

King County Library System Tech Summit

FINAL REPORT



Prepared by

Lori Bowen Ayre

The Galecia Group

May 19, 2011

Introduction	3
Objective.....	3
Future Services Strategy	3
Technology: Opportunities and Considerations	4
Tech Summit Day	7
Background Information Provided to Participants	7
Brainstorming and Voting.....	10
Emerging Themes.....	11
Use the Technology Our Patrons Are Using	11
Leverage the Library Catalog	12
Support Local Communities and Build the “KCLS Community”	14
Make KCLS Easier and More Accessible, but in New Ways	15
Do More With What We Already Do	16
Conclusion	18
Possible Criteria for Project Evaluation	18
Appendix: Backgrounders and Ideas Generated.....	1
Mobiles Devices & Generations and their Gadgets.....	2
Backgrounder.....	2
Brainstormed Ideas.....	3
Vote Counts for Ideas Presented	4
Multitouch Surfaces and Gesture-based Computing	5
Backgrounder.....	5
Brainstormed Ideas.....	7
Vote Counts for Ideas Presented	7
EBooks, Audiobooks and Downloadables.....	9
Backgrounder.....	9
Brainstormed Ideas.....	10
Vote Counts for Ideas Presented	12
Context-Aware Computing, Social Objects, and Augmented Reality	12
Background	12
Brainstormed Ideas.....	14
Vote Counts for Ideas Presented	14
Social Media, Social Networking, and Gamification	16
Backgrounder.....	16
Brainstormed Ideas.....	17
Vote Counts for Ideas Presented	19
Telepresence, Video Chat, and Video Content.....	20
Backgrounder.....	20
Brainstormed Ideas.....	22
Vote Counts for Ideas Presented	23

Introduction

KCLS and libraries across the nation are facing many new pressures that push against core values and services. The confluence of fiscal, demographic, and technological changes is creating new challenges and opportunities for reviewing, redefining, and enhancing the services and delivery methods KCLS offers while remaining true to core values.

Objective

In order to broaden the breadth of ideas and to tap into the creativity of library staff, the Foundation and other stakeholders, KCLS leadership decided to hold a half-day workshop for the purpose of generating ideas for technology projects that would enhance services to patrons. The library enlisted key staff as well as members of the Foundation to participate in a half day Technology Summit. Lori Ayre, Library Technology Consultant, was asked to provide background materials and context to the day as well as facilitate the process of generating ideas and helping to prioritize them.

The Technology Summit was held on April 21, 2011 from 9am to 1pm. The stated purpose was to identify and prioritize a slate of technology projects that would augment KCLS' service objectives. Approximately 30 people participated including public service librarians, KCLS Foundation members, department managers, select staff, and a local University of Washington I-School Ph.D. student.

Future Services Strategy

The outcome of the Technology Summit will be used to inform the Future Services Strategy (FSS) which was adopted in response to three strategic drivers that profoundly affect the delivery of future library services:

- Rapid and ongoing advances in technology
- Significant and ongoing demographic changes in King County
- Fiscal constraints on KCLS

Many of the services included in the Strategy are traditional library services. All reflect KCLS' mission, vision, and values. The ways in which these services are delivered reflect a fundamental shift with KCLS becoming a more proactive organization, reaching out and engaging with the community served.

Outreach to cultivate new library patrons in traditionally underserved groups is an important and stated priority of the FSS.

The FSS outlines three ways services can be delivered. All three methods are vital to the provision of future services to KCLS patrons.

- **In the Library:** Services and programs that happen inside library buildings
- **In the Community:** Outreach services and programs that extend into the community and engage with other organizations to reach new patrons
- **Online:** Services and programs available anytime online through the KCLS website and catalog

KCLS recognizes that changing patterns and expectations in information-seeking require new approaches to the ways libraries make information available. It is no longer enough to be open when patrons come to the library. KCLS also needs to reach out effectively across the barriers of time and place.

Technology: Opportunities and Considerations

Denise Siers, Director of Public Services and Virtual Library Services, provided a preliminary summary of some of the technology trends that come into play as KCLS identifies specific projects to pursue. As part of the planning phase for the Tech Summit, KCLS leadership and the Tech Summit facilitator considered the following:

- Book industry analysts predict that by 2014, half of all books published will be eBooks.
 - Where do you see the role of KCLS in this scenario?
- Next year, Harper Collins will be publishing 150 audiobooks, only two of which will be published as CDs. The other 148 will be downloadable.
 - What can KCLS do to transition traditional users of media to downloads?
- According to the Pew Internet and American Life Project, as of mid-2010 82% of American adults own a mobile phone or mobile computing device that works as a phone (excludes laptops) and 90% of Americans age 18-29 own a cell phone.
 - How can KCLS engage the mobile majority of our population?
- The face of the digital divide is changing. While 80% of Caucasian adults own mobile devices, the rate of ownership among English

speaking Latinos and African Americans is 87%. These latter groups also used their phones to access the Internet at 46% and 51% respectively, higher than the 38% of white Americans. (Mobile Access 2010- Pew Internet and American Life Project).

- What are some innovative ways to reach diverse populations electronically?
- “Nielsen published stats showing that “three of the world’s most popular brands online are social-media related (Facebook, YouTube and Wikipedia) and the world now spends over 110 billion minutes on social networks and blog sites. This equates to 22 percent of all time online. ...social network or blog sites are visited by three quarters of global consumers who go online” In the past year alone, time online has increased 66%. (Nielsen, June, 2010)
 - How can KCLS encourage patrons to participate with the library through: social networking, social publishing, social collaboration and social feedback?
- Gartner’s Top 10 Strategic Technology Trends 2011 identifies the use of video as exploding. “Over the next three years Gartner believes that video will become a commonplace content type and interaction model for most users, and by 2013, more than 25 percent of the content that workers see in a day will be dominated by pictures, video or audio.”
 - With a text based catalog and website, what graphics, video and audio should KCLS offer?
- Gartner’s 2011 trends include Context-Aware Computing. “Context-aware computing centers on the concept of using information about an end user or object’s environment, activities connections and preferences to improve the quality of interaction with that end user. A contextually aware system anticipates the user’s needs and proactively serves up the most appropriate and customized content, product or service. Gartner predicts that ...by 2016, one-third of worldwide mobile consumer marketing will be context-awareness-based.
 - How can KCLS enhance the user experience through context-aware computing while protecting the right to privacy of patrons?
- The New York Times Technology section reports that the cell phone could soon be taking on the role of standing in for credit and debit

cards with consumers waving their phones instead of swiping their cards.

- What application could a “universal” card have at KCLS?

Tech Summit Day

On the day of the workshop, each attendee was assigned to a group. Members of the same group were seated together at a table throughout the day. Each group was composed of a mix of library staff, managers, and a Foundation member. There were six groups of 4-6 people.

Background Information Provided to Participants

Each group was given a Backgrounder in a topic area. The topic areas were developed by Lori Ayre based on Denise Siers' initial summary (above) as well as her own research into technology trends and emerging technologies.

The Backgrounders covered the following technologies:

1. Ebooks, Audiobooks, Downloadables
2. Context-aware computing, Social Objects, Augmented Reality
3. Multitouch surfaces and Gesture-based Computing
4. Social Media, Social Networking and Gamification
5. Telepresence, Video Chat, and Video Content
6. Mobile Devices, Generations and their Gadgets

To get the day started, Ayre provided a brief overview of technology trends. The group reviewed the Extinction Timeline¹ which predicts when certain technologies will fall into disuse or become irrelevant. The Extinction Timeline was created jointly by What's Next² (a trend report published by Richard Watson) and the Future Exploration Network³.

Excerpts from the Extinction Timeline:

- 2011: Landline phones
- 2012: Dial up Email
- 2013: Video rental stores, fax machines
- 2014: Getting lost
- 2016: Computer mouse, Retirement
- 2018: Text based search, DVDs
- 2019: Libraries
- 2020: Copyright

¹ http://rossdawsonblog.com/weblog/archives/2007/10/extinction_time.html

² <http://nowandnext.com/>

³ <http://futureexploration.net/>

2022: Blogging, Speleeng, The Maldives
2024: Desktop computers
2029: Trade unions
2036: Petrol-engined vehicles
2037: Glaciers
2049: Physical newspapers, Google

Ayre also presented information about the following Top Ten Consumer Trends:⁴

1. Decline of the Cash Register
 - Retailers are adopting mobile payment systems
 - Salespeople take the customer through the complete transaction to provide more personalized service.
2. Digital Etiquette
 - As we become more addicted to texting, social media and other digital habits, the more we will need rules of etiquette.
 - Friends will implore friends to show some digital decorum.
3. F-Commerce (Facebook)
 - Facebook users will soon be able to shop without leaving the site
 - The social influence adds to the brand
4. Group-Manipulated Pricing
 - Group-on is the prime example.
 - Also, inventive variations being developed such as making the advantage of group buying more explicit by showing the price decrease as more people opt in.
5. mHealth (mobile health apps)
 - Mobile health apps are changing the way patients and their physicians interact
 - Doctors can use smart phones to access patients' medical histories
 - Patients are monitoring their own health (e.g. blood pressure and glucose levels)
 - Bill and Melinda Gates Foundation is currently funding research into mHealth.
6. Mobile Blogging
 - Blogging via mobile devices

⁴ [Source: http://risnews.edgl.com/retail-trends/Top-10-Consumer-Tech-Trends](http://risnews.edgl.com/retail-trends/Top-10-Consumer-Tech-Trends)

- Shorter, more frequent posts that are photo-heavy
 - Records from travelers, amateur journalists, sports fans
 - Platforms like Tumblr and Posterous provide options to call in, text or e-mail blog updates.
7. Reading's Rebirth
- Watch for a cohort of new and more prolific readers.
 - E-readers are even bringing books to more people in low-literacy countries such as Ghana.
8. Social Objects
- Services like Stickybits enable users to attach digital content (videos, links, audio, text) to physical objects
 - Virtual communities form around real-world items
 - Opens up opportunities for brands to connect with their customers
9. Tablets for Tots
- Children have embraced iPads and touchscreen smartphones
 - iPad topped 2010 Christmas tech wish lists for American kids 6 to 12, per Nielsen.
10. Video Calling
- Video calling is coming to more mobile phones, as well as tablets and Internet-connected TVs
 - Apple's FaceTime
 - Tango for iPhones and Android phones.

Finally, the group was asked to keep in mind the following information concerning the Digital Divide:

- **Latinos are less likely than whites to access the internet, have a home broadband connection or own a cell phone.** Latinos lag behind blacks in home broadband access but have similar rates of internet and cell phone use⁵
- Compared with those who have broadband connections, **people who do not use the internet or who only use dial-up connections have different problems and different search strategies when they face personal issues.** They are less successful than those with high-access to the internet in getting the material they need to address problems.⁶

⁵ <http://people-press.org/>

⁶ <http://people-press.org/>

Brainstorming and Voting

Following the presentation about trends, each group was given time to review their Backgrounder (see [Appendix: Backgrounders and Ideas Generated](#)) and to brainstorm ideas in their topic area. They then picked their top 3-4 technology project ideas and wrote their ideas on flip chart paper and taped them to the wall.

Next, the groups exchanged topics and repeated the brainstorming session. Again, the top project ideas were written on flip chart paper and taped to the walls.

Following the brainstorming session, each individual would have a chance to vote on their three favorite ideas. To ensure everyone understood the ideas presented, a representative from each group explained the ideas that were represented on the flip chart paper. Because this process generated some discussion and new ideas began popping up, participants were allowed to present new ideas and put them on the wall for participants to vote on. Each person then voted for their three favorite ideas.

There were several very popular ideas presented. Two ideas received over 40 votes and several ideas received over 20 votes. However, even the ideas that received fewer votes provide strategic direction for technology planning. [Appendix: Backgrounders and Ideas Generated](#) contains detailed information about the ideas generated by participants and a summary of how many votes each idea received.

Several themes emerged that will inform KCLS' technology strategy.

Emerging Themes

Many excellent ideas for technology projects were presented. The ideas ranged from innovative and out-of-the-box initiatives to practical, easy-to-implement suggestions. Some of the ideas took slightly different approaches to addressing the same need, while others used similar approaches or technologies but used it to address different needs or different patron populations.

The enthusiasm and commitment to the KCLS patron community was evident throughout the day. People built on each other's ideas and listened intently to the ideas presented. Over the course of the day, the following themes emerged.

Use the Technology Our Patrons Are Using

KCLS staff recognize that it is important to meet KCLS patrons where they are: in the building, on their favorite social media site, on their smart phone, or out in the community.

New technologies provide more and more opportunities for taking services out into the community, into patrons' homes and schools, to their workplaces; anywhere patrons will benefit from a service the library has to offer. Participants suggested using simple technologies such as QR codes⁷ to augment in-library displays with online resources or using QR codes out in the community (on posters, in windows, etc) to draw attention to library resources related to the business or topic.

Numerous ideas were presented for ways to take advantage of smart phones and social networking sites to support patrons in the library with wayfinding (downloadable self-guided tour) and helping them discover in-library resources (e.g. the "where am I and what is around me" app) or to get just-in-time help at the point of need (use mobile phone to request help in the stacks). Mobile apps and social networking sites can be used to deliver traditional library services such as reader's advisory and reference service as well.

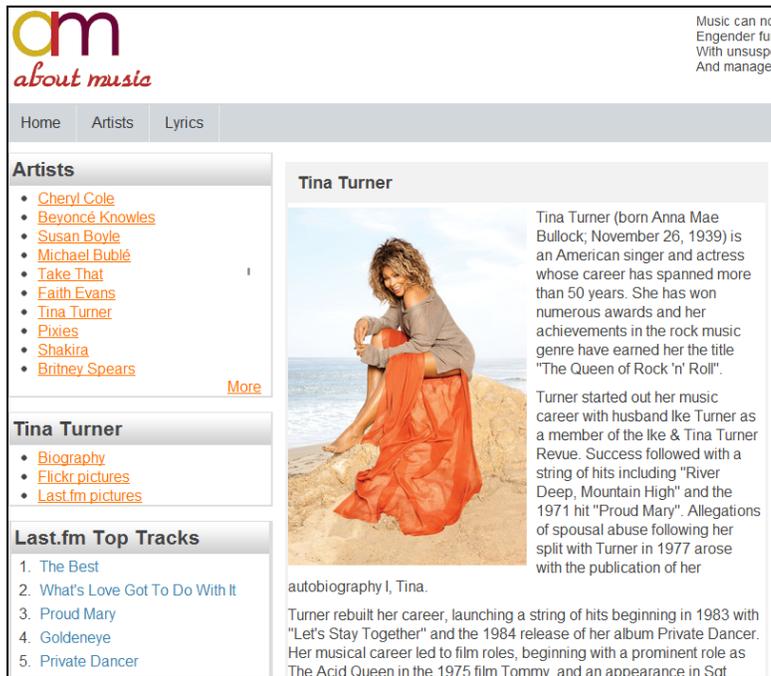
Other ideas focused on taking advantage of existing applications (e.g. Yelp Monocle, Google Maps) to ensure that KCLS resources are findable from inside and outside of the library.

⁷ From Wikipedia: A **QR code** (short for *Quick Response*) is a specific [matrix barcode](#) (or two-dimensional code), [readable](#) by dedicated QR [barcode readers](#) and [camera phones](#). The code consists of black modules arranged in a square pattern on a white background. The information encoded can be text, [URL](#) or other data.

Leverage the Library Catalog

The most popular idea of the day was to develop a patron-accessible Application Programming Interface (API) to the KCLS catalog. An API would define the ways that outsiders could access data stored in the catalog so that new and interesting things could be developed while ensuring that patron information remains private and the security of the catalog (and KCLS) is ensured. In other words, it provides safe and limited access to data that KCLS explicitly defines as available to the outside world. The idea is to publish an API that could be used by patrons with some software development experience so they could develop applications that were of interest to them.

APIs are commonly used on websites such as Google, Flickr, SlideShare, LinkedIn, Facebook, Amazon and other places so that the user communities can develop their applications and mash-ups.⁸ One example of how APIs have been put to use is a website called AM: About Music.



⁸ From Wikipedia: a mashup is a [Web page](#) or application that uses and combines data, presentation or functionality from two or more sources to create new services. The term implies easy, fast integration, frequently using [open APIs](#) and data sources to produce enriched results that were not necessarily the original reason for producing the raw source data.

The AM: About Music website uses data pulled from several APIs including Amazon eCommerce, Flickr, Lastfm and Wikipedia. It uses this data to present a website that does something different. It allows users to find everything there is to know about their favorite artist, buy their music or books about them, see pictures of them and listen to their songs.

The idea behind the KCLS Catalog API is to take advantage of the creative community of KCLS users by providing them access to the valuable information that resides in the catalog: excellent descriptive content about library resources, structured MARC records, a variety of bibliographic information, circulation statistics, etc. The beauty of making catalog data available beyond “the catalog” is that the possibilities are limited only by the creativity of KCLS end users and community partners.

Development of a catalog API is also something that is generally transferable to other libraries using Evergreen software. And because Evergreen is an open source software product, there are no licensing fees to worry about. Once an API is developed, all Evergreen libraries will benefit from the ability to share their catalog data with their community in new and interesting ways. Also, many applications that are created as a result of a published Evergreen API will be usable across systems. In other words, even though a Microsoft employee here in the Seattle area may develop the first app that uses the Evergreen catalog API, it would potentially be usable by Evergreen libraries in Georgia, Connecticut, British Columbia, and anywhere else Evergreen is running.

The catalog API idea spread from KCLS to other Evergreen libraries almost immediately. As a result, other members of the Evergreen community are already making plans to develop it. KCLS may choose to be a part of this development effort or they can wait for it to become available and then take advantage of it to leverage the catalog data for untold numbers of innovative, patron-initiated applications.

Support Local Communities and Build the “KCLS Community”

Another theme that arose several times throughout the day was the idea of community building. Libraries generally, and KCLS specifically, have a unique relationship with all members of a geographic community. Every segment of the community has a stake in the library and the library has a duty to address the information needs of each of these segments. Senior citizens, children, teachers, parents, small business owners, unemployed people, new immigrants, and employees from large corporations like Boeing and Microsoft have at least one thing in common and that is that the library belongs to them and the library has resources and services to benefit them.

Beyond the traditional library resources of meeting rooms, magazines, and books, technology provides opportunities to bring different parts of the community together and to strengthen existing communities and community partnerships. For example, KCLS could make better use of what they know about their patron’s interests and preferences to keep them informed of activities and opportunities in the library and in the community. Imagine being able to send a text to everyone who read books by a certain author to notify them of a book-signing party or appearance.

Meeting rooms are not the only in-library resource that is valuable to a wide segment of KCLS users. Video-conferencing setups or high-tech touch screens, or video editing equipment could also be made available inside the libraries. Making this type of equipment, especially in combination with tech support and training in order to use it effectively, would build on the existing services and resources KCLS provides which span the needs of a broad range of communities.

Participants suggested making more types of resources “findable” in the catalog. Rather than limiting the collection to items that are owned only by the library, the catalog could be used to help link people to a wide range of community resources, events, or material in a wider range of formats. People searching “heart disease” could be given results that include community health resources servicing people with heart disease, TV or radio programs on the topic, specialists in the area, and of course high quality books and journals on the topic.

Another idea was to use technology to organize events that span traditional communities. For example, the “Pandora for Books” concept was to utilize social networking tools that help patrons identify the types of books they like based on their interests. KCLS-specific recommender services could be developed to suggest titles patrons would like based on their interests and the aggregated interests of readers with similar interests. KCLS could create virtual reading clubs or Twitter feeds or Facebook groups for patrons who like Westerns or are interested in local history.

Make KCLS Easier and More Accessible, but in New Ways

KCLS takes pride in providing open and welcoming spaces and high-quality physical resources. However, not everyone can get to the library. As more and more material becomes available electronically, it is important to leverage all the ways that services and content can be delivered to patrons.

Several ideas were presented that would make it easier for online patrons to use library resources. For example, a KCLS Toolbar, browser plug-in or Google widget – all of which are easy to install – could make services such as Ask-A-Librarian and AnswerLine, and resources from the catalog or subscription databases readily available. The widget or tool bar could even be configured to reserve time on a PC or check the status of the patron’s hold requests.

Personal assistance could be provided in multiple ways. Right now AnswerLine support is provided by phone but why not offer it remotely by video. No special equipment is needed on the part of the patron but imagine how different the experience would be for the end user who would be able to see the face of the KCLS staffperson helping them. For iPhone users, offer AnswerLine via FaceTime. For users using Skype, it would also be great for KCLS to be among everyone’s Skype contacts. Some patrons would use their KCLS contacts for AnswerLine, some Reader’s Advisory, and some Reference.

“Bump” is an application that allows smart phone users to send contact information from one phone to another just by bumping their hands together while running the “Bump” application. Why not offer “Bump” application that allows patrons to send reading lists to one another or to interact with the library (e.g. place a hold, download an e-book or to “Bump” a Librarian for assistance.)

Another way to easily tie into library users is to provide an application that would allow patrons to read an ISBN number (with their cell phone camera) to link to that item in the library catalog. From there they could easily place a hold or put it in their book bag or get more information.

Do More With What We Already Do

Many popular library programs like story time, Outreach, and reading classes as well as services like making book recommendations, and writing book reviews could be used in many more ways; and they could be re-used again and again. For example, Flip video cameras and YouTube make it easy for anyone to record a children's librarian reading a story and upload it to a KCLS YouTube channel so homebound kids can benefit too. And why limit story time to kids?

Based on how popular audiobooks are, we know adults like to be read to as well. Homebound adults would certainly enjoy listening to a book being read to them. And it might be even more popular if were part of a live event. Webcams are another simple technology that enables streaming of live events. Rather than being home alone and reading in isolation, the homebound could feel more connected to others who are enjoying the same book. It could even be an ongoing shared experience...a chapter a week, with online discussions at the end of each reading. These are some of the ways you can extend the reach of popular in-library programs using live video.

And webcams are not just for extending the live event out into the community and into homes in real-time, these events can be archived so even more people can enjoy them later.

Librarians take pride in their expertise at selecting content for inclusion in the collection. The idea of an "E-Bar" builds on this expertise. The idea is that ebooks, magazines, newspapers and other e-content would be pre-selected for e-readers or other gadgets and loaned. The E-Bar idea was the second most popular idea of the day and the concept, as presented by the participants was to lend "themed" iPads, Kindles, or other eReaders and make them available for in-library use.

The image of the E-Bar comes from a room full of teens (for example) sitting at a bar with their library-supplied e-book readers doing homework. Working with local schools, the library could preload the ebook readers with material that supports the curriculum. Or perhaps another E-Bar would be the place that seniors congregate to read newspapers from around the world...on their library-supplied ebook reader. Themed e-book readers could be provided on any number of topics, genres, subjects.

Creating games and competitions around books is another way to build on a core library resource. One suggestion was to take a book and have patrons collaborate to build upon the story. For example, kids could insert themselves into a Harry Potter book – what special powers would they have? Or groups of teens could work together to write their own Hunger Game adventures.

There are other ways to “gamify” books including creating treasure or scavenger hunts based on a popular book or character. Forming reading clubs or reading competitions and giving people badges they can post on their Facebook page is another way to add to the reading experience and make reading even more fun.

Conclusion

This report explains how the day was organized and highlights some of the key themes that emerged. What may not be captured is the enthusiasm and excitement that characterized the day. The people that participated in the program are creative and eager to do what they can to provide better, new, innovative, and simpler services to patrons and they strive to extend the reach of KCLS.

Over 150 different ideas for technology projects were brainstormed. Of those 150 ideas, approximately 25 of them were discussed and voted upon. Those 25 ideas were fleshed out and viable enough that the work group felt they should be presented to the larger group for their consideration. And in most cases, each of those 25 ideas garnered a few, if not many more votes. In other words, there were many very good ideas generated that morning.

Obviously, not every project that was brainstormed or even every one that was put to a vote can be implemented. The selection of projects to pursue will require further evaluation based on the same criteria that apply to other library initiatives.

Possible Criteria for Project Evaluation

1. Does the project have broad appeal? How many patrons would be affected?
2. Is this a project that only the library could provide?
3. Does the project support key library initiatives?
 - Easy, engaging, integrated technology to access collections and services
 - Technology to meet patrons' need and interests
 - Catalog as primary interface
 - Technology to create online programming
 - Connect patrons with technology
 - Periodic costs/benefits review
 - Ongoing evaluation of new tech acquisitions

4. Does the project support the local economy or local talent, businesses, artists, etc?
5. Is there a regional angle to the project – does it build on our part in this King County area?
6. Does the project enhance library’s ability to provide more personalized service?
7. Can this project be implemented locally at the community the library level?

It will be important for KCLS to apply some type of criteria to project selection and then explore the viability of the selected projects. So many interesting and exciting ideas were presented; it will be difficult to select just a few for implementation. At the very least, the list of project ideas provides an excellent starting point for conversation with public services staff. And in those conversations, even more ideas are likely to emerge.

Appendix: Backgrounders and Ideas Generated

Mobiles Devices & Generations and their Gadgets

Backgrounder

Mobile Devices

- According to the Pew Internet and American Life Project, as of mid-2010 82% of American adults own a mobile phone or mobile computing device that works as a phone (excludes laptops) and 90% of Americans age 18-29 own a cell phone.
- 80% of Caucasian adults own mobile devices, the rate of ownership among English speaking Latinos and African Americans is 87%. These latter groups also used their phones to access the Internet at 46% and 51% respectively, higher than the 38% of white Americans.
- The New York Times Technology section reports that the cell phone could soon be taking on the role of standing in for credit and debit cards with consumers waving their phones instead of swiping their cards. Some libraries are allowing users to store their library credentials on their smart phone and to use their built-in camera to scan barcode numbers to look up the availability of an item in the library (Code4Lib Journal)
- Libraries are using iPads to do roaming reference. Rather than sitting at Reference Desks waiting for people to come to them, they are roaming the stacks and engaging with customers where they are. (Code4Lib Journal)

Generations and Gadgets - Pew Research Center

- Cell phones most popular device among American adults, 85% of adults younger than age 65 own one.
- Desktop computers most popular with adults 35-65, with 69% of Gen X, 65% of Younger Boomers and 64% of Older Boomers owning these devices.
- Millennials only generation more likely to own a laptop computer or netbook than a desktop: 70% own a laptop, compared with 57% who own a desktop.

- Half of all adults own an mp3 player like an iPod, most popular with Millennials, the youngest generation -- 74% of adults ages 18-34 own an mp3 player, compared with 56% of the next oldest generation, Gen X (ages 35-46).
- Game consoles more popular with adults ages 18-46, with 63% owning one 5% of adults own e-book reader; they are least popular with adults ages 75 and older
- Tablet computers most popular with American adults 65 and younger. Only 4% of all adults own this device.9% adults do not own any of the devices we asked about, including 43% of adults ages 75 and older.

Brainstormed Ideas

- Map app- catalog & GPS for library materials
- Mobile devices for in library use, checkout
- Library card on phone – not picture
- Classes to maximize what you already have
- Programs, shelf scan device on topic and enhanced content and other resources, community
- Facetime with ask-a-librarian
- Use Skype for reference services
- RA and Ref on FB and twitter
- API, patron developed apps, using stats and data from library anonymized
- Patrons: scan library books to checkout on mobile device
- Ask kids
- Connect to info beyond KCLS – community
- Voice recognition searching app
- Seamless
- Push info, don't make them look or ask → Groupon for books, push reviews, links, automatic multiplatform
- Beyond the walls
- TLC via mobile devices without vans (Traveling Library Center)
- Integrate with extant networks – inside FB, for example (what's next?) (remember MySpace?)
- Tag
- Tying into existing data
- Tying into interest
- Pandora app on mobile device to check out materials
- Self check out on mobile device

- Download tour of library (self-guided). Integrate when get to PC, children's section, job search
- Mobile tech support from point of service need
- Mobile virtual librarian (do reference anywhere)
- Face to face or avatar video conf w/ librarian
- Scan barcode of a book anywhere you see it and link to our holdings
- Link our services to our collection
- QR codes overlapping w/other organizations, schools, partnerships
- Library card app on mobile device (barcode)
- Develop all kinds of apps

Vote Counts for Ideas Presented

1. API for external developers (46 votes)
 - Make catalog & circ data available for our creative population to go crazy with
 - Crowdsourcing development
2. Scan ISBN of a book anywhere (10 votes)
 - you see it anywhere and can link to our holdings
 - place hold, etc
 - Self checkout on mobile device (2 votes)
3. Book radar (6 votes)
 - "Groupon" for books, etc push info to patrons
 - Crowdsourcing information
4. Download tour of library (5 votes)
 - Self-guided
 - integrate PC, children's section, job search, etc
5. Mobile tech support from point of service need (3 votes)
6. Use Social objects (2 votes)
 - Meta search tags catalog, programs, community
 - Location based services
 - Augmented reality in & out of library
 - Voice recognition
7. Devices available for checkout (0 votes)

Multitouch Surfaces and Gesture-based Computing

Backgrounder

- Multi-touch has been implemented in several different ways, depending on the size and type of interface. The most popular form are mobile devices (iPhone, iPod Touch), touchtables (Microsoft Surface) and walls. Both touchtables and touch walls project an image through acrylic or glass, and then back-light the image with LEDs.
- Microsoft's table-top touch platform Microsoft Surface, which started development in 2001, interacts with both the users touch and their electronic devices.



- Multitouch technology is also what was used on CNN as they reported the 2008 US Presidential elections results



- 3M has developed a new type of touchscreen system that's flexible, very thin, totally transparent, durable, and capable of resolving more touch points than you have fingers (and toes).



Gesture-Based Computing



- *We first saw gesture-based computing in the film, Minority Report. Since then the Nintendo Wii, Xbox Kinect, and Apple iPhone and the iPad have provided regular people with some immediate experience with gesture-based computing as a means for interacting with a computer. The proliferation of games and devices that incorporate easy and intuitive gestural interactions will certainly continue, bringing with it a new era of user interface design that moves beyond keyboard and mouse.*

- Extreme Reality (XTR3D) wants to make controlling your computer programs, games and mobile devices as easy as waving your hand using their Izi (pronounced "easy") software. Most computer users won't require any extra pieces of hardware. Izi uses the front-facing camera (built into many laptops, or a webcab) and a widget where users can assign computer events to for different pieces of software such as PowerPoint, Adobe Reader and games.

Brainstormed Ideas

- Touch surface library maps "welcome back to the library today, Bruce
"There are new travel books for you"
- Local content creators for educational touch screens
- Early literacy touch screens in children's area
- Multitouch library stations at the end of the shelves (or in shelves) or in the community (SEATAC)
- Use library mates to refer people to the resources that are available (e.g. "Call Answerline for ..." "You can download materials 24/7 @ kcls.org")
- Accessibility issues
- Touch to help find things
- Discovery portals
- Library specific apps with community info (coffee, cash machines, fax services, public restrooms)
- Touch is one of the many possible mediums
- Touch technology on DD2
- Branded app for library themed games – entertaining and educating

Vote Counts for Ideas Presented

1. Lending touch screens for in library use: orientation, interactive maps, AR, multiple languages, current programs (12 votes)
2. Customizable touch screen bracelets for kids and teens (11 votes)
3. QR digital book display with interactive book covers, holds, download, read-a-likes (8 votes)
4. Touch screen station to orient new and returning users to the library (4 votes)
 - Can also be used for community resources and in areas other than the library such as SEATAC
5. Library-specific apps with community info (4 votes)
 - directions to the 900s
 - where to find a public fax

- where to find coffee
- 6. Create new content for library (1 vote)
 - Educational or fun (early learning) purposes
 - Think “Angry Birds” for KCLS

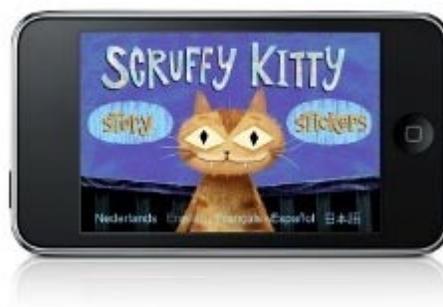
EBooks, Audiobooks and Downloadables

Backgrounder

- eBook sales almost doubled over 2010 and now make up 9% of total consumer book sales, according to the Association of American Publishers. This growth was fueled by intense competition amongst eReader manufacturers over 2010. Amazon Kindle, Sony Reader, Barnes & Noble Nook and others attempted to undercut each other throughout the year. Further, the iPad arrived in 2010 and added to the choices for eBook consumers.
- Book industry analysts predict that by 2014, half of all books published will be eBooks.
- Apps such as Stanza, iBooks and kobo offer access to millions of books – many of them free (e.g. Google Books (3 million), Project Gutenberg (330,000), and many more sites.
- Kindle and Nook offer millions of titles from free to \$15 for immediate download wirelessly
- Next year, Harper Collins will be publishing 150 audiobooks, only 2 of which will be published as CDs. The other 148 will be downloadable.

Ebooks and Educational Content

- WingedChariot , is taking his content directly to students, running a six-school research project in London to see how multilingual stories are used in classrooms and digital content is used programs where up to 50 languages are spoken. some of WingedChariot's apps available in languages English and Polish to and Estonian, Hoskins



how
in
50
With

from
Dutch
wants

to know how digital ebooks and apps can impact a multilingual environment. "We think this is an exciting way to consider translations," he says. "It gives you real freedom in terms of languages and there still isn't a lot of research yet."

- There's room for various styles of apps and ebooks—whether that's traditional publisher content repurposed into a simple digital format, or apps being crafted and written from scratch—both with and without the technological bells and whistles. And more digital content will be available for a user's device of choice in the coming year, particularly for the teen- and tween-age range.
- "Somehow the market has extrapolated that if kids don't own Kindles and Nooks there's no point in selling books to them," says Jacob Lewis, cofounder and CEO of [Figment](#), an online writing community aimed at users ages 13 to 24, who spoke at TOC Bologna. "The real shift in ebooks is when kids will begin rallying behind these devices and read digitally, and that will foretell a fundamental shift in publishing certainly through the end of 2011 and the beginning of 2012."

(Source <http://www.schoollibraryjournal.com>)

Brainstormed Ideas

- Electronic textbooks
- Bump books from one reader to another automatically places hold, share readings lists
- Download video with music
- Universal wireless connectivity to download in library
- iPad – like check out of virtual bks2GrowOn – early readers
- Check out devices – preloaded with age or subject specific content
- Interactive storybook experience (walk thru the story with enhanced content)
- Checkout 3D ebooks that put reader into the book/story (holo-deck)
- Interactive ebooks for kids
- Interactive library card that is an ereader
- Loan ereading devices
- Ebooks that allow reader to interact with others who are reading the book

- Read others highlighted passages or notes
- Ebook “bar” with pre-loaded
- Pre loaded ereaders w/ genre specific titles
- Ereader periodical subscriptions-only expandable fonts
- Reading history on device for instant readers advisory and downloads
- Bump-a-Librarian
- All devices all formats all the time (no “circulation” model) 24-7 unlimited
- Content downloadable in library
- Creating and hosting specialized content that does not exist
- Collaborative content then available later thru the library
- Embedding content in social networking and allowing it to be accessed easily by mobile devices
- No DRM
- Easy downloading
- Easy reading in the library – devices
- Links in our catalog to video content – what we think might be good content to answer the question “how do you play the harmonica”
- Personalized “Choice Reads” recommendations for future downloads
- Online Readers Advisory service – send folks the downloads directly not just the titles
- “Book ads” in a download station – relate it to the area of the library
- Mine catalog search data and create video how to content – catalog web video
- Authors creating content that is “exclusive” to the library

Vote Counts for Ideas Presented

1. Ebar (43 votes)
 - Preloaded ereaders (mags, books,etc)
 - In –library checkout (kids, bks2go, genre specific, subject specific)
2. Bump (11 votes)
 - Books from reader to another
 - Automatically places holds, shares reading list
3. In library download stations with “book ads (9 votes)
 - audio, video, blogs relating to the areas of the library
 - example: download station with travel videos in travel & history in the 900s
4. Interactive Library card that is an E-Reader (8 votes)
5. Locally created content available through catalog (4 votes)
 - Community or local author “exclusives”
 - teen zines
6. Interactive 3D content (3 votes)
 - Walk into the story (“holo-deck”)
7. Personalized Readers Advisory Service for electronic content (1 vote)
 - “I want to download something like...”
 - Pushing easily downloadable content

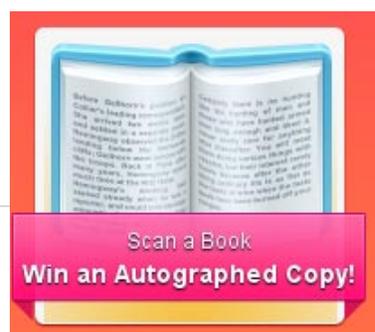
Context-Aware Computing, Social Objects, and Augmented Reality

Background

Context-aware computing

- “Context-aware computing centers on the concept of using information about an end user or object’s environment, activities connections and preferences to improve the quality of interaction with that end user. A contextually aware system anticipates the user's needs and proactively serves up the most appropriate and customized content, product or service. Gartner predicts that ...by 2016, one-third of worldwide mobile consumer marketing will be context-awareness-based.

Example of context aware application: Stickybits



Augmented Reality (AR)

- Technology that functions by enhancing one's current perception of reality
- Current applications: navigation (e.g. traffic info), sightseeing (e.g. Guides can include labels or text related to the objects/places visited. With AR, users can rebuild ruins, buildings, or even landscapes as they previously existed), entertainment (e.g. how long the wait is at each Disney ride), education (e.g. virtual objects in museums), translation (provide dynamic subtitles (e.g. iPhone app Word Lens))



QR Codes

- Cleveland Museum of Art places QR codes around town. Scanning each code provides instant information about a work of art in the collection including details from the website and an audio track to listen and learn more.



Brainstormed Ideas

- enter keyword on mobile device → lib map, other content
- visual dictionary – related content (images, multimedia)
- recognition of whether patron is browsing or looking for something specific, also looking virtually from home or in branch
- if physical item not available - > point to ebook, related film, database, local events
- make catalog physical → access enhanced info
- Service oriented
- Personal service
- Kiosks at library and in community
- Apps that turn mobile into kiosk

Vote Counts for Ideas Presented

1. Recommendation agent for materials, events, classes, etc (25 votes)
 - Based on all user activity
 - Based on user preferences and activity including past use and patron data (age, etc) – reducing emphasis on privacy lockdown
 - Delivery options app to facilitate quickest receipt of content (format agnostic)
2. Enhanced content (20 votes)
 - QR
 - Formats and or topics
 - FRBR
 - Visual dictionary
 - Community interest group run through the filter of employer – school district (Bill’s add-on idea)
3. Demand management system (5 votes)
 - Item availability service
4. Presence and Navigation (4 votes)
 - Where am I and where do I need to go?
 - Physical and digital wayfinding at home and in library
5. Library monocle (2 votes)
 - Location aware AR via mobile devices in libraries

- Wayfinding, promotion of collection in building as well as services in building and nearby
 - Integration w/QR codes to provide contextual info
 - Integration of online content into “map locations”
 - Language prefs based on phone settings
6. Virtual reality story time (2 votes)
- Targeted to day cares, schools, parents
 - Stitching themes together of expert-presented content (e.g. (KCLS children’s librarians)
 - Interconnected to materials checkout and lives events, etc

Social Media, Social Networking, and Gamification

Backgrounder

Facebook, YouTube and Wikipedia most popular brands

- “Nielsen published stats showing that “three of the world’s most popular brands online are social-media related (Facebook, YouTube and Wikipedia) and the world now spends over 110 billion minutes on social networks and blog sites. This equates to 22 percent of all time online. ...social network or blog sites are visited by three quarters of global consumers who go online” In the past year alone, time online has increased 66%. [Nielsen, June, 2010](#)

Content Curation

- In Facebook, consumers are turning off brands posting to their walls, using Friends lists to pay close attention only to their “real” friends, and commenting on or sharing only when something is really juicy.
- In Twitter, a company called Cadmus helps determine what content is most relevant to you based on your Twitter usage patterns. Other tools, such as Paper.li and Flipboard (for iPad), also curate Twitter, primarily based on content popularity, and make that content much more reader-friendly.
- For brands, this means it’s not going to be enough to create content – you have to create content that gets curated into people’s streams. If your content is truly compelling and share-worthy, it’ll get noticed and Liked, it will generate Comments and Retweets, and you’ll be okay because it will have legitimately earned its way into people’s streams. If not – you’ll have to have a combination of search optimization savvy, fans in high places (influencers), and maybe some cash to Promote your content right under people’s Twitter noses.
(<http://www.socialmediaexplorer.com/social-media-marketing/five-social-media-trends-for-2011/>)

Gamification

- Gamification means applying game mechanics to anything (marketing or otherwise) to increase engagement and participation. Scientists have identified three core benefits game designers try to accomplish for a

successful execution: Building motivation around achievements, being social or immersion in a subject matter.

- Achievement drives the A-personality, competitive types. They have a basic, human need to achieve progress, power or status. Social drivers satisfy the caretaker set or less competition-driven extroverts who feed on making friends, helping others, collaborating and being a part of group achievements. Immersion satisfies the introverts whose motivations often lie in discovery, role-playing and other types of escapism.
- Foursquare is popular because there's a competitive element (mayorship), a lottery element (coupons and specials) and communal discovery features (leaving tips for friends/subsequent visitors).
- Farmville works because if you don't log in everyday to feed your crops, they die. Laugh all you want, but Farmville has more users than Twitter.
- More examples: Twitter lists, Facebook Answers, LinkedIn's Top Influencers list in Groups. All are tapping into these same human motivations. (Source: The Navigator: exclusive insights from social media explorer. <http://bit.ly/f6Jlms>)

Who Tweets? - Pew Research Center

- Some of the groups who are notable for their relatively high levels of Twitter use include: Young adults: Internet users ages 18-29 are significantly more likely to use Twitter than are older adults.
- African-Americans and Latinos: Minority internet users are more than twice as likely to use Twitter as are white internet users.
- Urbanites: Urban residents are roughly twice as likely to use Twitter as rural dwellers.
- Women and the college-educated are also slightly more likely than average to use the service.

Brainstormed Ideas

- Mobile apps for finding books of similar content on shelves
- As you check out items, status update on FB
- Videos and topics selected by patrons
- How to narrow down info
- iKCLS (iGoogle)

- twitter (like Pandora for music, Pandora for books)
- twitter hash tag
- specific audience in mind
- ease of access to demographics
- tools intuitive
- educational tips
- story time webinars
- after programming session; survey group
- promotion to audience so want to use tool/program
- information accessible and how to use it
- adding game play pieces to anything to make learning or finding info fun
- Badges for check cookbooks adventure, action movies, scholar, databases
- Incentives
- KCLS twitter – exclusive to cardholders : book chat, info, good reads-ish, social
- Video book talks staff and patrons
- Facebook app for ask a librarian
- Integrate with extant networks
- Prepare for death of facebook
- Tweet – RT nancy pearl hashtags – get fans to promote us, share on FB
- Solicit input from power users – content creations KIDS
- Gamification of the library
 - take a book, patrons reassign, live in the book, connect, chose your own adventure, mashup with a classic
 - geocaching
- Browser plugin/toolbar
 - Wikipedia fact check app
 - ask a librarian
 - catalog
 - databases

Vote Counts for Ideas Presented

1. Pandora for books (24 votes)
 - Ability to follow books title genre or event type
 - Create hash tag around each
 - Location – poetry (subgroups → school districts, employers)
2. Gamification (20 votes)
 - Take a book, insert yourself/friends, build on story, spin off content
 - Badges, linking others, checking in all over, connecting library
3. KCLS toolbar (19 votes)
 - app, browser plugin
 - Integrate Ask A Librarian
 - Quick search: catalog, databases
4. iKCLS (12 votes)
 - (iGoogle)
5. Webinar story time (2 votes)
6. Video and Topics selected by patrons (0 votes)
 - Provide videos based on feedback
7. KCLS Social Network (0 votes)
 - Patron exclusive twitter
 - Book chat
 - Review, recommend
8. Adding game play to anything to make learning /find into fun (0 votes)

Telepresence, Video Chat, and Video Content

Backgrounder

Telepresence

- “Mobile telepresence is the most interactive form of communication, short of being face-to-face. Adding remotely controlled mobility to videoconferencing is a transcending experience that will change how you perceive distance and make your world feel dramatically closer.”



- A touchscreen lets shoppers scroll through available items, speak face to virtual face with customer service, and make purchases. (Source: engadget.com)
- Research has been conducted on the use of telepresence to provide professional development to teachers. Research has shown that one of the most effective forms of teacher professional development is coaching, or cognitive apprenticeship. The application of telepresence shows promise for making this approach to teacher professional development practical. (<http://en.wikipedia.org/wiki/Telepresence>)
- The deaf, hard-of-hearing and speech-impaired can communicate between themselves and with hearing individuals using [sign language](#). The United States and several other countries compensate companies to provide 'Video Relay Services' (VRS). Telecommunication equipment can

be used to talk to others via a sign language interpreter, who uses a conventional telephone at the same time to communicate with the deaf person's party. Video equipment is also used to do on-site sign language translation via Video Remote Interpreting (VRI). The relative low cost and widespread availability of 3G mobile phone technology with video calling capabilities have given deaf and speech-impaired users a greater ability to communicate with the same ease as others. Some wireless operators have even started free sign language gateways.



<http://en.wikipedia.org/wiki/Telepresence>

- As Skypeing becomes part of our daily vocabulary — like “googling” and “friending,” it’s also being used more in schools. As a way to connect students to valuable resources across the world, schools are embracing Skype, WebEx, Google video chat, and other tools as an alternative the chalkboard generation could only dream of: conversations with astronauts, field trips to the zoo, and connecting with kids across the globe, for instance — all from the comfort of their own classrooms. <http://mindshift.kqed.org/2011/03/video-chats-takes-students-to-other-worlds/>

Video Content

- “Over the next three years Gartner believes that video will become a commonplace content type and interaction model for most users, and by 2013, more than 25 percent of the content that workers see in a day will be dominated by pictures, video or audio.”
- Companies will find that they're going to begin to tell their story in video and in long form. BestBuy will produce content about consumer electronics, [Whole Foods](#) will teach cooking, Pepsi will empower their users to tell stories about the Pepsi Refresh campaign.
- The result of this massive explosion of content creation is that we are increasingly overwhelmed with choice. Too much content makes finding useful and relevant material increasingly difficult. In a world of unlimited choice, search fails. What we'll see is a growing category of content curators — individuals, brands, and publishers who choose to be the finders and filters of what matters within their particular niche area of focus. ((Source: <http://www.businessinsider.com/>)

Brainstormed Ideas

- Knowledge map, concepts, intellect space
- Readers advisory, research assistance
- Auto redirect to mobile site when accessing from mobile device
- Prompt for available but related items
- Demand management system – see whether a ref librarian or item is available....prompt for ...(above)
- Online training / how to videos linked to face to face options / live chat
- Enhanced comm.
- Eliminating barriers to access
- Welcome video incl. access description, wayfinding, audio tour for those that can't see, translation
- Staff training
- Invitation based on users needs
- Visual/audio readers advisory, book reviews
- Personal connection of video presenter and local community
- Live and archived streaming of lib programs

- “Read. Flip. Win” “Tell me a Story” expansion to all audiences
- Touchscreen visual icons to chat services
- Kiosk to interact w/ available staff at another branch “tele-alternative”

Vote Counts for Ideas Presented

1. Online training for patrons & staff linked to live chat (5 votes)
2. Library “Building Experience” online (5 votes)
 - Delivered via map/real time (aka Google Maps)
 - Look at shelf, look at book shelf around corner, download, place on hold immediately)
 - Delivered via video or live help
 - Library expertise (reading story times) embedded
3. Library as center of community gathering in library and video conferencing (2 votes)
 - Provision of video conf tools/kit to public
 - Outreach provision of above
4. Live and archived streams of library programs (1 vote)
5. Extension of personalized service (0 votes)
 - Library, partner location kiosks and mobile apps connect to library experts
 - Oriented around key service themes of reading and TBD
6. Online “tele alternative” – remote assistance (0 votes)