**Color Blindness Module**

**Background**

Color blindness or color vision deficiency (CVD) is the inability to differentiate colors that normal color observers can distinguish. There are three types of color blindness, monochromatism (or achromatopsia), dichromatism ,and anomalous trichromatism [1]. 8% of Caucasian males, 5% of Asiatic males, and 3% of African-American and Native-American males are color deficient [2]. The most common form of CVD is the red-green color blindness.

**Problem definition**

Color is a pervasive component in Graphical User Interfaces (GUIs). It is mainly used to enhance the visual appeal of the software. It is also used to encode information. If the designer chose a combination of colors that CVD viewers cannot differentiate, to convey information, then this interface will not be accessible to them. Colors should not be the primary mean of conveying information. It can be used as an additional medium of information, but not the solely one.

**Proper mitigation strategy**

1- Designers are encouraged to encode information using shapes, and/or text in addition to colors.

2- Adhere to color design guidelines and select colors that are CVD friendly.

**Relation to W3C**

**Activity Instructions**

**Resources**

[1] Check how your interface looks like for a CVD viewer

http://www.vischeck.com/vischeck/

**References**

[1] Jefferson, Luke, and Richard Harvey. "Accommodating color blind computer users." *Proceedings of the 8th international ACM SIGACCESS conference on Computers and accessibility*. ACM, 2006.

[2] Randolph Blake and Robert Sekuler. Perception. McGraw Hill, 2006.