Technology Trends

Dorai Thodla

iMorph, Inc., USA/India

www.thodla.com/about

dorai@thodla.com

Topics

- Technology Trends
- Opportunity Space
- Developing Skills
- Innovation Infrastructure
- Leveraging Trends

Technology Trends

- By Type
  - Hardware and Device Trends
  - Software Trends
  - Web/Networks Trends
  - Application Trends
- By Time
  - Short Term
  - Medium Term
  - Long Term

Short/Medium Term Trends

- Web Applications (Hosted)
  - Blogs, Micro blogs, Wikis, Lenses
- Rich Internet Applications
  - Rich Visualization, Interactive Content Exploration
- Mobile Web
  - Access from anywhere, anytime
- Web Scale Computing
  - Infrastructure (Amazon ECS, S3, Google App Engine, Microsoft Mesh)
- Mash-ups

Long Term Trends

- Web Evolution (Web 3.0, Semantic Web, Data Web, Linked Data)
- Virtualization (Computing, Storage, Data, Application)
- 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 Innovators

Tracking Trends

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

Trend Spotting

- 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

Exploring Opportunity Space

- 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

What Are the New Basic Skills?

- Anthropologist
- Explorer
- Cross Pollinator
- The Director
- The Story Teller
- The Interaction Designer
- The Parallel Programmer
- The Mashup Maker
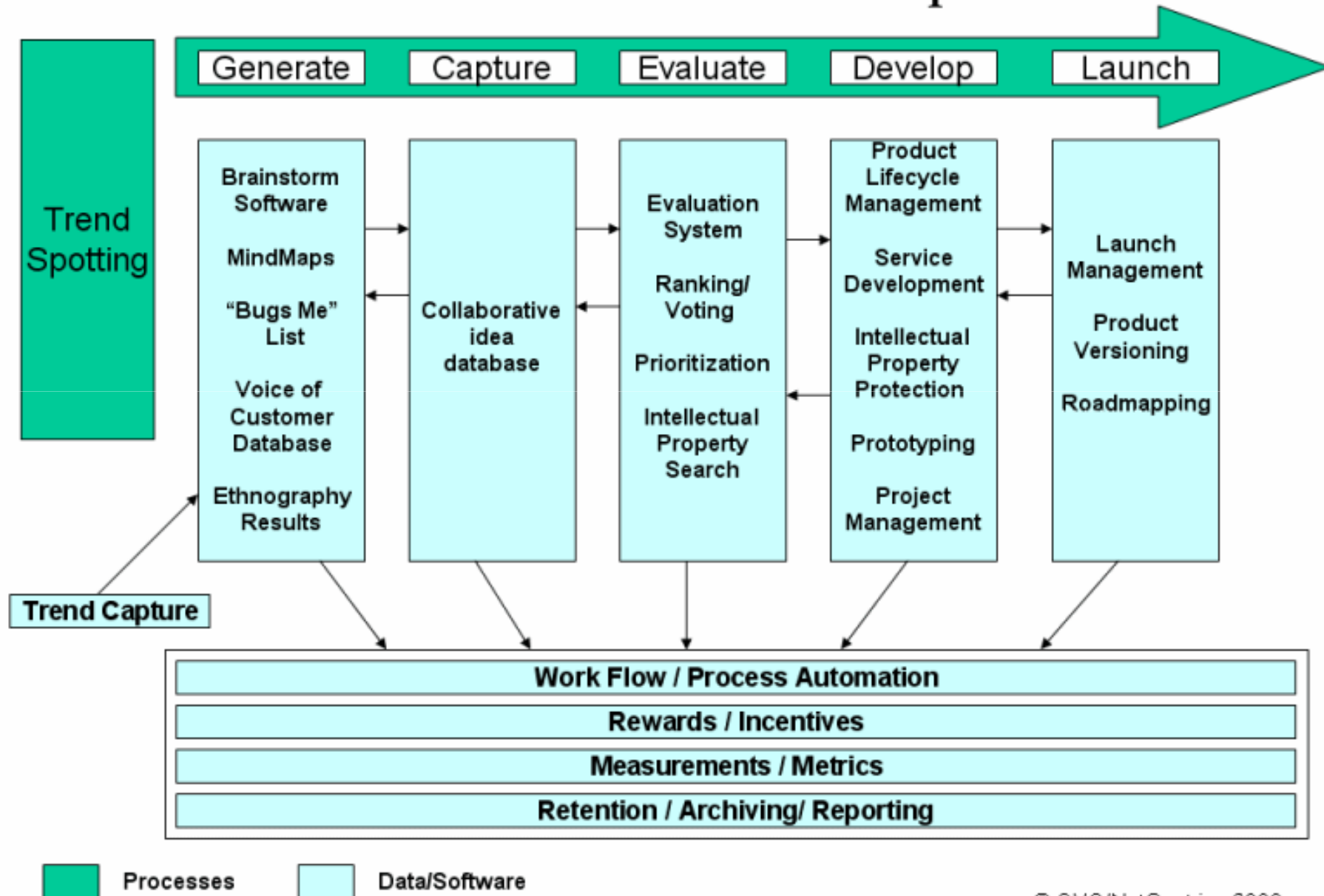
Also:
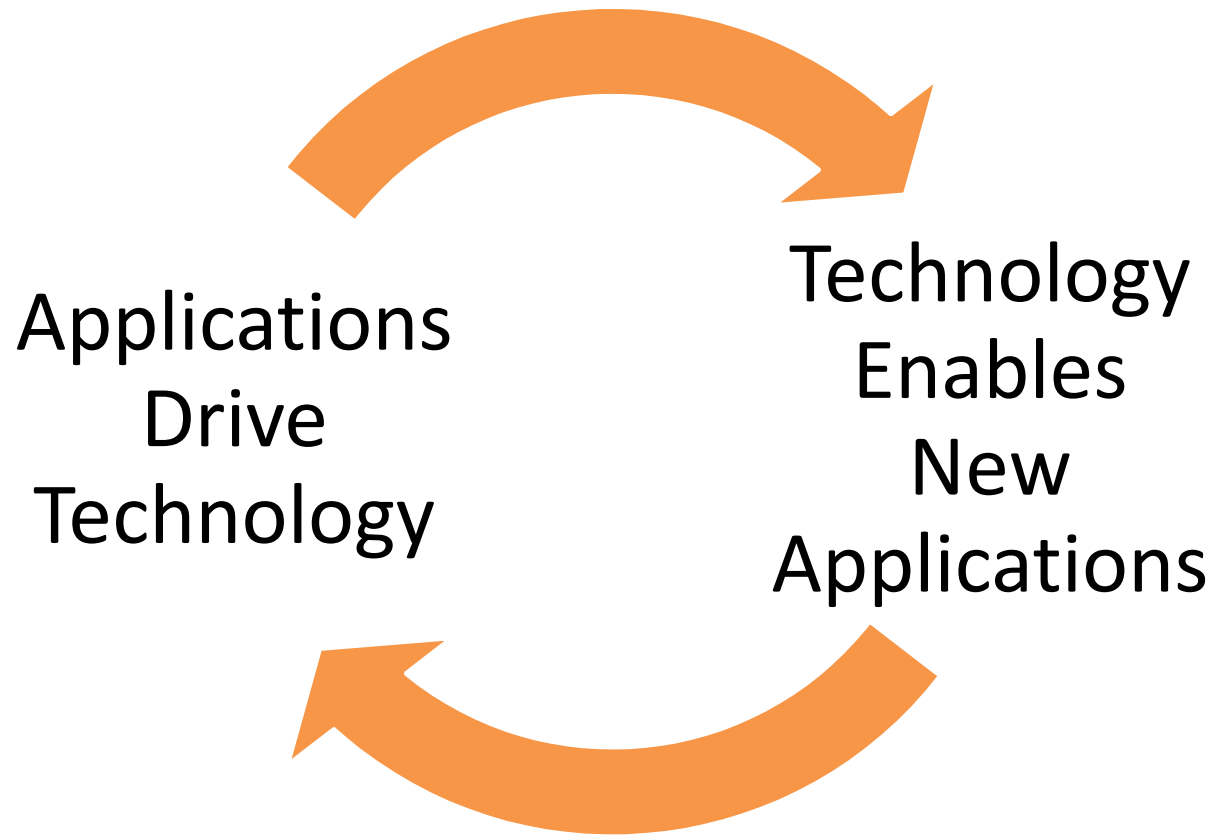http://www.tenfacesofinnovation.com/tenfaces/index.htm

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

Innovation Process Software Requirements

| Generate | Capture | Evaluate | Develop | Launch |

Trend Spotting

| **Brainstorm Software**

MindMaps

"Bugs Me" List

Voice of Customer Database

Ethnography Results | **Collaborative idea database** | **Evaluation System**

Ranking/ Voting

Prioritization

Intellectual Property Search | **Product Lifecycle Management**

Service Development

Intellectual Property Protection

Prototyping

Project Management | **Launch Management**

Product Versioning

Roadmapping |

Trend Capture

Work Flow / Process Automation

Rewards / Incentives

Measurements / Metrics

Retention / Archiving/ Reporting

Processes   Data/Software

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Co-evolution

Applications Drive Technology

Technology Enables New Applications

One Example – Multi-core

- 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

Networks – Learning, Knowledge

- Augmented Learning Experience
- Integrated audio/video/animation and visualization
- Speech recognition, Gesture Interpretation
- Large scale, distributed, any where, any time
- Student as teacher, problem based learning
- Examples: Alice AIML bot (shape of things to come)

How Can We Leverage?

- 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
- Little Innovations and Distributed Innovation Models
- Dynamic Knowledge Repositories
- Network Aspects in Every Application

Everything Is Connected

Parallel-programming	DSLs	Scripting
Web-Frameworks	Mash-ups	Loosely-coupled-Apps
Interaction-Design	Exploratory-Interfaces	Animation
Play-to-learn	Audio-Interfaces	Video-Annotations
Visualization	AIML	Learning-bots
Teaching-bots	Laptops for Learning	Mobile Devices for Learning
Web Services	Text Mining	Semantics

Resources

- [My Blogs on Innovation](#)
  - http://dorai.wordpress.com/page/4/?s=innovation
- [Periodic Table of Visualization Methods](#)
  - 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