Weekly Syllabus

1. Scalability: *(Jan.)*
2. Agile Practices
3. Ecology/Mashups*
4. Browser/Client
5. Data/Server: *(Feb.)*
6. Security/Privacy
7. Analytics*
8. Cloud/Map-Reduce
9. Publish APIs: *(Mar.)**
10. Future

* ASSIGNMENT DUE
Internet Ecosystem

- Created for universal information dissemination
- Websites and pages as evolving species
  - window into ongoing development of the web
- Pages integrate via visits, in-links, search ranking
- Google is symbiotic to the web as a whole
  - contributing organically to each others growth
Evolution of the Web

- Informational (early 90’s)
- Transactional (late 90’s)
- Community (2000’s)
- Mobile/Real time (now)
  - reach for the browser when stuck in traffic
  - Pop culture mirror and amplifier
I Can Haz Meemz

Rick Astley, ima give you up!
Your Biggest Fan

- Traffic drivers
  - word of mouth
  - influencers, aggregators
  - marketing, SEO
- Pagerank estimates traffic driven by links
- Retweeting API allows influence measurement
Continued Web Growth

- Mashups
  - AJAX, site widgetization
- Desktop convergence
  - netbooks, browser/javascript performance
- Mobile
  - real time data, augmented reality
Tagline Overload

- Information spread rate on the web
- search engine rank
- sharability, tweetability, memorability
- Lure
- appeal to consumer desire
Obsessive Loop

- Visitor retention and activity
  - features geared to acquire and keep members
- Hook
  - addictive aspect to successful design
- Most sites try to maximize single visit length
  - best companies maximize (visits * length)
Attention Marketplace

- Web measurement sites’ self fulfilling prophecy
  - capital = users * visits
- General trends
  - appeal to who we are, not who we aspire to be
  - game-like activity enhances adoption
  - ubiquity means people leave if you don’t have it
Preconditions for Scale

- Critical mass
  - what gets attention

- Feedback loop
  - what keeps & builds attention

- Available niche / competitive advantage
  - takeover opportunity
Real World Parallels

- Evolutionary past
  - Cambrian explosion
- Economic development
  - post Mao China
  - post WWII Japan
Seibu Example

- Employee of this Japanese conglomerate might:
  - Live in a Seibu home
  - Commute on a Seibu train
  - Work in a Seibu office
  - Shop in a Seibu Department store
  - Catch a Seibu Lions game
  - Vacation at a Prince Hotel
Information dissemination guides design

User behavior model defines features

- maximize initial user engagement
- facilitate increase of engagement

Release process functions as niche takeover
Additive Features

- Openness, Freeness
- Linkability
  - e.g. linkback in blogs, email & embed codes
- Embedding
- Composition
  - enabling the creation of something new
What Rarely Grows

- Privacy, exclusivity
- DRM, data lock-in
- Lack of universality
- “Swiss army knives”
- Invite-only systems
- Inferior signup code
Mashup APIs

- Google Maps
- Yahoo Search
- Facebook Connect
- Twitter
- Flickr, YouTube, etc.
API Types

- Client-side
  - use JSNI with GWT
- Proxy-style (Server-side)
  - request, parse, republish 3rd party content
- RESTful web services
- AWS S3
Scale Out Ideas

- Make website crawler & search engine friendly
- Amazon S3 for media storage
  - add CloudFront CDN support as service grows
  - keep media latency low
- Twitter API gets the word out
- Facebook Connect [open social] grow user bases
Worth Checking Out

- Amazon S3
- Made to Stick, Chip & Dan Heath
- Alexa, Compete, Quantcast
Q & A Topics

- Getting test code to run in app
- Upcoming programming project teams
  - no leaders per se, but project advocates
- Project planning
  - now’s the time to advertise!
Project ideas

- Degree Requirements checker
- Specification / Document claim verifier
- Wikipedia / Twitter mapper
- Web based Eclipse IDE