

Smart Glasses

Rajbeer Singh Jagdev, Krish Kava, Mandar Deshmukh, Pranmya Joshi

Student, Department of Computer Engineering, Guru Gobind Singh Polytechnic, Nashik, India

Abstract: In this era where the technologies have been so modernised that we are even able to wear real phone like devices on our wrists. According to a survey conducted by Rakuten Insight in September 2022, it was found that around 45% of India does wear a smart watch. But the thing is that while driving a bike or a scooter for example, the rider who is wearing the smart watch has to tilt the head so much towards the watch in order to see the notification which is popped, which can cause the rider to not see the road in front and maintain the correct head position. Therefore, the purpose of this project is to create a pair of smart glasses which can eliminate the distractions caused by the smart watches. The smart glasses are basically controlled by an Arduino based controller board namely Seeed Studio XIAO nRF52840 Sense, which will help an OLED Display to project the contents to a transparent / translucent piece of glass which will be straight in front of the lenses of the glasses. This will surely be way less accident prone unlike the smart watches and will be a better and powerful competitor for smart watches.

Keywords: LED, Light Emitting Diode, Smart Glasses.

I. INTRODUCTION

Smart Watches are one of the most hyped-up tech products as of 2022. These smartwatches may get anyone into trouble if not used properly. The main issue caused by smartwatches is accidents caused while riding a vehicle. To overcome problems like the one mentioned above, we present our project Smart Glasses. Smart glasses are one of the best alternatives for smart watches. Whatever the main contents* of the smartwatches are, smart Glasses can show. For example, if any notification is popped up on the mobile, via BLE (Bluetooth Low Energy), SmartGlasses can project in front of the eyes of the person wearing it. This technology cannot only replicate the SmartWatches but can do in a good and better manner or fashion. In this system, we have used SeeedStudio Seeduino Xiao BLE Sense nrf52840, a very small factor Arduino, TinyML, Micro Python-based board. The main Objective of choosing this particular board was that the board has a built-in BLE sensor, Charging capabilities, Type C as of Connector, and a Charging port. This reduces the two factors of build, and cost as well as size (of all kinds). The BLE sensor is used to transmit data from phone to the glasses and vice versa.

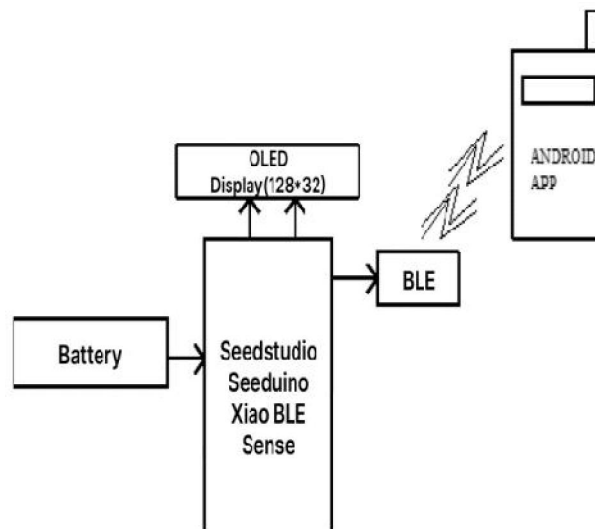


Fig. Circuitry of System

II. PROPOSED METHODOLOGY

In this System an OLED Display, Battery, Seeeduino seed studio Xiao BLE Sense nrf52840 is used. The notifications, calls, etc. are accessed via on board BLE (Bluetooth) sensor. Every notification is collected in via Bluetooth and is projected on the piece of glass from an OLED display. The contents are projected and not displayed directly from the OLED Display because if it is done so, as the display is opaque and not transparent, neither translucent, the riders view would get obstructed and the rider would not be able to see the road in front of it.

III. OBJECTIVES

- It saves time as the rider does not need to look at the watch by tilting the head towards the watch or by taking the hand closer to the eyes. Alert system is quick in case of an emergency.
- It decreases the chances of the rider getting into any kind of accident caused by wearing the smart watch.
- students "Industry –ready students."

IV. CONCLUSION

This paper represents the work accomplished on the Project of Smart Glasses using IOT (Internet of Things). In this system, we have used Seeduino Xiao BLE Sense, an Arduino based board. We use some sensors for implementing this project like Bluetooth and few other ones that will make the system work. Mainly BLE or Bluetooth is used to connect the smart glasses with a mobile phone helping to access the notifications, calls, now playing music, etc. This system is very useful. It will be a great system and hopefully will reduce the accidents caused due to smart watches. This system will probably be one of the best competitors of / for smart watches. This is our IOT based smart glass-es, an innovative piece of technology. All in all, we can say that this system will give a tough competition to the market of smart watches and make our lives easier and productive.

ACKNOWLEDGMENT

We would like to express our deepest gratitude to our respected Mam Prof. P.S. Gaidhani for providing to do the project under her guidance. Her suggestions and support proved valuable in enabling the successful completion of our project "IOT based Smart Glasses System". We would also like to extend our gratitude to our respected principal sir Prof. Upasni, as well as our respect-ed HOD mam Prof. G.R. Jagtap whose encouragement was main source of our energy behind this work.

REFERENCES

- [1] <https://en.wikipedia.org/wiki/Smartglasses>
- [2] Wearable Computing: A First Step Toward Personal Imaging, IEEE Computer, Vol. 30, Issue. 2 Feb. 1997, pp. 25–32.
- [3] "Smart eyewear - LC-Tec". LC-Tec (in Swedish). Retrieved 14 June 2017.
- [4] Newman, Jared (4 April 2012). "Google's 'Project Glass' Teases Augmented Reality Glasses". PC World. Retrieved 4 April 2012.
- [5] "21.6 million geeky Americans want Google Glass right now". bizjournals.com. 21 June 2013.
- [6] <https://www.gonoise.com/products/noise-i1>
- [7] <https://www.theverge.com/2019/2/14/18223593/focals-smart-glasses-north-review-specs-features-price>.