CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)	Project Number
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	38656

Project Title

Smartphone-based Eye Exercising Tool to Prevent Computer Vision Syndrome Development through Visual Movement Patterns

Abstract

Objectives/Goals

The goal of this project is to create an eye exercising method through the use of easily accessible technology such as smartphones to reduce and measure the symptoms of Computer Vision Syndrome.

Methods/Materials

The materials used in this project are Snellen chart, measuring tape, timer, magnifying glass, flashlight, fluorescein strips, disinfecting solution, smartphone, and computer.

Results

Based on the iRelief test results, the average improvement was 64.4%. The Snellen Eye Test results had an average improvement for both eyes of 67.7%. For the TBUT test results, the average dryness of both eyes decreased about 79.4%.

Conclusions/Discussion

From the data I have collected so far, I can conclude that iRelief is a novel way to reduce Computer Vision Syndrome. It reduces eye strain and dry eye plus it strengthens the eye muscles.

Summary Statement

I created an eye exercising app to reduce a syndrome called Computer Vision Syndrome. To see if it actually worked I compared it with optometrist gold Standard tests.

Help Received

Dr. Kathleen Anderson, an optometrist, taught me how to perform a test to measure dry eye and provided the materials for it. Johnathon Smith taught me the programming language Swift.