

Scalable Web Programming

CS193S - Jan Jannink - 3/02/10

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. **Personalization & Published APIs:**
(*Mar.*)*
10. Future

* assignment due

Administrative Stuff

- Grades to be sent out today
- Final assignments due on Friday
- Demo lunch details firmed
 - several more guests added

Must Dos for Friday

- Push your code frequently
 - good comments important
 - discipline for coding incrementally
- Testing demonstrates APIs & functionality
 - enables quicker fixes

Topics

- Why personalization?
- Identity
- Self expression
- Marking territory
- Games and play

Personalization & Scaling

- Significant user activity now requires
 - ability to customize
 - iGoogle, est. 40,000,000 users
- Blogging as an identity building exercise
 - customization is self expression
 - marking territory extends identity

Real World Examples

- Graffiti, custom plates
- Custom bikes and cars
- Clothing, make up, luxury items
- Landscaping
- School / company swag, affiliation symbols

Custom Features

- Background color, design, image
- Font, line styles
- Widget placement
- Style sheet, template, theme
- Embedding, drag and drop editing
- Avatar

Post Anonymous Web

- Historically voluntary identity disclosure
 - professional IDs often leaked
- Facebook, LinkedIn, Google Buzz
 - first global systematic ID establishment

Very Diverse People

- Last person who should lecture about this
- Unimaginably different mental models
 - observation of computer / browser operation
 - academic apprenticeship of the web
- Humbling rule of thumb
 - everyone is irreconcilably different

Second Life Example

- 2003 launch (1999 founding), after There.com
- Second mover advantage?
- Customization and market economy
 - programmer API + currency = trade
 - end user ownership of goods

Game Dynamics

- Game economy
 - user interaction is a reason to stay
 - the more direct the communication the better
- (Repetitive) entertaining activity
 - online activity is real world entertainment
 - critical to business monetization

User Profiles

- Becoming an online proxy for the user
- Enable people to be found
- Define automated activity to support user
 - RSS subscriptions, Twitter feeds
 - Alerts to new web content, email, etc.
- Support self expression

Targeting

- Potential drawback of personalization
- AdWords validates targeting
- Spyware, malware
 - VCs have praised spyware targeted ads
 - Can free web accounts be spyware?

Wiki Editable Content

- Self expression enabled
 - many rich text toolkits for in app editing
- In place editing vs. separate edit page
 - pop ups also user friendly
- Counter example
 - Twitter

Geotagging

- GPS / cell tower coordinate metadata
- On line expression of territory
 - FourSquare simplifies this dramatically
 - RunThere makes it easy to track exercise
 - EveryTrail records trips, photos, video

Augmenting Real Life

- flickr - photo blogging
- meetup - connecting online and in the
- yelp - rating places, food
- foursquare - squatting places
- loopt - locating friends
- plentyoffish - dating

Magnetic Content

- Holy grail
 - never search for anything
 - the info you want is already waiting for you
- State of the art
 - news aggregators, RSS readers, feeds, Buzz
 - search alerts, email monitoring

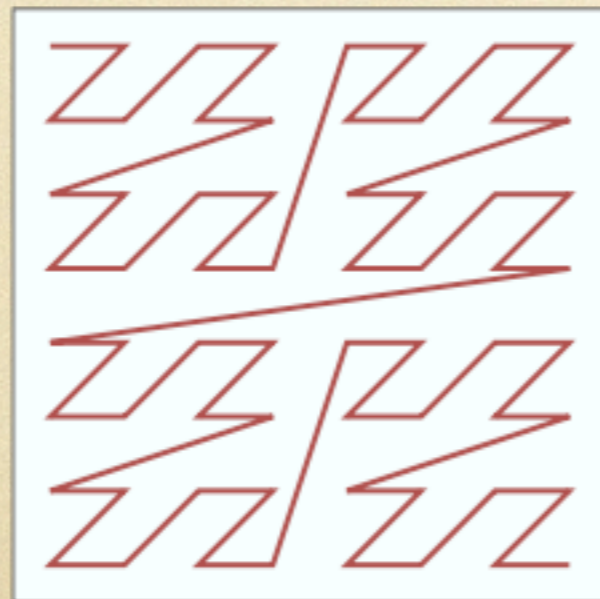
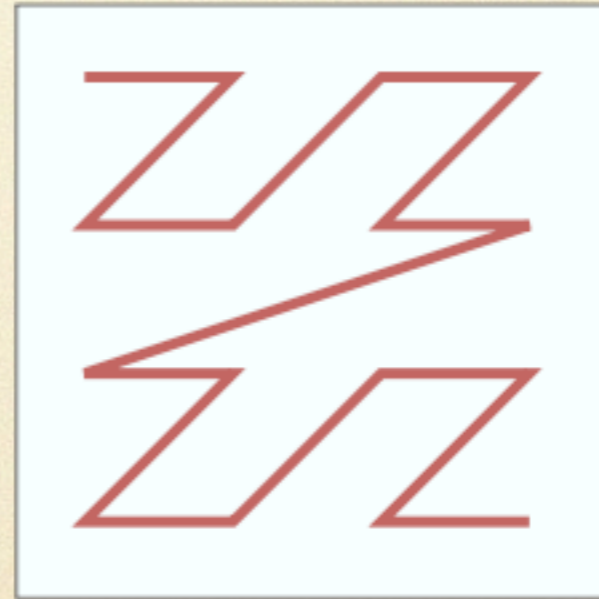
Back to Software

- Profile clustering
 - object ownership
- Spatial indexes
 - interleaved coordinates
- Information alerts
- Feeds

Global Database

- git highlights shared data management issues
 - local repo is owner of your content
 - push synchronizes rest of world
 - pull synchronizes local repo
- Manual prior resolution vs. undo conflict
 - Google Docs model

Z-ordered Curve



Rule Engines

- Set trigger conditions to get information
 - inserts, updates, searches, deletions
- Powerful functionality
 - in general difficult to guarantee performance
 - simple (non-cascading) triggers sufficient

Feeds

- RSS readers easily overwhelm users with info
- Social media sites often provide these
 - Top 10 ...
 - Recent
 - Commented
 - Headlines

Worth Checking Out

- Web 2.0 exercising
 - <http://runthere.com/>
- Virtual worlds
 - <http://secondlife.com/>
 - <http://www.there.com/>

Q & A Topics

- Future of personalization
- Personas, avatars
- Agents

Scalable Web Programming

CS193S - Jan Jannink - 3/02/10