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251 Final Project
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Evaluation:

Design Problem: Scrolling issues. The current scroll bar design does not allow for accuracy in finding exact matches in words, especially with the "find on page" search box cannot function. Nor does it allow for marking one's place in a document. The lack of functionality of the "find on page" mainly happens when the text, while readable to humans, is not machine readable and therefore, not searchable. For example, the "find on page" function in the word processor I'm using to write this does not modify the search bar whatsoever. However where it does function in web pages, it creates lines on the scroll bar that show all of the instances of the found word. Clicking on one of the lines brought up by the "find on page" function in the scroll bar does not automatically jump you to the word instance.

There is no method of marking one's place in a document, especially a very long document. Right clicking the scroll bar brings up the same menu as right click anywhere. Extremely long documents, such as long papers or coding, make copying and pasting very cumbersome. It's very easy to lose one's place, or let go of the mouse button and lose the highlighted function before the necessary data is highlighted.

User Population: Users who use the scroll bar on long documents in software that does not support the "find on page" function. Users who cut, copy and paste within long documents. Users frustrated by the length of time it takes to highlight and scroll.

Design:

Design Solution: Set Scroll Markers. Using the cursor location on the document, right clicking on the scroll button will open the menu with two additional option; set scroll marker, and view scroll marker (which would be greyed out until at least one marker is set). Clicking it would open a dialog box that would contain several options including designating the marker with a unique character. For example, you set one marker and call it "A" and this marker designation would not be able to be used again in the same document. It would go through the alphabet and then add numbers to it. For example, if you had just set "Z" and the need arose for another marker, it would be "A1".

A marker would create a new line, one in bright green or blue, on the scroll bar. This would make the markers visually different from the yellow lines that the "find on page" function create. Hovering the mouse over the line would create a description box of the marker and clicking that would jump you to the location the document of the marker where the cursor was at the time of the marker setting. Access to jump to any marker can be accessed by right clicking the scroll button and selecting the "view scroll marker" which would open another dialog box to manage and jump between markers. There would be an option in the box to select and highlight the area between two markers. In this manner, cutting, copying and pasting would be drastically simpler.

Implementation:

1ˢᵗ Prototype: The initial prototype was created all on paper. It contains 14 pages of paper, between a quarter and a half size of a standard piece of paper (11x8 ½ inches). It's written in pen, because the pencil lines I make are too light to be seen easily, even after several darkenings.

User Test: The user test asked the tester to:
- Right click on the scroll bar

- Set a scroll marker
- Hover to view details of the marker
- Set a second marker
- Hover to view details of the second marker
- View the scroll markers
- Click to highlight the section between the two markers
- Copy the selected text

My first test went fairly well, with my tester understanding nearly all the steps. There was a need to insert a "scroll down" in the procedure between the Hover to view details of the marker and the Set a second marker. My user had some other useful feedback. I originally described the click the hover displayed "Marker A" details twice to jump to the marker. My user discussed their feelings that it should be a one click to jump to the marker. In my dialog box of view the scroll markers, the user mentioned the ambiguous terminology. I had a "Highlight Select: Beginning Marker = A, End Marker = B" Thinking about familiar dialog box range selects, I decided to change it to: "Highlight Select: Sort Range Start = A, End = B". I also did not indicate to the user that this scroll marker function would be primarily used in web browsers, which was confusing for them.
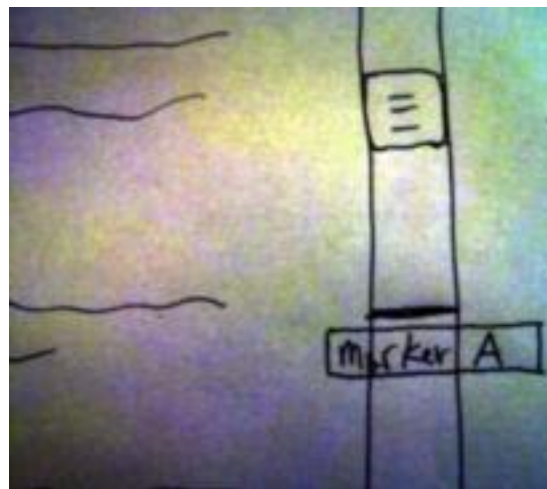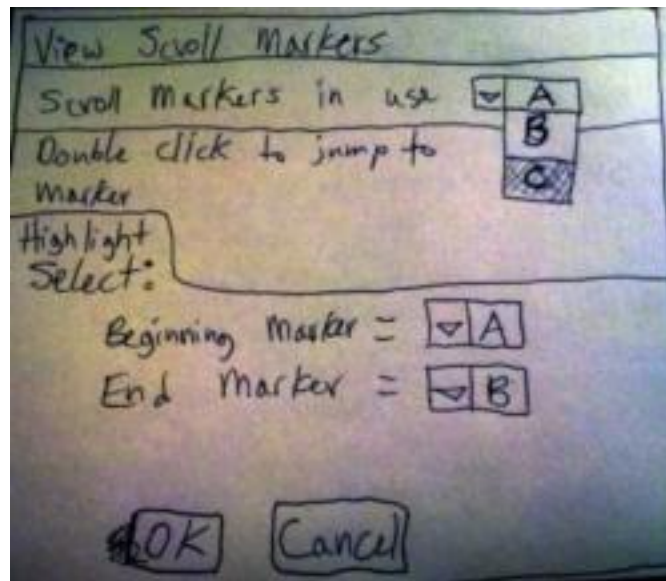
Images from 1ˢᵗ Prototype:

This is the dialog that comes up when the user right clicks on the scroll bar in a web browser. As you can see, there are two new entries: set scroll marker and view scroll marker (the hash marks represent the option being greyed out).

This is the dialog box that comes up after selecting "set scroll marker". It includes a field where the current location of the cursor in the field of text lies, so that the user can refine the exact location of the marker. It also has a box where the marker designation can be left default, or manually entered. However, trying to set a marker to a designation that already exists in the document will create an error. Looking at this now, I realize that I should include a small scroll bar in field where the current location of the cursor is in the text, so that users can more easily navigate to where they want the marker to be.

This is the hover display of a marker. The marker is represented as the dark line above the marker's hover display which says "Marker A" on the scroll bar. When the scroll box is over the marker, the marker will still be visible.

This is the view scroll markers dialog box. It shows the scroll markers in use, and allows the user to jump to any one in use. The highlight select will control which markers indicates where the highlight begins and ends. All the select markers boxes will be drop down.

2nd Prototype:

I've decided that my second prototype will be more polished. I'm going to execute the changes I discussed above and have another user, my other roommate, test it. I made the 2nd prototype in Paint from screen captures of other dialog boxes. I decided to make the user test simpler.
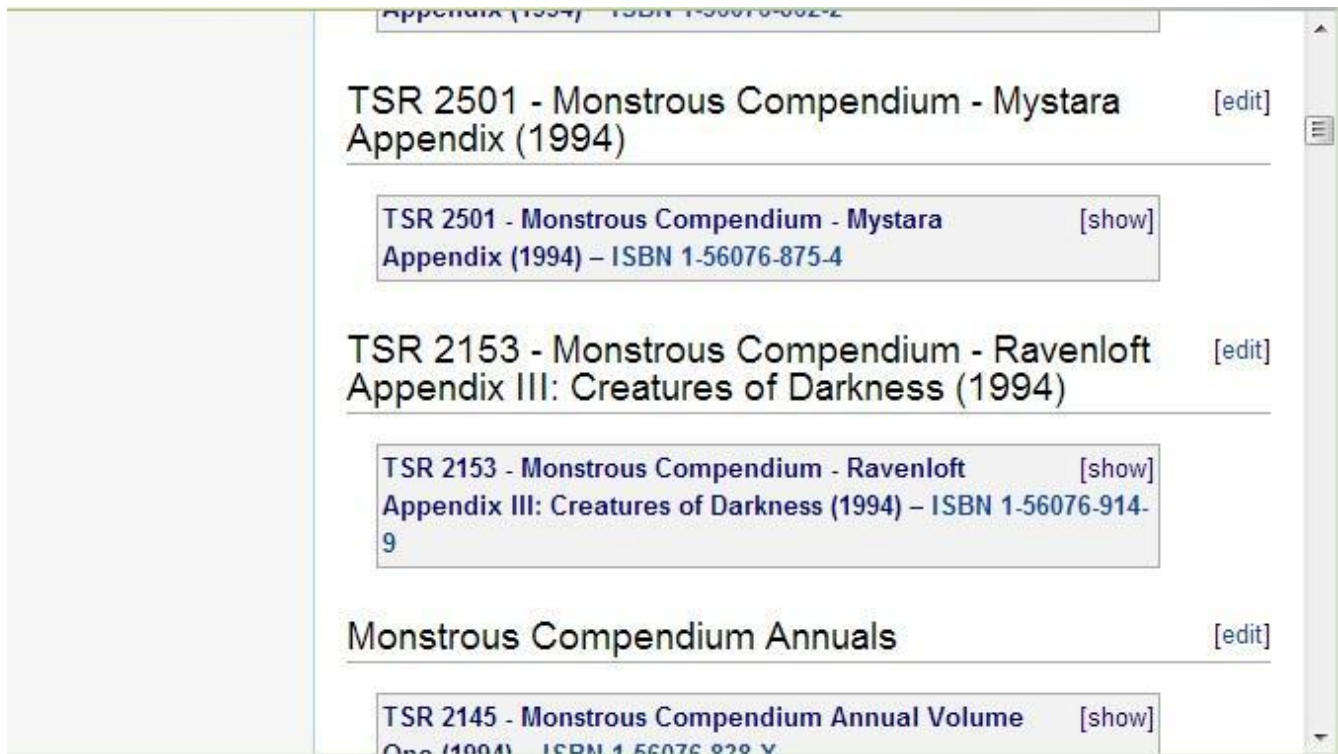
User Test 2:
The user was asked to:
- Right click on the scroll bar
- Set a scroll marker
- Hover to view details of the marker
- Right click on the scroll bar
- View scroll marker

The second test went much smoother than the first. I used a image viewer to show the prototype to my user and navigate. My user was able to figure out how to do everything fairly well, with the exception of View scroll marker. He didn't see it for a while because it was still greyed out. He was very impressed with the dialog boxes I was able to create, but recommended Paint.net as a better program. He also suggested making only one dialog box instead of the two. I think his idea has merit; many times dialog boxes have tabs to switch between related dialog boxes.
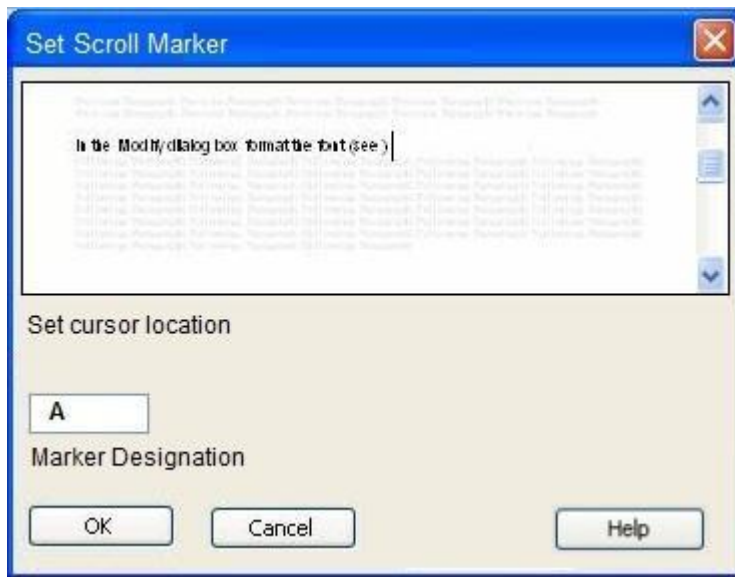
Images from 2nd Prototype:

TSR 2501 - Monstrous Compendium - Mystara   [edit]
Appendix (1994)

TSR 2501 - Monstrous Compendium - Mystara   [show]
Appendix (1994) – ISBN 1-56076-875-4

TSR 2153 - Monstrous Compendium - Ravenloft   [edit]
Appendix III: Creatures of Darkness (1994)

TSR 2153 - Monstrous Compendium - Ravenloft   [show]
Appendix III: Creatures of Darkness (1994) – ISBN 1-56076-914-9

Monstrous Compendium Annuals   [edit]

TSR 2145 - Monstrous Compendium Annual Volume   [show]

This is the starting page, which is the longest wikipedia page I could find.

This is the dialog that comes up when the user right clicks the scroll bar. I only made one for this test version, and that led to some confusion for my user. Next time, I will make two versions.

In the Modify dialog box formatthe text (see)

Set cursor location

A

Marker Designation

OK   Cancel   Help

This is the dialog box to set the scroll marker. I added the scroll bar to the section that views where the cursor is on the actual page.

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Marker A

This is a close up view of the information box displayed when the mouse is hovered over the marker, which is the line in green.

This is the view scroll marker dialog box. I changed the terminology of the highlight select options.

Lessons Learned:
With designing a prototype, it's important to consider the flow that the user is being asked to go through. In both user tests, I noticed that my instructions were not perfectly clear on how to get from point a to point b. Also, it's important to make a before and after version of everything. I wish now that I had made a second version of the right click dialog with the view scroll markers part actively displayed in my second prototype. That was a tense minute while my user had to figure out where it was. Additionally, my users both had good feedback about making a more smooth operation.

References

(2013) List of Advanced Dungeons & Dragons 2nd edition monsters. Wikipedia. Retrieved from
http://en.wikipedia.org/wiki/List_of_Advanced2d_Dungeons_%26_Dragons_2nd_edition_monsters