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Controlling ScreenTime For Children

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ABSTRACT

Children and youth's time spent in front of screens – such as televisions, computers, tablets, gaming consoles, and smart phones – continues to increase. This pervasive sedentary behaviour has raised concerns among parents, health care professionals, educators, and researchers about the effects of screen time on young people's well- being. Increased screen time (ST) has been linked with unfavourable body composition, higher cardio metabolic risk, unfavourable behavioural conduct, lower fitness, and lower self-esteem in children. Considering this evidence, expert groups (e.g., the Canadian Society for Exercise Physiology).

Keywords: Artificial Intelligence, Virtual Reality

[1] INTRODUCTION

Screen time is the amount of time that someone spends using a device or computer, watching television or playing on a games console. Although managing this is important, focusing on the type of activities that children are doing online is essential. A recent report suggested using the Goldilocks method – 'not too little, not too much but just the right amount'.

Excessive screen time has been found to increase the risk of diseases like obesity, diabetes and sleep problems. Research has also shown that the overuse of devices and social media can be linked to an increase in loneliness as well as depression in teens.

Virtual reality (VR) is a simulated experience that employs pose tracking and 3D near-eye displays to give the user an immersive feel of a virtual world. Applications of virtual reality include entertainment (particularly video games), education (such as medical or military training) and business (such as virtual meetings). Other distinct types of VR-style technology include augmented reality and mixed reality, sometimes referred to as extended reality or XR, although definitions are currently changing due to the nascence of the industry.

Currently, standard virtual reality systems use either virtual reality headsets or multi-projected environments to generate some realistic images, sounds and other sensations that simulate a user's physical presence in a virtual environment. A person using virtual reality equipment is able to look around the artificial world, move around in it, and interact with virtual features or items.

With such information they must have enjoyed greater success in the search for food and safety, the major objectives of that time.

specially designed rooms with multiple large screens. Virtual reality typically incorporates auditory and video feedback, but may also allow other types of sensory and force feedback through haptic technology.

The effect is commonly created by VR headsets consisting of a head-mounted display with a small screen in front of the eyes, but can also be created through

[2] RELATED WORK

Screen-based technology is rapidly evolving, with children and youth frequently engaging with different types of screens and exploring diverse content. Children and youth's time spent in front of screens – such as televisions, computers, tablets, gaming consoles, and smart phones – continues to increase. This behaviour has raised concerns among parents, health care professionals, educators, and researchers about the effects of screen time on young people's well-being. Therefore, this is becoming adverse situation day by day.

To overcome this situations parent or guardian need to talk to them and create a friendly and peaceful environment. This can be only achieved by certain measures taken by elders that can Remove the TV or computer from your child's bedroom , Do not allow TV watching during meals or homework , turn on the radio instead, or have no background noise, Decide which programs to watch ahead of time, turn off the TV when those programs are over, suggest other activities, such as family board games, puzzles, or going for a walk and also challenge your family to go 1 week without watching TV or doing other screen-time activities. Find things to do with your time that get you moving and burning energy.

Cutting down to 2 hours a day can be hard for some children because TV may be such a large part of their daily routines. But you can help your children by telling them how sedentary activities affect their overall health. Talk to them about things they can do to be healthier.

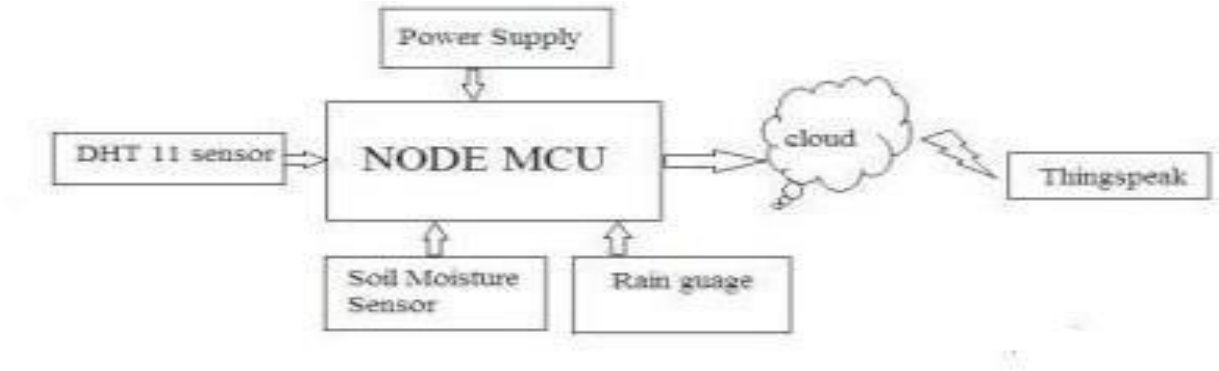
To decrease screen time:Remove the TV or computer from your child's bedroom. Do not allow TV watching during meals or homework.Do not let your child eat while watching TV or using the computer.

It is a broad field that offers a place to build a variety of prototypes, from simple domestic devices to sophisticated industrial devices. The paper gives a description of using AI to help the admin to identify and monitor the temperature, humidity, barometric pressure, air quality, light intensity and rainfall in the environment.

In existing system, the weather stations are built in very small scale with on few sensors which display locally. A very few parameters are considered like temperature, humidity, and barometric pressure. The data collected is not stored in database for future references which becomes really for users to view historical data of the parameters. Data is visualized in an external platform or locally and not a determined platform.[4]

This weather monitoring system features to use various sensors like dht11 sensor, MQ135 sensor, light intensity sensor, raindrop module sensor and BME280 sensor are embedded with mega to read temperature, humidity, air quality, light intensity, rainfall and barometric pressure. Serial communication is used between and raspberry pi to connect each other using USB. The Arduino IDE is used to write and upload the code for reading data from sensors and sending it to Raspberry Pi, and it is written in C++. This program imports dht11, light intensity, mq135 and rain drop module libraries from and other distributors.[5]

Fig. 1. System Architecture



- The AI weather reporting system has an application for farmers where they can ensure higher productivity of crops and lower the risk of weather hazards via the AI weather.

- The AI-based weather station proves helpful for monitoring the weather in areas like places with volcanoes or rain forests. This is especially important with drastic changes in the weather conditions we are experiencing.

- The AI weather monitoring system using AI supporting controllers is fully automated and efficient. It does not require any manual labor or attention.

- You can plan and visit the places anytime you like with prior notification of the weather conditions. You can simply get the status of the weather condition and the air quality, etc.
- Therefore, with the help of embedded devices and sensors, any environment can be converted to a smart environment for accumulating the data and analyzing the environment with real-time monitoring.
- Hence, with such advances on the Internet of Things(AI), organizations are focusing on understanding the impact of weather on their operations and finding cutting- edge analytics on how to control the impact of their business.[6]

- Hardware Requirements
- Device: Raspberry Pi 4, Arduino Mega 2560
- Storage: 2GB minimum (8 GB recommended)
- RAM: 2GB
- Core speed: 1.4 GHz or higher
- Software Requirements
- Operating System: Ubuntu/Raspbian
- Front End: HTML, CSS, JavaScript, ReactJS, Node.JS
- Database: Influx Db
- C++ (Arduino IDE)
- IDE: Arduino IDE, Node-RED [6]

3.RESULTS

There is a lot of variations continuous changes happening suddenly in the environment. So there is necessity of a system which constantly monitors the various parameters like temperature, humidity, rainfall, air quality, light intensity, barometric pressure. These are the basic weather parameters which needs to be monitored in any environment. These parameters will help judge users to take decisions in their sector if there are sudden changes in weather conditions. This dashboard developed using front end technologies help the users to monitor the weather conditions easily.[7]

Fig. 2. Dashboard With Various Parameters

ADVANTAGES OF AI BASED CONTOLLING SYSTEM

- The Smart Weather Monitoring System Is Quite Small As Compared To Conventional Weather Monitoring System And Can Be Installed Easily.
- Power Requirements for Smart Weather Monitoring Systems Are Quite Low.
- Sensors Used in The Smart Weather Monitoring System Are Quite Cheaper Which Makes This Project Quite Cost Effective.
- Data From the Sensors Can Be Sent to The Web Page Also Which Can Be Accessed From Anywhere In The World.
- Maintenance Cost of The Smart Weather Monitoring System Is Also Quite Low Due to
- DIADVANTAGES OF AI BASED CONTROLLING SCREENING TIME
-
- The Bulky Machinery Of Conventional Weather Monitoring Systems Requires Constant Monitoring And Should Be Changed Routinely. This Bulky Machinery Also Increases The Cost Of Installation.
- This System Also Has A High Power Consumption Which Increases Its Cost.
- Data Is Transferred Manually.[7]

4. CONCLUSION

Establishing a monitoring station in the environment for monitoring purposes allows the environment to protect itself (i.e., create a smart environment). The environment\'s sensor devices must be used for data collection and processing in order to achieve this. We can make the environment more realistic by using sensor devices in it.In this study, an effective, low-cost embedded system that monitors the surroundings is provided. Additionally, it uploaded the sensor parameters to the database. [1] This information can be easily shared with other users and will be useful for upcoming analyses. This model can be enhanced to monitor pollution in industrial areas and emerging cities. This concept offers a successful and affordable method for ongoing environmental monitoring. To execute this need to send the sensor in the environment for gathering the information and examination.[2] By deploying sensor in the environment, it will record constant real rime information. The user can now easily accessed the real time data from the web application dashboard. Weather is an air condition that lasts for a short period of time so constant monitoring is required in some sectors. How each module is worked is demonstrated in this proposed architecture.[3]

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