

**Service Proposal:  
Mobile Application  
for the  
University of Pennsylvania's Rare Book and Manuscript Library**

A. Tiffany, **Renee Smith**, and K. Kotila

March 20, 2013

INFO 745: Special Libraries and Information Centers

Instructor: Lisl Zach

**Table of Contents**

Executive Summary..... pg. 3  
Setting & Users..... pg. 4  
User Needs Assessment..... pg. 5  
New Information Service..... pg. 6  
Budget..... pg. 6  
Evaluation Plan..... pg. 9  
Appendix..... pg. 10  
References..... pg. 12

Service Proposal:

Mobile Application for the University of Pennsylvania's Rare Book and Manuscript Library

**Executive Summary**

The Rare Book and Manuscript Library (RBML) is proposing to develop a mobile application to improve user access to RBML materials. The application will provide University of Pennsylvania students, faculty, and staff with streamlined access to the library's resources from anywhere, at any time. As mobile technologies are becoming more integrated into the everyday lives of students, it is important that the RBML develops an application in order to meet user needs and expectations. The proposed application will support the mission of the University, the Penn Compact, which focuses on engaging learners and creating and sharing knowledge (Penn Compact, 2010). The application will improve access to information and enable users to integrate research and learning into their daily commute or other on-the-go activities. Further, the development plan includes collaborating with the University's Computer and Information Science department in order to have students participate in developing the application. This plan supports the Penn Compact by "enabling innovation and creativity" among University students (Penn Libraries Strategic Plan, 2010) and will help to keep costs down.

The user needs evaluation indicates University students desire greater access to library materials from mobile platforms. The evaluation results align with other studies that show that students expect mobile technologies to be utilized by universities and academic libraries (Neal, 2009). Additionally, users also reported feeling overwhelmed by the RBML website, which is not easily distinguishable from the websites of other University of Pennsylvania libraries. The application will ensure that RBML resources receive greater visibility and increase the library's reach among students (Access-RBML, 2012). The RBML's unique collections deserve to be showcased independently from other University of Pennsylvania libraries and collections.

Mobile technologies are becoming increasingly common in library settings. As of 2010, forty-four percent of academic libraries offered mobile services (Thomas, 2010). It is important that University of Pennsylvania libraries adopt mobile technologies in order to remain relevant among competing institutions. Because the RBML already contains a variety of electronic materials, the application would not require an overhaul of RBML services. The proposed application will streamline existing RBML resources, such as collection browsing and PDF downloading, by making them easily accessible on mobile platforms. Incorporating existing RBML resources into the mobile application will keep development costs to an estimated \$23,102, with an annual maintenance cost of \$3,765.

In comparison to the annual budget of the University's libraries, which was approximately \$58 million in fiscal year 2009-2010, the projected budget for the mobile application is small (Penn Library Facts, 2010). Benefits of the service will also greatly outweigh the costs. Providing streamlined, mobile access to RBML resources will meet user needs and expectations while also ensuring the University does not fall behind the technological abilities of peer institutions. As the first University of Pennsylvania library to offer mobile applications, the

RBML will regularly evaluate the application and share its findings with its other University libraries in order to encourage further development of mobile applications.

### **Setting and Users**

The Rare Book and Manuscript Library is one of twenty four libraries, information centers, and archives that compose the University of Pennsylvania's library system (Penn Libraries, 2012). The RBML was formalized in the 1940's; however, the collections have been building since the University's founding in 1740 (Manuscripts, RBML, 2012). The University enrolls roughly 21,500 students and functions on a 6.4 million dollar budget (Penn Facts, 2013). The mission of the library, referred to as the Penn Compact, is rooted in engaging locally and globally, increasing access, and integrating knowledge (Penn Compact, 2010).

The mission of the University's libraries is to support the academic needs of their user community. The Penn Libraries Strategic Plan for the 2011-2013 fiscal years accentuates the University's mission by stating the libraries will "...accelerate the University's course from excellence to eminence..." (2010). The Penn Libraries will take steps to achieving this by "empowering teaching, research and professional practice; enriching learning; enabling innovation and creativity; and ensuring the availability of knowledge" (Penn Libraries Strategic Plan, 2010). Like most special libraries, the RBML strives to support their user's access and resource needs. For the RBML, this means having a flexible collection policy that provides materials for a cross section of the University's academic disciplines.

The majority of the RBML's users are students and faculty from the University of Pennsylvania. Many professors work with the RBML to create assignments that require an investigation of the RBML's collections. Students from surrounding Universities are also granted access to the RBML. Public researchers who seek to use the collection are permitted; though an appointment with a reference librarian is required. Groups are also permitted upon request. Aside from reference services, the RBML provides photocopying, digital scanning, microfilming, audio cassette duplication, and assistance with publishing (RBML-Services, 2011). The RBML also provides access to parts of their collections online. Virtual collections and exhibits are showcased on their website for the virtual world to enjoy.

Since the mission of the RBML revolves around the various academic disciplines of the University, its collection is diverse. The RBML contains numerous collections in various formats, including images, manuscripts, codices, and print. One of the most popular collections is the H.H. Furness Memorial Library. This collection was donated the University in 1932 and contains a vast amount of plays by William Shakespeare and his contemporaries, as well as many theatrical images (Horace Howard Furness Memorial Library, RBML, 2010). Additional collections include 560 European printed books dating to before 1501. The texts range in subject from religion, philosophy and literature (Printed Book Collection, n.d.). The Dr. E.B. Krumbhaar collection contains 1600 volumes of medical and scientific dissertations from the 16th, 17th and 18th century (Printed Book Collection, n.d.). The manuscript collection contains over one million leaves and the number of codices is estimated at over eighteen hundred. The RBML holds over 125 medieval manuscripts dating to before the 15th century, including codices,

fragments, and some unbound pieces. Additionally, a strength of the manuscript collection is the Renaissance and early modern period. The RBML has over 1,800 codices dating between the 15th century and the 18th century. The majority of these codices come from Europe, with dominance shown by Italy, France, and Germany. Small collections exist of manuscripts from the Middle East, North Africa, and England's new colony in North America (Manuscripts, 2012).

The primary users of the RBML are University of Pennsylvania students. These students are increasingly seeking virtual resources and mobile applications to fill their information needs. As the needs of users change, so must the services of the RBML. The RBML has recently gone through a renovation that has expanded the size of the reading and research room to accommodate more users. While this renovation strengthens the physical library, it initiates a reevaluation of the RBML's virtual resources. It is vital that the RBML introduces Web 2.0 technology, specifically a mobile application, into the library in order to satisfy the expectations that today's students have come to expect (Neal, 2009).

Incorporating Web 2.0 technologies does not have to mean an overhaul of the RBML resources and services. Creating a mobile application provides users with the ability to access resources and information about the RBML while walking to class or waiting for the train. This type of access will foster a deeper understanding of the RBML's services and resources, and promote use of the Library. The addition of a smart phone application to the RBML's resources will also serve to support the Penn Compact. The application will increase access and integrate knowledge – two key elements of the University and library system's mission.

### **User Needs Assessment**

A student survey (see appendix A) has been issued to determine students' dominant information needs. The survey has been issued via links on the various Penn Library websites to ensure that opinions of students from various academic disciplines have been acquired. In addition to the digital surveys, hard copies have been made available in the Van Pelt Library's lobby, as well as the Rare Book and Manuscript Library. The survey is user-centered and provides library management insight into the world of Web 2.0 technologies and their application within libraries (Zheng & Wang, 2009, p. 294). A combination of open and closed questions has been asked to gain specific answers and personal opinions. The survey focuses on establishing how students are accessing library information and resources, including where they do it, what type of technology they currently use, and what type of new technology they would like to see incorporated into the Rare Book and Manuscript Library's services. The survey will also provide relative information about how students feel about Web 2.0 technologies, such as mobile applications and wikis (Zheng & Wang, 2009, p. 293). This information will benefit the Penn Library community in the future as these technologies become a dominant part of the library environment.

### **New Information Service**

Large numbers of students own mobile devices that they use to access the Internet on a regular basis. Libraries are harnessing the power of this trend by incorporating technology into library services such as information resources, reference, and marketing. Results of *Library Journal's* 2010 Mobile Libraries Survey revealed forty-four percent of academic libraries currently offer mobile services and twenty-one percent plan to offer services in the future (Thomas, 2010). Given this environment, having a mobile presence would make the RBML relevant in a changing atmosphere of access. In addition, it would support the library's and University of Pennsylvania's mission of increasing access and promoting innovation.

To help achieve these goals, the RBML is proposing to develop a mobile application. The application will aid in the discovery of library resources for mobile settings. It will have two focuses that enable better access to its resources (Clark, 2012). The first focus will be on static information about the library including library hours, contact information, directions, and FAQ. The second focus will be on the library's collections and will include overviews to the manuscript and printed books collections, browsing functions of these collections, and PDFs of select finding aids. A previously successful implementation of a mobile application within an academic library used a similar multi-phased approach to allow ample time for assessment and feedback (Bridges, Rempel, Griggs, 2010).

The RBML mobile application would provide users streamlined access to the library's resources from anywhere. The library's needs assessment confirmed students want information quickly and available to them no matter where they are. The mobile application would reduce the number of pages that have to be loaded in comparison to its website and speeds up response time. It provides students with convenience of access from anywhere.

The application provides a readily available access point to meet students' information needs, which is not being met by existing services. Currently, the RBML website is integrated within those of University of Pennsylvania's libraries. While this allows for cohesion among University libraries, it is an obstacle for providing the specialized information of the RBML. Users express feeling overwhelmed and confused with the RBML website, but the proposed application will provide a simplified version of the website that can alleviate the frustration. Additionally, with a limited number of terminals in the RBML, the application will give greater access to resources for patrons visiting the library in-person (Access-RBML, 2012). The RBML's mobile application is expected to expand the library's reach among students. It provides a greater visibility to the RBML resources independent of the University of Pennsylvania's libraries website. Finally, a mobile application helps the library remain relevant among its peer institutions who are already harnessing the power of mobile access (Thomas, 2010).

### **Budget**

The budget for the RBML mobile application has been divided into development and maintenance costs. To maintain cost efficiency as well as support the University of Pennsylvania's Libraries Strategic Plan goals of enriched learning and innovation and creativity,

the application will be developed through collaboration with the Computer and Information Science (CIS) Department. Students in the CIS department will program the application in requirement for a senior design project. Ongoing maintenance will be handled by University of Pennsylvania software/information technology personnel. This internal development and maintenance strategy is consistent with recent findings that indicate academic libraries are more likely to develop mobile library services in-house, rather than outsource development to vendors (Thomas, 2010).

The total cost to develop the RBML’s mobile application is \$23,102 (see Table 1). Staffing is the largest expense, encompassing both University of Pennsylvania staff and outside contract employees. In determining labor costs for both salaried and contract employees, estimates were made based on averages from recent salary surveys (Basu, 2012; Chronicle, 2012; Computer World, 2012; Rapp, 2011). Salaried staff within the University includes a RBML librarian and CIS professor each devoting ten percent of their time to oversee development. Additionally, University software/information technology personnel are necessary for server development and hardware infrastructure setup which will account for three percent of their time. Contract employees include a designer working one week to develop visual aspects of the application to align with that of RBML as well as the University. Finally student programmers will write code and test the application in requirement for a senior design project. As this labor is free, it amounts to an in-kind contributed income of \$42,500.00; calculated as a percentage of annual income for professional programmers with equivalent skills. Supplies and other costs for developing the mobile application include publishing fees for platforms and incentives for user testing of the application (Thomas, n.d.).

**Table 1: Development Budget**

Development Costs (1 year)	
<b>Salaries</b>	
RBML Library Specialist <i>@ 10% of \$65,000</i>	\$ 6,500.00
Computer & Info Science Professor <i>@ 10% of \$80,000</i>	\$8,000.00
U Penn. Software/IT Support Personnel <i>@ 3% of \$85,500</i>	\$2,565.00
<b>Subtotal</b>	<b>\$17,065.00</b>
Benefits <i>@ 20% of subtotal</i>	\$3,413.00

<b>Total Salaries &amp; Benefits</b>	<b>\$20,478.00</b>
<b>Contract Employees</b>	
Designer <i>@ \$50/hr. for 40 hrs.</i>	\$2,000.00
Programmer/Coding <i>@ 20hrs./wk. for 1 year based on salary of \$85,000</i>	\$42,500.00
<b>Supplies</b>	
Incentives for user beta testing	\$250.00
Incentives for evaluation survey respondents	\$250.00
<b>Other Costs</b>	
Publishing Fees for Mobile Platforms <i>\$25/Android, \$99/iTunes</i>	\$124.00
<b>Contributed Income</b>	
In-Kind Contribution of Students' Time <i>@20hrs./wk. for 1 year based on salary of \$85,000</i>	(\$42,500.00)
<b>Total</b>	<b>\$23,102.00</b>

The total cost to maintain the application is \$3,765 annually (see Table 2). This includes University software/information technology personnel devoting three percent of their time (an average of approximately 1.2 hours/week) to software support, troubleshooting, and hardware infrastructure maintenance. Other costs include utilities for server power and internet.

**Table 2: Maintenance Budget**

<b>Maintenance Costs (ongoing annually)</b>	
<b>Salaries</b>	
U Penn. Software/IT Support Personnel <i>@ 3% of \$85,500</i>	\$2,565.00
<b>Other Costs</b>	
Utilities <i>@ \$100/month</i>	\$1,200.00
<b>Total</b>	<b>\$3,765.00</b>



### **Evaluation Plan**

It is important that the RBML evaluates the application to ensure that it is a valuable service for users. The application will be evaluated by measuring both tangible outputs and intangible outcomes such as convenience and increased access to information (Bryson, 2011, p. 334). Measuring both outputs and outcomes will help to demonstrate the complete value of the service and show that the service supports the mission of the University of Pennsylvania.

Outputs demonstrate the value of a service in terms of use and efficiency (Bryson, 2011, p. 344). The RBML will track various outputs to demonstrate the use of the application to be used as a benchmark against other services. The simplest output to track is the number of times the application is downloaded. Other outputs to be measured include the number of hits specific pages within the application receive and the number of PDFs downloaded through the application. These numbers will demonstrate how often the application is used and show which specific services are most highly utilized.

Outcomes are the intended consequences of the information service (Bryson, 2011, p. 344). The application's outcomes would include the convenience of use, more accessible information, and services that are available anywhere at any time (Bryson, 2011, p. 334). An evaluation survey (see Appendix B) will be issued to everyone who has downloaded the application in order to collect qualitative data that will be used to measure the outcomes listed above. Users will be required to enter their University email in order to download the application, which will allow for the survey to be distributed electronically to all users. In addition to collecting data related to outcomes, the survey will also give users an opportunity to offer suggestions about how the application can be improved to better meet their needs. Surveys will be issued on a regular basis to ensure that the application continues to meet user needs. Updates will be made when the data collected demonstrates a need for the service to be improved.

The data collected through both these methods will help to demonstrate that the application is supporting the University's mission to enrich learning and ensure the availability of knowledge (Penn Libraries Strategic Plan, 2010). A summary of evaluation results will be provided in the RBML's annual report in order to share the success of the application and encourage other University of Pennsylvania libraries to take advantage of mobile technologies.

Appendix A: User Needs Survey

**User Needs Survey:**  
**Technology Resources in the RBML**  
The Rare Book and Manuscript Library  
of  
The University of Pennsylvania



Help us to fulfill your information needs. Please take a moment to fill out this survey.

---

1. Please indicate your education level:

Undergraduate  Graduate  Other \_\_\_\_\_

2. How often do you use the Rare Book and Manuscript Library's (RBML) services and resources each semester?

More than once  Once  Never

3. How do you most frequently access library information and resources?

Personal Computer  Tablet  Smart phone  University owned computer  
 Other \_\_\_\_\_

4. Where do you most frequently access library information and resources?

Home  Campus  Work  Other \_\_\_\_\_

5. Would it be useful to access the RBML information and resources via a smart phone application? Why?

Yes  No

---

---

6. What other type of technology would you like the RBML to add to its resources?

---

---

7. Do interactive Web 2.0 technologies enhance your library experience? Why?

Yes  No

---

---

**Thank you for your time!**

Appendix B: Evaluation Survey

**Evaluation Survey:**  
**RBML Mobile Application**  
The Rare Book and Manuscript Library  
of  
The University of Pennsylvania



Help us to evaluate the Rare Book and Manuscript Library (RBML) mobile application. Please take a moment to fill out this survey.

1. Please indicate your position:

- Undergraduate student    Graduate student    Faculty    Staff  
 Other \_\_\_\_\_

2. How often do you use the RBML mobile application each semester?

- 10 or more times    5-9 times    1-4 times

3. Which mobile application services do you most frequently access? (Check all that apply)

- Collection Browsing    PDF Downloading    RBML Hours or Contact Info  
 Other \_\_\_\_\_

4. The mobile application has:

- |  | YES                      | SOMEWHAT                 | NO                       |
|--|--------------------------|--------------------------|--------------------------|
| A. Made RBML resources more convenient     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Made RBML resources more accessible     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Increased the efficiency of my research | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Would you recommend the RBML mobile application to a friend? Why or why not?

- Yes    No

\_\_\_\_\_

\_\_\_\_\_

6. Do you have any suggestions on how to improve the mobile application?

\_\_\_\_\_

**Thank you for your time!**

References

- Access – Rare Book and Manuscripts Library. (2012). The University of Pennsylvania. Retrieved from <http://www.library.upenn.edu/access/rbm.html>
- Basu, K. (2012, April 9). Slow recovery. *Inside Higher Ed*. Retrieved from <http://www.insidehighered.com/news/2012/04/09/aaup-releases-faculty-salary-data>
- Bridges, L., Rempel, H. G., & Griggs, K. (2010). Making the case for a fully mobile library web site: From floor maps to the catalog. *Reference Services Review*, 38(2), 309-320.
- Bryson, J. (2011). *Managing information services: a sustainable approach*. 3rd ed. Farnham, Surrey: Ashgate Publishing.
- Chronicle. (2012, April 8). 2012 faculty salary survey: University of Pennsylvania. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/faculty-salaries-data-2012/131431#id=215062>
- Clark, J. A. (2012). *Building mobile library applications*. Chicago: ALA TechSource.
- Collections Development Policies - Rare Book & Manuscript Library. (2007). The University of Pennsylvania. Retrieved from <http://www.library.upenn.edu/collections/policies/spec-book.html>
- Computer World. (2012). Computerworld's smart salary tool 2012. *Computer World*. Retrieved from <http://www.computerworld.com/s/salary-survey/tool/2012>
- Dag. (2010, October 17). The cost of building an iPad app. *Pad Gadget*. Retrieved from <http://www.padgadget.com/2010/10/17/the-cost-of-building-an-ipad-app/>
- Manuscripts – Rare Book and Manuscripts Library. (2012). The University of Pennsylvania. Retrieved from <http://www.library.upenn.edu/collections/rbm/mss/>
- Neal, J.G. (2009). What do users want? What do users need? W(h)ither the academic research library? *Journal of Library Administration*, 49, 463-468.
- Penn Compact. (2010). The University of Pennsylvania. Retrieved from <http://www.upenn.edu/president/penn-compact/penn-compact-landin>
- Penn Facts. (2013). The University of Pennsylvania. Retrieved from <http://www.upenn.edu/about/facts.php>
- Penn Libraries. (2012). The University of Pennsylvania. Retrieved from <http://www.library.upenn.edu/>
- Penn Library Facts 2009/2010. (2010). The University of Pennsylvania. Retrieved from: <http://datafarm.library.upenn.edu/>
- Penn Libraries Strategic Plan, Fiscal 2011-2013. (2010). The University of Pennsylvania. Retrieved from <https://project.library.upenn.edu/confluence/display/libstratplan/Penn+Libraries+Strategic+Plan+2011-2013>
- Printed Book Collections – Rare Book and Manuscript Library. (n.d.). The University of Pennsylvania. Retrieved from <http://dla.library.upenn.edu/dla/print/ancillary.html?id=collections/rbm/bks/bks>
- Rapp, D. (2011, December 20). ARL salary survey: U.S. academic librarians' salaries up 1.5 percent. *Library Journal*. Retrieved from

[http://www.libraryjournal.com/lj/home/893123-264/ar1\\_salary\\_survey\\_u.s.\\_academic.csp](http://www.libraryjournal.com/lj/home/893123-264/ar1_salary_survey_u.s._academic.csp)

Thomas, C. (n.d.) How much does it cost to develop an app? *BlueCloud Solutions Digital*

*Marketing*. Retrieved from <http://www.bluecloudsolutions.com/blog/cost-develop-app/>

Thomas, L. C. (2010). Gone mobile. *Library Journal*, 135(17). Retrieved from

[http://www.libraryjournal.com/lj/ljprintcurrentissue/886987-403/gone\\_mobile\\_mobile\\_libraries\\_survey.html.csp](http://www.libraryjournal.com/lj/ljprintcurrentissue/886987-403/gone_mobile_mobile_libraries_survey.html.csp)

Zheng, Q., & Wang, S. (2009). Programming library 2.0 that users need. *The Electronic Library*, 27(2), 292-297.