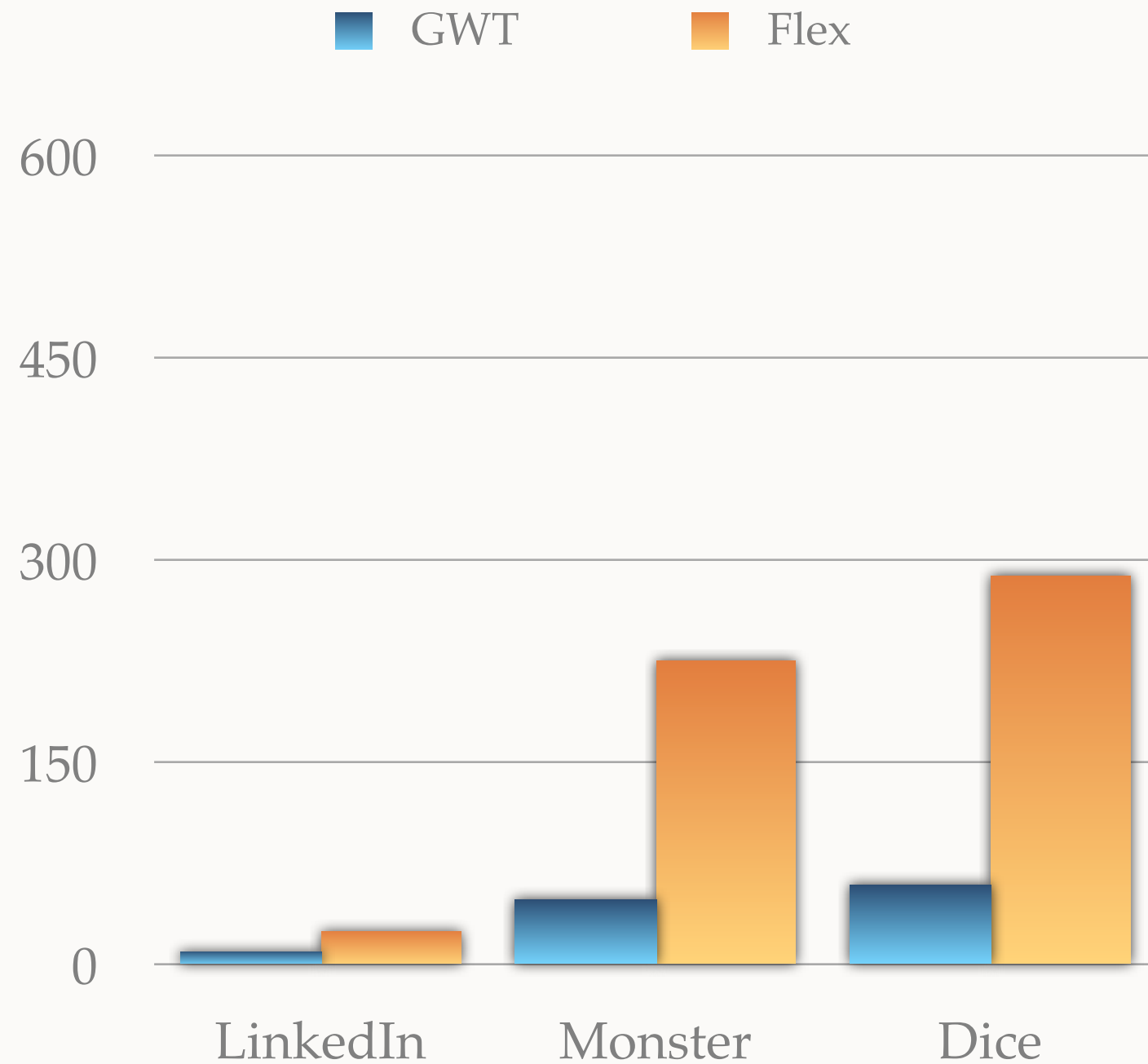
- Ajax vs. Flex
 - <http://anthonyfranco.wordpress.com/2007/06/22/flex-and-ajax-friends-or-foes>
- Use the Best Tool for the Job
 - Open Web: Ajax
 - Video and Rich Media: Flex
 - HTML Rendering: Ajax
 - Vector Graphics and Bitmap Manipulation: Flex
 - Accessibility: Flex

FLEX VS. AJAX PERFORMANCE

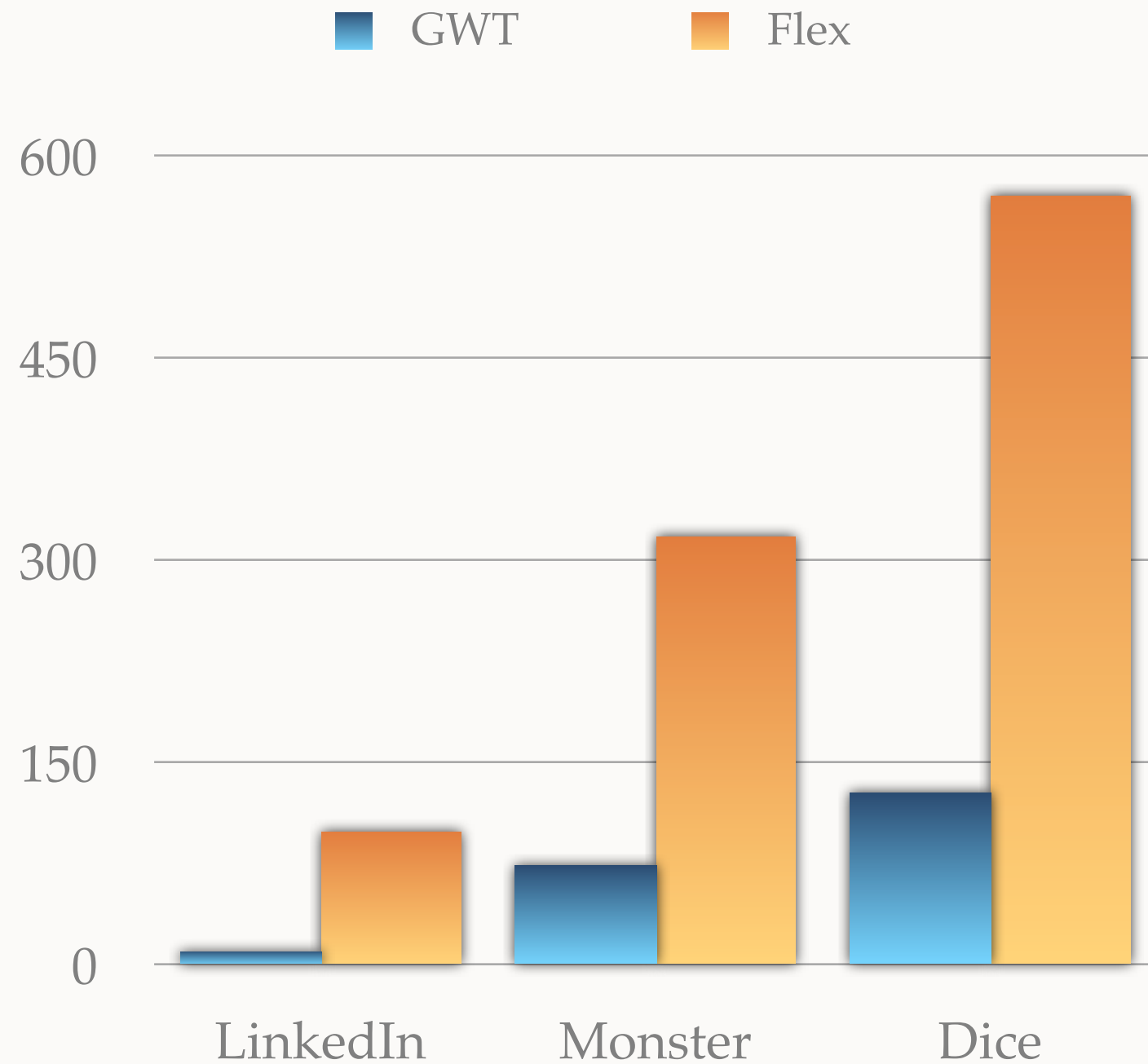


<http://www.jamesward.com/census>

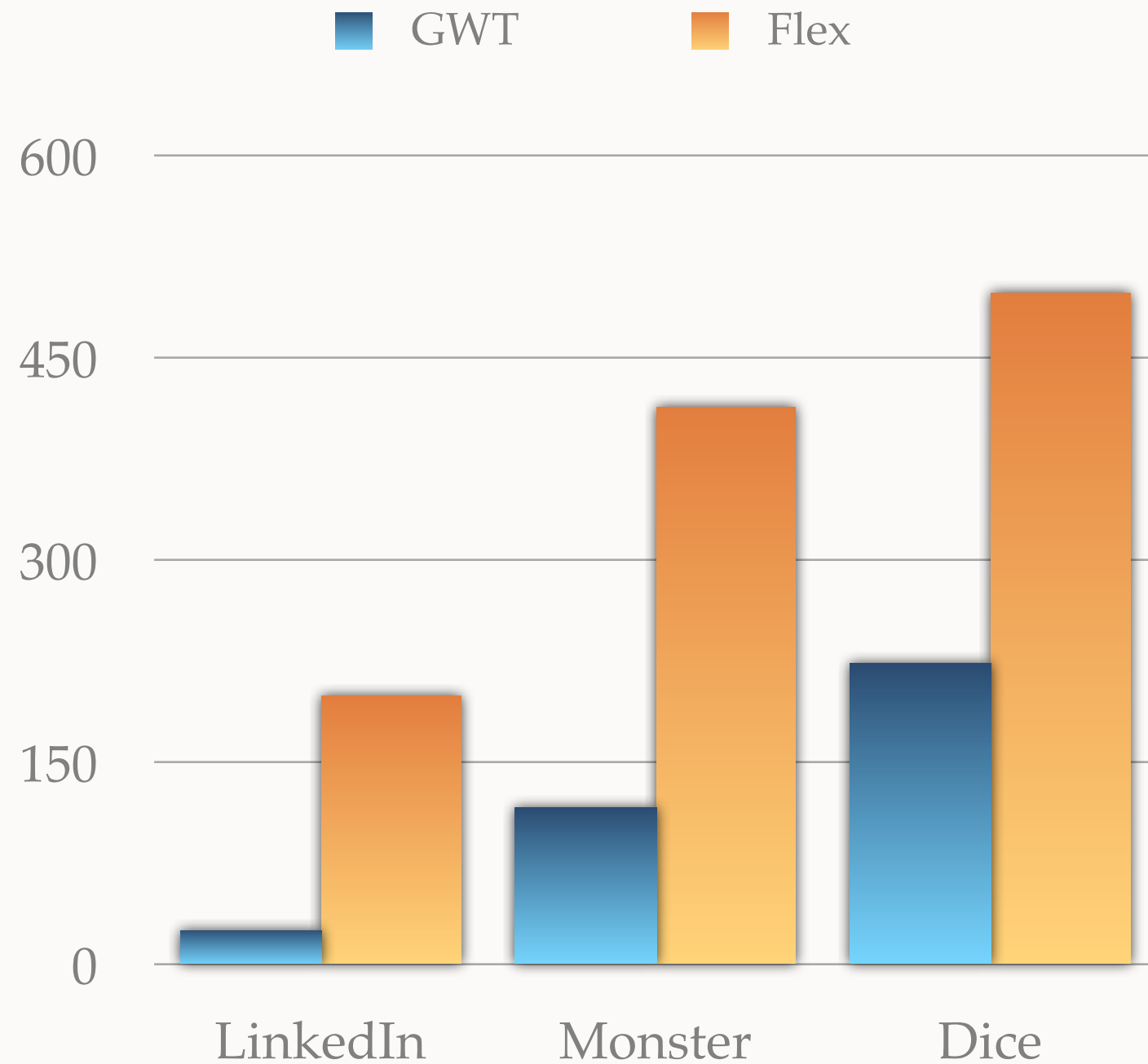
JOBS IN 2008



JOBS IN 2009

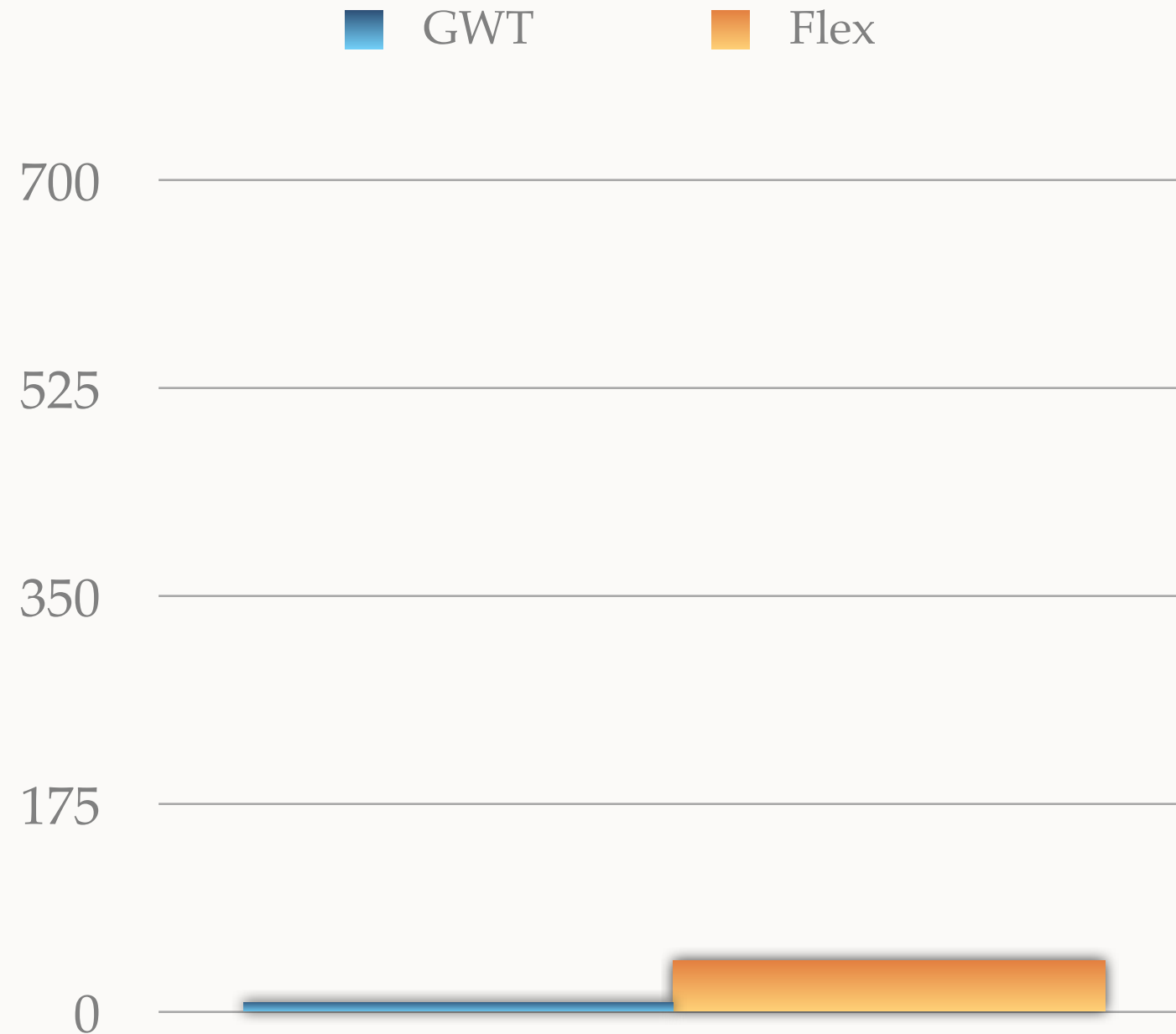


JOBS IN 2010



MY **Linked** NETWORK

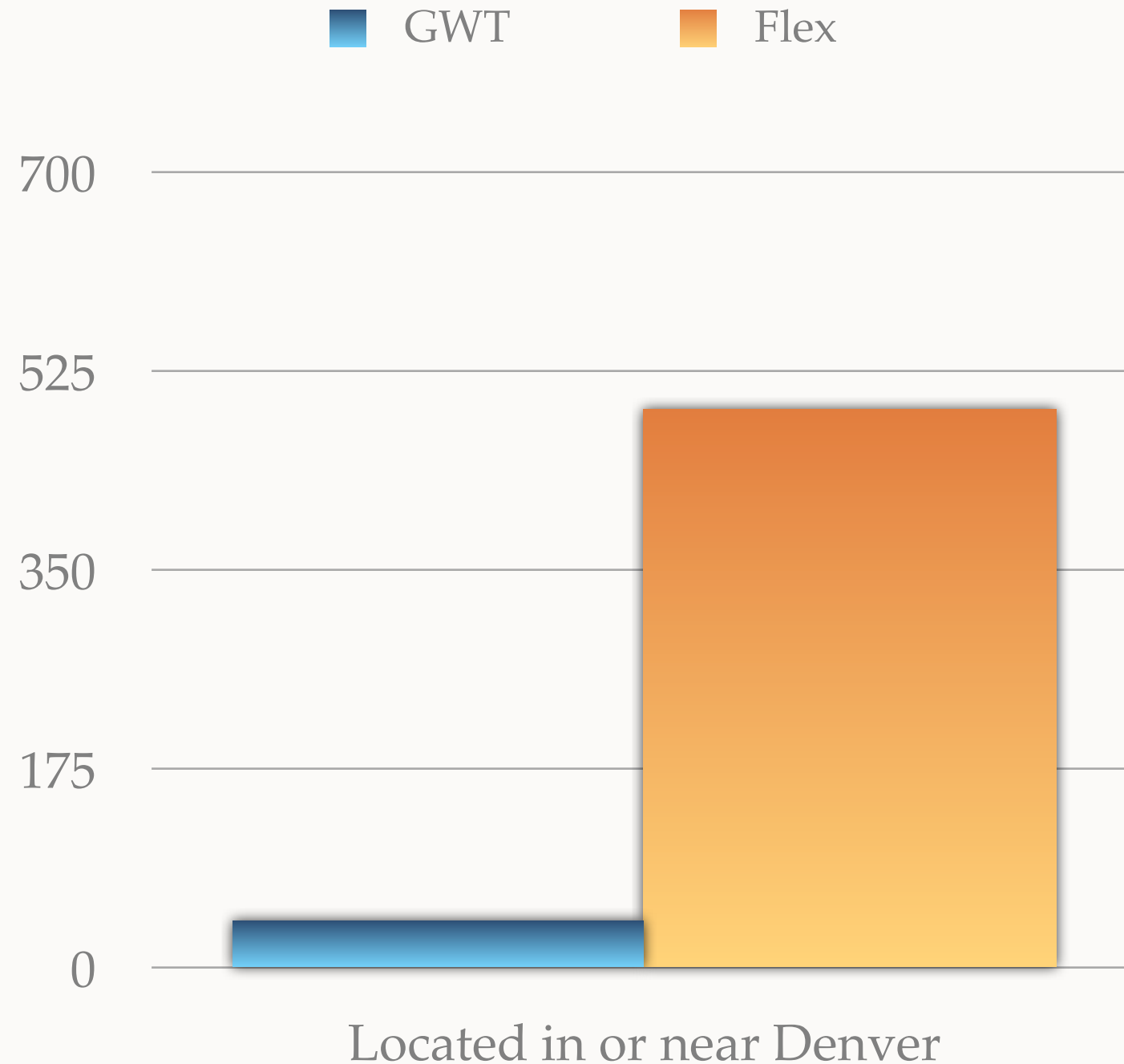
2008



Located within 50 miles of Denver (80210)

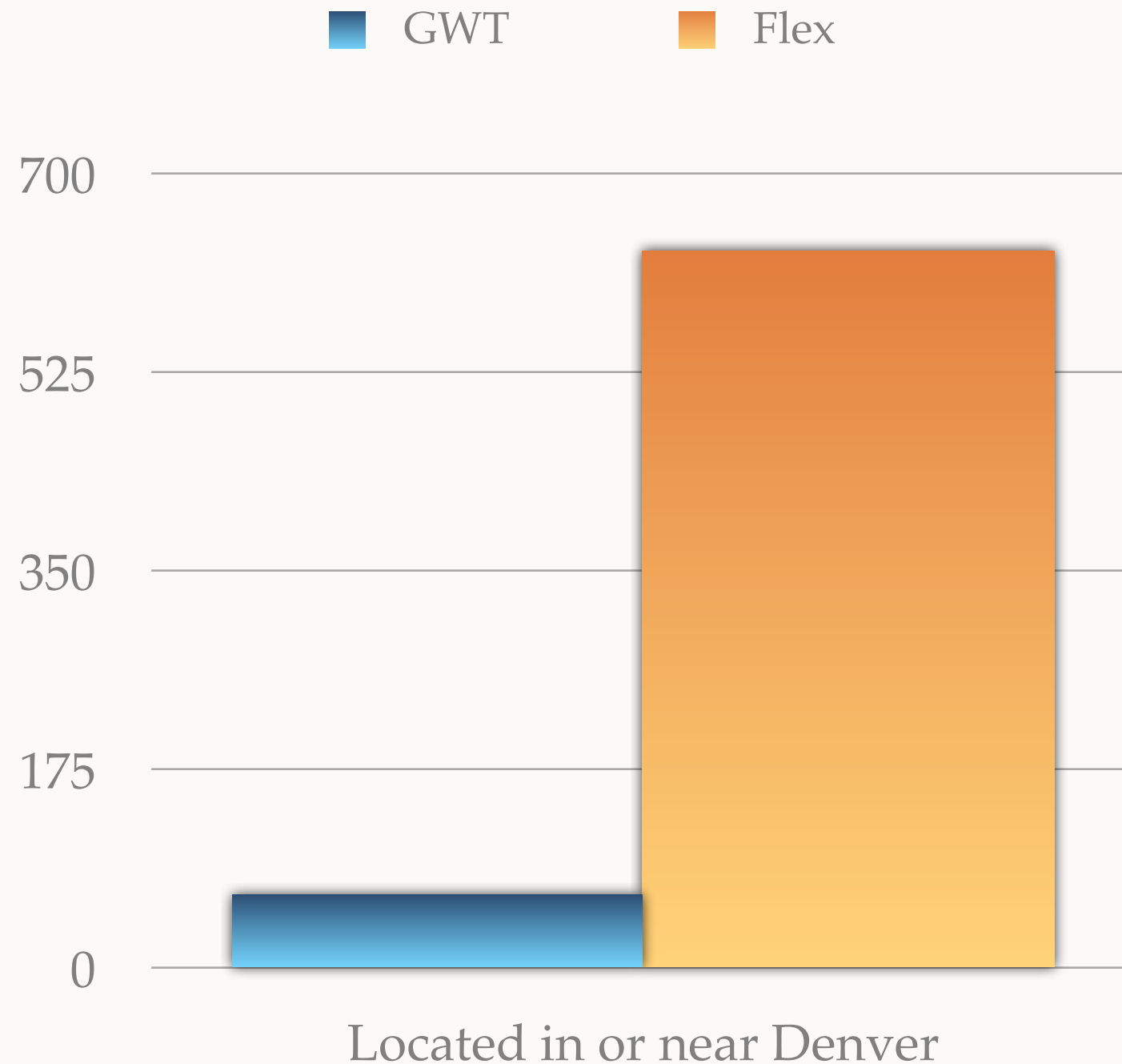
MY **Linked** NETWORK

2009



MY **Linkedin** NETWORK

2010

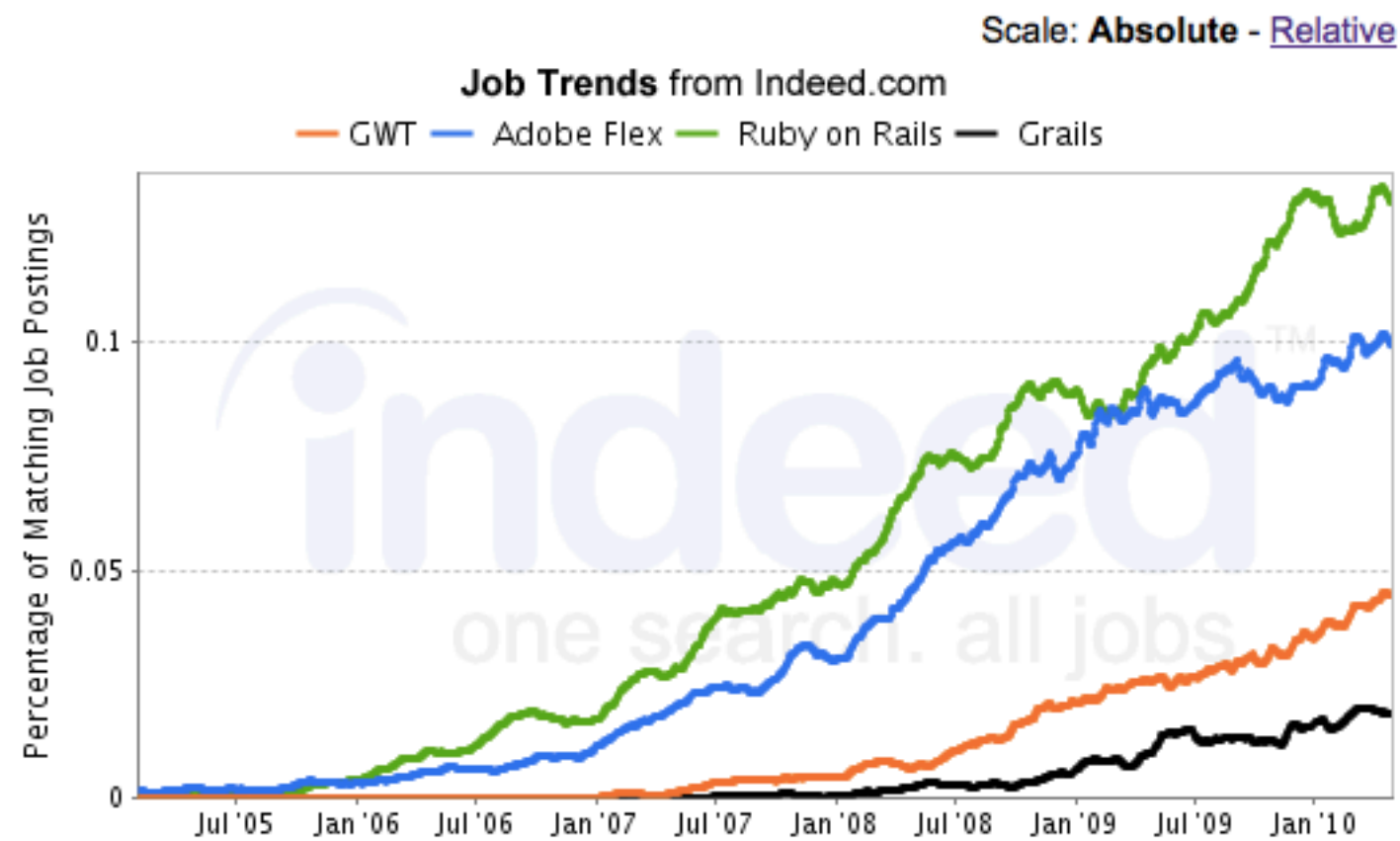


PRETTY GRAPHS



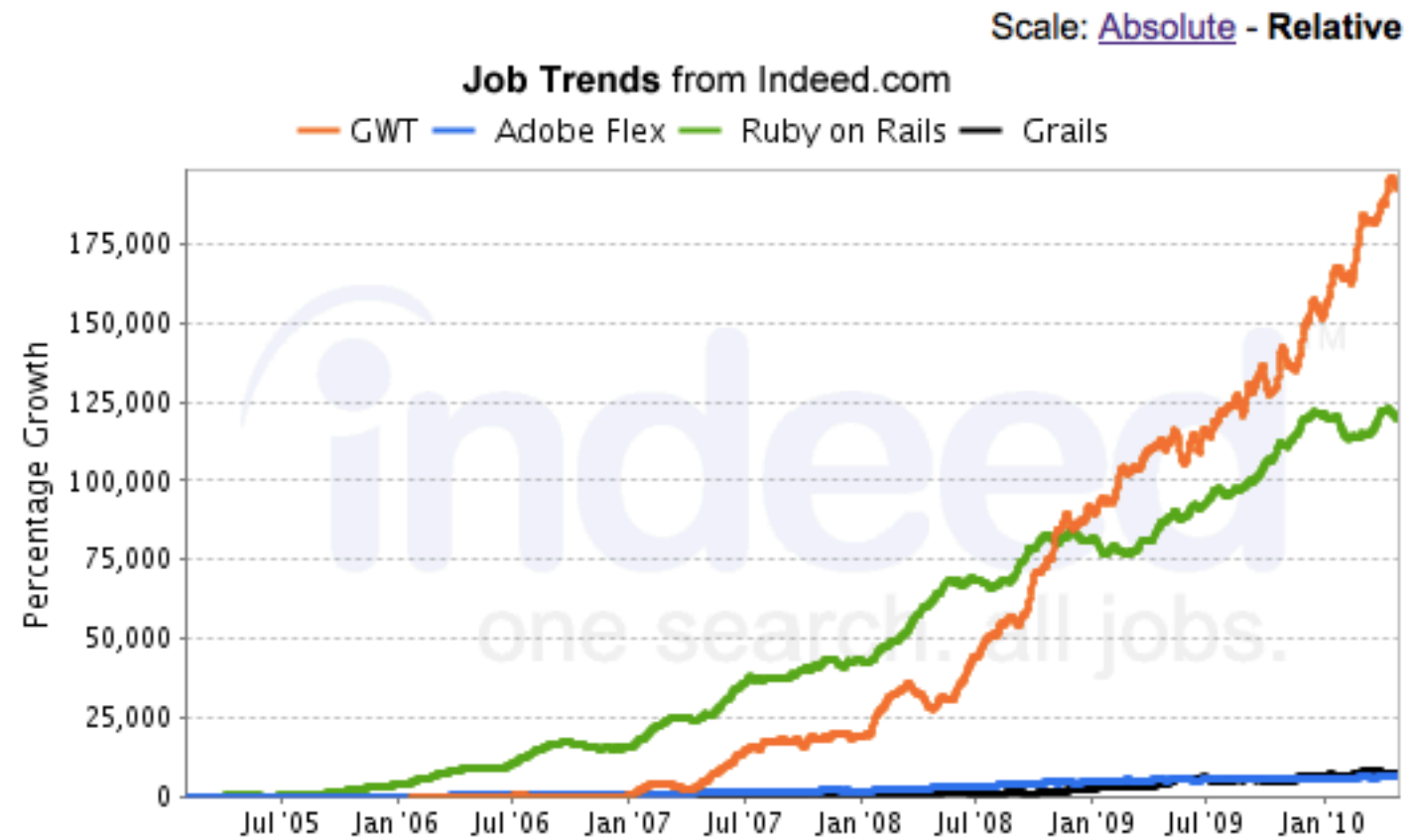
PRETTY GRAPHS

GWT, Adobe Flex, Ruby on Rails, Grails Job Trends



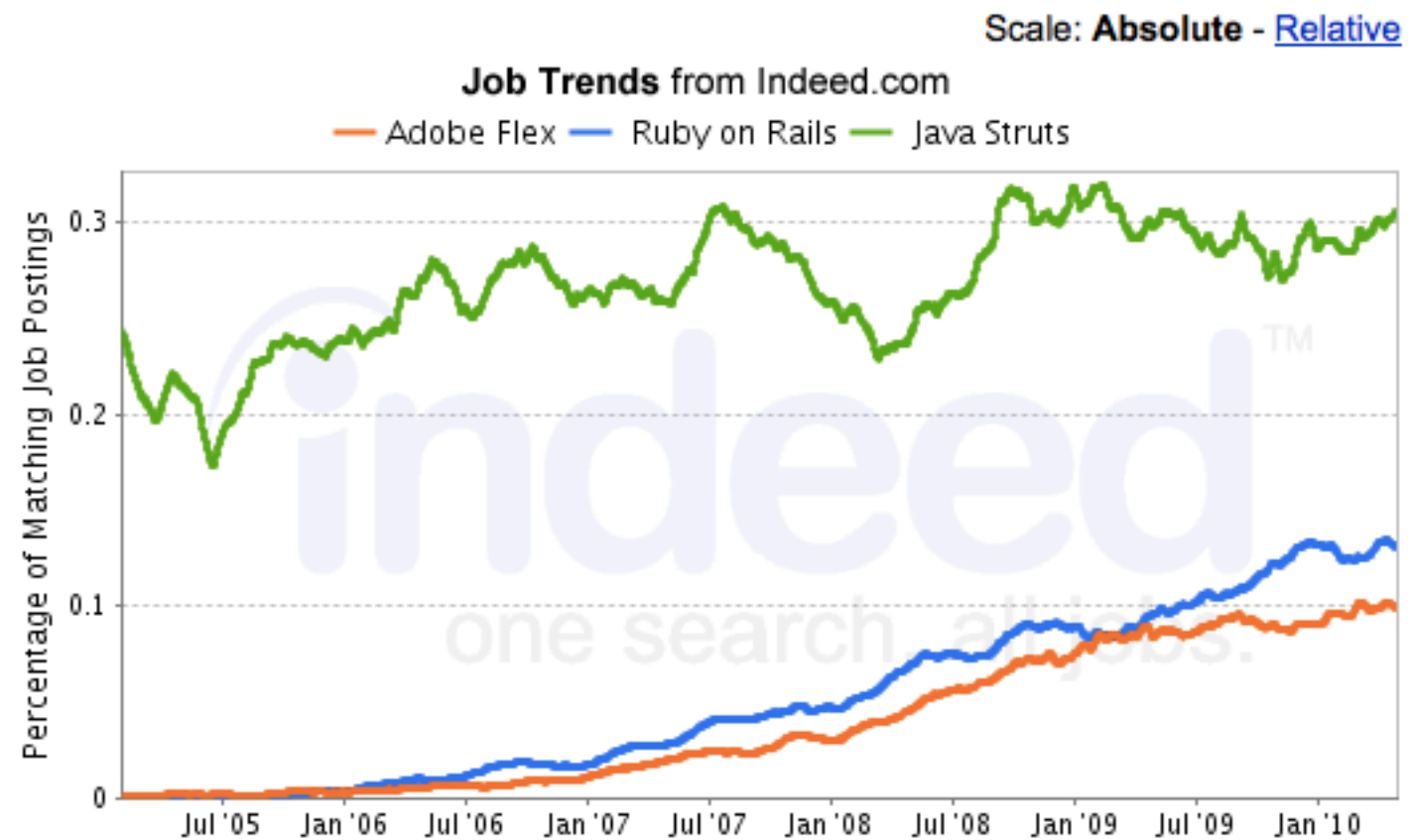
PRETTY GRAPHS

GWT, Adobe Flex, Ruby on Rails, Grails Job Trends



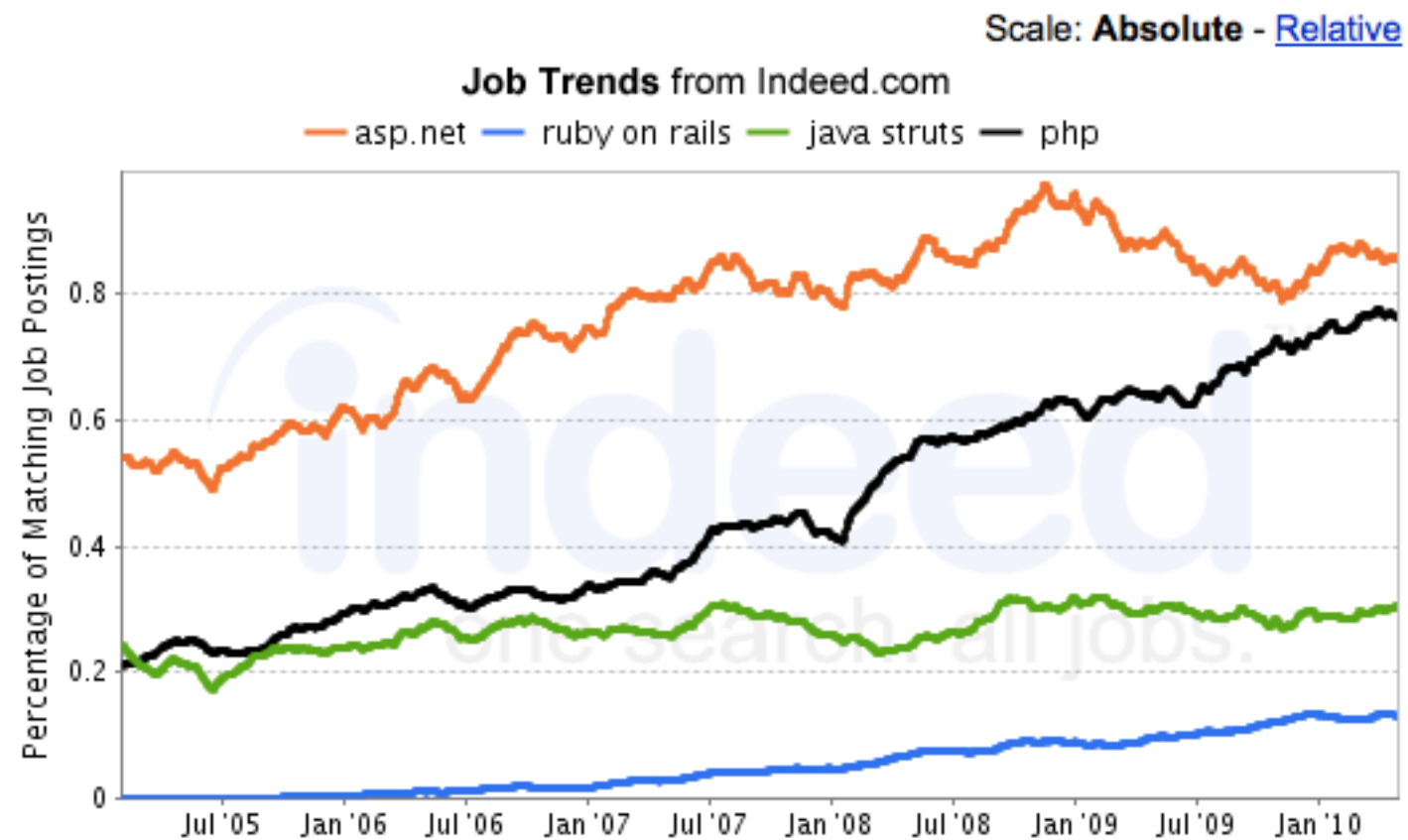
PRETTY GRAPHS

Adobe Flex, Ruby on Rails, Java Struts Job Trends



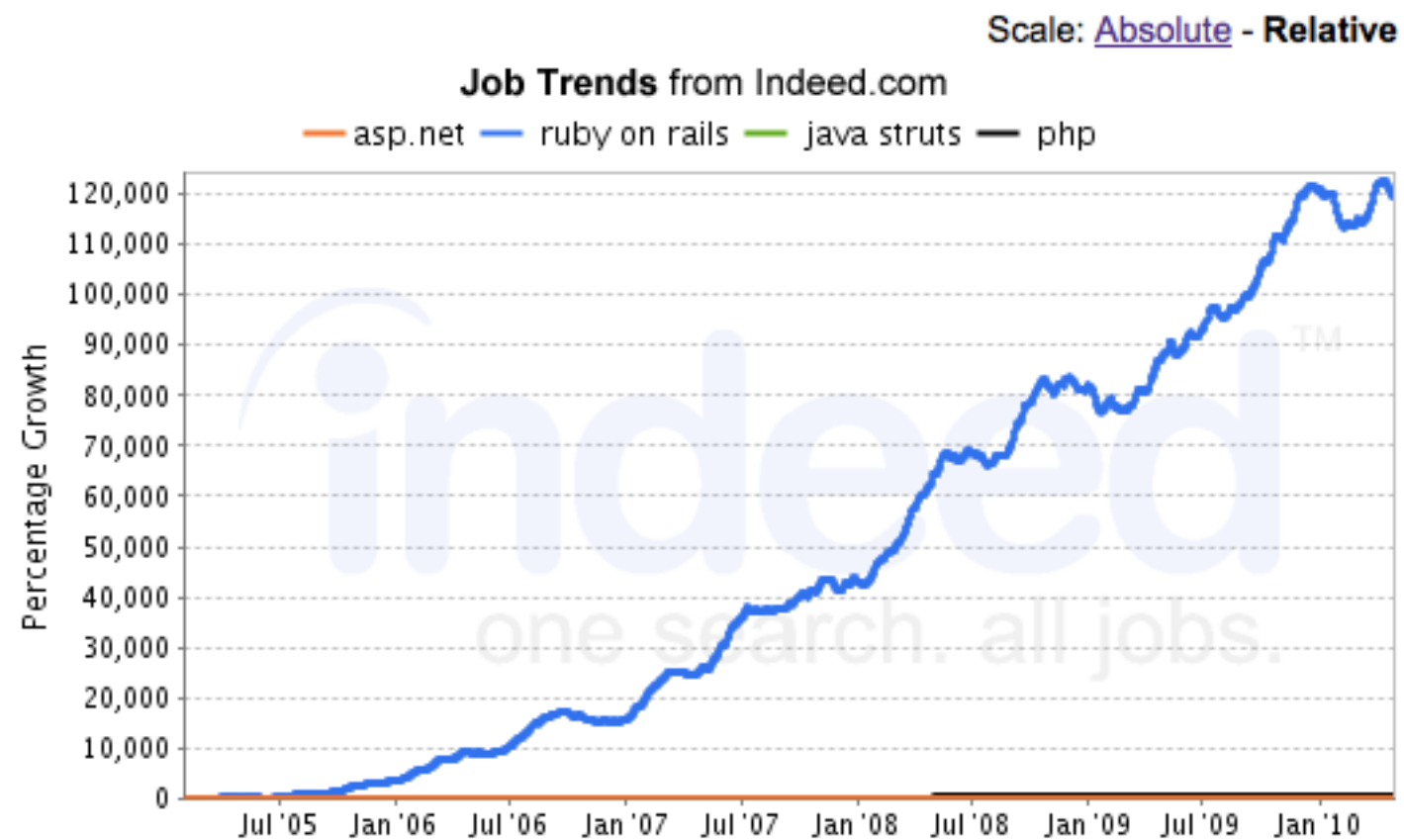
PRETTY GRAPHS

asp.net, ruby on rails, java struts, php Job Trends



PRETTY GRAPHS

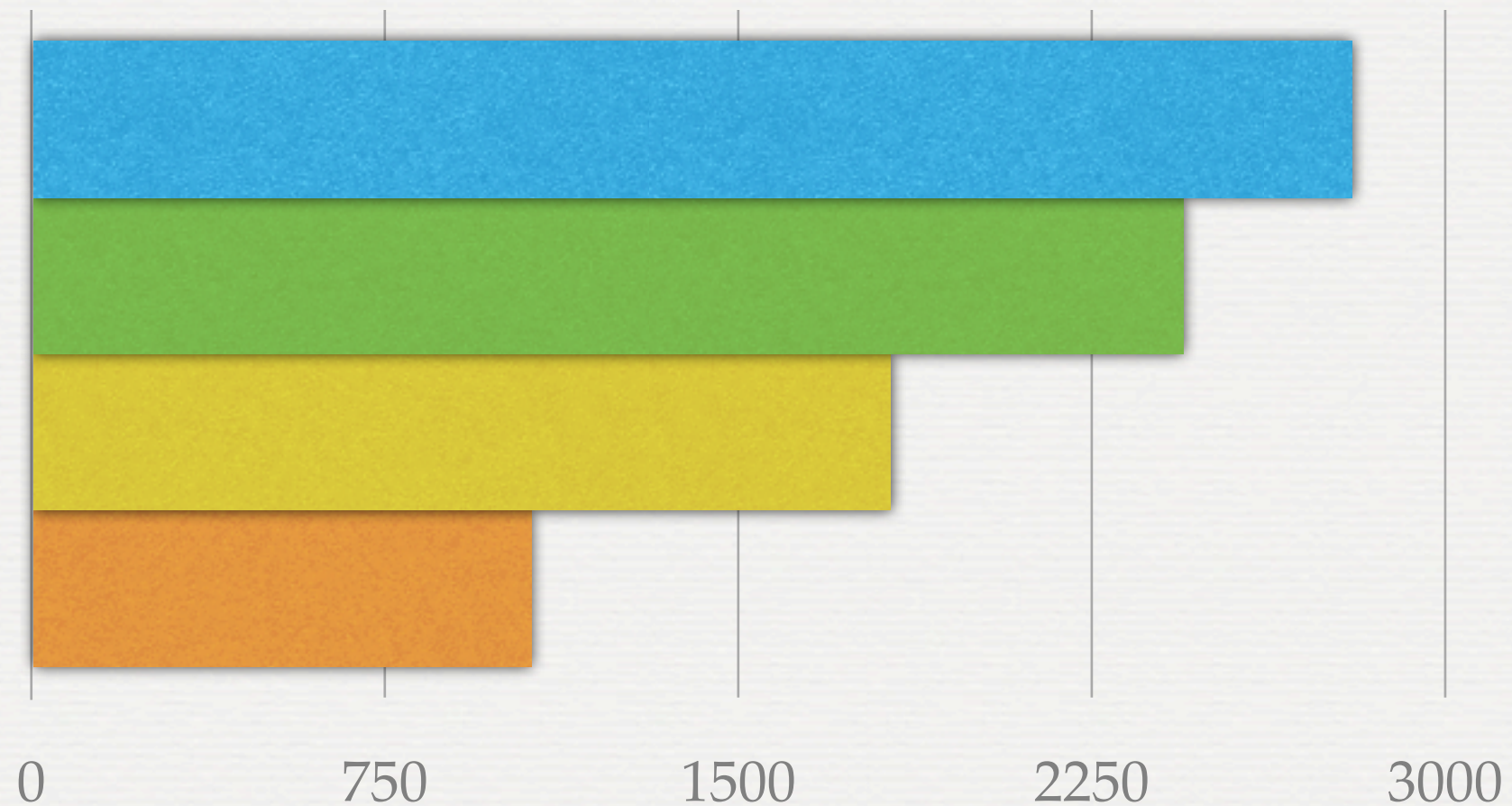
asp.net, ruby on rails, java struts, php Job Trends



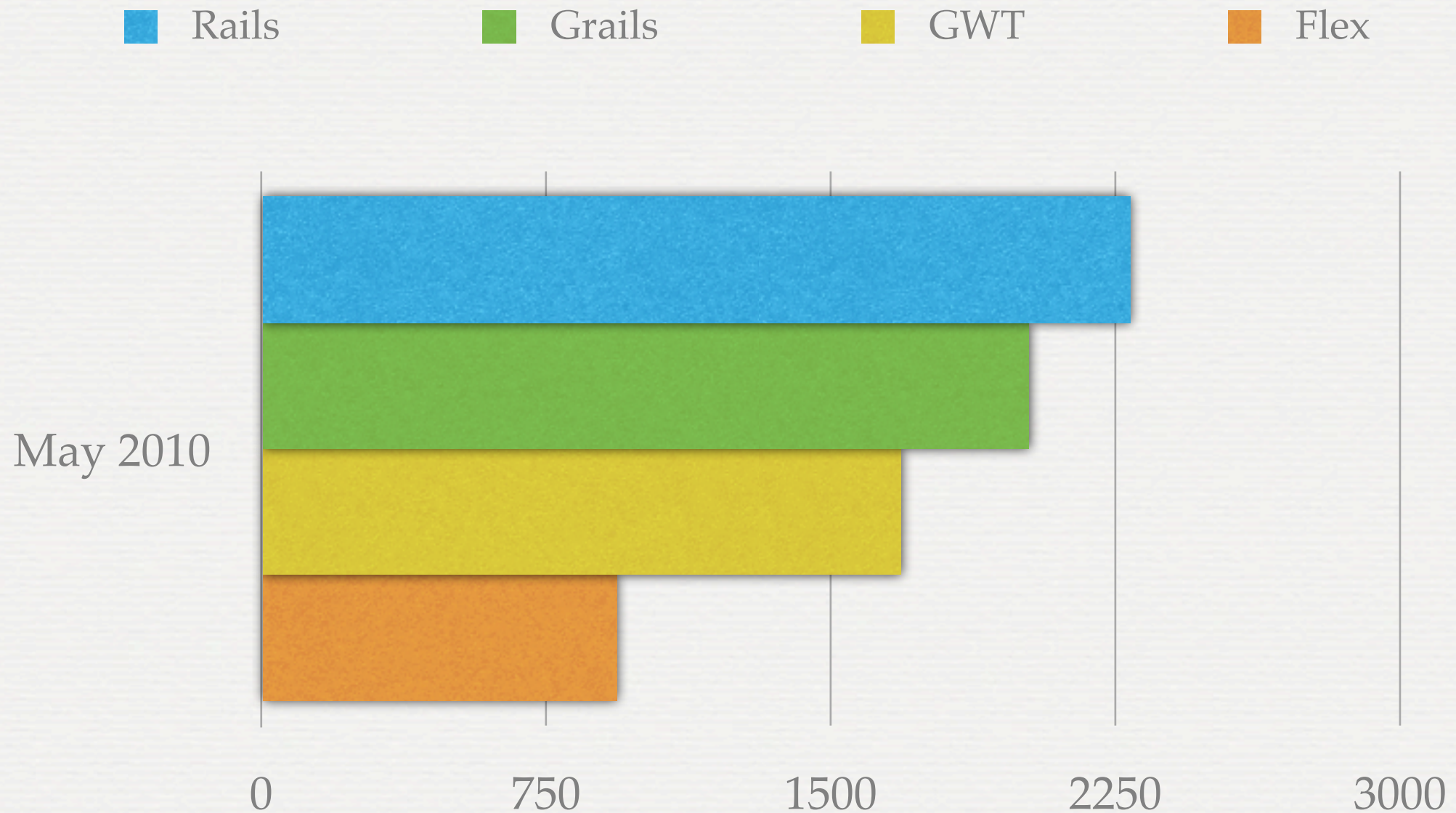
MAILING LIST TRAFFIC

■ Rails ■ Grails ■ GWT ■ Flex

October 2009

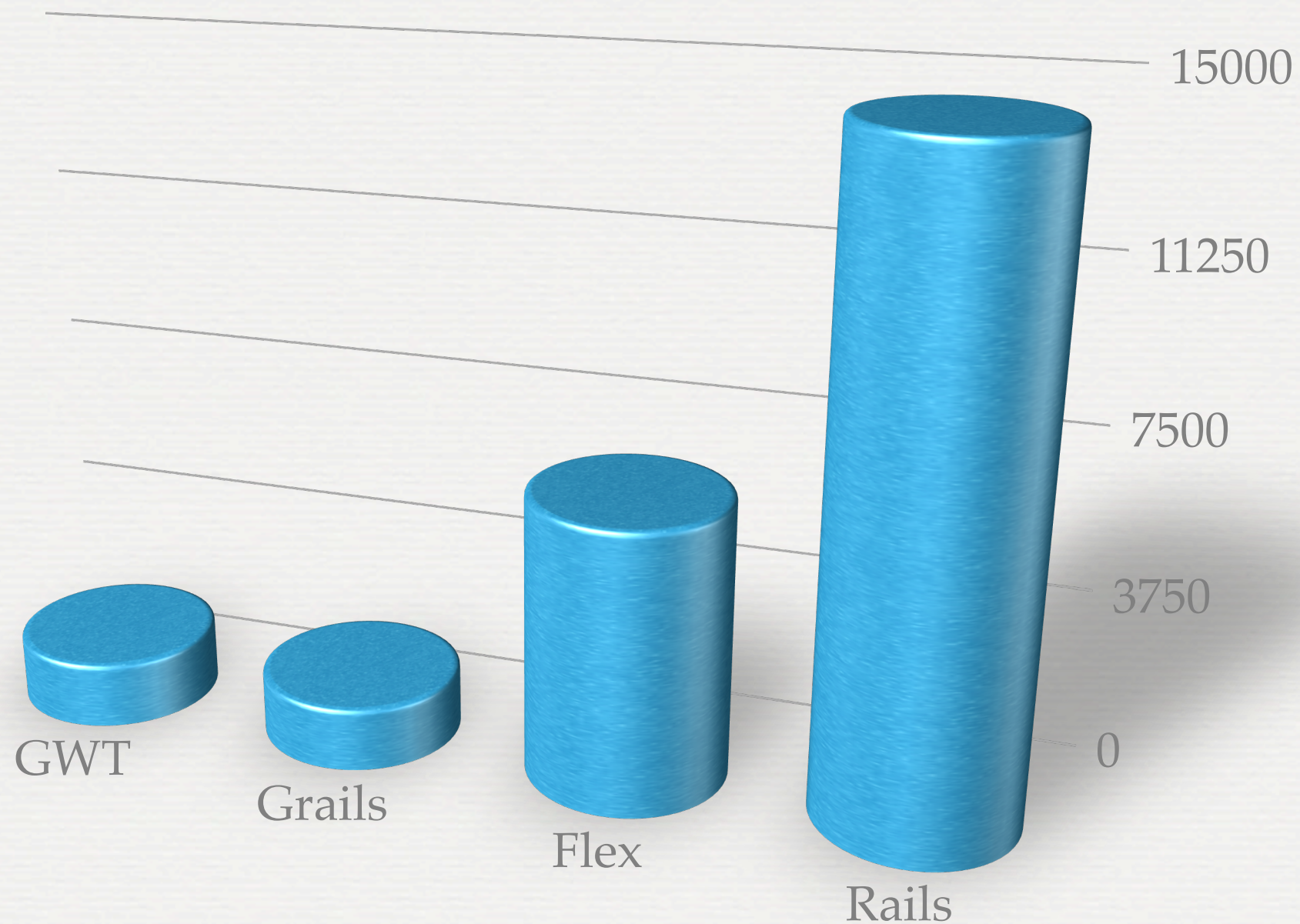


MAILING LIST TRAFFIC



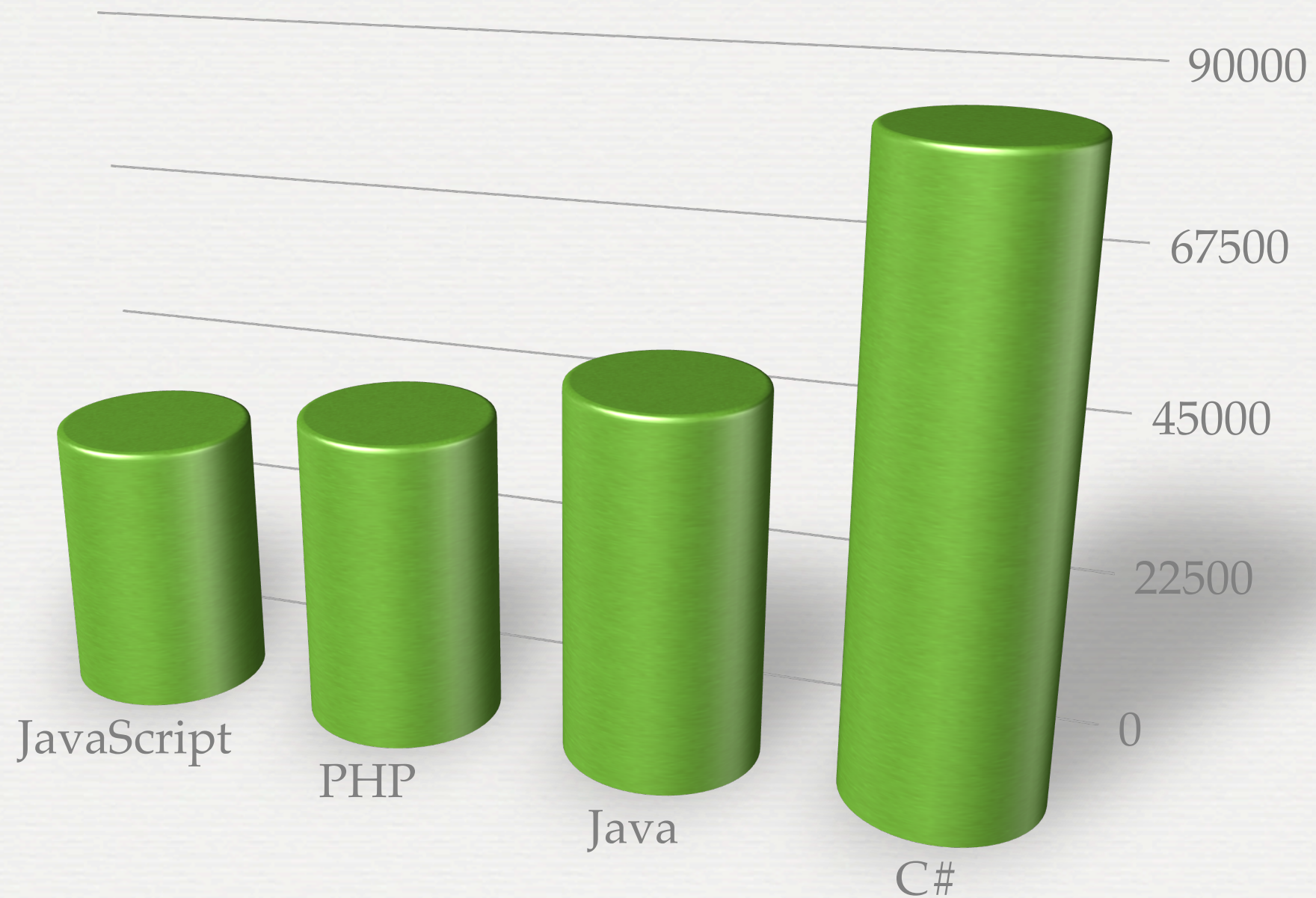
STACKOVERFLOW

■ Tagged Questions (June 7, 2010)



STACKOVERFLOW

■ Tagged Questions (June 7, 2010)



GRAILS

- <http://grails.org>
- Apache 2.0 License
- Active Community @
<http://grails.org/Community>
- Recommended Books:
 - Getting Started with Grails
 - Grails: A Quick-Start Guide
 - Programming Groovy



RUBY ON RAILS

- <http://rubyonrails.org>

- MIT License

- Active Community @

- <http://rubyonrails.org/community>

- Recommended Books:

- Agile Web Development with Rails

- Rails for Java Developers



ADOBE FLEX

- <http://www.adobe.com/products/flex>
- Flex SDK under Mozilla Public License
- Active Community @ <http://tech.groups.yahoo.com/group/flexcoders>
- Recommended Books:
 - Flexible Rails
 - Flex 3 in Action
 - Flex on Java



GOOGLE WEB TOOLKIT

- <http://code.google.com/webtoolkit>
- Apache 2.0 License
- Active Community @ <http://groups.google.com/group/Google-Web-Toolkit>
- Recommended Books:
 - GWT in Action
 - GWT in Practice
 - Google Web Toolkit Solutions





CONCLUSION

What if there is no "best" web framework?

HOW TO CHOOSE?

- 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!



ONES TO WATCH

Google Sitebricks and Play! framework

QUESTIONS?

Contact Information

<http://raibledesigns.com>

<http://twitter.com/mraible>

Download Presentation

<http://slideshare.net/mraible>

