Auto Adjusting Screen According to Eye Vision Power by using Android App

Gawade C. N.[1], Durgude T. S.[2], Kakade G. D.[3], Prof. Bhosale S. B.[4], Prof. Bangar A. P.[5]

Students, Department of Computer Engineering[1,2,3]

Faculty, Department of Computer Engineering[4,5]

Jaihind College of Engineering, Kuran, India

chetanagawade9.07@gmail.com, tejaldurgude17@gmail.com, gaurikakade8401@gmail.com

ssachinbhosale@gmail.com, abhibangar@gmail.com

Abstract: *In this era the technology is increase in many way and the use of digital gadget increase it definitely causes power related problem to the eyes. Vision power related problems are common in all age group. Student employee, each and every digital screen user are facing the critical eye issue due to continuously use of digital screen. They are not aware about the issues what they are facing through. The spectacles are sometimes are not effective over increase or decrease in vision power. Myopia (farsightedness) and Hypermetropia (nearsightedness) common among the people who are the victims of harmful rays radiating digital display. Hence detection of vision power and adjusting of screen according to vision power would reduce the problems.*

Keywords: Visualization, power measurement, Extrem learning machine, machine vision, Brightness, Neive Baysian Algorithm.

I. INTRODUCTION

In this digital era the use of computer is increases along with that the incidence of eye disorder farsightedness and nearsightedsness is increasing. We interact with mobile phones and computers more than the prople. The rays radiated from digital screen (smart phones computers, television) causes vision power problem in our eyes. If we can't take proper action then situation become worse. For that identification of vision power is necessary. Many times we are not aware about our vision power it may get increase or decrease it causes myopia or hypermetropia. Hence auto adjusting screen prevent the eye straing. Our main aim is to protect eye from digital screen and its radiation which causes eye disorder. As solution to this we proposed this system., In system first we have to first sign in to the application on mobile/any other system. After sign in application we have to select mode of vision .According to selected vision mode next interface will open.

II. SYSTEM ARCHITECTURE

Figure 1. shows architecture of system in app there is Snellen chart use for detection of vision power. Snellen chart has eye vision number associated with it. In Snellen chart letters, number,dots of different size is associate User have to read this letter, numbers, dots. We have test our Left eye and Right eye respectively. During reading user facing problems letter/number/dots seem blurry user couldn't read it then this is the eye vision number of that user. The App gives output i.e. the user vision power.
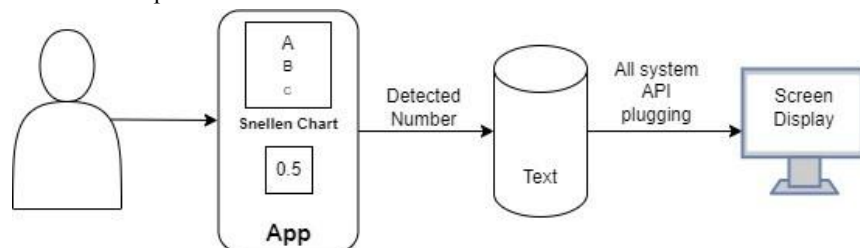

Fig. 1. Architecture of proposed system

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Once the eye number is detected then system API plugging will done. User will able to work on system without specs. The user will able to see system framework without straining eye.

III. BACKGROUND

3.1 DATASET

The data set for this study was surveyed from a group of Bachelor's, Master's and PhD students who are currently pursuing higher education at Ural Federal University. The participants' eyes were all myopic and the dataset was collected through a WeChat online questionnaire, with a total of 75 valid samples and 26 invalid samples. There were 19 characteristics in the questionnaire, including age, myopia, harmful eye habits, measures to protect vision, time spent outdoors and screen time. The original data set was first cleaned to remove outliers, remove duplicates and fill in missing values, resulting in 75 intact samples. We then coded the natural language variables in the questionnaire.

3.2 NAIVE BAYESIAN ALGORITHM

Naive Bayesian Algorithm In practice when we want to infer the probability of which category a new instance belongs to, we need to estimate multivariate probabilities from the training data. In practice most combinations of attributes either do not exist in the training set or are insufficient in number, so it is unreliable and difficult to estimate the probabilities of the relevant variables directly To its credit, naive Bayes has a strict independence assumption. Using the naive Bayes algorithm avoids the dilemma of insufficient and missing correlation combinations in the training set. On the other hand the Naive Bayesian models have stable classification efficiency. And naive Bayesian and Bayesian models are widely used in various fields.

IV. APPLICATIONS

Various application including:
1) Industry
2) Healthcare
3) Education
4) Banking
5) Corporate office

V. CONCLUSION

In this paper, we have introduced the basic knowledge of Android app to detect the eye power and display screen according to vision power. We used naïve Bayesian classification algorithm to assess whether a person's myopia worsens under the simulation effects of multiple harmful factors of vision protection measure.

VI. FUTURE SCOPE

In future all the computer system, digital screen gadget will have feature of retina scanning .Eye vision power will detected automatically with the help of camera's. In future the app will be able to detect and predict various eye disorder.

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