

A Review Paper on Voice based Noticed Board Display

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Abstract-

A voice-based notice board is a communication system that utilizes spoken messages to convey information to users. Unlike traditional notice boards, which rely on written notices, a voice-based notice board allows users to listen to announcements, updates, and notifications through audio channels. This technology can be implemented in various settings such as schools, workplaces, public areas, and homes, providing a convenient and accessible way to disseminate information to a wide audience. Key features may include voice recognition capabilities for user interaction, scheduling functions for automated announcements, and integration with other communication platforms for seamless information dissemination. Overall, a voice-based notice board offers an efficient and inclusive means of sharing important messages in both formal and informal settings.

Introduction-

The introduction of a voice-based notice board marks a significant advancement in communication technology, revolutionizing the way information is disseminated and accessed in various settings. Unlike traditional notice boards that rely solely on written messages, this innovative system leverages spoken words to convey announcements, updates, and notifications to users. By harnessing the power of audio channels, voice-based notice boards cater to a

diverse audience, including those with visual impairments or literacy challenges, thereby promoting inclusivity and accessibility.

This technology finds applications in a myriad of environments, ranging from educational institutions and workplaces to public spaces and households. In schools, for instance, it can streamline the distribution of important announcements, such as schedule changes, event reminders, or emergency alerts, ensuring that students and staff remain informed in real-time. Similarly, in corporate settings, voice-based notice boards facilitate efficient internal communication by delivering messages directly to employees, even in bustling office environments where written notices may go unnoticed.

Key features of voice-based notice boards often include voice recognition capabilities, allowing users to interact with the system hands-free, as well as scheduling functions for automated announcements at designated times. Moreover, integration with other communication platforms, such as email or messaging services, enables seamless information dissemination across multiple channels.

In essence, the introduction of voice-based notice boards heralds a new era of communication, characterized by enhanced accessibility, efficiency,

and user engagement. As organizations and communities embrace this innovative technology, sharing and greater connectivity in an increasingly digital worlds.

they stand to benefit from improved information

Scopes-

The scope of voice-based notice boards is wide-ranging, encompassing various sectors and applications where efficient communication is essential. Here are some key areas where voice-based notice boards can have a significant impact:

1. ****Education****: In schools, colleges, and universities, voice-based notice boards can streamline communication between faculty, students, and parents. They can be used to announce important dates, event reminders, class schedules, and emergency notifications. Additionally, they can aid in language learning by providing audio announcements in multiple languages.

2. ****Workplaces****: Voice-based notice boards offer an effective way for employers to disseminate information to employees in office settings, factories, warehouses, and other work environments. They can be used to share updates on company policies, safety protocols, shift schedules, and upcoming events, fostering better employee engagement and productivity.

3. ****Public Spaces****: In public areas such as transportation hubs, shopping malls, airports, and parks, voice-based notice boards can provide important announcements, such as public transit schedules, safety instructions, weather updates, and event promotions. They can enhance accessibility for individuals with disabilities by offering audio information alongside visual displays.

4. ****Healthcare Facilities****: Voice-based notice boards can be utilized in hospitals, clinics, and

medical centers to deliver critical information to patients, visitors, and healthcare staff. They can announce appointment reminders, medication instructions, health tips, and emergency alerts, improving patient experience and operational efficiency.

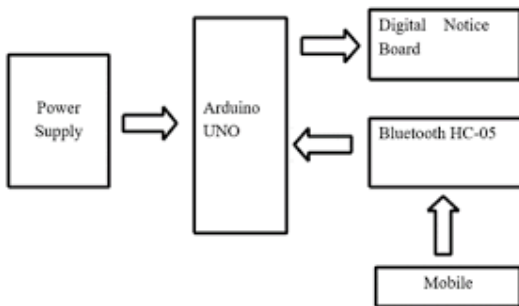
5. ****Residential Settings****: In residential complexes, apartment buildings, and gated communities, voice-based notice boards can serve as a centralized communication

platform for residents. They can relay announcements from property management, community events, maintenance schedules, and security alerts, fostering a sense of community and enhancing overall resident satisfaction.

6. ****Specialized Applications****: Voice-based notice boards can also find niche applications in specialized environments such as museums, exhibitions, sports stadiums, and tourist attractions. They can provide audio-guided tours, exhibit descriptions, event announcements, and interactive experiences, enhancing visitor engagement and satisfaction.

Overall, the scope of voice-based notice boards is vast, with potential applications across diverse sectors and settings where effective communication is vital. As technology continues to advance, these systems are poised to play an increasingly prominent role in facilitating seamless information dissemination and enhancing user experiences.

Block Diagram-



Components-

1 .LCD Display

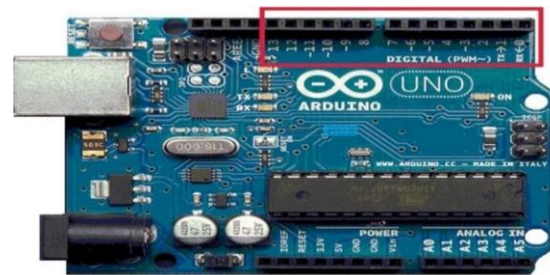


The LCD stands for liquid crystal display, that works on the light modulation features of liquid crystals. It is available in electronic visible display, video display and flat panel display. There are numerous categories and features are exits in markets of LCD and you can see it on your mobile, laptop, computer and television screen. The invention of LCD gives new life to electronic industries and replaces LED and gas plasma techniques. It also replaces the CTR (cathode ray) tube that used for visual display. The input power consumed by the liquid crystal display is less then light-emitting diode and plasma display. In today's post, we will have look at 20 x 4 LCD, its features, working, applications, and practical implementation in different electronic devices. So let's get started with the Introduction to 20x4 LCD Module. A liquid-crystal display (LCD) is a flat panel display, electronic visual display, or video

display that uses the light modulating properties of liquid crystals. Liquid crystals do not emit light directly. Here, in this we're going to use a monochromatic 20x4 alphanumeric LCD. 20x4 means that 20 characters can be displayed in each of the 4 rows of the

20x4 LCD, thus a total of 80 characters can be displayed at any instance of time.

2.Arduin UNO



electronics based on easy-to-use hardware and software. Subtly speaking, Arduino is a microcontroller based prototyping board which can be used in developing digital devices that can read inputs like finger on a button, touch on a screen, light on a sensor etc.

and turning it in to output like switching on an LED, rotating a motor, playing songs through a speaker etc. UNO is based on

ATmega328P microcontroller. There are two variants of the Arduino UNO: one which consists of through – hole microcontroller connection and other with surface

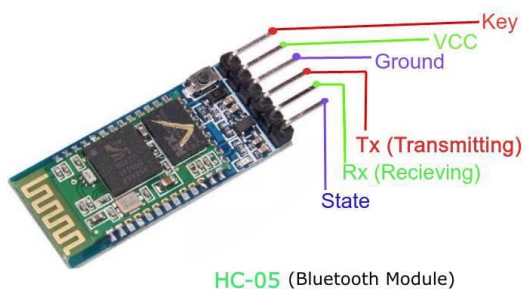
mount type. Through-hole model will be beneficial as we can take the chip out in case of any problem and swap in with a new one.

Arduino UNO comes with different features and capabilities. As mentioned earlier, the microcontroller used in UNO is

ATmega328P, which is an 8-bit microcontroller based on the AVR architecture. UNO has 14 digital input – output (I/O) pins which can be used as either input or output by connecting them with different external devices and components. Out of these 14 pins, 6

pins are capable of producing PWM signal. All the digital pins operate at 5V and can output a current of 20mA. The Arduino board can be programmed to do anything by simply programming the microcontroller on board using a set of instructions for which, the Arduino board consists of a USB plug to communicate with your computer and a bunch of connection sockets that can be wired to external devices like motors, LEDs etc. The aim of Arduino is to introduce the world of electronics to people who have small to no experience in electronics like hobbyists, designers, artists etc. Arduino is based on open source electronics project i.e. all the design specifications, schematics, software are available openly to all the users.

3. Bluetooth HC-05



HC-05 (Bluetooth Module)

Integrating Bluetooth HC-05 module into a voice-based notice board display system offers an exciting opportunity to enhance its functionality and usability. Here's how this integration could work:

1. ****Wireless Connectivity****: The Bluetooth HC-05 module enables wireless communication between the notice board display system and external devices such as smartphones, tablets, or computers. This allows users to interact with the notice board from a distance, enhancing convenience and accessibility.

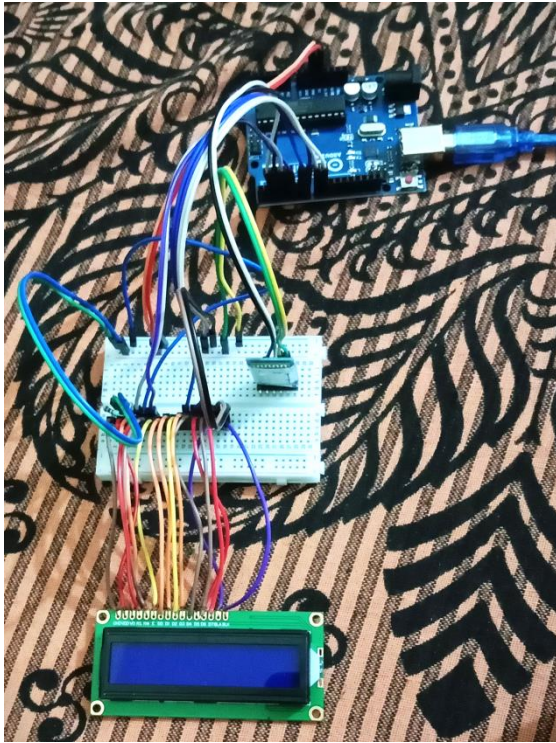
2. ****User Interaction****: Users can connect their Bluetooth-enabled devices to the notice board display system, enabling two-way communication. They can send voice messages, announcements, or updates directly to the notice board from their smartphones or other Bluetooth devices.

3. ****Voice Recognition****: The notice board display system can be equipped with voice recognition capabilities to interpret incoming voice messages. The Bluetooth HC-05 module can transmit these messages wirelessly to the display system, where they are processed and converted into text or audio for playback.

4. ****Automated Announcements****: The system can be programmed to play pre-recorded or synthesized voice messages at scheduled times using the Bluetooth HC-05 module for control. This allows for automated announcements of events, reminders, or alerts without requiring manual intervention.

communication platform that enhances user engagement, accessibility, and convenience. Whether deployed in educational institutions, workplaces, public spaces, or residential settings, this integrated solution has the potential to revolutionize the way information is shared and communicated.

Diagram of Hardware



Advantages-

- Accessibility
- Convenience
- Realtime updates
- Enhanced engagement

Disadvantages-

- Dependency on audio
- Technical issues
- Limited interaction
- Language barriers

Conclusion-

Wireless operations permit services, such as long range communications, that are impossible to implement with the use of wires. It provides fast transfer of information. System is cheaper to install and maintain. This paper provides simple way of displaying messages on Notice Board using Wireless Technology i.e. Bluetooth. It also provides user authentication to avoid any misuse of proposed system.

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