Teachers’ Domain: “Use Case” for Evaluation via Web Metrics

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Why? (and What?, How?, to Whom, etc.)

- **Why**: The “big” question: is the end result worth the effort to produce and maintain it?

- **What** can be used to accomplish this assessment?

- Comparative successess of different metrics and methodologies inform others (i.e., **Who**.)

- **How** (used): defined by strategic importance.
Why? (and What?, How?, to Whom, etc.)

- **BUT** the relationships are “complicated:”
  - Everything is evolving;
  - Alterations happen at all phases of the process;
  - The specifics of who/what/how/etc. also change over time.
- **So:** what have we learned about this convoluted situation so far?
Teachers’ Domain: Quick Background

- Registration is required

  - Necessary due to obligations involving digital rights: clearance is generally granted for an educational audience.

  - Registration is done with a user account tied to organization/school.

    - Avoids “user name burn”
    - Organization metadata greatly enhances data mining capabilities.
Teachers’ Domain: Sources of Metrics Data

- User and Organization registration information
- Slightly-enhanced Web logs
- Omniture SiteCatalyst allows us to begin to collect more meaningful usage data

*Test Drive* allows access without sign-in for a limited number of resource views, to facilitate direct links from NSDL and other metadata harvesters
Typical Data Mining

- Registered Users: over 80,000
  - 50,000 Teachers/Admins
  - 25,000 Students/Parents
  - 5,000 Other
- 100,000 Test Drives
- Identified K-12 Schools: 27,500
- Over one in four US public schools have already used Teachers’ Domain!
NSDL/Omniture

- **Phase 1: Nov. 2004**
  - Tagging of NSDL-relevant pages on the TD site (science section only)

- **Phase 2: July 2005**
  - Intensified tracking by:
    - State/Region, Country
    - Zip/Postal Code
    - User Type
    - Organization Type
    - Site Page Type
    - “Test Drive” Users
Discoveries from the Omniture Analysis: “Impacting Impact”

- Identification of Underserved Communities
  - K-2 teachers are actively seeking online resources!
  - Lesson Plans are also disproportionately in demand
- Initial Assessment of site “stickiness”
  - The average is approximately 10 minutes, which is our expected time frame for classroom usage (e.g., a teacher showing a video clip) (however...)
- Entries from popular search engines (Google, Yahoo)
  - Search terms tend to be extremely specific and suggest good agreement with the web site content
- Behavior doesn’t always follow the design plan!
  - How some users navigate the site points out inefficiencies that can be addressed with design changes
Getting the “Right” Answer for the Wrong Reasons: The Perils of Unsupervised Reporting!

- Omniture stats show an average session length on order of 10 minutes.
- Yay! That’s what we expected!
- In reality, there’s a very large spread with two distinct populations of users.
  - “Window Shoppers”
    - Longer sessions
    - Success comes from a broader use of the site
  - “Express Lane Shoppers”
    - Shorter sessions
    - Very targeted needs
    - Success comes from finding things quickly

- Measures of “success” might not be the same for each population!
- Evaluating impact has to take these differences into consideration!
Definitions versus “The Real World”
Even “Simple” Metrics Aren’t Simple!

- The complex structure breaks down to several behavioral cases:
  - There are several dozen “spikes” centered on 24-hr multiples suggesting that many users come to the site around the same time each day.
  - Other users seem to be more sporadic (minutes to hours)

- What’s the weird tail?
  - Frequency on the order of a few seconds between logins by the same account!
  - The Top 20 users by login (0.027% of 75,000) make up almost 50% of the tail!
  - Reason: One teacher’s account used by the entire class of students in a computer lab. **“1 user” = “many actual people!”**

- Users do not always behave the way you expect they will!
Omniture: Phase “2 1/2”

- Since the pilot, Omniture has added several very cool features!
- In particular, they now have geographic tagging down to the city level!
Omniture “Wish List”

- Follow any specific user session.

- “Map” of site nodes overlaid with path and traffic information.

- Cross-referencing of custom metrics with other reports, e.g. “What’s the traffic for only users identified as teachers?”
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