Building the Games Students Want to Play: BiblioBouts Project Interim Report #3

Award number: LG–06–08–0076–08

Award Agent: Institute of Museum and Library Services

Award Title: Building the Games Students Want to Play

Awardee Institution: University of Michigan

Period Covered by the Report: October 2009 to April 2010

Principal Investigator: Karen Markey

Co-Principal Investigators: Soo Young Rieh and Victor Rosenberg

Project Consultant: Fritz Swanson

Lead Programmer: Gregory R. Peters, Jr.

Programmer and Graphic Design: Brian Jennings

Graduate Student Research Assistant: Chris Leeder

Doctoral Student Assistant: Beth St. Jean

Student Assistants: Andrew Calvetti and Meredith Raymond

Participating Faculty: Geoffrey V. Carter, Barry Fishman, Robert L. Frost, Sara Kosiba, Lan Lipscomb, Loyd Mbabu, and Jennifer Yim

Project Liaisons: Anita Dey, Catherine Johnson, Alyssa Martin, Averill Packard, and Gabrielle Toth

School of Information
The University of Michigan
304 West Hall, 1085 South University Avenue
Ann Arbor, Michigan 48109–1107 USA
Email: info@bibliobouts.org
Project Web Site: http://bibliobouts.si.umich.edu

April 14, 2010

Abstract

The University of Michigan's School of Information and its partner, the Center for History and New Media at George Mason University, are undertaking the 3-year BiblioBouts Project (October 1, 2008 to September 30, 2011) to support the design, development, testing, and evaluation of the web-based BiblioBouts game to teach incoming undergraduate students information literacy skills and concepts. This third interim report describes the BiblioBouts Project team's 6-month progress achieving the project's 4 objectives: designing, developing, deploying, and evaluating the BiblioBouts game and recommending best practices for future information literacy games. This latest 6-month period was marked by extensive progress in the deployment and evaluation of the alpha version of BiblioBouts. Major tasks that will occupy the team for the next 6 months are applying evaluation findings to game redesign and enhancement. For general information about game design, pedagogical goals, scoring, game play, project participants, and playing BiblioBouts in your course, consult the BiblioBouts Project web site.

CONTENTS

Building the Games Students Want to Play: BiblioBouts Project Interim Report #3

Project Objectives

The BiblioBouts Project has the following four objectives:

1. Design and develop a game that teaches students information literacy skills and concepts while they do their assigned coursework.
2. Evaluate the game to determine its effectiveness for teaching information literacy skills and concepts.
3. Expand our list of premises for the design of information literacy games to give direction to future designers.
4. Develop a model of best practices for the design, development, and deployment of information literacy games so that institutions that want to pursue game development can streamline their efforts.

During the last 6 months of the project (October 2009 to April 2010), the BiblioBouts Project team has begun the second iteration of objective #1, game design and development, and made considerable progress on the first iteration of objective #2, game evaluation. In the evaluation, the team has been attentive to findings and analyses that have to potential to become premises for game design (objective #3). To develop a model of best practices (objective #4), the team can draw on its experience with game design, development, and deployment.

Project Design

Table 1 enumerates the 12 design steps of the BiblioBouts Project. It includes the people responsible for and the original and actual dates of the work effort. To date, the BiblioBouts Project team has made progress on and/or is making plans for design steps 1–8. These 8 steps are the organizing principle for this third interim report.

Table 1. 12 Design Steps of the BiblioBouts Project

Step	Planned date	Revised date	Responsibility
1. Design and develop BiblioBouts I	fall 2008, winter, & spring 2009	fall 2008, winter spring, & summer 2009	Project team
2. Learn about the research needs of incoming students	fall 2008	summer 2009	Principal Investigator (PI), Co-PIs, student assistants; instructors at participating institutions
3. Conduct baseline study #1	summer 2008	fall 2009	PI, Co-PIs, student assistants

4. Test BiblioBouts I	summer 2009 & winter 2010	fall 2009 & winter 2010	Project team; project liaisons, students, and instructors at participating institutions
5. Evaluate game play I	fall 2009 & winter 2010	fall 2009 & winter 2010	PI, Co-PIs, student assistants, instructors and students at participating institutions
6. Analyze evaluation data and report findings I	spring & summer 2010	winter, spring, & summer 2010	PI, Co-PIs, student assistants
7. Make design and development improvements to BiblioBouts II	winter 2010, spring, & summer 2010	2010	Project team
8. Conduct baseline study #2	fall 2010	fall 2010 & winter 2011	PI, Co-PIs, student assistants, project liaisons at participating institutions
9. Test BiblioBouts II	summer & fall 2010	winter & spring 2011	Project team; project liaisons, students, and instructors at participating institutions
10. Evaluate game play II	summer & fall 2010	winter & spring 2011	PI, Co-PIs, student assistants; project liaisons, students and instructors at participating institutions
11. Analyze evaluation data and report findings II	winter, spring, & summer 2011	Spring & summer 2011	PI, Co-PIs, student assistants
12. Support widespread distribution and adoption of BiblioBouts	winter, summer, & fall 2011	Spring & summer 2011	Project team

Step 1. Design and Develop BiblioBouts I

Game design work began in December 2008 with design discussions at weekly meetings. Game design and development was accomplished in incremental stages. Interim Report #2 describes the BiblioBouts game-system and interface. In mid-October 2009, BiblioBouts moved into alpha release when students in three classes, i.e., one undergraduate class at Saginaw Valley State University, one undergraduate class at the University of Michigan, and one graduate class at the University of Michigan, began playing the game.

When students encountered technical problems, they were encouraged to send email messages to the game's hotline at info@bibliobouts.org. Their messages reached two BiblioBouts team members who responded with solutions to technical problems. Unsolved problems were referred to the game's chief programmer-architect who investigated and resolved issues sometimes logging in to students' BiblioBouts accounts or meeting students during office hours to diagnose technical problems.

During fall 2009 and in between fall 2009 and winter 2010 semesters, BiblioBouts team members reviewed these sources of information: (1) email messages to the game's hotline, (2) focus group interviews, (3) diary forms, and (4) post-game questionnaires. As

a result of the review, the BiblioBouts team continued BiblioBouts development while the fall 2009 games were in progress and before the 2010 games began. Changes were made with the intent of improving the game experience and reducing problem reports. Examples are:

- Adding new functionality to the game's administrative interface to increase the amount of information available to game administrators and/or instructors
- Adding an automatic email reminder system to automatically send game players email messages reminding them one day before one bout ends and the next one begins
- Updating the game's WebDAV storage to accommodate a Zotero upgrade
- Displaying definitions of rating criteria to increase students' understanding when applying these criteria in the Rating & Tagging bout
- Enabling scrolling while dragging resources between lists in the Sorter bout to improve usability
- Adding a capability for players to display their Best Bibliography after the BiblioBouts game ends
- Revising audience levels to increase the consistency of player selections during the Rating & Tagging bout
- Adding a detailed introductory text explaining the game, defining a bibliography, and giving examples of citation formats in response to student requests for such information

Improvements were also made to give students more information about using Zotero and improving their BiblioBouts game-play performance. Examples are:

- Video-based tutorials showing how to register for Zotero and BiblioBouts, how to play each bout, and how to attach full-texts to Zotero citations
- Zotero trouble-shooting FAQ
- Many improvements to the registration instructions, game-play instructions, and game descriptions

Step 2: Learn About the Research Needs of Incoming Students

(The BiblioBouts Project team finished this step in summer 2009. See Interim Report #2 for a full discussion.)

Step 3. Conduct Baseline Study #1

Originally, we planned on collecting students papers written in classes before students played BiblioBouts; however, instructors changed their assignments to fit the BiblioBouts' requirement that all students research the same topic, they developed entirely new assignments, or they had no papers in hand to share. Consequently, we sought alternatives to our original plan.

Because students in SI/SOC 110 volunteered to play the game for extra credit, the class was divided between students who played and did not play the game, and, thus, comparing the citations from papers written by student game players and non-players was

a satisfactory solution to the problem of collecting baseline data. BiblioBouts team members collected student papers and extracted citations from them. We conducted a literature review in search of criteria that previous researchers used to rate students' bibliographic citations. This review revealed that most criteria described characteristics of print-based publications, and, thus, did not aid in the evaluation of our two sets of student papers which contained citations to predominantly online materials.

In the early days of the Internet, coding a source as "a webpage" might have been appropriate. The wide range of information formats, artifacts, and content available on the Internet today calls for the development of a fine-grained rating system that captures the multifaceted nature of these online information sources. A webpage may be a scholarly journal article or a person's blog, and it is fundamentally important to differentiate between them.

BiblioBouts Project team members developed the Five-Faceted Taxonomy for Classifying Citations to Digital Information. The Taxonomy features these facets: (1) information format, (2) literary content, (3) author identity, (4) editorial process, and (5) publication purpose. Within each facet are listed 6 to 24 categories that describe the citation in hand. For example, some of the 24 categories in the Information Format facet are blog, policy statement, consumer magazine, encyclopedia, monograph, and scholarly journal. BiblioBouts team members consulted Ulrich's Periodicals Directory to develop some categories. Each category is assigned a score from 1 (low) to 4 (high) that ranks citations with respect to the extent to which they are likely to be vetted by an objective review and/or editorial process. Category scores were determined by a panel of judges who were three instructors whose classes played BiblioBouts. To classify a citation, classifiers almost always have to link to the full digital text to scrutinize its contents and publication characteristics. Here are two examples of their scored citations:

Example #1: Research article written by a PhD in a peer-reviewed scholarly journal

- 1: Information format facet: Academic journal *(score = 4)*
- 2: Literary content facet: Article – research *(score = 4)*
- 3: Author identity facet: Academic professional *(score = 4)*
- 4: Editorial process facet: Peer-reviewed *(score = 4)*
- 5: Publication purpose facet: Higher education *(score = 4)*
- *Total score = 20*

Example #2: Wikipedia entry:

- 1: Information format facet: Encyclopedia *(score = 3)*
- 2: Literary content facet: Entry *(score = 2)*
- 3: Author identity facet: Unknown authorship *(score = 1)*
- 4: Editorial process facet: Collaborative editing *(score = 2)*
- 5: Publication purpose facet: Non-profit *(score =3)*
- *Total score = 11*

Low-scoring citations are likely to be ones that are not vetted through academic or commercial review and editorial processes such as the Wikipedia entry in the second

example above, and high-scoring citations are likely to be so vetted such as the research article in a peer-reviewed scholarly journal in the first example above. As a result of classifying and scoring the citations in student papers, BiblioBouts team members will be able to determine whether students who played the game cited higher-quality materials than students who did not play the game. Such a comparison of student papers will enable the BiblioBouts Project team to answer two of the project's 10 research questions:

1. Is gaming an effective approach for teaching incoming undergraduate students information literacy skills?
2. What do game players learn?

Step 4. Test BiblioBouts I

Interim report #2 tells the BiblioBouts team's efforts recruiting instructors and classes for fall 2009. Because of recruiting difficulties, team members and project liaisons gave close attention to this task throughout fall 2009 so that they would not be scrambling to find instructors at the last moment. On the part of both the BiblioBouts Project team and project liaisons at participating libraries, recruitment involved considerable interaction, e.g., demonstrating the game to prospective instructors, suggesting needed changes to existing assignments, formulating new assignments that required game play, training instructors in game set-up procedures. At Baltimore and Troy, project liaisons Catherine Johnson and Alyssa Martin submitted applications to their universities' institutional review boards for approval. BiblioBouts team members also developed an Instructor FAQ to answer these typical questions prospective instructors ask about the BiblioBouts game experience:

- Is BiblioBouts right for my course?
- How do I prepare before game-play starts?
- What bout-by-bouts details do I need to know to lead class discussions about the game?

Table 2 summarizes the classes that played the alpha version of BiblioBouts, specifically, participating institutions, disciplines of classes, number of active student game players, semester, and the broad topic of their BiblioBouts game. The "incentive" column designates the 3 different types of incentives that instructors used to encourage students to play the game: (1) "extra credit," (2) a "choice" between playing the game and completing a different assignment, and (3) a "required" assignment.

Table 2 lists a total of 10 games. Students played 3 games in fall 2009 and 7 in winter 2010. At Troy University, 2 sections of ENG 2205 played one game, and 3 sections of ENG 1102 played one game. Thus, a total of 13 classes at 4 different institutions played the alpha version of BiblioBouts.

Table 2. Classes That Played BiblioBouts

Class	Institution	Discipline	#Active Players	Semester	Broad topic	Incentive
SI/SOC 110	University of Michigan (U-M)	Information technology	33	Fall 2009	Business plans for Web 2.0 technologies	Extra credit

SI 641	U-M	Information & Library Science	15	Fall 2009	Information literacy	Choice
ENGL 212	Saginaw Valley State University	English	8	Fall 2009	Digital writing & electracy	Required
SI/SOC 110	U-M	Information technology	92	Winter 2010	Workplace quality	Extra credit
EDU 222	U-M	Education	67	Winter 2010	Videogames & learning	Required
UC 170	U-M	International studies	16	Winter 2010	Intercultural communication	Required
IDIS 110-LC7	University of Baltimore (UB)	Information Literacy	16	Winter 2010	Marketing	Required
IDIS 110-LC8	UB	Information Literacy	20	Winter 2010	Innovation	Required
ENG 2205	Troy University	English	12	Winter 2010	Hamlet	Required
ENG 1102	Troy University	English	36	Winter 2010	Literary Arguments	Required

Step 5: Evaluate Game Play I

While playing the game, students participated in these evaluation activities:

- Pre-game questionnaire: Completed by all students prior to game play, this web-administered questionnaire asked students to rate their perceptions about their ability to perform library research.
- Game diary forms: Completed by student volunteers during fall 2009 game play only, this web-administered form asked students to tell us what BiblioBouts mini-games they played, what went right, and what went wrong.
- Post-game questionnaire: Completed by all students after game play, this web-administered questionnaire asked students about their perceptions of their ability to perform library research, their experiences playing particular mini-games, and their suggestions for improving the game.
- Post-game focus group interview questions: Interviewers asked student volunteers about their motivation playing BiblioBouts, what they learned from game play, suggested improvements to BiblioBouts, and whether they want to learn about library research and academic topics generally by playing games.
- Follow-up personal interviews: 3 to 4 months after fall 2009 game play ended, interviewers asked student volunteers to reflect on the impact BiblioBouts had on them, specifically, using its library-research model in subsequent research, feeling more confident about conducting such research, whether and why they feel differently about playing BiblioBouts.

In addition to administering the game, instructors participated in these evaluation activities:

- Pre-game personal interviews with faculty: Before game play began, interviewers asked faculty about their class learning objectives, assignments, and grading, and their expectations for game play.
- Post-game personal interviews with faculty. After faculty graded student projects, interviewers asked faculty what impact game play had on students, what they thought students learned from game play, what additional pre- and in-game support is needed, and how the game could be improved.

Step 6: Analyze Evaluation Data & Report Findings I

The team has begun its analysis of collected data by submitting transcriptions of interviews, completed game diary forms, and open-ended answers to questions from pre- and post-questionnaires to a content analysis. Major themes and subthemes that emerged from the analysis were:

- Δ Before game play
  - » Initial setup
  - » Adequacy of our preparation for game play (divided into offline and online assistance)
  - » Using Zotero
  - » Librarian assistance
- Δ Playing BiblioBouts
  - » Playing
  - » Problems
  - » Improvements
  - » Preference between playing or researching on your own
  - » Technical reading of full texts
  - » Incentives for playing games
  - » Affective responses
- Δ Playing [Donor, Closer, Rating & Tagging, Sorter, Best Bibliography]
  - » Playing
  - » Problems
  - » Improvements
- Δ What do students learn as a result of playing BiblioBouts?
  - » Previous information literacy skills and instruction
  - » Impact on current research practices
  - » Skills they will use in the future
- Δ Students' preferences for learning about information literacy
  - » Preferring a game over other approaches
  - » BiblioBouts' step-by-step approach
  - » Benefits of playing BiblioBouts
- Δ What other games do students want to play?

» Information literacy games
» Academic subjects

Because the classes that participated in fall 2009 were small, the set of completed pre- and post-questionnaires was not large enough for the team to perform a statistical analysis of student responses to related questions. Instead, the team performed a descriptive analysis that they are in the process of publishing in journal articles and conference proceedings (see also Project Dissemination Activities). Winter 2010 classes are larger and should generate data better suited for statistical analysis.

Step 7: Make Design and Development Improvements to BiblioBouts II

Based on the BiblioBouts team's analysis of evaluation data, the team has begun design and development improvements to BiblioBouts. The most pressing development issue facing the BiblioBouts team is a simplification of the game's initial sign-on procedure. Currently, the BiblioBouts registration process requires new players to apply for and confirm 4 different accounts or authentication mechanisms: (1) a Zotero user name and password, (2) a Zotero API authentication key, (3) a BiblioBouts user name and password, and (4) a WebDAV (file storage) user name and password. While we have tried to minimize the confusion as much as possible, it quickly became clear that this plethora of accounts was a significant barrier to prospective players. Examples of problems students encountered during the registration process are:

- Entering incorrect email addresses and passwords
- Missing or not accepting email confirmations
- Difficulties retrieving the Zotero authentication key
- Difficulties setting up WebDAV file syncing
- Difficulties syncing BiblioBouts with Zotero
- Creating an incorrect folder structure in Zotero

We consulted our subcontracting partner, the Zotero programming team, and they advised us to implement a system that uses the Zotero user name and password to authenticate the user to BiblioBouts. We would also be using the Zotero file storage which will remove the necessity of setting up and maintaining WebDAV access. To achieve these results, the BiblioBouts team must rely on the Zotero programming team for additional support. We could not have been foreseen the need for this support over two years ago when drafting the original project budget. The development of the alpha version of BiblioBouts exhausted funds in the BiblioBouts Project's original subcontract budget. To support additional technical assistance from the Zotero programming team, the BiblioBouts Project team will ask IMLS for approval to reallocate funds from the original award.

The second most pressing issue is the Sorter bout. Our analysis of evaluation data discloses these problems with the bout:

- Students do not understand the role of the Sorter bout which requires them to sort sources into categories that are different from the keywords they assign to sources

in the Rating & Tagging bout preceding the Sorter bout.

- The information that the BiblioBouts team provides to instructors to help them generate Sorter categories is inadequate.
- Priorities unrelated to game play competes for instructors' attention at the same time Sorter categories are due.
- Students tell us some Sorter categories do not adequately describe their donated sources.
- Students tell us the Sorter's easy-to-use and fun interface tempts them to mindlessly pop sources into categories instead of placing them into relevant categories.

We must also address these problems with the Best Bibliography bout:

- Students want to choose their own research topics, not the sample research topics their instructors generate for them.
- Students want to choose best sources for *their* papers, the ones that they will submit to their instructors for a grade.
- Students choose their best sources before choosing a sample research topic causing them to backtrack, choosing a sample topic and then choosing the best sources a second time.
- Forced to choose a sample research topic, some students disregard their choice and add the best sources to their Best Bibliographies that they will use for the papers they will submit to their instructors for a grade.
- The information that the BiblioBouts team provides to instructors to help them generate sample research questions is inadequate.
- Priorities unrelated to game play compete for instructors' attention at the same time sample research questions are due.

The BiblioBouts team scrutinized the Rating & Tagging, Sorter, and Best Bibliography bouts, seeking one or more elements that had the potential to provide greater unification across these bouts. Realizing that keywords could be the unifying element, we are giving keywords a more prominent role in the next version of BiblioBouts. Here is a list of the major game redesign and enhancement decisions we have made in preparation for the development of the beta version of BiblioBouts:

- Eliminate the Sorter bout
- Eliminate the "Discipline" tagging in the Rating & Tagging bout because no subsequent bouts utilize discipline tags
- In the Rating & Tagging bout, prompt students to enter the 3 "big ideas" discussed in the source at hand into 3 separate dialogue boxes using a type-ahead capability to facilitate data entry and minimize spelling and typographical errors
- In the Best Bibliography bout, prompt students to: (1) enter their own research topics, (2) choose 3 big ideas that they would discuss in their papers on this topic using a type-ahead capability that encourages them to choose the big ideas students contributed to the Rating & Tagging bout, and (3) choose the best 10

sources for their own topic.

Scoring for the enhanced Rating & Tagging bout will remain almost unchanged. Students who assign the same big ideas that their fellow students assigned to sources and are close to average relevance and credibility ratings will score the highest points. The redesigned Best Bibliography bout calls for these scoring changes: (1) greater emphasis placed on matching big ideas and (2) higher points given to students who choose sources that were assigned "college degree," "graduate degree" or "working professional" audience tags rather than "9th grade education or less" or "high school education or less" in the Rating & Tagging bout. Unchanged are the bonus points a student receives when other players choose sources he or she donated to the game for their Best Bibliographies and when a student chooses the same sources that many other students choose for their Best Bibliographies.

Examples of other improvements that will occupy the BiblioBouts team during this redesign and enhancement phase are:

- Building a database of all closed, tagged, and rated resources that game players and administrators can search during the Best Bibliography bout and for a limited time period after the BiblioBouts game ends.
- Replacing the original BiblioBouts logo with a new logo that represents energy, relevance, and goals achievement and redesigning the user interface to match the logo's style.
- Adding more feedback on scoring. The game should tell players when and why they score points.
- Adding feedback that distinguishes between satisfactory and less-than-satisfactory game play.

  For example, the game could award badges to players with these types of satisfactory game play: (1) players who are the first to donate, close, and rate sources, (2) players who are the first to reach Donor, Closer, Rating & Tagging, and Best Bibliography quotas, (3) players whose ratings are most in agreement with the average ratings in the Rating & Tagging bout, and (4) players who choose the most readings chosen by fellow players for their Best Bibliographies.

  Additionally, the game could award badges to players with these types of less-than-satisfactory game play: (1) players who closed the lowest-rated readings to the game, (2) players who give the highest ratings in the Rating & Tagging bout, (3) players who give the lowest ratings in the Rating & Tagging bout, and (4) players who chose readings that none of their fellow players chose for their Best Bibliographies.
- Adding a trophy case to each player's login page where their badges are displayed.
- Streamlining the Rating & Tagging interface to be less time-consuming, less repetitive, and more useful for game players.
- Adding more feedback on rating and tagging. For example, after rating and tagging sources, players could compare their ratings, tags, and comments with those given by their fellow game players. Also adding trophies to comments so

players can see what decorated players are saying about readings.

- In the Best Bibliography bout, providing better sorting capabilities, e.g., sort by relevance scores, sort by credibility scores, sorting by audience tags, and sort by publication date, and better and searching capabilities, e.g., search by big idea, search by donor.
- Allowing instructors and/or game administrators to set game parameters for quotas and caps.
- Adding an instructor login that allows viewing results without going through the registration process.
- Adding an online chat or bulletin board capability within BiblioBouts but not necessarily tied to a particular bout where game players could chat about things on their mind.

Staffing the BiblioBouts Project Team

BiblioBouts Project Team staffing remained stable throughout the period. In winter 2010, master's student Meredith Raymond joined the team to help code bibliographic citations in student papers, a task that pertains to the evaluation of baseline and actual study data.

Because Programmer and Interface Designer Brian Jennings is seeking a permanent professional position after his April 2010 graduation from the U-M, the principal investigator began recruiting for this position in February. Interviews in March led to the mid-April hiring of U-M graduating senior Michele Wong who has designed web sites for several non-profit organizations, and U-M divisions, academic departments, student organizations. Jennings and Wong will overlap for a period of time while Jennings acquaints his successor with his interface programming.

For the period October 1, 2009 through April 1, 2010, these are the members of the BiblioBouts Project team:

- PI: Professor Karen Markey
- Co-PI: Associate Professor Soo Young Rieh
- Co-PI: Associate Professor Victor Rosenberg
- Project Consultant: Fritz Swanson
- Lead Programmer-architect: Greg Peters
- Programmer and Interface Designer: Brian Jennings
- Graduate Student Research Assistant: Christopher Leeder
- Doctoral Student Assistant: Beth St. Jean
- Graduate Student Assistant: Andrew Calvetti
- Graduate Student Assistant: Meredith Raymond

Project Dissemination Activities

The BiblioBouts Project web site debuted in January 2009 at http://bibliobouts.si.umich.edu. Team members keep its BiblioBouts Progress to Date

page up-to-date adding new entries every month or every other month that tell exactly what tasks occupy the project team and participating libraries.

The BiblioBouts Project was one of several games demonstrated at the U-M Serious Games Expo in Ann Arbor, Mich., on November 19, 2009. BiblioBouts team members will give a presentation that includes a demonstration of BiblioBouts game-play at the 38th Annual LOEX Conference in Dearborn, Mich., on May 1, 2010. Their paper entitled "BiblioBouts: A Scalable Online Social Game for the Development of Academic Research Skills" will be published in the 2010 LOEX Conference proceedings.

BiblioBouts is one of five recipients of the 2010 Provost's Teaching Innovation Prize (TIP) at the University of Michigan. Winners will receive $5,000 and be honored at the Enriching Scholarship program on May 3, 2010 where they will participate in a poster session that showcases winning innovations.

BiblioBouts team members have submitted proposals to ACRL 2011 in Philadelphia and the Games, Learning and Society Conference 2010 in Madison, and are waiting for calls for papers to open for the 30th Annual Conference on the First-Year Experience and EDUCAUSE 2011.

Readers who want to play a demonstration BiblioBouts game can do so at http://www.bibliobouts.org. Using the Firefox browser, enter the following information to log in:

Email: demo@bibliobouts.org

Password: demo

This login allows users to experience all but the Donor bout through the demonstration game. Because the demonstration game was designed for classroom demonstrations, it is a one-person game. Multiple simultaneous sign-ons may result in unpredictable game behaviors.

Future Plans (April 2010 to September 2010)

With most game deployment tasks completed for the time being, the BiblioBouts Project team will focus on evaluation and game-system design and development activities during the period April 2010 to September 2010. Important subtasks connected with the 4 steps that will occupy the BiblioBouts Project team for the next 6 months are:

Step 5: Evaluate Game Play I

- Complete data collection activities connected with winter 2010 games: conducting focus group interviews with student game players, conducting personal interviews with instructors, conducting follow-up interviews with student game players several months after they play BiblioBouts, and collecting post-game questionnaire responses.

Step 6. Analyze Evaluation Data & Report Findings I

- Complete the literature review of published research that rates the bibliographic entries in student papers.
- Apply the taxonomy to the citations in papers written by students who played the game and students who did not.

- Analyze taxonomy results, write a journal article or conference paper detailing the results, contemplate how taxonomy results pertain to game play, suggest improvements to the game's design, and follow through on development work that implements improvements.
- Format game transaction log data for players and for donated items into spreadsheets, analyze them, write a journal article or conference paper detailing the results, contemplate how transaction log data results pertain to game play, suggest improvements to the game's design, and follow through on development work that implements improvements.
- Analyze pre- and post-game questionnaires, focus group interviews, and personal interviews from winter 2010 games, add results to the fall 2009 analysis, write a journal article or conference paper detailing the results, contemplate how these results pertain to game play, suggest improvements to the game's design, and follow through on development work that implements improvements.
- Find related themes between the results of the evaluation's several data collection methods and establish connections between them in both write-ups and game-development improvements.
- Disseminate results in journals, conference proceedings, and online discussion groups to attract the attention of librarians and instructors who want their students to play the Beta version of BiblioBouts in 2011

Step 7: Make Design and Development Improvements to BiblioBouts II

- Obtain approval from IMLS for a budget reallocation that enables the BiblioBouts team to submit a new subcontract to the Zotero programming team for programming tasks that will simplify the game's initial sign-on procedure
- Implement changes to the game's initial sign-on procedure
- Make design and development improvements based on the evaluation of the game (see the lists on pages 9–11 under "Step 7: Make Design and Development Improvements to BiblioBouts II").

Step 8. Conduct Baseline Study #2

- Recruit librarians and instructors who want their students to play the Beta version of BiblioBouts in winter 2011
- Investigate opportunities for collecting baseline data with instructors whose classes will play BiblioBouts in winter 2011