**Olatinwo Mubarak**

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Visual perception is the ability to perceive our surroundings through the light that enters our eyes. The visual perception of colors, patterns, and structures has been of particular interest in relation to graphical user interfaces (GUIs) because these are perceived *exclusively* through vision. An understanding of visual perception therefore enables designers to create more effective user interfaces.

Factors Affecting Visual Perception

1. **Visual Stress-** is a peculiar phenomenon that affects a small, but significant, percentage of the population. When striped patterns (at about 3 cycles per degree) are shown at a flicker rate of about 20 Hz (cycles per second) they can cause seizures in people susceptible to visual stress.

Back in 1997, a Japanese TV network pulled the plug on a TV show which caused visual stress in over 700 children. It caused seizures and in extreme cases – vomiting of blood.

Visual stress is sometimes known as “pattern induced epilepsy” and while this is the most extreme manifestation of visual stress; it’s worth noting that visual stress can be induced at milder levels by striped patterns in most people.

1. **Color blindness-** is mislabeled. It’s not blindness but rather a deficiency in color vision. It is the inability (or sometimes decreased ability) to see certain colors, or perceive color contrasts in normal light. For some reason men suffer from color blindness more often than women. 1 in 12 men have color blindness compared to 1 in 200 women. Color blindness is normally genetic and the trait is inherited from the mother but in some cases, it may be induced by disease or ageing.
2. **Awareness-** Designers should be aware of visual stress and color blindness and ideally test their designs with people known to suffer from these conditions to ensure that the effects are muted or eliminated entirely.