

City of Lansing Website Redesign

Summer 2020 | UX Internship

A redesign on the current City of Lansing's Emergency Management Department's Flooding website to better assist residents in times of crisis.

Role

UX Researcher & Designer

Duration

3 months

Tools Used

Figma, Google Drive, Zoom, Qualtrics, Mural, ArcGIS, Adobe Illustrator

Scope

User Interviews & Research, Surveying, User Flows/ Journey Maps, Affinity Diagrams, Storyboarding, Process Flow (ERD) Maps Sketching, Prototyping

Problem

The City of Lansing's Emergency Management Department was looking for ways to address resident concerns after identifying issues of recurring flooding in Lansing neighborhoods. Within the City of Lansing, the Emergency Management Department works to lessen the effects of disasters for the people of Lansing using four phases of emergency management: mitigation, preparedness, response, and recovery. With the focus on preparedness and response, the Emergency Management Department highlighted points of frustrations among many residents, particularly within the Burchfield neighborhood and want to find ways to assist residents in future incidents of flooding.

Flooding is a common and unpredictable problem in the Burchfield neighborhood. There are many theorized causes, with a primary theory being storm water run-off. However, the impacts of the flooding present hardships on the residents where often times, their homes and possessions are ruined, and their health and safety are threatened. Focusing on this project, the Emergency Management Department was looking for opportunities to better inform and prepare residents for flooding, help them respond to flood events, and provide opportunities to help prevent future flooding.

Some factors that must be considered when conducting this user research:

- History of flooding in Lansing and its legal precedent (such as 2011 lawsuit)
- Awareness of issue of change in ownership from house owners to renters
- Previous communication on existing infrastructure (making sure to steer away from grey infrastructure)
- Resident awareness of flooding risk and why it occurs
- Resident receptiveness of partial solutions (excluding grey infrastructure)

Research

Surveying

In order of better understanding user perspective, my team and I created a Qualtrics survey for Lansing residents to determine the extent to which people thought flooding was a problem and what resources they were utilizing. Outreach included social media groups on Facebook and Reddit, newsletters, and residential committee groups in Lansing. Results from the survey were compiled in the affinity diagram and follow-up interviews were set up based on voluntary registration by residents.

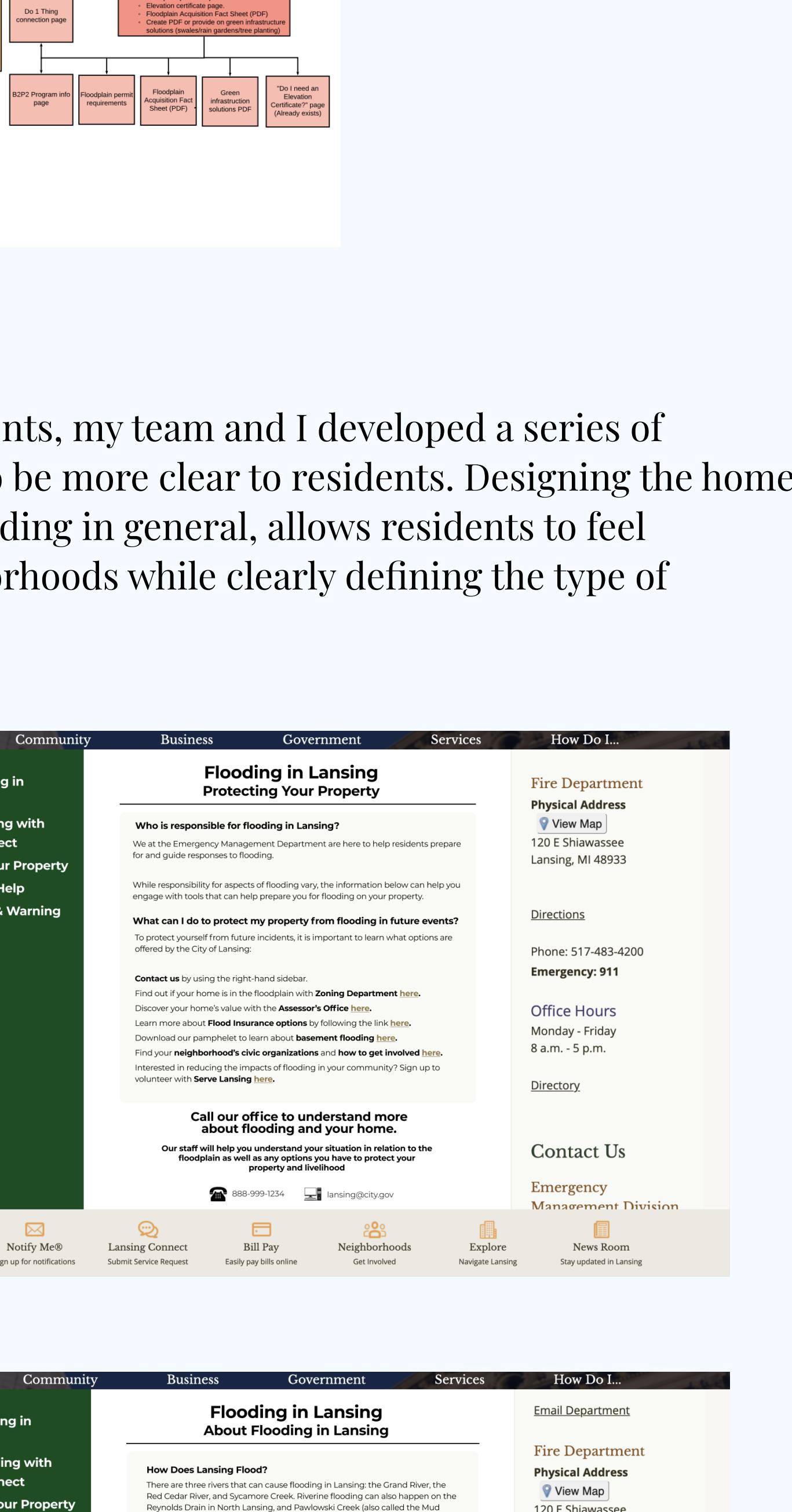
User Interviews

Following the survey, we conducted over 11 interviews with city officials and residents to learn more about their perspective of the flooding in Lansing. During this process, I acted as the interview coordinator and one of the user research leads, which helped to oversee the research development plan and coordinate interviews with Lansing residents. This helped shape how we could create a deliverable that can better serve the people of Lansing. Aggregation of all statements from both the surveys and interviews were incorporated into the final affinity diagram and user suggestions helped inform our final recommendations for a website redesign.

Affinity Diagrams

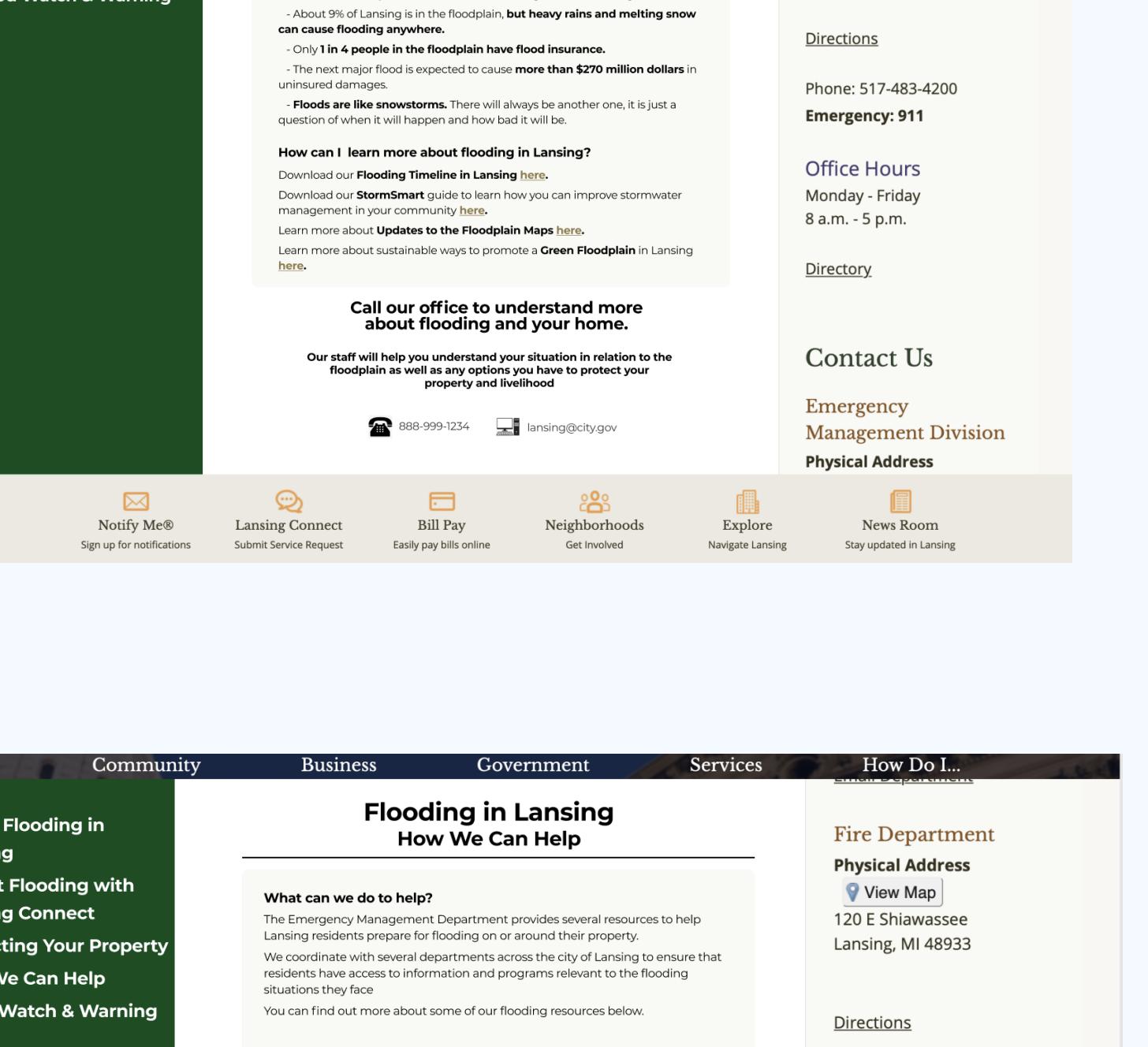
Based on the interviews and quantitative results from the surveys, it seems that several main themes were present throughout the interviews to learn about resident perspective on flooding issues in Lansing:

1. The City of Lansing provides many outlets of information and support to residents that are offered within various departments.
2. Both city officials and residents agree that a customizable information tool that allows for clear updates and process guidelines would be effective in response to future flooding incidents.
3. As flooding frequency increases in Lansing, residents need support on how to address these situations as a community through different resources (financially, physically, etc) to promote a better quality of life.
4. As flooding frequency increases, residents need a clear understanding on the types of flooding and how each type is addressed differently within the City of Lansing
5. Residents and city officials have differing opinions on how flooding should be handled and who is responsible for it, which affects how residents approach flooding and what tools they utilized when flooding occurs in their neighborhood
6. Residents have a clear insight how to better approach flooding concerns in Lansing but require assistance from the City of Lansing to get that done.
7. Flooding events have increased community engagement within neighborhoods, thereby pushing residents to be more resourceful and innovative how to leverage their resources to reduce the impact of flooding



Process Flows

Navigating how to accurately scope the problem, my team and I created a visualization to represent the steps taken when a resident experiences flooding. Based on our process flow diagram, we identified points of miscommunication as it is not clear what residents should do when experiencing stormwater flooding or they do not live in the designated floodplain.



Interaction Design

Storyboards

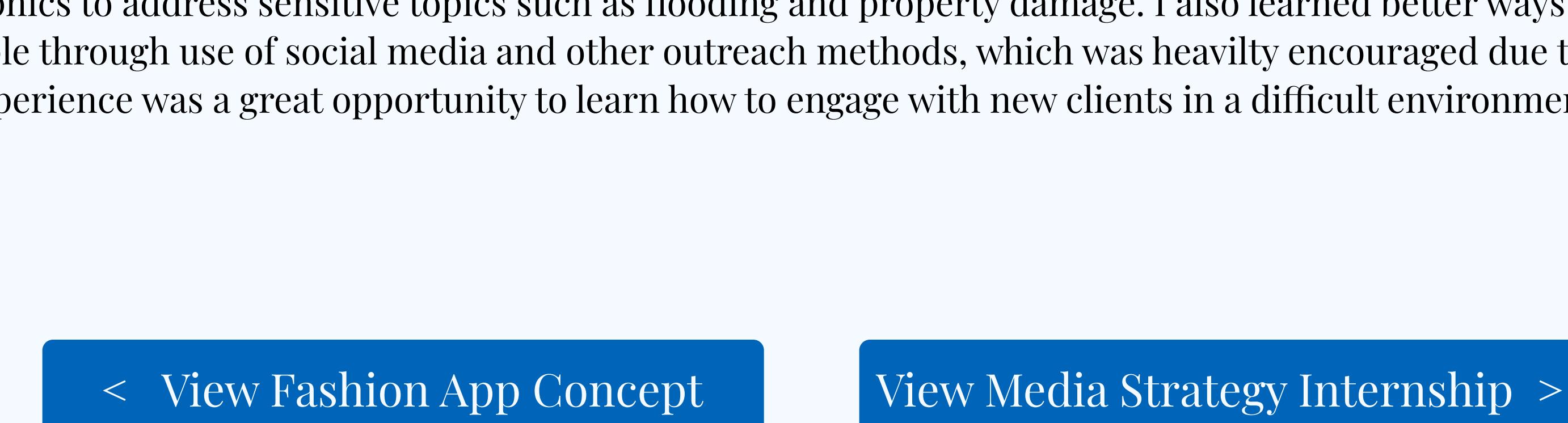
After conducting user research, the storyboard was used to demonstrate the everyday user and their common struggles, background, etc to Lansing city officials. We incorporated the residents' overall perspective on how they approached flooding issues currently and how this process could change with an updated website. The final storyboard was utilized to get city officials to better understand the residents' perspectives based on our interviews and surveys and receive feedback on our prototypes.

Storyboarding



Sketching

Following the user feedback, my team and I came up with a series of prototypes to best provide resources to residents when faced with incidents of flooding. We went through a series of rapid prototyping, resulting in both low and high-fidelity prototypes. The process for prototyping started individually, where each member brainstormed different solution to our initially perceived problem on resident perceptiveness towards flooding. This phase of prototyping included a series of regular and rapid sketching to quickly come up with solutions that best responded to the current user experience. We then came together to present our sketch ideas and provide feedback until we ended with a combined group prototype that incorporated different features from each member.



Final Design

After assessing resident needs for governmental support with flooding events, my team and I developed a series of wireframe mockups that display how information could be restructured to be more clear to residents. Designing the home page to list out action items, rather than give descriptive details about flooding in general, allows residents to feel empowered to take charge of mediating flooding within their own neighborhoods while clearly defining the type of resources that the City of Lansing offers to residents.

