Identifying Design Opportunities at the Carnegie Library

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Users

To identify a target user for our study, we visited the library and conducted multiple rounds of observational research. After doing stakeholder mapping with **library visitors** as the center group, we decided on three user personas to help us empathize with members of that population.

Laura

Background:

- 34 year old single mother of 2 kids
- Currently working multiple part-time jobs
- Wants to change career trajectory to a full-time job

How she uses the library:

- Takes kids to the children's section, where they can play & read safely
- Visits the career center, where she attends classes and resume workshops

Sid

Background:

- 11 year old on the Autism spectrum
- 6th grader at local Pittsburgh school

How he uses the library:

- Uses the technology in the teen space for playing video games
- Likes to play with the synthesizers in the music room

Anthony

Background:

- 18 year old college student at CMU
- Freshman studying Math and CS
- Always studying; will not ever be seen without his laptop open

How he uses the library:

- 2nd floor study space
- Visits Yinz coffee shop for caffeine/study breaks

Observational Methods

In order to develop an understanding of our users, we conducted observational research at the Carnegie Library. We were able to make 'fly-on-the-wall' observations by using methods such as listening to the environment, seeing users' actions, and documenting our surroundings. This method allowed us to absorb the environment and capture the nuances in the space.

1. **Visual**

    Observe activities and behaviors of users without being a distraction or disturbance to the environment insight and perspective on the natural flow of the day to day

2. **Auditory**

    Listening to conversations, interactions, etc. without being a distraction or disturbance to the environment insight and perspective on information about users, what they are here for, etc.

3. **Note-taking**

    Documenting the visual and auditory observations in addition to layout of the library, resources available, any patterns noticed

4. **Photos**

    Photographing the visual observations, what the different spaces look like, what resources are available

5. **Informal conversation**

    Engaged in conversation with librarians, insight about their day to day, what their roles are, etc.

50 pain points

Stacks

1. Narrow hallways.
2. The ceilings are extremely low.
3. Large gaps in the floor.
4. There are only three floors open to the public
5. The shelves are tall and hard to access with irregular heights as well.
6. Sections are not clearly labeled.
7. There aren't cushions on all the window seats.
8. Confusing organization of books.

Information & Resources

9. Instructions for equipment are extremely dense (i.e. microfilm readers).
10. There is no CD player available to borrow despite many CDs.
11. Visitors need to talk to a librarian to understand how books are organized.
12. There is missing equipment/supplies to fully make use of resources.
13. People don't know the library has museum access.
14. Academics seem like they're lacking resources at the library.
15. People don't know how to put books back themselves.
16. The catalog was not always updated: Some books are shown but are not actually there.
17. Featured books have low stock and the books high in stock are for niche interests–People don't really check them out.

Engagement & Audience

18. The teenspace is designed for a younger audience than it is supposed to be for.
19. Library programming does not have that much engagement.
20. There is a lack of programming for special groups.
21. People aren't browsing books, which undermines the traditional "library" feel.
22. It's difficult to find the library programming schedule/signup/etc.
23. Music areas lack information / tutorials / resources on how to use them.

Structure, Maintenance, and Organization

24. There are faulty and broken water fountains throughout.
25. The doors are heavy.
26. The front entrance can only be accessed with stairs.
27. The chairs aren't comfortable in the reading areas.
28. There's inconsistent bookcase height–short in some areas and tall in others.
29. There are inconsistent temperatures throughout the library.
30. There are nice spaces throughout the library, but they're not used a lot.
31. The tables in the cafe are small.
32. Outlets could be more strategically placed in study areas.
33. There's a lot of storage in open areas and random places.

Staff

34. One librarian for the entire children's section – overwhelming.
35. Librarians did not seem very busy–A lot of them were reading while working.
36. There is only one member per section.
37. Lack of training for properly accommodating or working with homeless patrons.
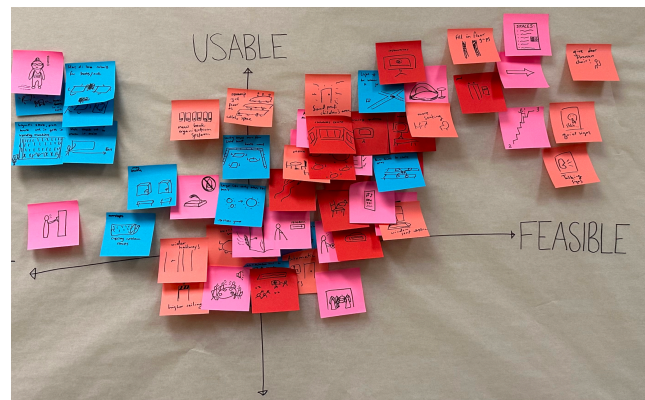
Navigation

38. It is not clear where/what the third floor is.
39. There are incorrect labels on the elevator (the mezzanine is marked as the 4th floor).
40. The only clear map is in the back of the library by the stairs.
41. IT is hard to move around with winter weather in the stacks.
42. There is inconsistent floor labeling throughout the library.
43. Patrons rely on asking librarians for information about navigation.
44. There is no consistent signage for rooms/sections of the library.

Collaborative Spaces

45. Varied noise levels → close to kids area = louder volume.
46. There are no book/coffee chat group areas.
47. It is difficult to have social interaction because of the "library atmosphere."
48. There are no areas to take meetings/phone calls in private.
49. There are no collaboration spaces immediately obvious from entering the library.
50. There are no "group" tables for collaboration between patrons.

50 solutions

1. Put up quiet signs for quiet areas.
2. Put up talking signs for talking areas.
3. Sound proof the children's room.
4. Have more of the cafe.
5. Have more meeting rooms
6. Have automated doors.
7. Have more window seat cushions.
8. Have an easier shelving system.
9. Fill in the floor gaps in the stacks.
10. Have more seating in general.

11. Create wider hallways.
12. Have loud collaborative talking spaces.
13. Integrate stacks more with the library.
14. Have clearer signage to the third floor.
15. Accessible ramp to main entrance.
16. Have more movable outlet stands.
17. Have CD players available for use.
18. Have more quiet/soundproof booths.
19. Have easier access to the third floor.
20. Have revolving book belts.
21. Give the librarian at the door a chair.
22. Renovate water fountains.
23. More readable signs for music tools.
24. Have better signage for directions.
25. Get rid of the stacks.
26. Have more coffee table space.

27. Have clearer floor signs.
28. Light up floor signs.
29. Third floor as a collaboration space.
30. Create more engaging programming.
31. Provide more power cables.
32. Make the doors lighter.
33. More concise directory.
34. Teach community music classes.
35. Community-based programming.
36. Interactive resource touch screens.
37. Implement desk & chair combo.
38. Window cushions in stacks.
39. Medium sized tables for collaboration.
40. Varied sizes of collaboration tables.
41. Implement visual instruction methods.
42. Librarian trolley cart (with books).
43. Differently abled programming
44. New book organization system.
45. Automatic book scanner at exit.
46. Have librarians cycle within the stacks.
47. Winter coat closet.
48. Comfy chairs with small tables.
49. View availability of study spots.
50. Space designation infographic

Brainstorming Sessions

Following our observations, our team individually identified pain points for the different users in the library. We set a target of identifying 50 collective pain points in order to challenge ourselves to look past the surface-level problems in the library. We then used affinity-diagramming to cluster our pain points based on the "target" of the problem: the library's stacks, the information/resources, collaborative spaces, staff, navigation, engagement tactics, and overall structure/maintenance.

With our organized pain points, we used the Crazy 8s technique to rapidly generate solutions. We pushed ourselves to once again individually produce 50 ideas in order to encourage more unconventional and complex solutions. We shared our ideas, and in order to evaluate our solutions, we organized them by ranking them on their feasibility and usability for the library.

This ranking enabled us to prioritize which solutions we recommended.

Team Responsibilities

Our team effectively and efficiently collaborated throughout the project. **Pranav** made the solution slides and graphics, created the final Key Constituents map and reformatted some visuals. **Kira** created the User Personas & designed slides as well as did the document formatting. **Lucia** made the slides for pain points and initial solutions. **Alicia** made slides for the problem statement and observational methods, and provided support and ideas during the process of brainstorming and creating key constituents map, personas, pain points, and solutions.