# Team Name: The Cryptors

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## Abstract

We aim to develop a virtual version of the user's lens ,when they tend to use their mobile by detecting their eyesight correctness and displaying the content in a power correcting manner, according to their vision requirements, using only software and no external hardware. We also use an eye comfort shield, thus reducing the strain on their eyes and making it more comfortable to use devices for longer hours without any eye problems.

## Introduction

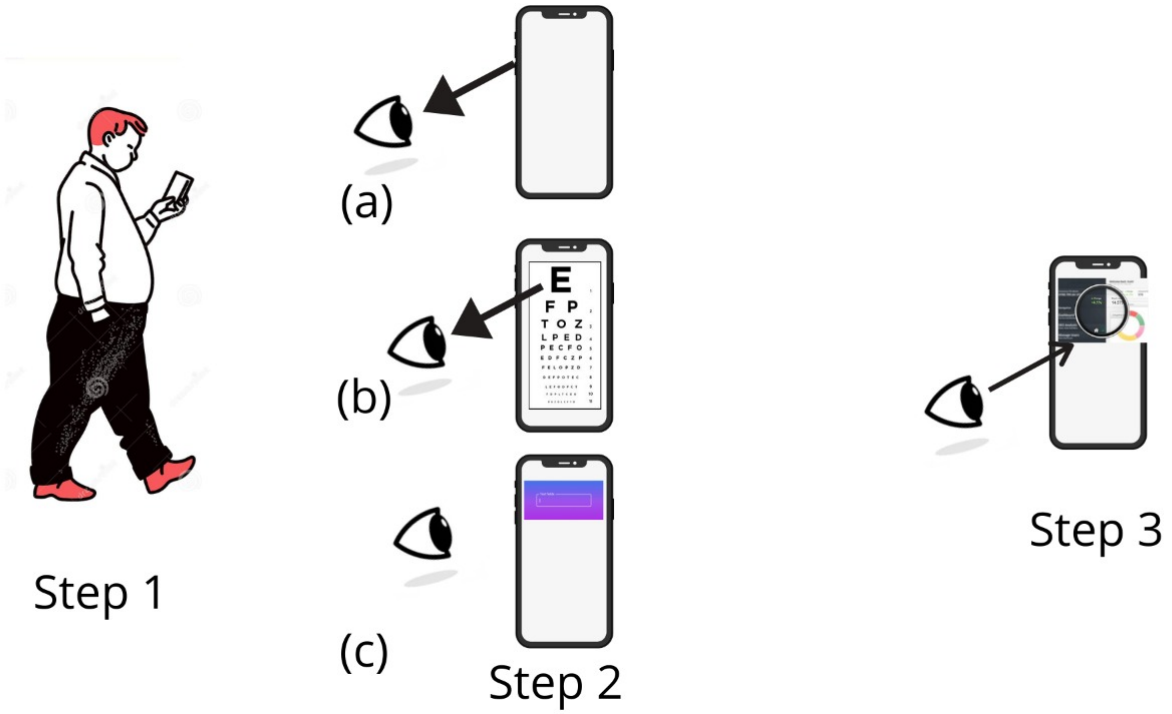
Of late we can see the trend of online/work from home where we need to sit in our houses and use digital display devices like mobile and laptops hours long to study, work etc. Though it has reduced our frequency of eating junk food and has made us healthy, it affects our eyes as we put a lot of strain in focusing on these screens. To avoid this we introduce our idea where we detect your eyesight correctness and then display the content in the correcting manner. We have also introduced an eye comfort shield by using warm colors, less blue colors and reducing your strain. You might be wondering how it affects a guy without glasses, but looking at the current trend, you

might already be affected with a little eye sight problems without your notice, so we tend to make your life easier with this.

## Motivation

We now live in a decade where from kids to old people spend hours using mobile and digital display gadgets.When some of them do for entertainment, some of them do it for a need. Digital Gadgets have slowly become an indispensable part of life. And owing to this trend we humans put a lot of strain on our eye muscles spending hours on these devices. Using our idea we would also gain freedom from wearing glasses while working which can have multiple benefits like reducing distractions and increasing the work process proving to be more efficient. Problems like glasses fogging while wearing a mask(especially in this pandemic world) or having a hot drink is also solved

## Methodology




For our convenience we have chosen mobile as an example to demonstrate the working of our idea.

***Step 1*** : User uses the mobile and a human face and eyes are detected.

***Step 2*** : We have 3 different prototypes for executing this step.

Version (a) -> Using apps like Peek Acuity( a smartphone-based vision check app developed by eye experts to allow anyone to check visual acuity using only an Android smartphone) And using this information about the user eyesight for further processes.

Version (b) -> Using the traditional eye test technique by displaying letters of different fonts and asking the user to type the letters he can see. Thus we calculate the eyesight correctness and use it for further processes.

Version(c) ->By letting the user enter his power manually in a separate division in the mobile so that accuracy and precision of data are maintained.

***Step 3*** *:* Using the above eyesight correctness information, based on the region of focus of the iris, we can display the content in that region with a correcting manner and also turn on the eye comfort shield after a few minutes of device usage.

## Social Impact

Everyone in the society can now use these digital gadgets for longer hours without having any side effects on their eyes. Using these gadgets for longer hours should now not be an issue to anyone and also, you can benefit by not using your glasses/lens all day long.

## Market Survey

Every student and young adult in the nation today spend approximately five hours on an average on their mobiles and laptops. When asked about the effect of them on their eyes, 87% of them felt the requirement of one such software which can help them in keeping their eyes healthy and as well as use their gadgets for longer.