AN INTELLIGENT MOBILE APPLICATION FOR DETERMINATION OF HUMAN EYE SPECTACLE NUMBER

PROJECT REFERENCE NO.: 40S_BE_1008

COLLEGE : KLE COLLEGE OF ENGINEERING AND TECHNOLOGY, CHIKODI
BRANCH : DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
GUIDE : PROF. VIJAY HALLAPPANAVAR
STUDENTS : MS. ANURADHA KUDATARKAR
            MS. NETRAVATI SUNAGAR
            MS. POORNIMA SUNAGAR

Keywords:
Android Software Development Kit, Retina Scanner (Lens with scanner), Human Eye Spectacle Number.

Introduction:
As the technology advances, the information and the intellectual properties are wanted by many unauthorized personnel. The increasing popularity of Smart phones with sensing capability is giving researchers, the opportunity to design and develop mobile applications. Particularly, mobile technologies are creating new values in healthcare domains. For instance, handheld devices and Smart phones have been regarded as promising platforms to provide affordable solutions and scalable application approaches to widespread care.

A retinal scan is a biometric technique that uses the unique patterns on a person's retina blood vessels. It is not to be confused with another ocular-based technology, iris recognition, commonly called an "iris scanner." Retinal scanners are typically used for authentication and identification purposes. Retinal scanning has been utilized by several government agencies including the FBI, CIA, and NASA. However, in recent years, retinal scanning has become more commercially popular. Retinal scanning has been used in prisons, for ATM identity verification and the prevention of welfare fraud. Retinal scanning also has medical application. Android software development is the process by which new applications are created for the Android operating system. Applications are usually developed in many programming languages. The Android application is developed using Android Software Development Kit. The application is developed with various options by writing different codes.

Objective:
Determination of the spectacle number through the android application is the innovative method. As the spectacle number can be known by consulting the doctor, but it takes a long procedure to know it. Even there are many devices to know the number such as, autorefractor, lensometer, silt lamp, etc., through which the doctor provides the eye number prescription. Instead of undergoing this long procedure, the best way is to know the eye-number through the mobile android application. In this project, the best use of android application is made to know the eye-number. Firstly, the retina of the human eye is scanned through the retinal scanner device.
(lens with scanner). The image is scanned through the mobile application. The application displays the eye-number. Hence we conclude that this application provides a easier and efficient way to determine spectacle number.

**Methodology:**

The below figure 1 shows the working of project i.e mobile android application to determine the human spectacle number.

![Figure 1: Block diagram for working of project](image)

The retinal scanner (Lens with scanner) captures the image of the blood vessels of the retina. Once the scanner device captures a retinal image, specialized software compiles the unique features of the network of retinal blood vessels into a template. Retinal scan algorithms require a high-quality image and will not let a user enroll or verify until the system is able to capture an image of sufficient quality. The clear image is stored in the scanner. The application is developed with various codes in the mobile through Android Software Development Kit. The stored image is transferred to this developed mobile application through the connector. This image is processed in the application and gives the desired result.

**Conclusion:**

The human eye spectacle number is determined by concerning a doctor. But it is a long procedure and time consuming. Hence to easier the problem of finding human eye spectacle number, some solution should be found out. There are many android applications which provide solutions to real life problems within a click of button this project is attempting to provide the solution for finding the spectacle number with less cost.

**Scope for future work:**

- The future plan is to make the model into market product.
- The project will help the technicians and other people in the absence of doctor to check the spectacle number.