**To:** Jacquelyn Christensen

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**Date:** 4 October 2017

**Subject:** Results of usability testing of instructions to write C program

**Summary**

This memo reports our goals and objectives for usability testing. It includes the data we collected during testing, a summary of that data, and changes we will make to our instructions as a result of the testing.

**Goals for usability testing**

We had several goals for usability testing:

1. Determine if the format of our instructions was appropriate for our audience. The format was a website with hyperlinks to our descriptions.
2. Determine if our instructions were at the right level for our audience. Writing computer programs is fairly complex, but we thought that our audience would be tech savvy enough to not have to drop down into nitty gritty details about how to operate a computer.
3. Use data collected to drive improvements to our instructions

**Quantitative data**

|  |  |  |
| --- | --- | --- |
| User | Errors Made | Time (min:sec) |
| 1 | A, B | 4:05 |
| 2 | A, B, C, G | 5:30 |
| 3 | A, C, D | 4:47 |
| 4 | B | 5:07 |
| 5 | D, F | 5:07 |
| 6 | H | 6:10 |
| 7 | D | 4:38 |
| 8 | A, C, E | 3:28 |
| 9 | E | 3:45 |

**Qualitative data**

All of the users completed the task in a reasonable amount of time. None complained about the format of the instructions and many found the hyperlinks convenient. Most of the requests for help were regarding the same issues:

1. Because all the users were unfamiliar with Linux, they didn’t know how to search for a text editor program or launch it.
2. Instructions were not clear if the user should type or copy and paste code snippets.
3. Instructions were not clear about when the user should press the return key when entering terminal commands.
4. When users mistyped commands, the instructions provided no information to help deal with error messages. Users were also unsure where case or space sensitivity was important.
5. Unfamiliarity with Linux made it hard for users to know how to save files and move windows effectively.
6. Terminal commands that printed no status information confused users about whether or not they succeeded.
7. The instructions did not clearly lead to conclusion, leading users to wonder if they were done.
8. Unfamiliarity of users with special symbols, like { and \.

**Revisions**

* Include a screenshot of the program search utility in Linux. Follow this with instructions about how to launch it and what to type to find the recommended text editor.
* Change the word “type” to “copy and paste” or “type or copy and paste” wherever it is used.
* Include the words “and press enter” after instructions to type a shell command.
* Provide warning emphasizing that whitespace and capitalization are critical to match in typed text.
* Include basic instructions on how to save files.
* Include description of the result of running a shell command. This could also be a screenshot.
* Include “info” box on special symbols: where to find, why used.
* Rework or add new last step to better lead to conclusion.

**Conclusion**

This usability study was extremely helpful for us, because it allowed us to see where our assumptions about the world were unrealistic. With the revisions we have made, we expect to see a big improvement on the time needed to complete this task and the confidence of the users in successfully completing it.