ANNUAL MEETING
Social Computing in the Ensemble Pathway

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Ensemble Computing Pathway

- Goal: a unifying site for the computing education community
- Team Effort!
  - UC Berkeley, Villanova, Virginia Tech, Portland State, Texas A&M, University of Pittsburgh
- Features
  - Content
  - Tools
  - Communities
Ensemble Communities

- Support for groups doing shared work
  - Content uploading
  - Commenting
  - Rating
  - Tagging
  - Forums
  - …

- A meeting and work place independent of parent organizations
User Participation

“How can we encourage & reward users to help us build and sustain a great site?”

Social Navigation

“How can we display what users have done to help navigate a great site?”
User Participation

“How can we encourage & reward users to help us build and sustain a great site?”
Wow.
1% Creators
9% Editors
90% Viewers

Social Computing in the Ensemble Pathway
www.computingportal.org
As you use Stack Overflow to ask and answer questions, you'll earn badges, which appear on your user card and in your user card.

<table>
<thead>
<tr>
<th>Badge</th>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruist</td>
<td>201</td>
<td>First bounty you manually awarded on another person's question</td>
</tr>
<tr>
<td>Announcer</td>
<td>57</td>
<td>Shared a link to a question that was visited by 25 unique IP addresses</td>
</tr>
<tr>
<td>Autobiographer</td>
<td>35259</td>
<td>Completed all user profile fields</td>
</tr>
<tr>
<td>Benefactor</td>
<td>3974</td>
<td>First bounty you manually awarded on your own question</td>
</tr>
<tr>
<td>Beta</td>
<td>2586</td>
<td>Actively participated in the Stack Overflow private beta</td>
</tr>
<tr>
<td>Booster</td>
<td>8</td>
<td>Shared a link to a question that was visited by 300 unique IP addresses</td>
</tr>
<tr>
<td>Citizen Patrol</td>
<td>7386</td>
<td>First flagged post</td>
</tr>
<tr>
<td>Civic Duty</td>
<td>6004</td>
<td>Repaired 300 or more times</td>
</tr>
<tr>
<td>Cleanup</td>
<td>4811</td>
<td>First rollback</td>
</tr>
</tbody>
</table>
Creator

- Leave 20 comments on other people's work. (15 pts)
- View 100 different pieces of content. (10 pts)
- Author of the Month (5 pts)
- Group Builder (4 pts)
- Event Planner (2 pts)

[Link to more activities]

Social Computing in the Ensemble Pathway
www.computingportal.org
Positive actions earn badges
Badges accumulate into roles
Roles progress through ranks
We’d love feedback!
lukes@eecs.berkeley.edu
Social Navigation

“How can we display what users have done to help navigate a great site?”
A Social Place

- An academic library is a social place
- Where people go?
- Which are currently read books?
- Which books are checked out often?
- Which pages are important?
- Which books would suite my interests?
Social Navigation in Information Space
Social Information Access Techniques

- Supporting social navigation requires gathering, processing, and applying information about user activity

- Three aspects
  - which kind of past user behavior it collects
  - how these traces are processed to form "community wisdom"
  - how this wisdom is used to help DL users
  - how the information is used to enhance the user experience
Traffic-based Social Navigation

### Group-based social navigation

- Zero to minimal click traffic
- Maximal click traffic

### Mouse-over info

- Dark Green shade means great progress (actual value 181 interactions with this resource.)

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**CS1 Terms**

- **Target Audiences (74)**
  - CS Majors (16)
  - CS0 (1)
  - Elementary Students (6)
  - Middle School Students (7)
  - High School Students (20)
  - AP Computer Science (10)
  - Non-CS Majors (12)
  - Introduction to Programming (2)
  - Curriculum Categories (15)
  - Algorithms-First (2)
  - Functional First (2)

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Social Computing in the Ensemble Pathway

[www.computingportal.org](http://www.computingportal.org)
Service-Based Social Navigation

UI / CMS / Portal

Resource link 1
Resource link 2
...
Resource link N

User Modeling Server

(1) Resource Links + Context

Personalization Service Engine

(2) User Model

(3.1) Annotations
(3.2) Reordering
(3.3) Deletions
(3.4) Additions

Pre-authored link
Generated Link
- annotation

UI / CMS / Portal'

Resource link 2
New Link 1
Resource link 1
New Link 2
...
Resource link N

Social Computing in the Ensemble Pathway
www.computingportal.org
Implementation in Drupal

1) User requests page

2) Drupal sends page logging information

3) Drupal requests navigation cues for links on page

4) PERSEUS sends navigation cues

5) Drupal sends page with navigation cues
Which Behavior?

- Clicks and reading time
- CRT
  - Comments
  - Ratings
  - Tags
- Decomposition
- Composition
CRT in Ensemble

Rate (using Fivestar module)

Comment

Tagging

Controlled vocabulary

Free-form
Subdocuments

Extracting a part of an object and remixing it with other parts, possibly of other objects, supports reuse and new object creation as well as creating a social footprint.
A Walden’s Path is an enclosing structure that defines a sequence of Web pages with annotations. This enables creation of a narrative structure while maintaining connection to the original resources.

Just as selection of sub-elements of resources supports creativity, joining resources provides another option in new object creation.
Where Are We?

- Traffic-based social navigation
  - fully implemented and being used by the portal
- Comments, Ratings, Tags
  - information is collected in the log, used for badges, work on using it for social navigation
- Decomposition and Composition
  - working on the logging part