Evaluation 2: Heuristic Evaluation
Application: Keweenaw Time Traveler
Team #4: Konnected Keweenaw
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Design Description

Keweenaw Time Traveler is Web application which is designed to be accessed from Desktop. The application can be accessed through mobile web browser, but the responsiveness of the website in mobile screen is not as good as responsiveness on desktop screen. Konnected Keweenaw's primary focus is to improve and enhance the existing Keweenaw Time Traveler Story Query Tool. This implies that the team is working on the existing application and they will be modifying the existing user interface. The design of the user interface will be based on the desktop view. The screenshot of Keweenaw Time Traveler with current design is shown in Figure 1.

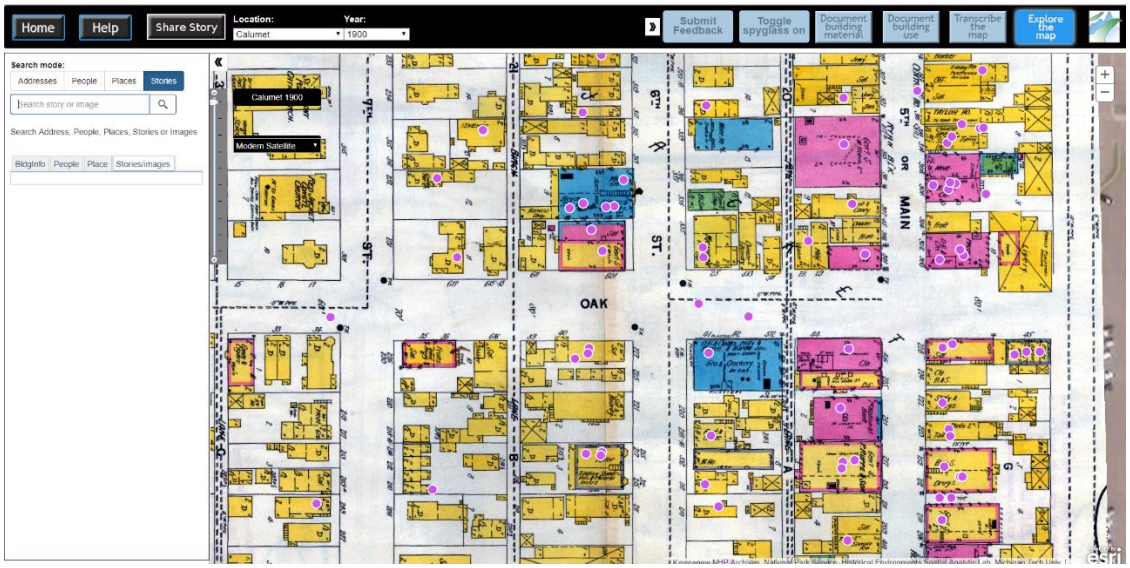

Figure 1

The team's focus will be on "Stories" tab. They are working to improve the search APIs and scalability of the database. The users who are the explorers in this case will be searching the stories based on keywords and the location will be highlighted on the map. The team is working with the scientist (Don LaFreniere, Sarah Scarlett and Ryan Williams) who are the clients of the application. The core concept of this enhancement is to make explorers to get lost while searching stories and get curious to explore more.

Identification of the UI domain and short description

The Keweenaw Time Traveler is desktop-based web application. Therefore, it is a part of Web UI domain. The core part of this project is Explore App which has interactive Map. The screen has multiple tabs and search bar with search button. The tabs and search bar are very user friendly and self-explanatory which will give an immediate hint to the explorer that they must make use of these to make search.

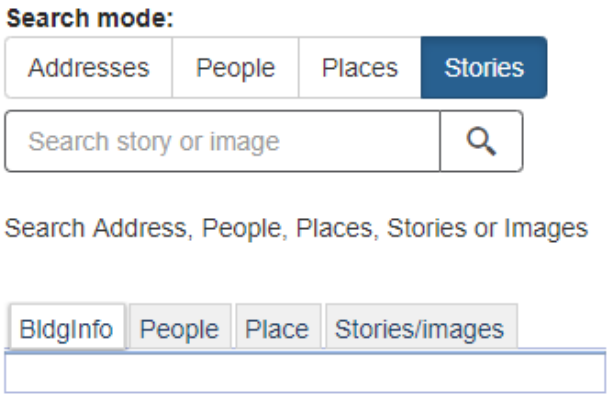

Figure 2 Search Mode

On the other hand, there is an interactive Keweenaw Map which covers most of the screens has pink dots in them. Those pink dots are the saved stories and are clickable.

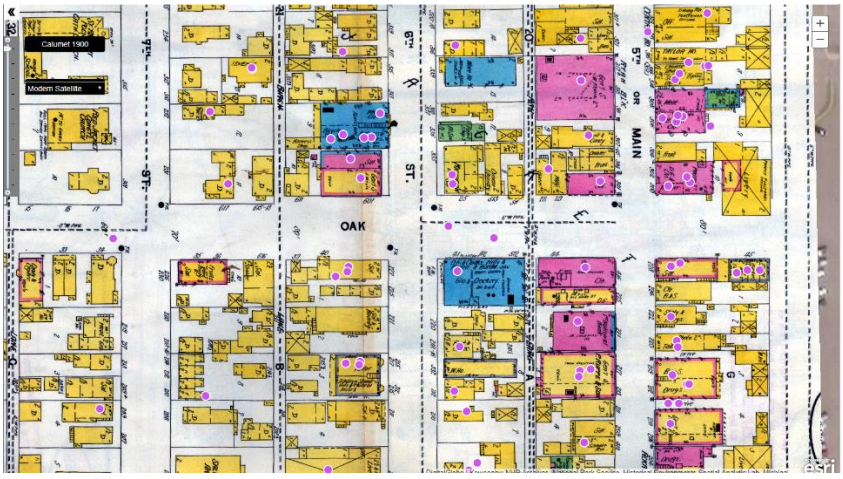

Figure 3 Map

On clicking, the stories and media associated with that story are loaded in the left window.

Figure 4 Result Window

Usability Principles

The usability of Keweenaw Time Traveler story query tool is evaluated using Jakob Nielsen's 10 Usability Heuristics for User Interface Design.

1. Visibility

Explorers should be aware of what they are seeing on the Explore App screen. The map should have proper visibility of points so that the explorer can understand what happened after clicking the search button. Highlighting the points or zooming in the map along with the points can make the visibility better.

2. Match between System and Real World

The information on the screen should be presented in the user-friendly manner so that the user can immediately start exploring without any guidance. The uses of language should be simple and explorer understandable so that they do not face any difficulties while exploring.

3. User Control and Freedom

Explorer should be in control and have freedom over the screen and the map. On clicking the wrong points on the map, they should have some ways to undo that action. They should have proper ways to navigate through stories.

4. Consistency and Standards

The application should have consistent words, actions, situations, etc. and the explorer should be able to understand that.

5. Error Prevention

While interacting with the map there are several possibilities that explorer can hit the wrong points or something weird can happen while zooming in or zooming out the map. The careful design can prevent this situation rather than throwing the alert messages when certain situations occurred.

6. Flexibility and Efficiency of Use

The application must throw beautiful experience to the explorer in terms of both design and functionality. The search experience should be quick and easy.

7. Recognition rather than recall

The corresponding map dots must be highlighted based on the searched stories. The search keywords must not get cleared. Every detail must be present on the Explorer App screen so that user can find it easy to explore.

8. Aesthetic and Minimalist Design

The search query should only give relevant search results and the only associated map points must get highlighted. This will protect the overall visibility.

9. Help and Documentation

The application is only complete when it has been documented so that any users irrespective of great design can go through that to understand the part of the application which is difficult according to him/her. There should be a virtual guide or automatic tour of the application which can tell explorers how to explore and what happened after searching.

10. Feedback

There is always a room for the improvement and sometimes we can miss the slightest things in our designs which can be inconvenient to the explorer/user. The application may not capture everything in terms of explorer perspective. Therefore, giving an option of feedback can tell us the users/explorers perspective.

Potential Usability Problems

1. Lack of UI level changes

The project demands a lot of modification/improvement in terms of search APIs, optimizing query tool and scaling the database. Apart from that there can be some more user level modification so that the exploring application can become more user-friendly and attractive.

2. Lack of Advanced Search Options

The query tool can become more effective and can add extra filtration to the search if the advanced search option is given. This will also result in helping the backend APIs someway by giving extra options which can limit the filters and can give relevant search results.

3. Shallow Results Window

The results window is very shallow and vague. It should have more categorized results which will help the explorer to identify and understand the result properly.

4. Symbolizing the map dots

There are pink dots everywhere on the map which doesn't look good and doesn't help much with differentiating the themes of story. This can be improved by symbolizing the dots with some UIs and different colors.

5. Pagination on the search results

In future, the stories are going to grow in millions. Thus, there can be many search results for a single theme. This will populate the search windows and scrolling through thousands of data will be very inconvenient. Therefore, adding a pagination can restrict a search result window size and can control the thousands of data on the screens.

6. Search items are getting cleared

The search items are getting cleared after every search which will make difficult for the explorer to associate with the search results whether they are getting the results which they have searched for.

7. Inconsistent UI design on search result

The UI design on search result window is not properly organized and formatted. The effective and attractive UI design on search result is very important it will improve the user experience in terms of exploring.

Critical Usability Concerns

1. Searches do not correspond to map dots

The explorer will be exploring the irrelevant stories if the Explorer App maps the search results wrongly to the map dots. The whole concepts of exploration based on themes will be lost. Therefore, the search results must correspond to the map dots.

Scenario: Dean is a Michigan Tech student and he is working on the assignments to write about a Calumet history. He uses Keweenaw Time Traveler web application from his desktop to search about the Calumet. If the application doesn't match the search results with corresponding map dots, it will be impossible for him to achieve his goal. This will lead to bad user experience.

2. Absence of Report button

There are certain chances where the mischievous explorers or users can share some inappropriate data just to pollute the application or misuse the exploring application. While searching the story if any other explorer encounters such story and see those appropriate data, he/she must have some options to report about the inappropriate story.

Scenario: James is a residence of Keweenaw. He is also a Physics professor at Finlandia University who uses the Keweenaw Time Traveler application during his leisure time to learn about the Keweenaw's past. While exploring the stories, he encounters something inappropriate (profanity) and wants to bring this to attention but he fails because there are no such options to report such inappropriate story. Likewise, there can be an accumulation of polluted content in the application. The report button or emailing options can bring such story to the attention and can be deleted from the system.