MEDICAL SCHOOL INFORMATION SERVICES

UNIVERSITY OF MICHIGAN HEALTH SYSTEM

A Framework to Integrate Public, Dynamic Metrics into an Open Educational Resources Platform

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Background

Launched in April 2008, the Open.Michigan Initiative has two primary goals:
1. to sustain a thriving culture of sharing knowledge at University of Michigan (U-M)
2. To provide comprehensive public access to all of the university's scholarly output.

The Open.Michigan website (http://open.umich.edu/) serves as the primary portal to Open Educational Resources (OER). The collection represents thousands of learning materials that are free to access, available to the public, are accessed by worldwide audience (over 190 countries), and are openly licensed to allow translations, adaptations, and copies. The collection features learning materials and experiences from 18 U-M schools and colleges as well as from several partner institutions.

Objective

In 2013, we began to develop a framework for sharing our usage data (e.g. views, downloads, geographic location) in more useful, accessible, and timely ways for our staff, our authors, our learners, and our peer OER publishers.
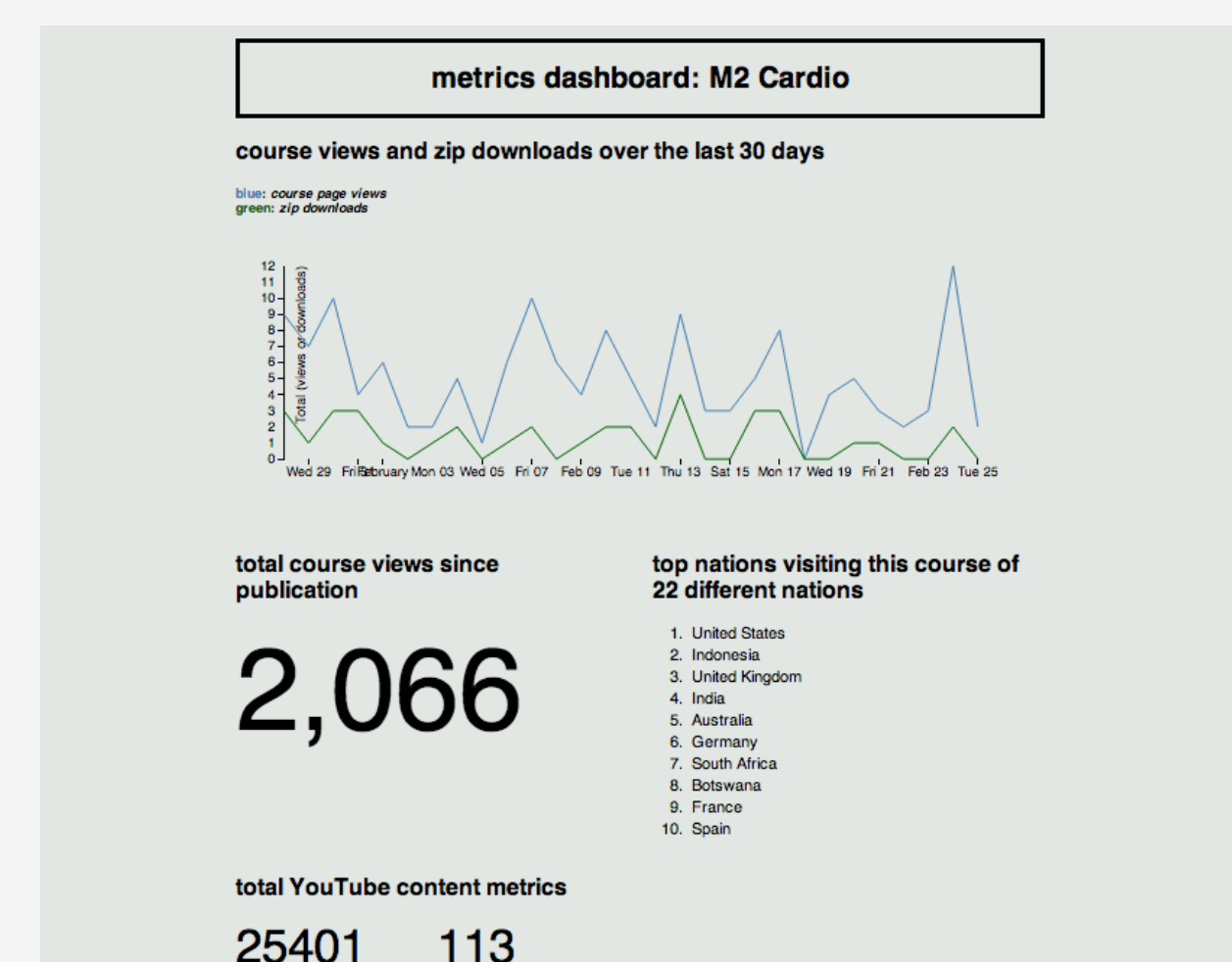
Technical Design

The learning materials may be stored as files in the content management system (CMS) or included as external links to OER hosted on a number of external websites (e.g. YouTube, SlideShare, Amara).
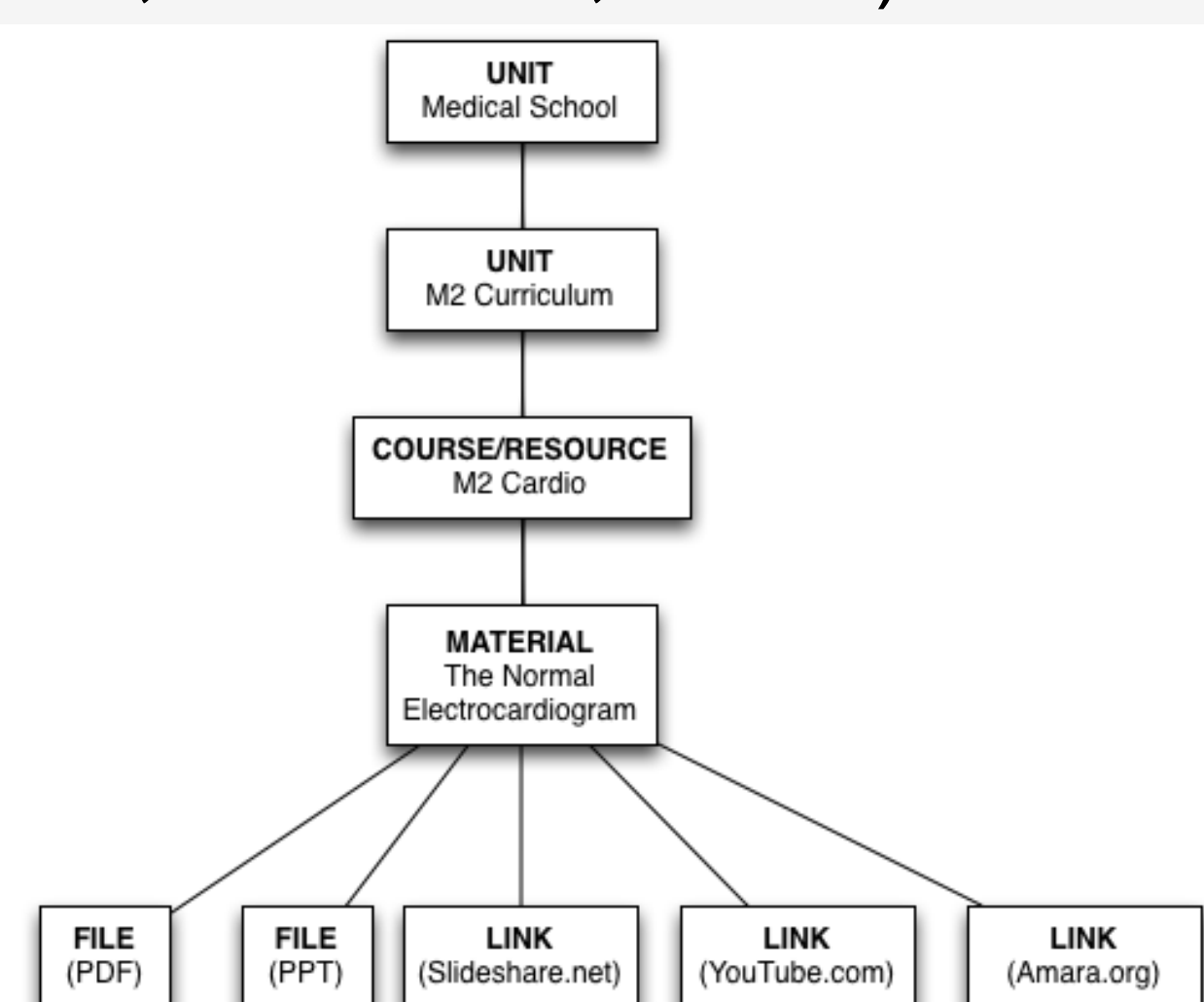
The flexible structure of the CMS allows us to easily isolate and aggregate usage for materials, courses or resources, and academic units. Google Analytics, which has been the primary source for tracking usage of the Open.Michigan website, includes an application programmable interface (API). We query the API to collect usage metrics for the different levels of our collection. Several external websites have similar APIs, including YouTube, SlideShare, and Amara. These queries can be used to daily gather metrics from these external sites and store in a central database integrated with the CMS.
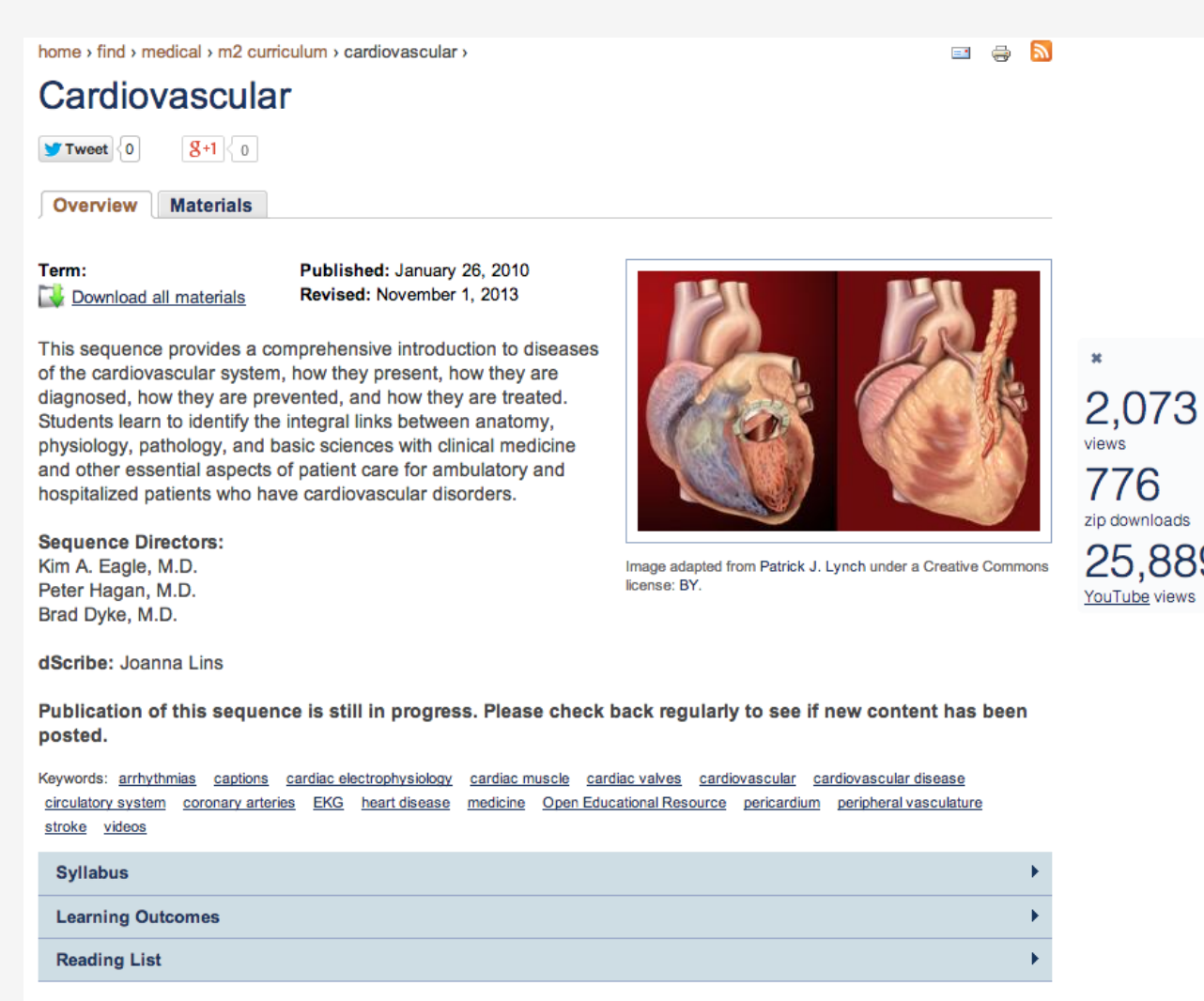
A clickable button on each course/resource page show how many times the course has been viewed, how many times its material has been downloaded, & aggregate YouTube views for any videos.

A custom dashboard for each course shows number of views and downloads over the past thirty days, geographic information, and YouTube comments and likes.

This stratified technical design allows the dynamic sharing of metrics down to the level of individual resources. By integrating the metrics from content hosted on external sites, we are able to provide a comprehensive snapshot of the metrics for the materials associated with a particular course or resource.

Methods

We conducted semi-structured interviews in order to identify what metrics and indicators were of particular interest to our audience and why. We reached out to 20 individuals from a pool of Open.Michigan collaborators. Of those contacted, 9 agreed to interviews: 2 librarians, 2 faculty members, 3 multimedia specialists, and 2 communication specialists. The interviews included a card-sorting exercise with 15 cards to determine priorities for subsequent features.

Analysis

Readily available metrics strengthen relationships with content authors.

A conversation with supporting metrics can "less[en] the disconnect from [the] content" and its author(s) once its published. One interviewee noted that publicly displaying metrics "provides a structure where people can interact with it in more ways." One librarian commented that revealing these stats demonstrates that even content that was shared several years ago may still be actively used. One interviewee noted that such sharing of metrics could "document impact and may persuade people to join the open content party."

Readily available metrics are evidence to support effort and expense for content development.

Developing learning materials involves time and money. Interviewees reported that metrics can be important evidence to justify the effort and expense for those activities - both on a personal level for the authors and on an organizational level for allocating resources. Both of the faculty members interviewed expressed the importance of granularity of metrics - at the level of a whole course and at the level of individual files. Having that granularity was "personally satisfying" and "very important."

Several Interviewees expressed the importance of having readily accessible metrics to report value back to the organization for its OER collections: "How can this data be used to make decisions about how we invest in things?" For multimedia specialists, it may also inform which external sites to prioritize for optimal visibility.

Conclusion

Metric-sharing is currency in relationships between OER publishers and the faculty, staff, and students of universities and businesses who create and use OER. Authors who were interviewed consider views, downloads, and comments and other usage metrics for their OER as validation that there is some likelihood their effort provides real value to others.

Metrics enable detection of patterns and deeper analysis of use. Many interviewees noted future possibilities given an available supply of usage metrics. Many of these possibilities hinged on extracting interesting patterns from data over time.

Based on the user interviews, we are currrently working on integrating the metrics APIs from SlideShare and Amara into the dashboards. In addition, we are developing export and API functionailty as additional methods to share the aggregated usage metrics for courses and for academic units.

Related Publications/Presentations

Cohen JZ, Omollo KL, Malicke D. A Framework to Integrate Public, Dynamic Metrics Into an OER Platform. Open Praxis. April 2014. Paper accepted, publication forthcoming.

Cohen JZ, Omollo KL, Malicke D. A Framework to Integrate Public, Dynamic Metrics Into an OER Platform. Open CourseWare Consortium Global Conference. April 2014. Submission accepted, talk forthcoming.

http://openmi.ch/dyn-metrics