

# Technology Trends and Gleaning Opportunities



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# Topics



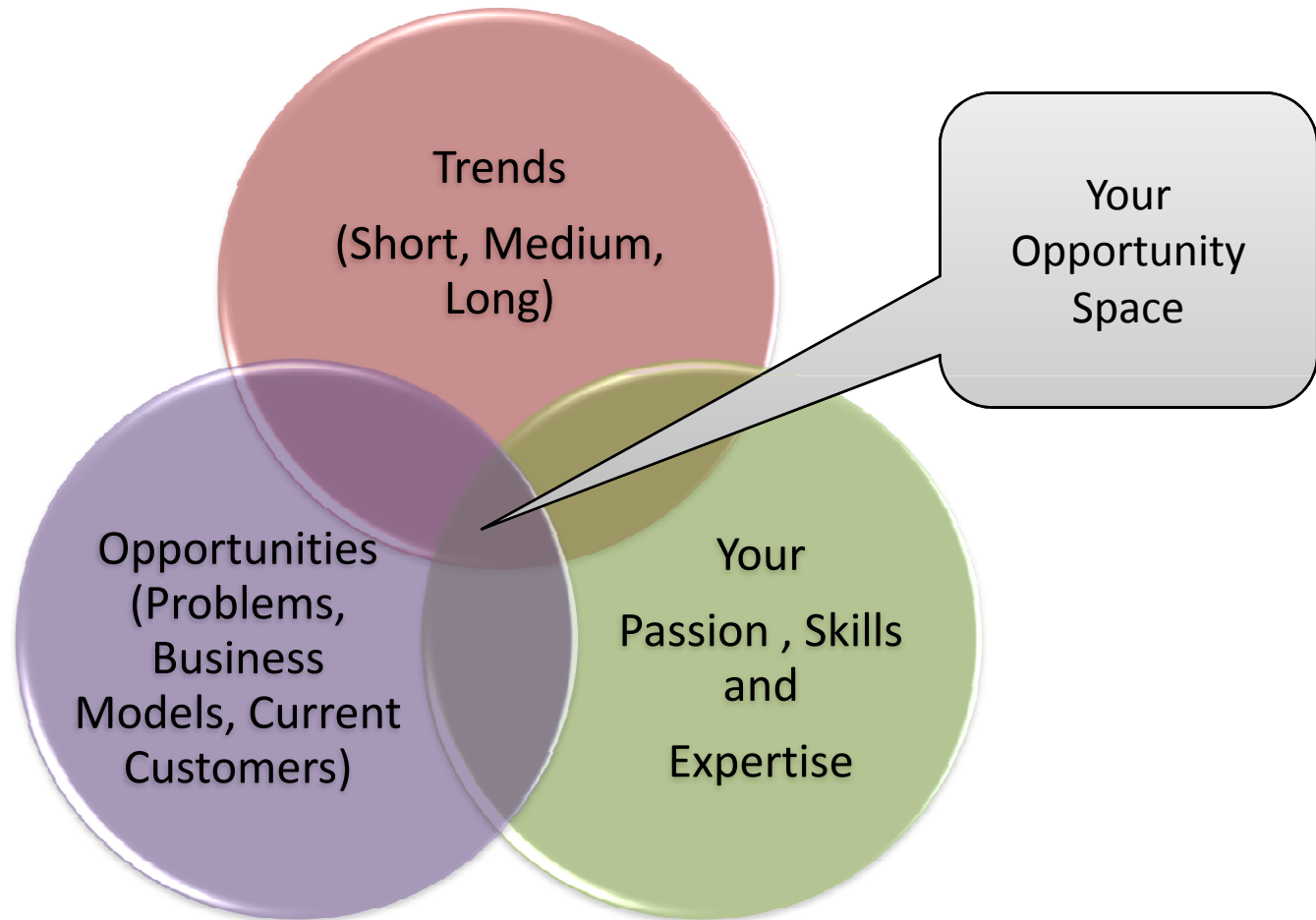
- Why Track Trends?
- How Do You Look At Trends?
- Validating Trends
- Tools And Resources
- How Do You Leverage Trends
- What Are The New Basic Skills?
- A Few Trends

# Why Track Trends?

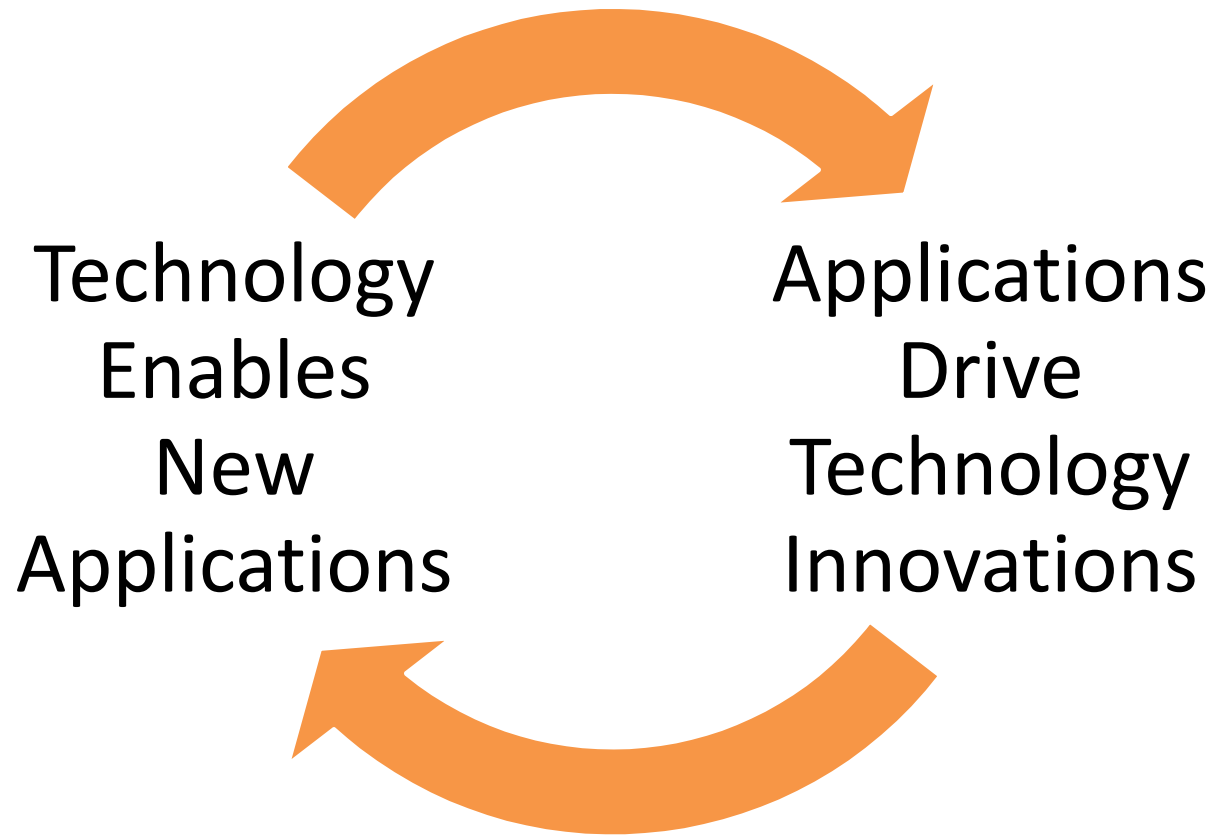


- Trend is your Friend
- Every Trend is an Opportunity (in fact there may be many opportunities)
- Near Term : Niche opportunities
- Medium/Long: Explore Opportunity Space
  - Skill Development
  - Idea Mining
  - Cross Pollination of Ideas
- Some of the technological trends are irreversible

# Your Opportunity Space?



# Co-evolution



# Viewing Trends



- Short/Medium/Long
- Current Trends, Future Trends
- Mini Trends and Mega Trends
- How George Stalk looks at Trends
  - Faint Signals,
  - Watch Lists and
  - Hallucinations

# Short/Medium Term



- Web Applications (Hosted)
- Rich Internet Applications
  - Adobe Flex, Microsoft Silverlight, Open Lazlo, CURL RIA
- Virtualization
  - Computing, Storage, Data, Application
- Web Scale Computing
  - Infrastructure (Amazon ECS, S3, Google App Engine)
- Mash-ups
  - Enterprise Mash-ups, Tools, Web Services

# Long Term



- Web Evolution (Web 3.0, Semantic Web, Data Web, Linked Data)
- Parallel Programming ( 32 cores by 2010)
- Information Visualization
- The Science of Networks
  - Social - Connecting People with People
  - Knowledge - Connecting People with Knowledge
  - Learning - Peer based Learning
  - Innovation - Internal and External



# Validating Trends



## Find the Connections – Follow the Money

- Investment Trends
  - Ex: Intel Investments <http://www.intel.com/pressroom/archive/releases/20080603corp.htm>
- Job Trends
  - <http://www.indeed.com/jobtrends.jsp>
  - <http://www.indeed.com/jobtrends?cat=wiki>
- Programming Language Trends
  - <http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html>
- Search Trends – What are people searching for
  - Google Trends
- Book Trends, Social Bookmarks, Blogs, Micro blogs, Tag Clouds, Conversation Networks

# Tracking Trends



- What is your Awareness Quotient (AQ)?
- Trend Spotting Tools
- Web Data Mining
  - Wiki Mining, DbPedia, Semantic Wikis
- Connecting the Dots (Correlation)
- Trend Visualization

# Trend Spotting - Resources



- Google Alerts, Yahoo Alerts and TopicMinder
  - A service to receive alerts based on certain keywords
- [InfoMinder](#) – Track information on the web
- NewsMinder , Yahoo Pipes, Popfly - RSS aggregation, filtering, search
- [Digg](#), [del.icio.us](#), [Techmeme](#), [reddit](#) or any of your favorite social bookmarking service
- [Technorati](#) or [Google Blog Search](#) tools
- [Tag Clouds](#) (many of the services mentioned above provide tag clouds that tell you the more popular trends) or you can create your own tag clouds.
- [Google Trends](#) - A product from Google that allows you to see trends based on searches
- A set of high level [Text Mining](#) and [Tech mining tools](#) ( a subject that deserves almost a talk of its own)
- Custom Trend Tracking and Visualization tools

# Multi-core – An Example



- 32 cores by 2010 from Intel
- 13 Dwarfs from Berkeley (scaling multi-core server applications)
  - New Applications in weather, scientific research
- A new browser architecture for clients:
  - Videos streaming
  - Audio annotations
  - Integral animations
  - Rich interaction

# A Few Trends to Explore



Literacy Through Entertainment Play To Learn Organic User  
Interfaces Adaptive User Interfaces Web2.0 Semantic Web  
Data Web Wiki Mining Web Mining Blogging/Micro blogging  
Tagging and Micro formats Multi Core Parallel Programming  
Scripting Languages Cloud Computing Virtualization Laptops For  
Children Wiki Trends Wikis as Knowledge Bases Enterprise  
Social Networks Enterprise Mash-ups Sensor Networks  
Multi Agent Systems Interaction Design Speech Interfaces  
Software Agents Knowledge Management, Intelligent  
Databases Complex Event Processing Stream Computing

# A Few More



Virtual Worlds Multi Touch Smart Boards Web Frame works  
Open Mobile Platforms Continuous Partial Attention  
GenerationY Tools eBook Readers Ubiquitous Connectivity  
On Demand Computing Peer Nets Rich Internet Applications  
Web Feeds Semantic Wikis FreeBase DbPedia Collaborative  
Search Contextual Search Semantic Search AIML  
Information Visualization Text Analytics Web 3.0

# Web 2.0 Tag Cloud



# Leveraging Trends



- Every Trend is an Opportunity
- You need Future Outposts (Doug's term)
- You need an Improvement Infrastructure
- You need an Innovation Infrastructure
  - mash it with the internal Social Network
- You need an External Innovation Network
  - Example P&G



# Leveraging Trends



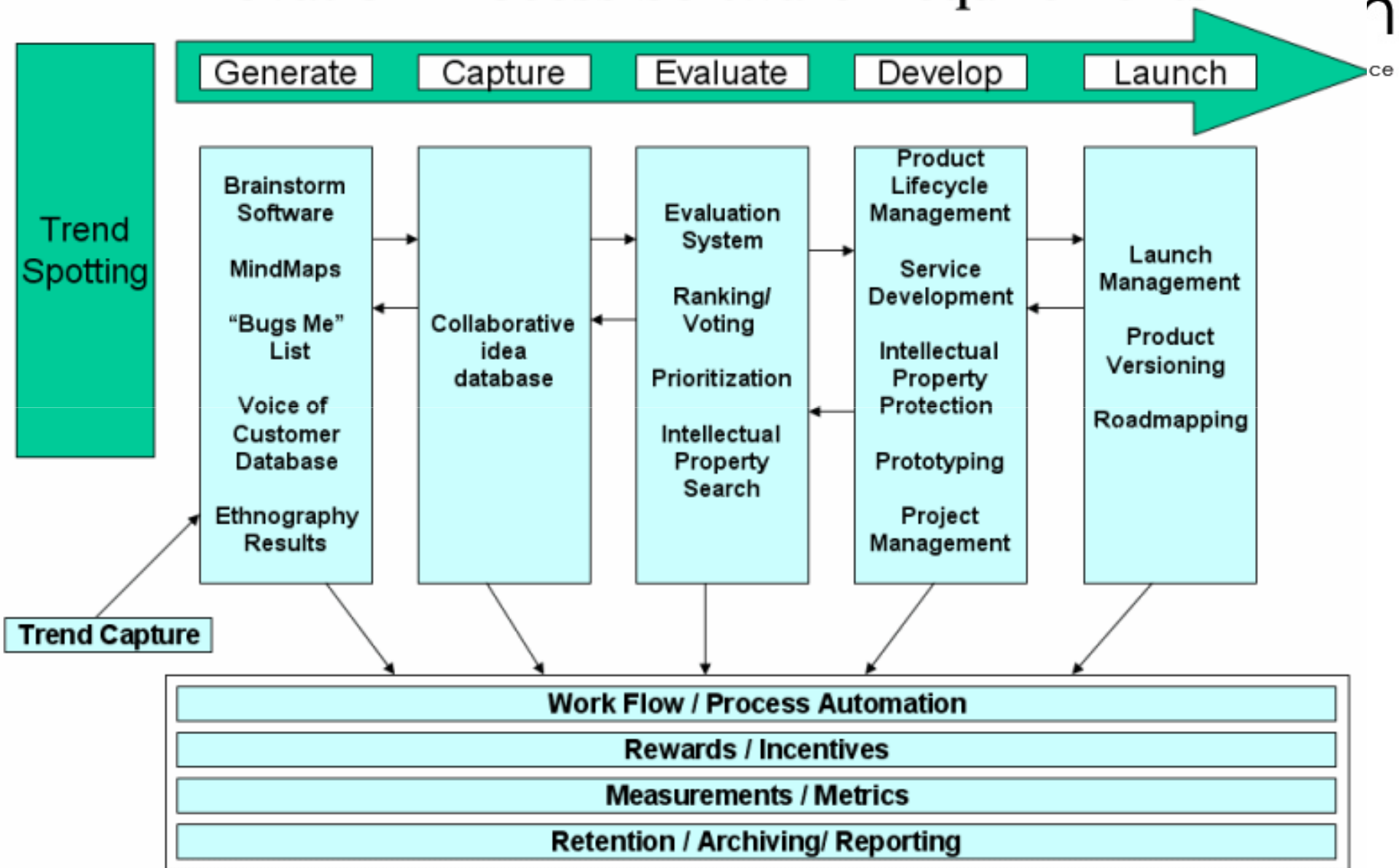
- Tracking Trends and Early Adopters
- Research/Prototyping/Piloting
- Take Consumer technologies to Enterprise
  - (enterprise mash-ups, enterprise social networks, enterprise wikis, web intelligence)
- Evolving Tools
  - Idea Wiki/Portal – Ideas Trigger Ideas
- Approaches
  - Top-Down
  - Bottom Up
  - Bootstrapping

# Leveraging Trends



- A New Model of Learning and Teaching
- A New Model of Working, Collaboration
- New Skills, Responsibilities, Titles
- Talent Spotting, Development
- Uniquely Yours – specific to your country, region, culture, city, community, customers
- Innovation Models
  - Little Innovations and Distributed
- Dynamic/Collaborative/ Active Knowledge

# Innovation Process Software Requirements



# The New Basic Skills?



From : The Ten Faces of Innovation

<http://www.tenfacesofinnovation.com/tenfaces/index.htm>

Learning Persona

Experimenter

Organizer

Collaborator (Catalyst)

The Set Designer

Anthropologist

Cross Pollinator

Hurdler

The Director

The Story Teller (Evangelist)

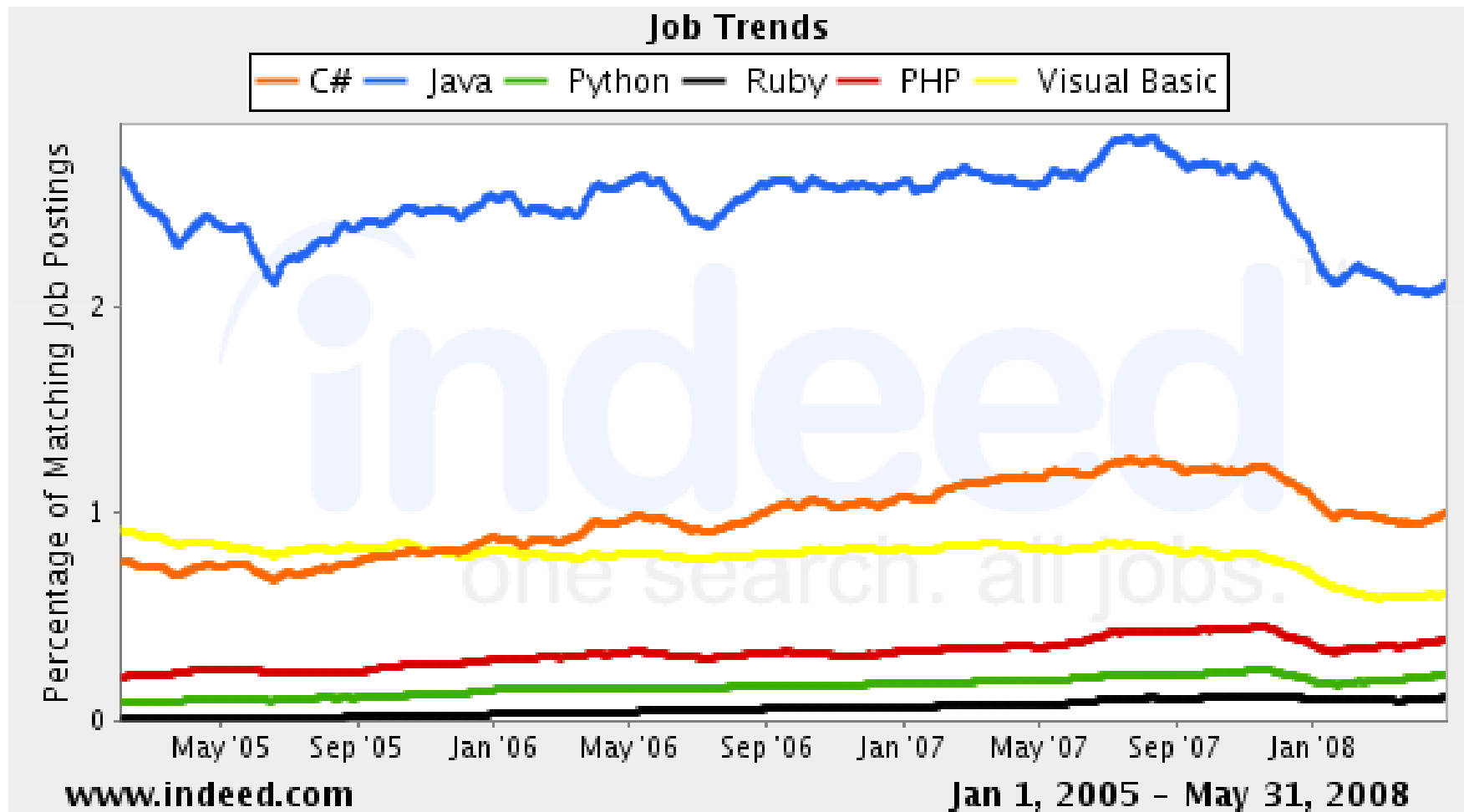
**What Does Your List Look Like?**

# Some Future Jobs

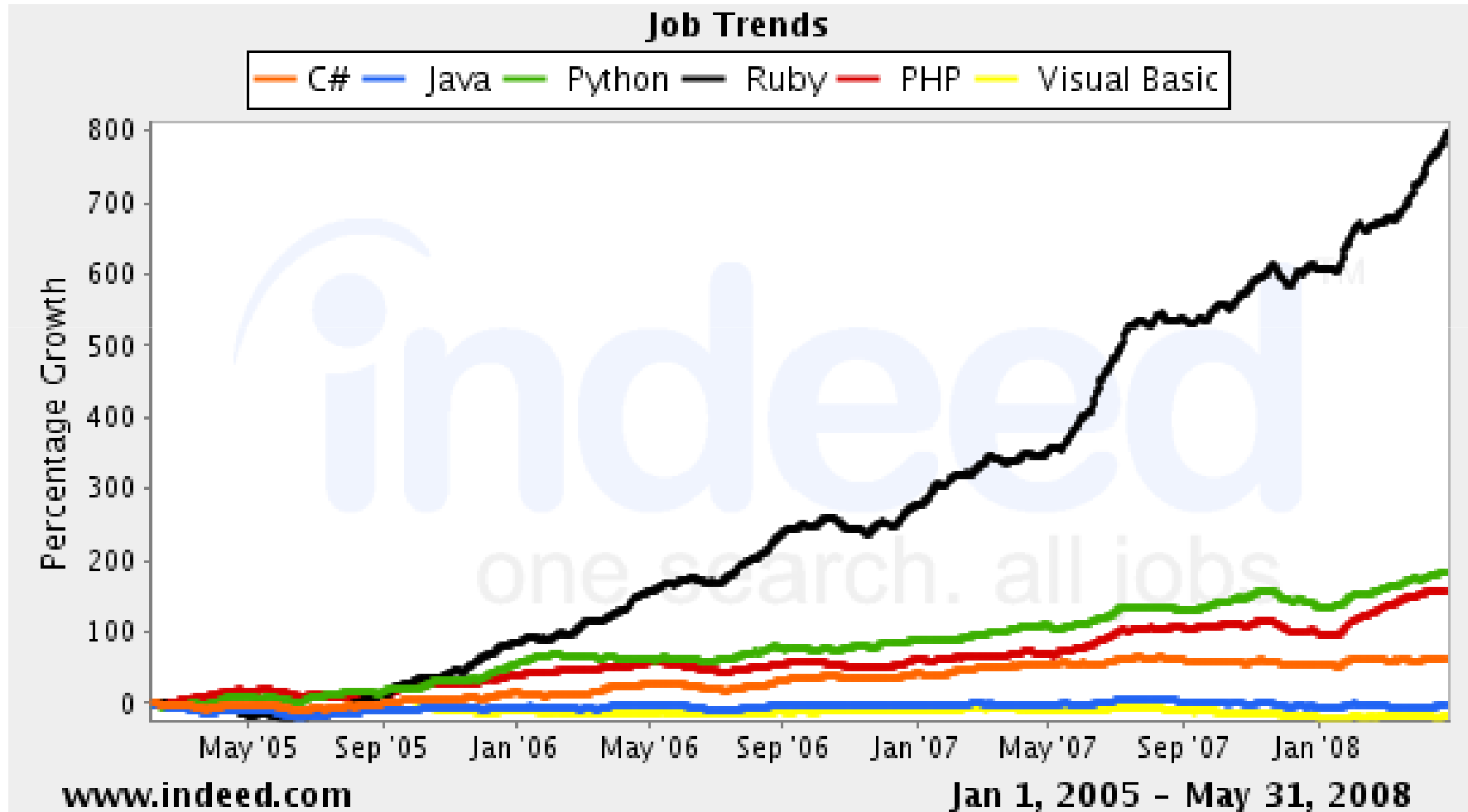


- Infovore
- Django Dude
- Portal Pundit
- XML Expert
- Semantic Dreamer
- Parallel Programmer
- Multi-core Master

# Job Trends - Absolute



# Job Trends - Relative



# Resources



- [My Blogs](http://www.thodla.com) - www.thodla.com
- Periodic Table of Visualization Methods
  - [http://www.visual-literacy.org/periodic\\_table/periodic\\_table.html](http://www.visual-literacy.org/periodic_table/periodic_table.html)
- NewsMap (HeatMap)
  - <http://www.marumushi.com/apps/newsmap/>
- Wiki Mind Map
  - <http://dorai.wordpress.com/?s=wiki+mindmap>
- Google Trends
- Job Trends – [www.indeed.com](http://www.indeed.com)
- Programming Language Trends - <http://www.tiobe.com/tpci.htm>
- Tag Clouds -



# Programming Language Trends



Connecting People With Intelligence

Position Jun 2008	Position Jun 2007	Delta in Position	Programming Language	Ratings Jun 2008	Delta Jun 2007	Status
1	1	=	Java	20.890%	+0.86%	A
2	2	=	C	15.513%	-0.45%	A
3	3	=	C++	10.806%	-0.31%	A
4	5	↑	PHP	10.206%	+1.33%	A
5	4	↓	(Visual) Basic	9.787%	+0.46%	A
6	6	=	Perl	5.548%	-0.63%	A
7	8	↑	Python	4.899%	+1.74%	A
8	7	↓	C#	4.058%	+0.57%	A
9	9	=	JavaScript	2.927%	+0.31%	A
10	10	=	Ruby	2.640%	+0.51%	A

<http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html>

# Video

- MIT Sketch Board
- Alice Bot
- Job Trends Demo

