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MSIM 741: Project Summary

Fall 2015

In order to fulfill the requirements for the project, we will be creating a dynamic linear color selection system. The system will have options for colorblind individuals, so certain colors will not appear in the selection range when these options have been selected. The user will also be able to change the number of bands that they wish to see through the use of command line arguments.

The generated colors are selected randomly from the list of possible RGB combinations. Unless color blind options are selected, we will ensure that both ends of the color choices are highly saturated by ensuring that one field from the RGB values is set to 1, one field is set to 0, and the last field is a random number between 0 and 1 inclusively. If the colorblind options are selected, then the RGB fields that contain 1’s and 0’s will be preset.

The two colors that will represent the opposite ends of the color linear space will be a certain distance apart in an attempt to make each visual band as distinct as possible. In order to demonstrate the color differences, we are going to apply the colors to a real world application. The color bands will be applied to (fake) elevation data in order to show the user(s) that the project pertains to real world applications.

We have identified, at least, five different visualization guidelines from the course text book that **may** be used during the development of our project. Guideline 4.9 – In an interface for designing visualization color schemes, consider providing a method for showing colors against different backgrounds. Guideline 4.14 – To create a set of symbol colors that can be distinguished by the most colorblind individuals, ensure variation in the yellow-blue direction. Guideline 4.15 – Do not use more than ten colors for coding symbols if reliable identification is required, especially if the symbols are to be used against a variety of backgrounds. Guideline 4.19 – Use a spectrum approximation psuedocolor sequence for applications where its use is deeply embedded in the culture of users. This kind of color sequence can be used where the most important requirement is reading map values using a key. If this sequence is used, the spacing of the colors should be carefully chosen to provide discriminable steps. Guideline 4.20 – If it is important to see highs, lows, and other patterns at a glance, use a pseudocolor sequence that monotonically increases or decreases in luminance. If reading values from a key is also important, cycle through a variety of hues while trending upwards or downward in luminance.