DIGITAL COMMUNICATION SYSTEM

FINAL PROJECT REPORT

19TH JULY, 2023

WIRELESS NOTICE BOARD WITH MORSE CODE CONVERTER

Presented By

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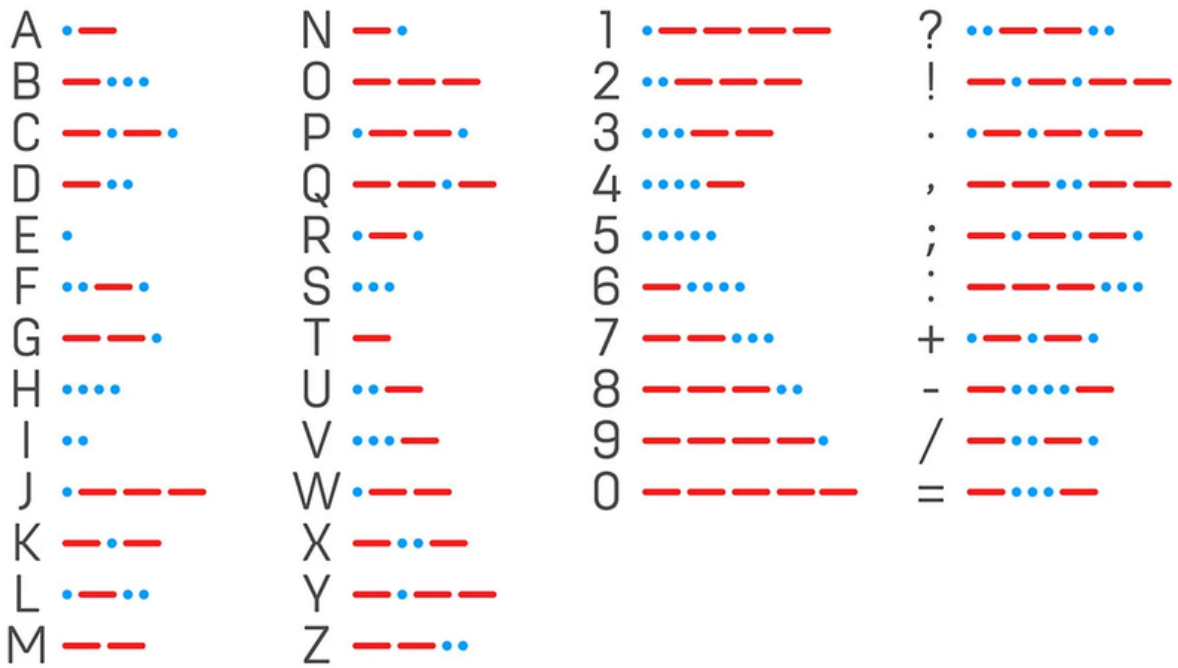
INTRODUCTION

Wireless notice board is a very selective term for this project because it has a very wide scope, not just a notice board. First of all we should understand the purpose of this project, in this system we can display a message or notification on any screen like LCD and this message can be easily set or changed anywhere in the world using Mobile phone.

Morse code is a method used in telecommunication to encode text characters as standardized sequences of two different signal durations, called dots and dashes. Morse code is named after Samuel Morse, one of the inventors of the telegraph.



ABSTRACT

THIS PROJECT DEVELOPMENT IS BASED ON "ARDUINO AUTOMATION APP".

FROM THE APP THE DATA IS SENT THROUGH BLUETOOTH WITH THE HELP OF BLUETOOTH MODULE FROM MOBILE AND DISPLAYED IN 16 x 2 LCD DISPLAY.

THIS APP IS CONNECTED TO BLUETOOTH MODULE WITH THE HELP OF C++ LANGUAGE, WHICH IS COMPILED IN ARDUINO IDE EDITOR.

AND, THIS DISPLAYED MESSAGE IS CONVERTED INTO MORSE CODE.

THIS MORSE CODE IS DEPICTED USING TWO DIFFERENT COLOUR LEDs AND A BUZZER.

THE DOT IS REPRESENTED USING RED COLOUR LED AND DASH IS REPRESENTED USING BLUE COLOUR LED.

EXISTING SYSTEM

Till now there are no systems with both notice board and morse code converter.

Both are actually two different concepts.

There is separate system for wireless notice board and separate one for morse code converter.

Even in that, morse code is depicted using only single colour LED.

This is the 1st time we came up with both the application in a single system.

PROPOSED SYSTEM

Our project performs two different tasks.

TASK 1: Wireless noticeboard
TASK 2: Morse code converter

The ARDUINO AUTOMATION APP is connected to mobile via bluetooth module HC-05. Using "TERMINAL" option in the app, the message is fed to module.

Using ARDUINO UNO board the message from the module is printed in 16x2 LCD display.

On the other hand, the board performs the next task simultaneously.

This printed message is converted into morse code.

The morse code is depicted using a buzzer and 2 colour LEDs,

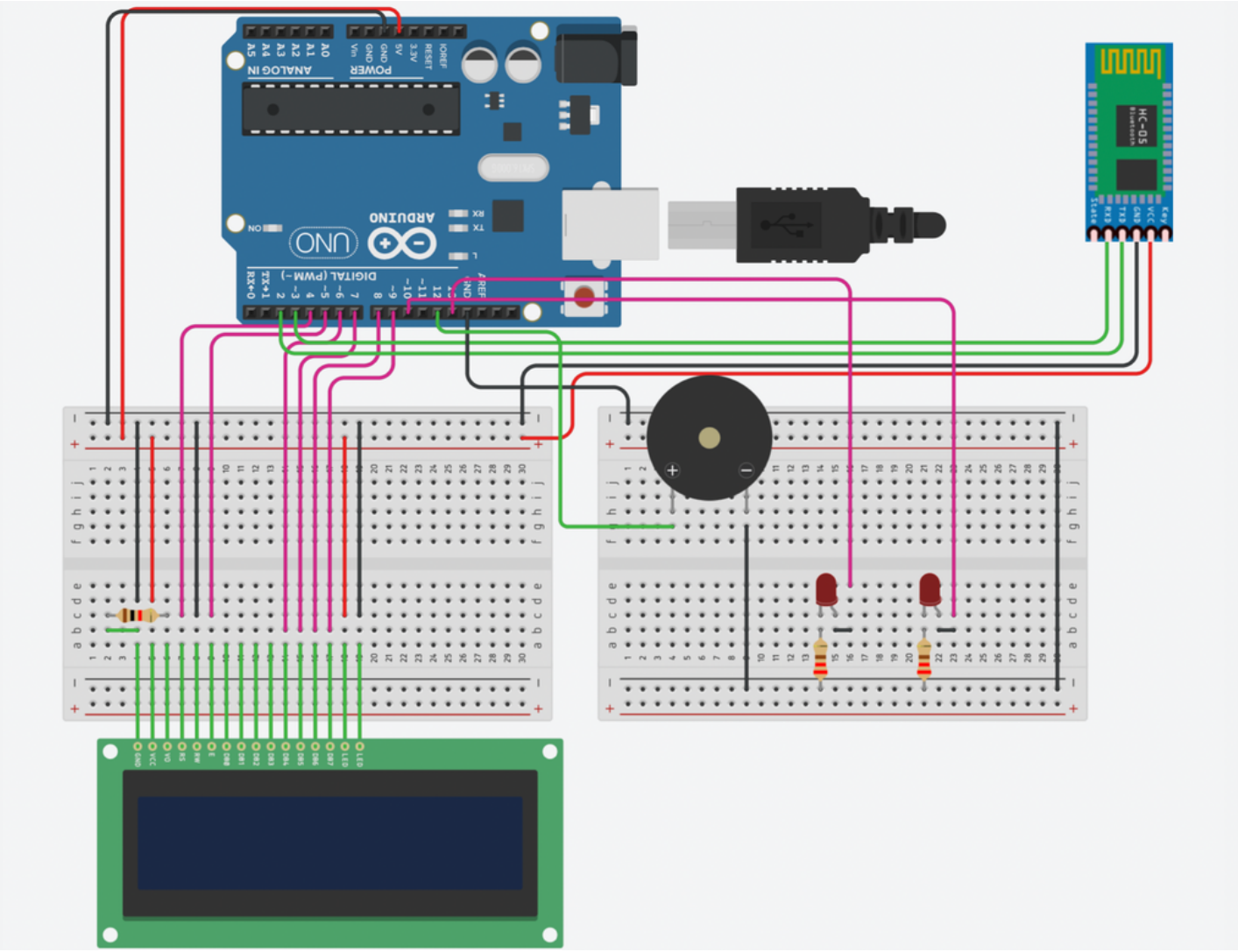
DOT (.) - RED
DASH (-) - BLUE

Delay for the buzzer,

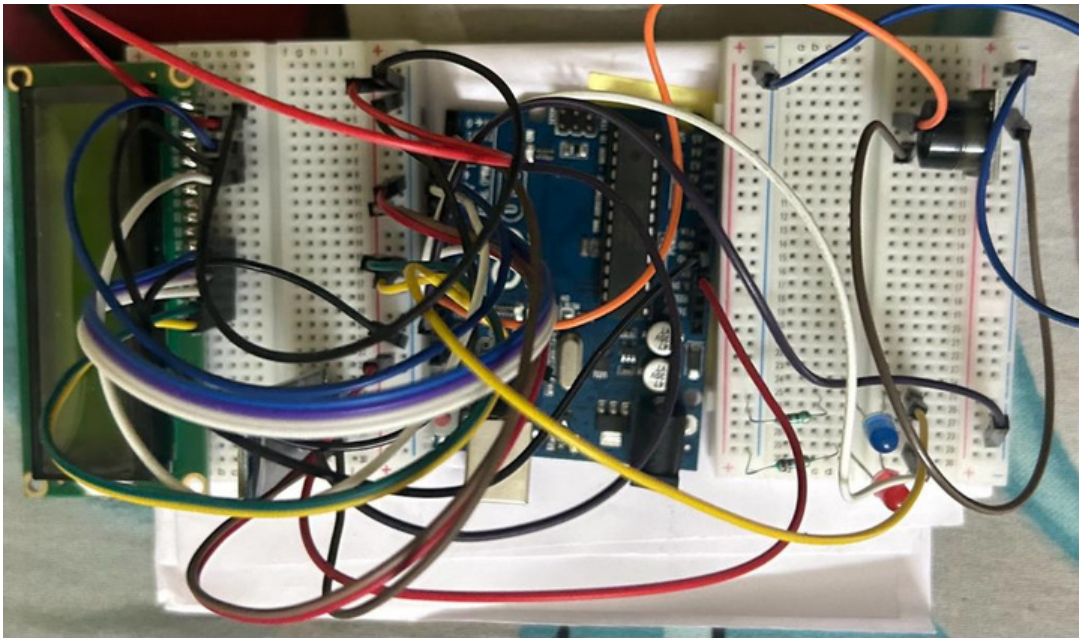
DOT (.) - 100n
DASH (-) - 900n

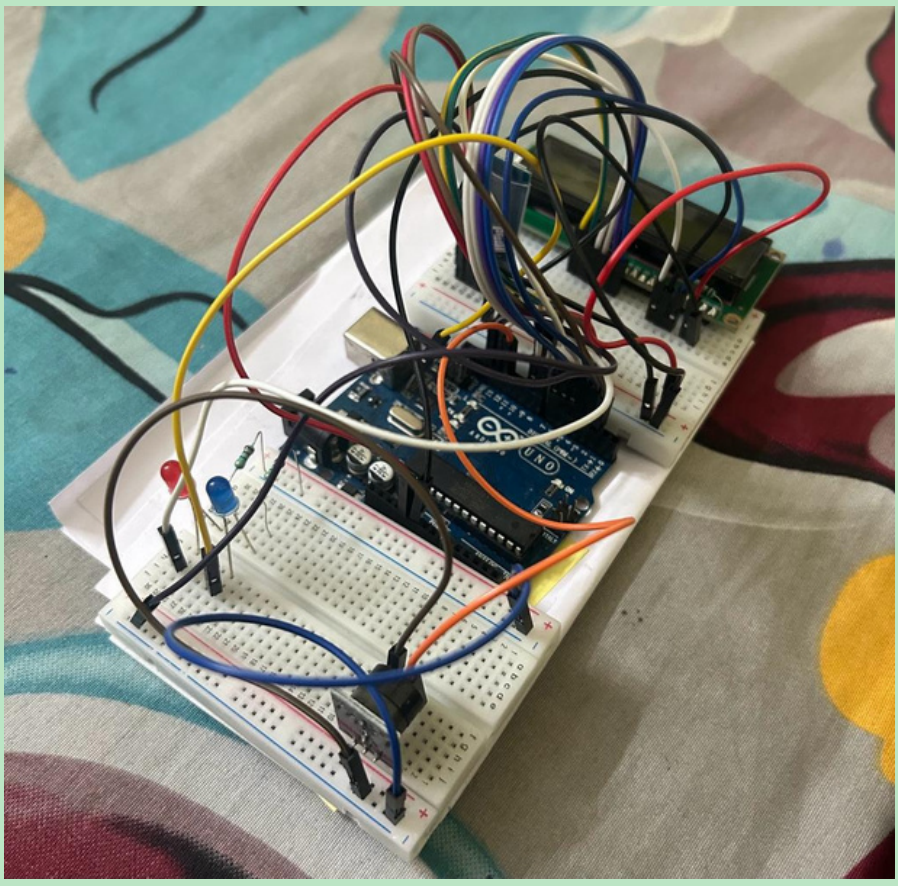
Morse code is also printed in serial monitor of ARDUINO IDE

CIRCUIT DIAGRAM



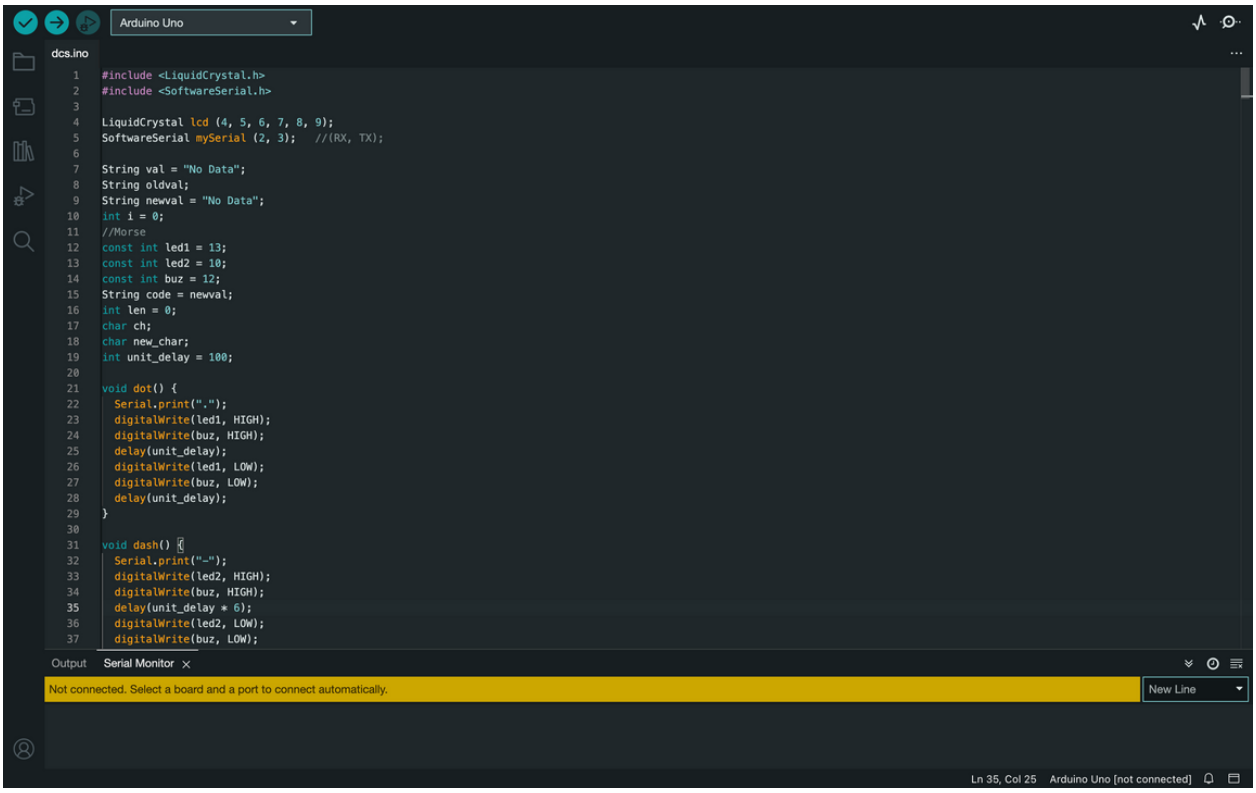
HARDWARE CIRCUIT





SOFTWARE USED

We've used ARDUINO IDE for compilation



CODE

L I N K:

https://drive.google.com/file/d/1G5z4RBVB7I0Vf-J-Y6ihnAGBxtx65Wj4/view?usp=drive_link

RESULT

The Codes for Morse code and Wireless notice board were modified into a single code and the performance of the setup was analysed, and the output which is pre defined incase of morse codes is achieved.

Morse code BASE PAPER:

https://drive.google.com/drive/folders/1knmXOktYHRDGGrZuOtEdA9NOp7RwE8OW?usp=drive_link

THANK YOU