

# **Wolbach UX Final Report**

**November 15, 2011**

## **Project summary**

The project goal was to foster a 1-year student driven project where gesture and touch-based technology is experimented with and adapted for use at the Harvard-Smithsonian Center for Astrophysics (CfA) John G. Wolbach Library. While the initial Library Lab proposal was broad, with the help of CfA researchers, the Wolbach Library focused on experimenting with what the library had available, a first generation Microsoft Surface and a good relationship with Microsoft Research. Preparation for the project began by collecting digitized items from Harvard and the Smithsonian, forming a collaboration with the Brown Graphics Group and receiving early access permissions from Microsoft Research to the Surface 2 Software Development Kit (SDK). Microsoft Research connected the library with the Brown Graphics Group, and after some time, we were able to install and test the group's software, Large Artwork Display on the Surface (LADS). The Extension School student we hired studied LADS, then modified and presented its capabilities to other team members. The student's work led to the creation of use cases, which ultimately drove prototype development of a streamlined LADS at the tail end of the project.

## **Accomplishments**

1. Setup successful Surface development environment with minimum expert assistance while troubleshooting through both software and hardware issues.
2. Provided an exciting opportunity to a Harvard Extension School student to expand his skills set in a variety of areas from advanced programming, user interface design, web development, project management, video production and communication.
3. Formed unique library relationships and collaborations with major research groups and expanded the reach of libraries into interactive technologies.
4. Created prototype software based on LADS for two library use cases: access to collections and improving awareness.

## **Challenges**

Most of the challenges came in the beginning of the project. Finding a student developer that would be available for a year, especially through the summer, created some concern. However, Justin Daoust from the Harvard Extension School remained throughout the project and provided stability. Once the student was hired, he faced an array of difficulties starting with Surface software incompatibility with Dell touchscreen hardware coupled with difficult to find documentation for the Surface SDK. Also, it took some time before we could meet with the Brown Graphics Group, obtain their software and install it on our Dell desktop PC.

After troubleshooting and finally setting up our development environment, the student started learning from the Brown software and then modifying the LADS interface and functionality. Two use cases were later created based on the student's work. To address the requirements presented by the use cases, the Wolbach Library hired an additional student developer from the Brown Graphics Group. Due to limited funding and Library Lab deadlines, development work fell short of our target, resulting in a prototype. The initial proposal did not include this as a goal but the project team felt compelled to create a final product.

### **Next steps**

The Wolbach Library is focused on completing the LADS based prototype software developed towards the end of the project. With the assistance of the Brown Graphics Group, we hope to address remaining bugs and functionality requirements. Upon completion, the software will be open sourced to the community, but we intend to work with Rong Tang and the Simmons Graduate School of Library and Information Science (GSLIS) Usability Lab to test the effectiveness of the software in the library setting. Meanwhile, we will work with libraries worldwide that expressed interest in the project and help them to bring the same software and interactive technology to their libraries.

### **Budget spent**

The Library Lab allocated \$6.5K to the Wolbach Library, of which \$6,302.98 was spent entirely on student development time. The Wolbach Library contributed its own funds to the project for roughly \$3K in equipment costs and over \$4K in additional student development time.

### **Publicity**

Through the course of the project, both the Harvard Extension School student and the Head Librarian presented at least ten times, split between informal and formal gatherings, and far exceeding the minimum number of two presentations proposed before. The informal gatherings included members of the CfA, Smithsonian, MIT, Brown and Harvard communities. The formal presentations are highlighted below:

Erdmann, C. (June 2011). *The Wolbach User Experience Lab*, Presented at the Annual Harvard-MIT Science Libraries Meeting, MIT, Cambridge, MA.

Daoust, J. (August 2011). *Harvard Library Labs Project*, Presented at the Harvard Library Labs Showcase, Harvard University, Cambridge, MA.

Erdmann, C. (September 2011). *Harvard Library Lab: Wolbach UX*, Presented at the Harvard ABCD Windows Group Meeting, Harvard University, Cambridge, MA.

In addition to the presentations made above, Wolbach UX has benefited from project update postings on the Office of Scholarly Communications (OSC) website, another Library Lab showcase held in October and a video interview available soon.

At the conclusion of the project, the Head Librarian and student created a project website to document work done and to demonstrate the final prototype:

Wolbach UX

<http://scholar.harvard.edu/wolbachux>

The website takes a do it yourself (DIY) approach by posting our motivation, collaborations, use case examples, hardware and software obtained, what Surface development looks like, lessons learned and ultimately screenshots of our final prototype. In other words, the project team attempted to document as much as it could with the hope that another library attempting something similar might find it useful.

Other publicity included a message to the Special Libraries Association (SLA) Physics-Astronomy-Mathematics (PAM) listserv, where the project was announced. Community members were pointed to the Wolbach UX website, featuring a flyer created by a local comic book artist. The flyer depicts the use of the Surface and the prototype LADS software in a library setting. The announcement drew a great deal of positive feedback and interest from astronomy libraries worldwide.