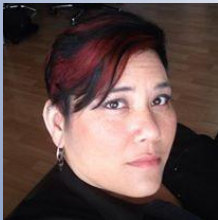# The Online Experience: A Holistic Approach to Quality Assurance

Stephanie Rosso

Principal Web Developer

Tony Hirt

Librarian

Hennepin County Library

Agenda

- Quality Assurance approach
- Strategy and testing
  - Functional
  - Accessibility
  - Usability
- Feedback process

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Profile

- 41 locations spanning 611 square miles

- 1.2 million residents

- Nearly 840,000 total library cards in use

- 5 million collection items, including books, eBooks, and more, in 40 plus languages

- 1.6 million item records

- Almost 12.4 million visits to public website in 2015

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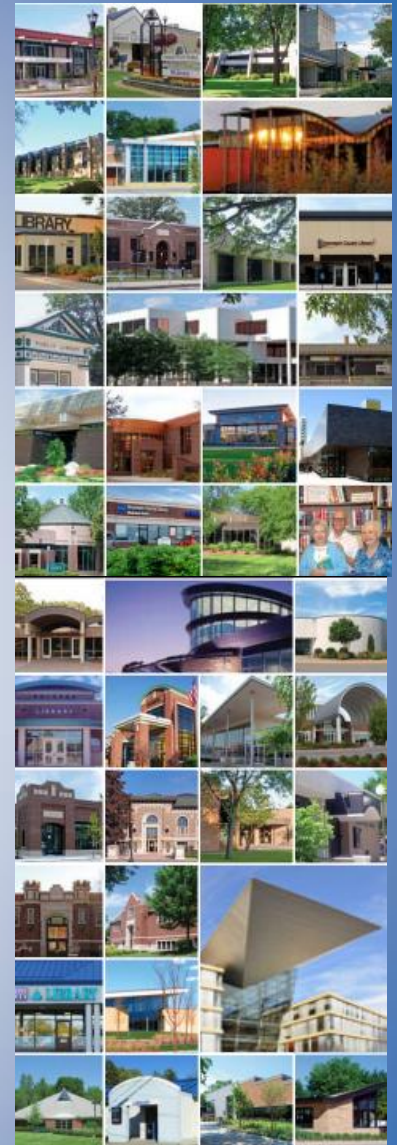
Quality Assurance

- Online services are not isolated experiences. While the resources may be served from different sources, we strive to provide one seamless experience.

- Resource Variables
  - Vendor/in-house
  - Externally/internally hosted

- User Variables
  - Staff/Patrons
  - In-person/remote
  - Mobile/Desktop/Tablet
  - Assistive technology

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Quality Assurance Strategy

Goals

- To deliver and maintain the highest quality online services possible with available resources.

- To incorporate usability and accessibility into our standard testing practices.

Purpose

- Managing risk and maximizing value for the library's web presence.

- Clarifying roles, objectives, and responsibilities so that they are understood by all stakeholders.

Quality Assurance Testing

- Functional
  - It works and does what it is supposed to do
- Accessibility
  - Usable for people with disabilities
- Usability
  - Ease of Use and Learnability

Functional Testing

- Unit Testing (part of development process)
- Integration Testing
- Exploratory Testing
- User Acceptance Testing
- Performance/Load Testing
- Bug Tracking (ongoing)

Functional Testing

Completed by _____ Date _____

Device/Browser/Operating System _____

Please take screen shots of issues that arise (if appropriate).

Release 7

Searching

1. Main search box: Enter "twilight" into search box, Go.
2. Change index from "All" to "Title", Go.
3. Open "More Search Options" and add author "Meyer", Go.
4. Remove author "Meyer" from search, Go.

Facets

1. Submit search "twilight", check number of results.
2. Select format "book" facet checkbox, check result number

"y" for successful completion of task
"n"n for unsuccessful completion of task

BROWSER	SEARCHING				FACETS										
	1	2	3	4	1	2	3	4	5	6	7	8	9	10	1
Chrome v35	y	y	y	y	y	y	y	y	y	y	y	n	n	y	y
Chrome v34	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Chrome v33															
IE 11															
IE 10															
IE 9															
IE 8															
FF v29															
FF v28															
Safari 7															
Safari 6															
Safari 5 (5.1.7 - WIN)															
Android 4.0															
iPad															
Kindle															

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Accessibility

County Web Vision Statement:
Hennepin County "embraces [web] accessibility so that all people, regardless of age, physical and language abilities, or education, are reasonably accommodated to access government information, receive services online, hold their government accountable, and participate in the democratic process."

- Sections 504 and 508 of the Rehab Act
- Americans with Disabilities Act (ADA) of 1990

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Web Content Accessibility Guidelines (WCAG) 2.0

Developed by the World Wide Web Consortium (W3C)

4 principles, which break out into 12 guidelines

- Perceivable

- Operable

- Understandable

- Robust

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Principle 1: Perceivable

➡ Information and user interface components must be presentable to users in ways they can perceive.

➡ This means that users must be able to perceive the information being presented (it can't be invisible to all of their senses)
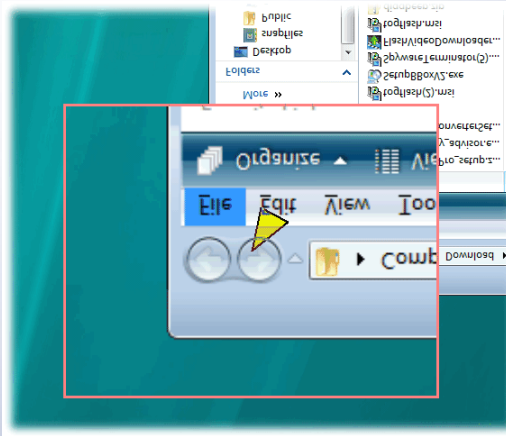
Principle 2: Operable

- Make all functionality available from a keyboard.

- Provide users enough time to read and use content.

- Do not design content in a way that is known to cause seizures.

- Provide ways to help users navigate, find content, and determine where they are.
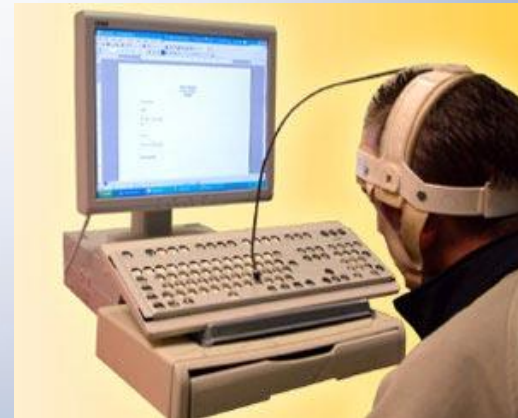
Principle 3: Understandable

- Make text content readable and understandable.

- Make Web pages appear and operate in predictable ways.

- Help users avoid and correct mistakes.

Principle 4: Robust

- Maximize compatibility with current and future user agents, including assistive technologies.

Accessibility: Manual Testing

Manual checks

- Incorporate into functional testing
  - Keyboard access
  - Link text integrity
  - Contrast/color
  - Captions

Searching

1. Main search box: Enter "twilight" into search box, Go.
2. Change index from "All" to "Title", Go.
3. Open "More Search Options" and add author "Meyer", Go.
4. Remove author "Meyer" from search, Go.

Facets

1. Submit search "twilight", check number of results.
2. Select format "book" facet checkbox, check result number (did it match?)

	"y" for successful completion of task														
	"n"n for unsuccessful completion of task														
		SEARCHING				FACETS									
BROWSER	1	2	3	4	1	2	3	4	5	6	7	8	9	10	1
Chrome v35	y	y	y	y	y	y	y	y	y	y	y	n	n	y	y
Chrome v34	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y
Chrome v33															
IE 11															
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Safari 5 (5.1.7 - WIN)															
Android 4.0															
iPad															
Kindle															

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Accessibility: Automated Testing

Online tools

- WAVE (WebAIM)
- Functional Accessibility Evaluator (FAE)
- AInspector Sidebar

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Automated Accessibility Testing: WAVE

Automated Accessibility Testing: Functional Accessibility Evaluator (FAE)

Automated Accessibility Testing: AInspector

Usability Testing Overview

- In-house usability testing

  - Began in May 2015

  - Test a different area of website functionality each month

  - 3-4 volunteers from the public asked to perform 3-5 scenarios using the website

- University of Minnesota usability testing

  - Began in 2012

  - Partnership with Lee-Ann Breuch of the U of M

  - Graduate and undergraduate students conduct usability testing

  - "Libraries and Involved Online Audiences: User Engagement in a Web 2.0 World" – Thursday, 10:30-11:30 a.m.
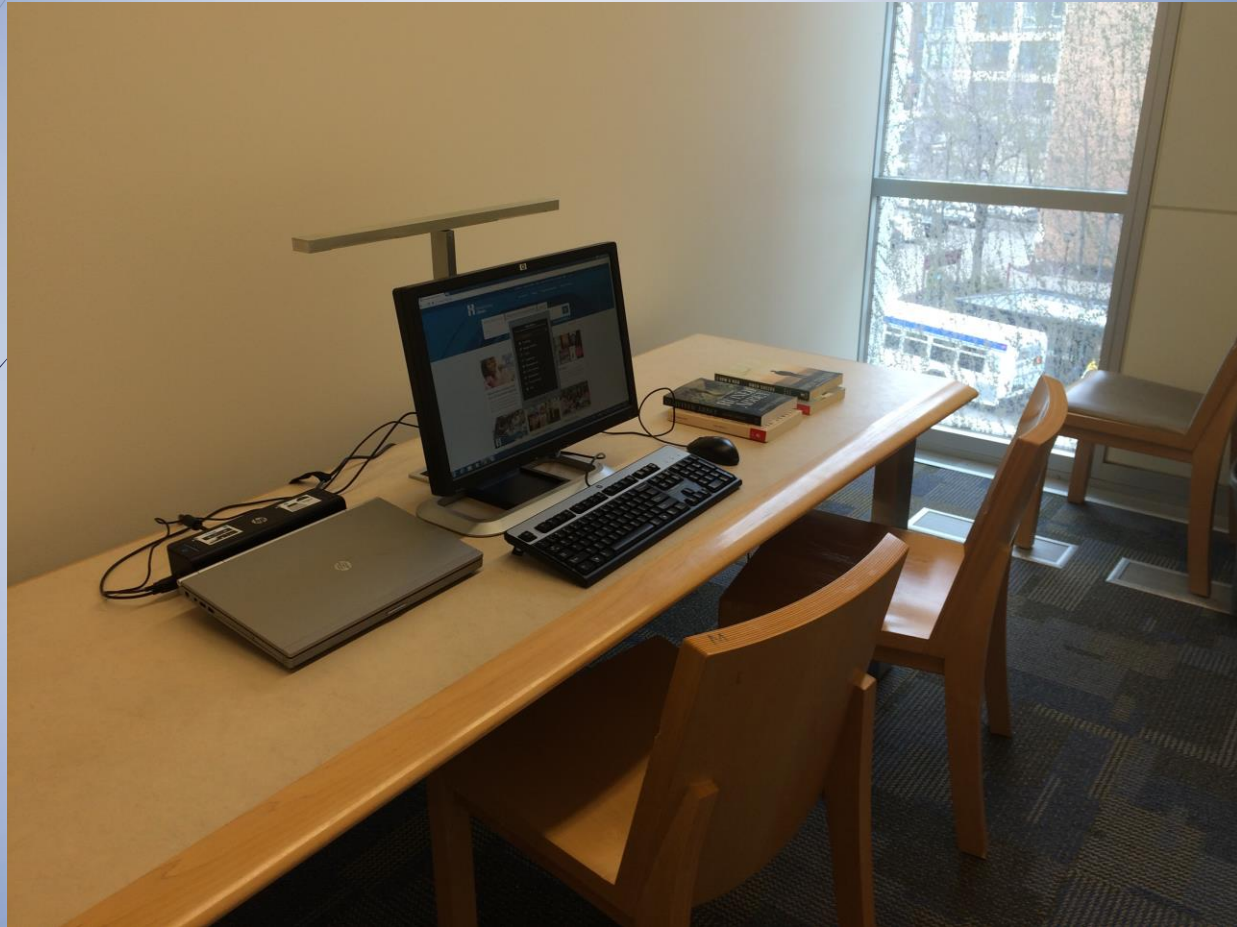
In-house Testing

- What do you need?
  - Mobile testing lab
  - Location
  - People
    - Participants
    - Facilitator
    - Observers
  - Schedule
  - Script
    - Pre-test and Post-test questions
    - Scenarios

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Mobile Testing Lab

Location

Participants

- Who are your participants?
  - Library volunteers
  - Members of your Friends group
  - Friends (and friends of friends)
  - Family
  - Library staff members (as back-up participants)

- What do they need to know before the test?
  - Give them a brief overview of what they will be doing.
  - No special skills are required.

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Facilitator

- Library professionals make great facilitators!
- Library professionals make terrible facilitators!
- Facilitating tips:
    - Do a "test the test" session with a staff member.
    - Know when to be quiet.
    - Prompt the participant to speak.
    - If possible, don't take notes. Let your observers do that.
    - Don't lead the participant!

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Observers

- Who should observe?
  - Staff who work directly on the website
  - Staff who are involved in the area being tested
  - Staff who are interested in the usability testing process
- What do observers do?
  - Take notes
  - Write top problems
  - Participate in mini-discussion
  - Stay as long as possible
  - Avoid distracting others
  - Respect participants and keep their identity confidential

Schedule

Sessions	Activity
9:00 a.m.	rooms booked, set up
9:45 a.m.	observers arrive
10:00 a.m.	participant #1
10:45 p.m.	15-minute mini-discussion
11:00 p.m.	participant #2
11:45 p.m.	15-minute mini-discussion
12:00 p.m.	participant #3
12:45 p.m.	15-minute mini-discussion
1:00 p.m.	tear down
1:30 p.m.	rooms available for booking again

Starting the Test

- Greet the participant at the door
- Introduce facilitator
- Read your script
  - Length of test (approx. 30 minutes)
  - Evaluating the website, not the participant
  - Think out loud
  - Don't worry about our feelings
  - General instructions
    - Number of tasks
    - Say "I'm finished" when done
  - Screencasting details

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Pre-test Questions

- Before looking at the website, we ask:
  - Have you used the library website before? If so, how often do you visit the library website? What do you usually use the website for?
  - Have you used your phone to access the library website?
  - Do you use a tablet or other mobile device to access the library website?
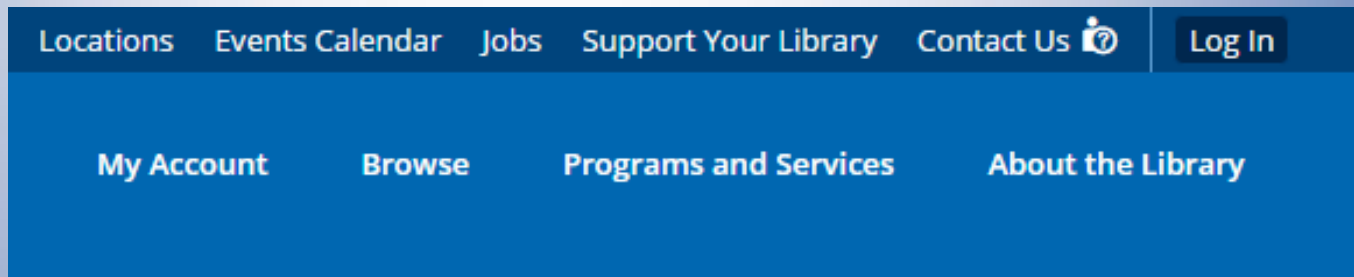 - What are some of the other websites you use most often?

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Scenarios:
What do you want to test?

- Focus on one area to test.
    - eBooks
    - Databases and online resources
    - Limiting search results by facets
    - Events
- Write 3-5 scenarios that will ask the participant to complete a task in that area.
- Re-write those questions.
- Re-write again.

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Scenarios:
Don't lead the witness!

"You would like to learn more about Microsoft Excel. Your co-worker told you that the library offers something called Lynda.com that has online tutorials for popular programs. Find out if you can access Lynda.com through the library's website."

Locations	Events Calendar	Jobs	Support Your Library	Contact Us	Log In

My Account   **Browse**   **Programs and Services**   **About the Library**

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Post-test Questions

- [ ] Accessible
- [ ] Approachable
- [ ] Boring
- [ ] Clear
- [ ] Cumbersome
- [ ] Complicated
- [ ] Confusing
- [ ] Difficult
- [ ] Discouraging
- [ ] Distracting
- [ ] Easy to Use
- [ ] Effective
- [ ] Efficient
- [ ] Entertaining
- [ ] Familiar
- [ ] Fast

- [ ] Frustrating
- [ ] Hard to use
- [ ] Helpful
- [ ] Inconsistent
- [ ] Informative
- [ ] Instructive
- [ ] Insufficient
- [ ] Intimidating
- [ ] Intuitive
- [ ] Jargon-filled
- [ ] Modern
- [ ] Outdated
- [ ] Organized
- [ ] Overwhelming
- [ ] Robust
- [ ] Reliable

- [ ] Sensory Overload
- [ ] Simple
- [ ] Simplistic
- [ ] Slow
- [ ] Straightforward
- [ ] Stressful
- [ ] Stupid
- [ ] Technical
- [ ] Time-consuming
- [ ] Trendy
- [ ] Trustworthy
- [ ] Understandable
- [ ] Unpredictable
- [ ] Unhelpful
- [ ] Useful
- [ ] Wordy

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Debriefing

Scenario 2
You'd like to brush up on your Spanish. Your neighbor has been learning French online using something called Rosetta Stone. See if the library offers access to Rosetta Stone.

Observations

1. P1 used website search tab, "looks like there is some form of rosetta stone access here;" wasn't sure that "Tell Me More/Rosetta Stone Advantage" was the same as "Rosetta Stone"
2. P2 expected Rosetta Stone online resource to be in catalog.
3. P2 attempted multiple catalog searches. Entered "rosetta stone Spanish" in catalog search bar, then tried title search, then advanced search for more options, tried series search, and used asterisk. "I've run into this where you type something that it begins with, but you can't find it because you're not sure what it's under."
4. P3: programs and services, then looked at "website" search, rosetta stone, found it, however "will this connect me to the resource, not sure that search results would do that"

Recommendations

1. Add records for online resources in catalog

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Feedback

Ask Us services

Phone

612-543-KNOW (5669)

- Monday-Thursday 9-9
- Friday-Saturday 9-5
- Sunday 12-5

Email

Submit your question

- Monday-Thursday 9-9
- Friday-Saturday 9-5
- Sunday 12-5

Text

Text 'hclib' to 612-400-7722.

Service is free, but your standard message and data rates apply.

- Monday-Thursday 9-9
- Friday-Saturday 9-5
- Sunday 12-5
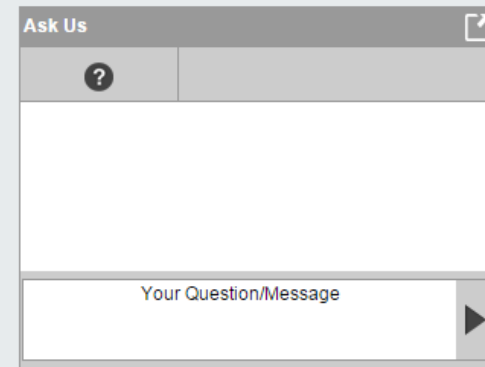
In person

Visit or call your local library.

- Locations and hours

Live chat

Chat with Hennepin County Library staff.

- Monday-Thursday 9-9
- Friday-Saturday 9-5
- Sunday 12-5

● Chat available

Ask Us

Your Question/Message

AskMN chat

When Hennepin County Library is closed, connect to AskMN to chat with librarians from outside of Hennepin County who assist on our behalf.

AskMN statewide 24/7 reference service provided by Minitex and participating Minnesota libraries.

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So what do we do with this?

- Central group compiles:
  - Ongoing bug fixes and bug tracking
  - Feedback and recommendations
- Look for trends
- Propose and prioritize solutions

Hennepin County Library

Questions

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Hennepin County Library

http://www.hclib.org

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