SMART

WATCH

- DHAYANITHI M (99007630)

TABLE OF CONTENTS

1. ABOUT

1.1 Abstract

Smartwatches are trending devices that give its users the ability to be connected, send/receive emails and messages, keep track of health and fitness, and even make calls on the go. Despite these benefits, the disadvantages of smartwatches can be equally terrifying. Smartwatches contain sensitive data and useful information that could be misused if a smartwatch gets lost or stolen. This paper develops a framework to do forensics for smartwatches according to three analysis stages: physical, backup, and wireless communication. We followed the proposed framework using Apple Watch. We found that the watch stores a lot of personal information such as contacts details, text messages, calendar details, Emails, pictures, and wallet data including: stored payment cards, gate passes, and event tickets, if any. In addition, the logical acquisition of the backup files revealed to us that more sensitive information such as the user's secure ID, Wi-Fi, Bluetooth, and MAC addresses can be extracted directly from the backup. Therefore, users must encrypt their backup files to keep their personal data secured. Based on our experiment, we believe that a smartwatch can be used as valuable

evidence for forensic investigators and a more advanced framework must be further developed in this emerging field.

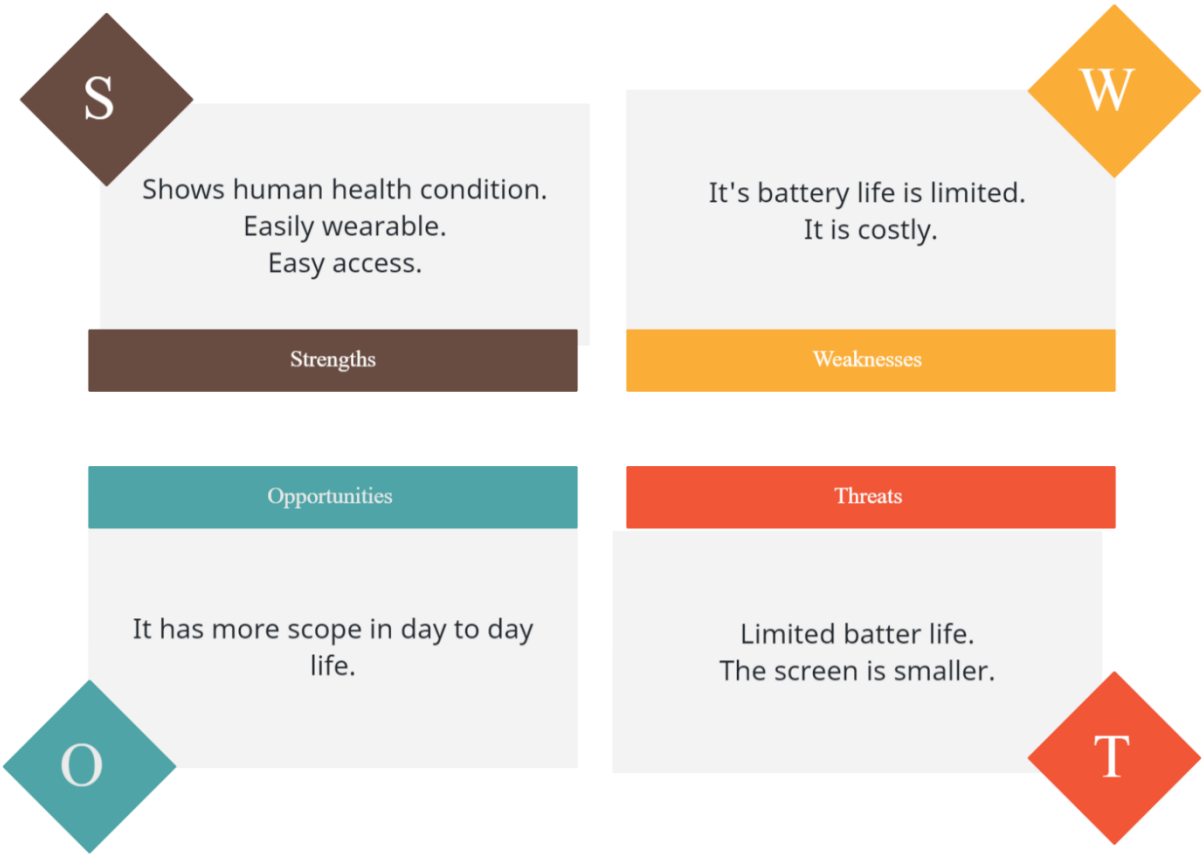
1.2 Features

1. Fitness and Health.
2. Play Music
3. Navigation
4. Make and Receive Calls
5. Access Notifications
6. Emergency Call and Fall Detection.

1.3 5W's & 1H

What	It is a smart watch which monitors the human body.
Who	All can use this.
Why	It is very easy thing in tracking human body health condition.
When	Specially when we are out of house.
Where	It can be used anywhere.
How	By use of sensors, and battery

1.4 Swot Analysis



2. REQUIREMENTS

2.1 High Level Requirement

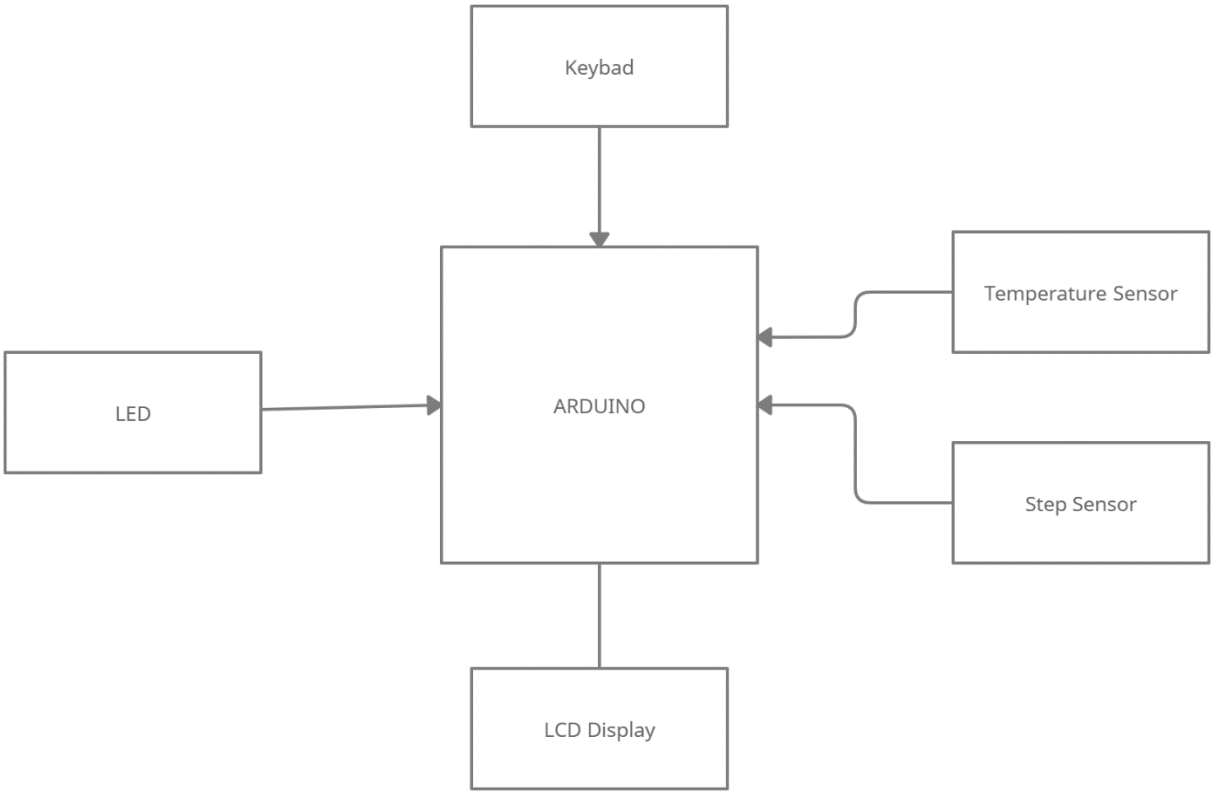
ID	Description
HLR1	User shall be able to monitor the temperature.
HLR2	User shall be able to monitor the step count.
HLR3	User will be able to edit the digit.
HLR4	User shall be able to monitor increase and decrease in temperature.
HLR5	User will be able to monitor everything using a display

2.2 Low Level Requirement

HLR	LLR	Description
HLR1	LLR1	Usage of temperature sensor.
HLR2	LLR2	Usage of Pedometer sensor.
HLR3	LLR3	Usage of keypad.
HLR4	LLR4	Usage of LED.
HLR5	LLR5	Usage of LCD Display

3. BLOCK DIAGRAM AND COMPONENTS DESCRIPTION

3.1 Block Diagram



3.2 Components Description

Temperature Sensor: It is used to monitor the persons temperature.

Step Sensor: It shows the number of steps

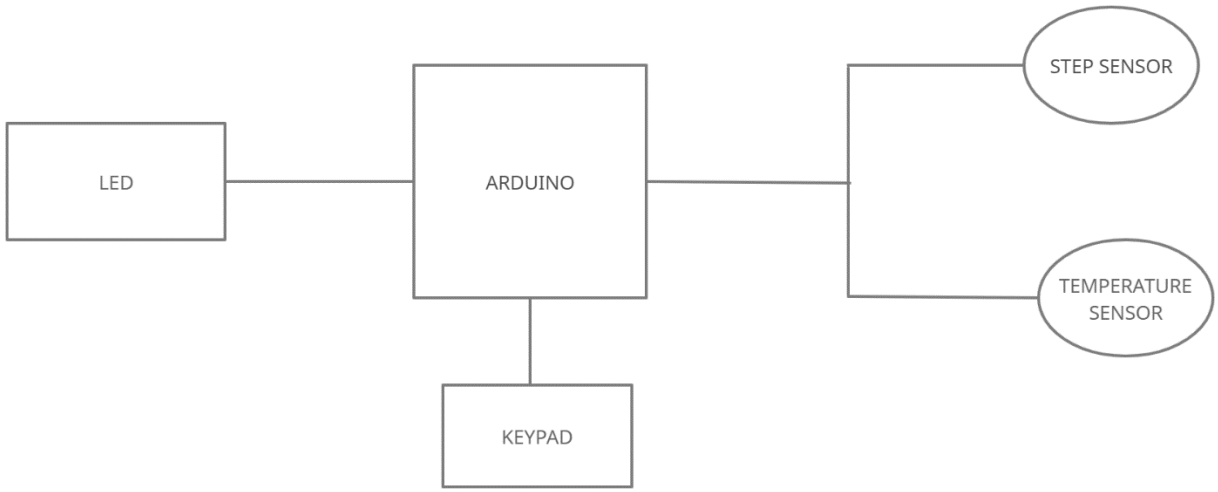
LED: It glows when temperature is low or high than the normal value.

Keypad: It is used to change the digits.

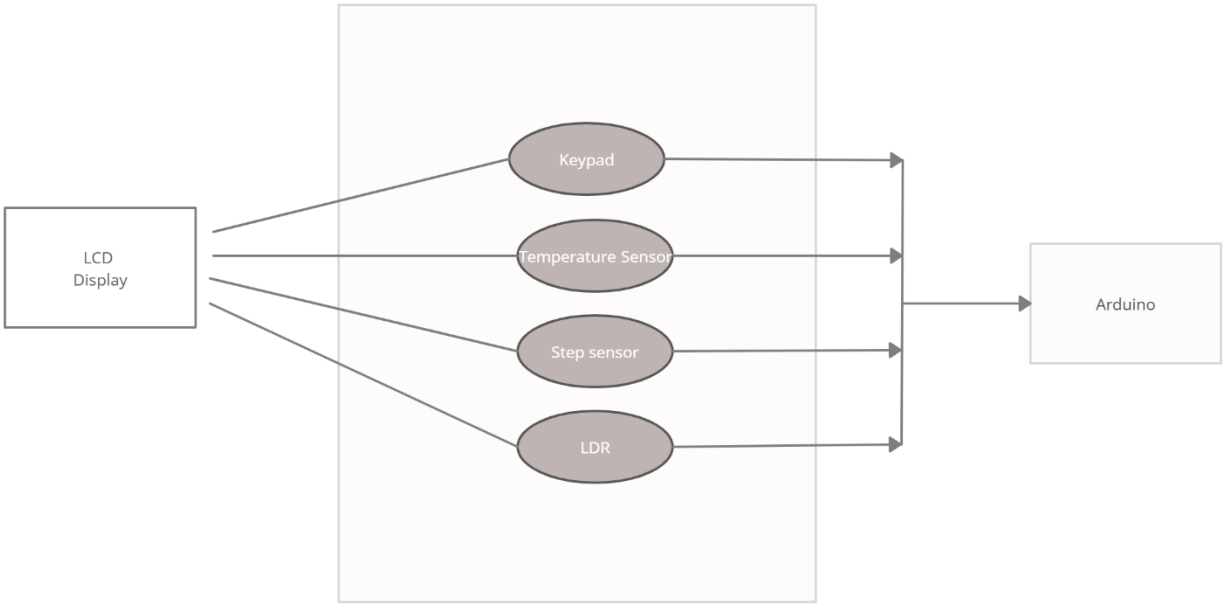
LED Display: It is used to display the temperature level, step count and keypad.

4. ARCHITECTURE

4.1 Behaviour Diagram



4.2 Structural Diagram



5. TEST PLAN AND OUTPUT

5.1 Hight Level Test Plan

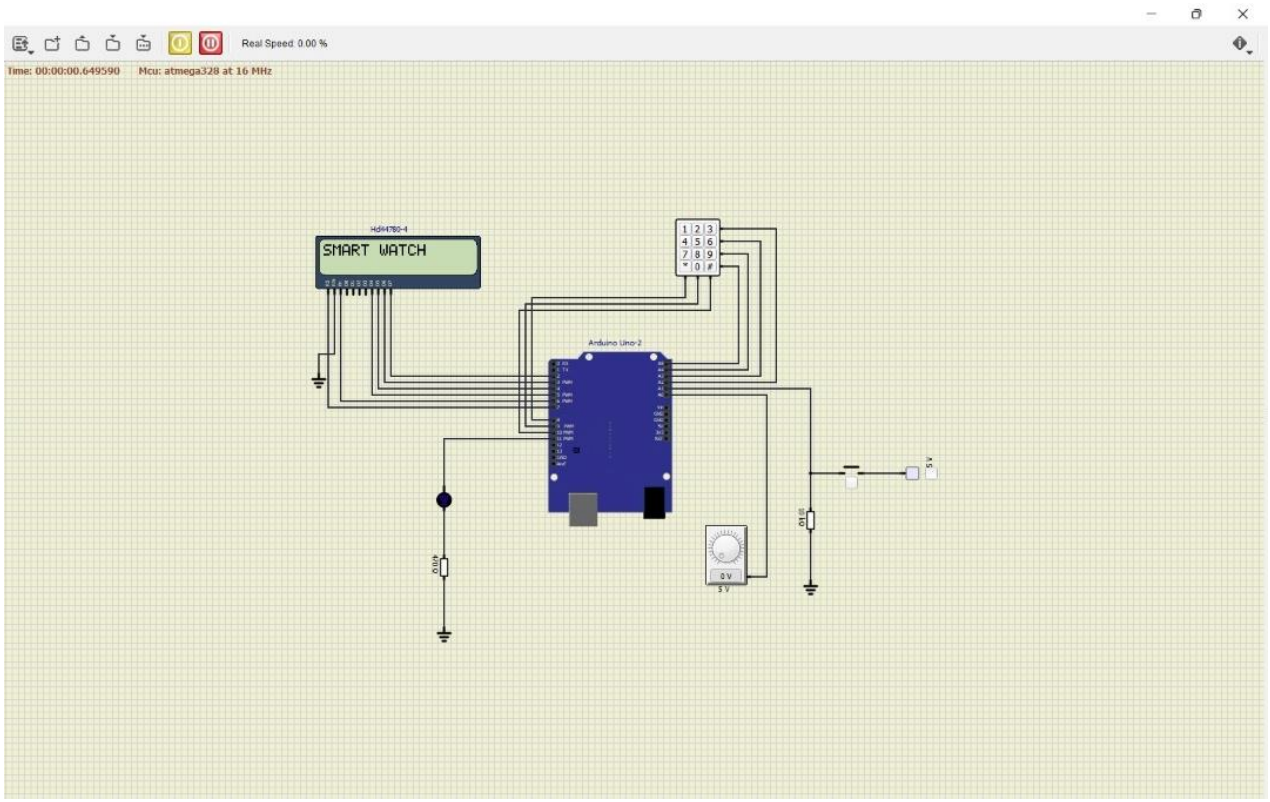
Test ID	Description	Expected Output	Actual Output	Pass/Fail
HLTP1	Temperature	Will display the value	Will display the value	PASS
HLTP2	Step count	Will display the number of steps	Will display the number of steps	PASS
HLTP3	LED	It should glow	It should glow	PASS
HLTP4	LCD Display	Should display all values	Should display all values	PASS

5.2 Low Level Test Plan

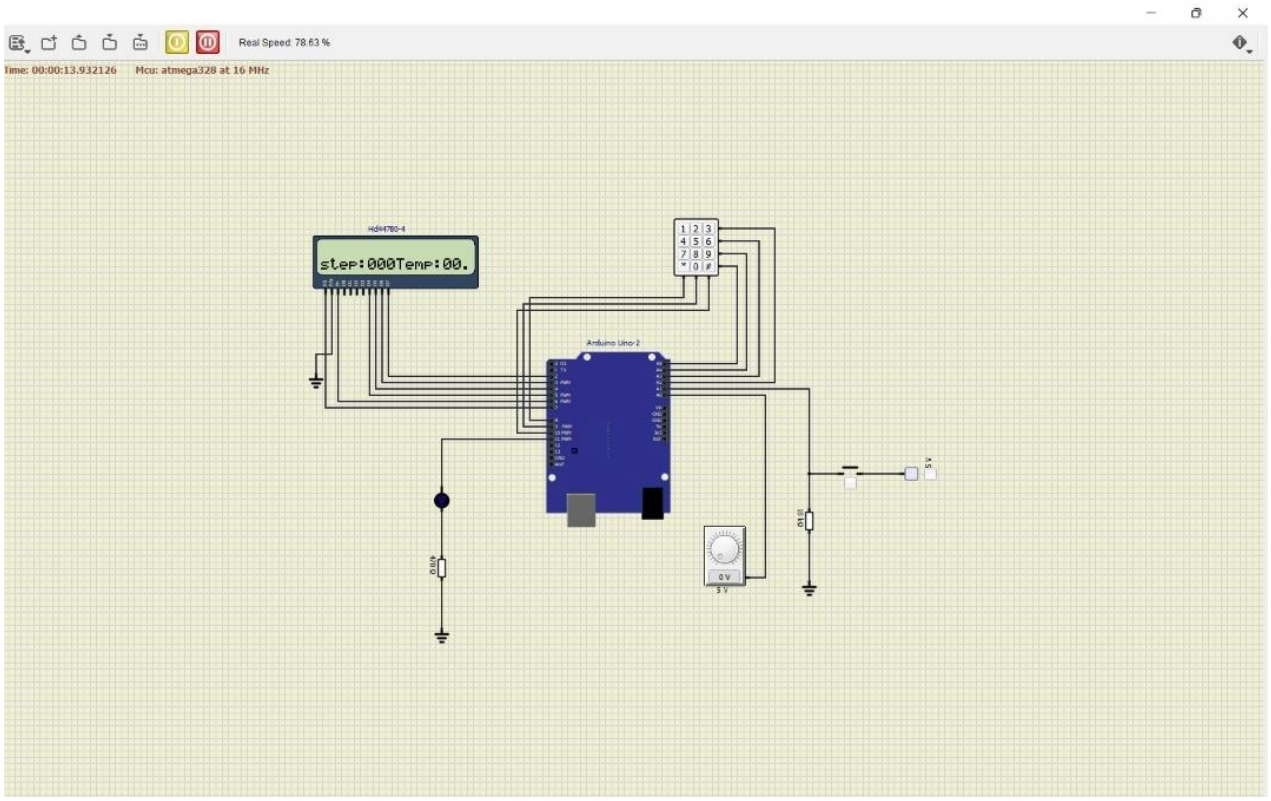
HLTP	LLTP	Description	Input	Expected Output	Actual Output	Pass/Fail
HLTP1	LLTP1	Temperature	<26°C	LED should glow	LED should glow	Pass
HLTP1	LLTP1	Temperature	36°C - 42°C	Normal Temperature	Normal Temperature	Pass
HLTP1	LLTP1	Temperature	>45°C	LED should glow	LED should glow	Pass
HLTP2	LLTP2	Step count	Button	Should display the step count	Should display the step count	Pass
HLTP3	LLTP3	LED	(<26°C) or (>45°C)	It should glow	It should glow	Pass

6. OUTPUT

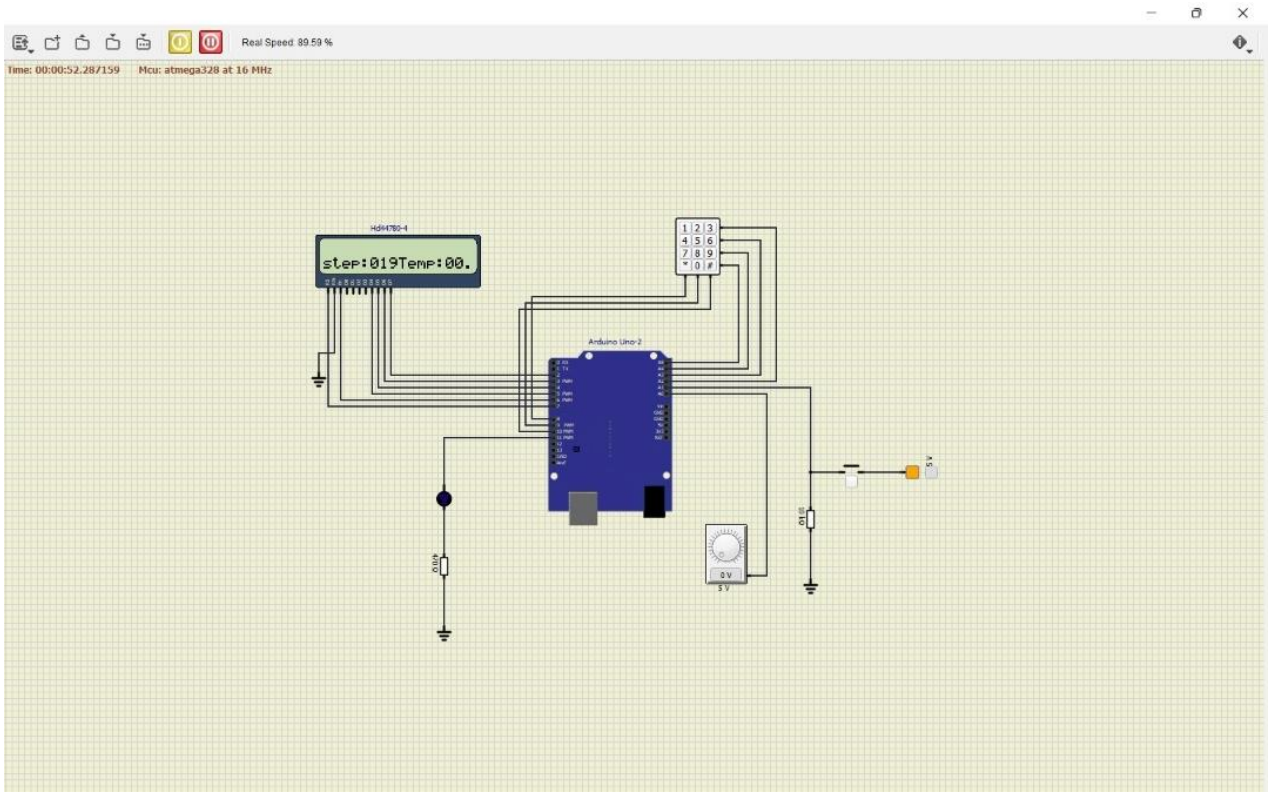
1. Initial start:



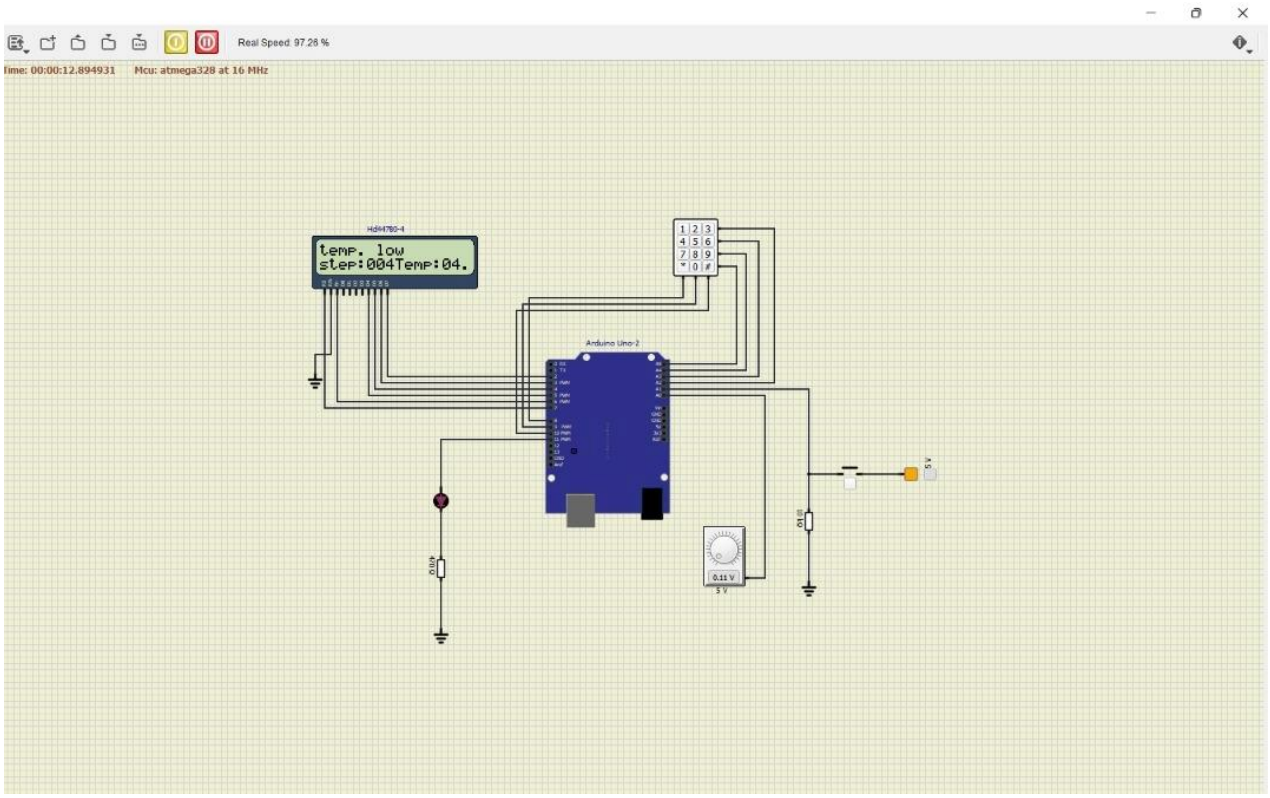
2. Initial monitoring:



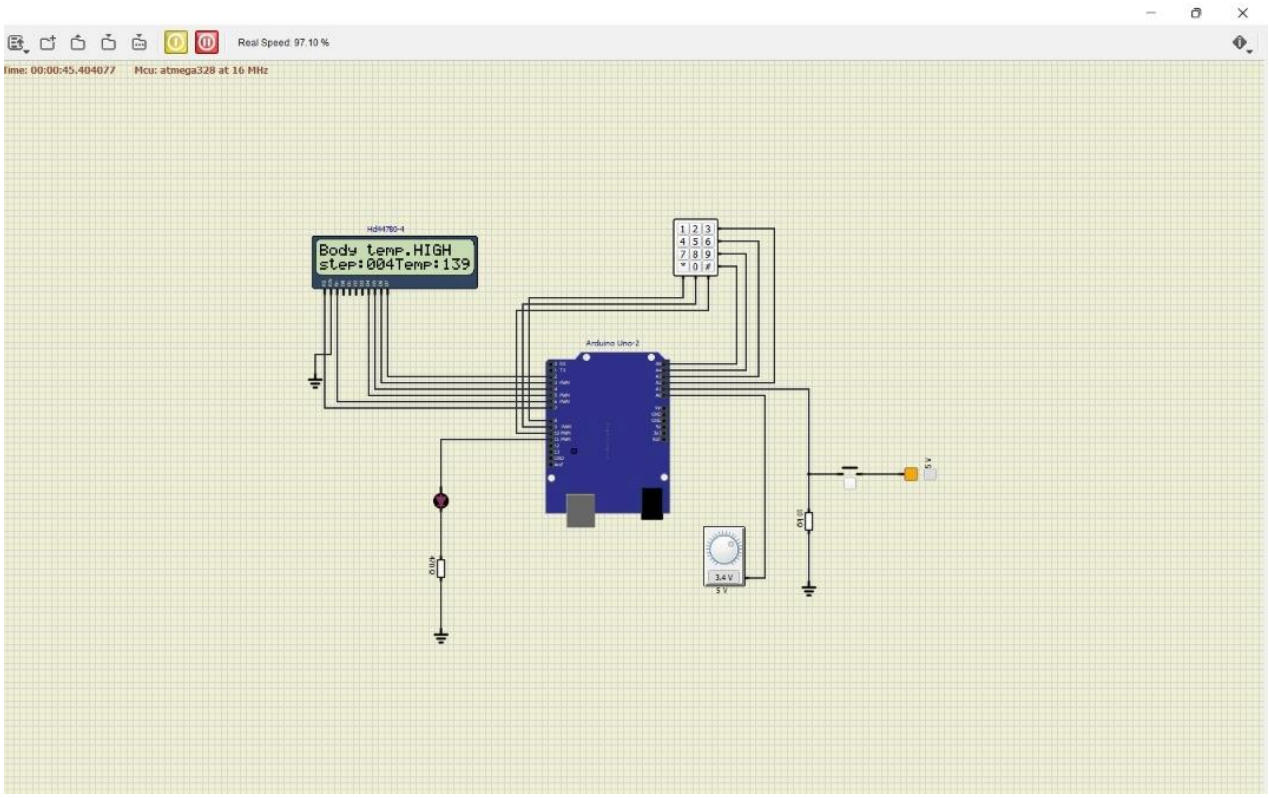
3. Step count:


Real Speed: 89.59 %
Time: 00:00:52.287159
Mcu: atmega328 at 16 MHz
step:019Temp:00.
1 2 3
4 5 6
7 8 9
* 0 #
Arduino Uno-2
0 V
5 V

4. When temperature is low:



5. When temperature is high:



7. APPLICATIONS

Fitness centres.

Health monitoring places.

Can be used in hospitals.

And to those patients who take treatment at home.