



Coimbatore Institute of Technology

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A photograph of a textile factory interior, showing rows of large industrial spinning machines with white bobbins and green components. The image is partially obscured by a blue diagonal banner at the top and a dark blue banner at the bottom.

IOT EMBEDDED SMART MONITORING SYSTEM FOR THE TEXTILE INDUSTRIES

Team count: 03

College: Coimbatore Institute of technology

Department: Computing-M.Sc AIML



Introduction

The proposed IOT project is designed to analyze and alert the textile machine's on/off status. The thread on the textile machine will break frequently, that causes the machine to stand idle. In that case, workers will leave the machine idle for longer than 15 minutes, which reduce the production and increase electricity usage. The proposed sensor measure the buzzer light which is installed on machine to read intensity and record the machine's reading and alert the workers about the machine's status. Then the data is transmitted to web application or an mobile app application. The IOT is used to assemble, collect, format the data and this will allow us to evaluate employee performance and boost production in the industries.

Problem Statement



There are many machines involved in the process of converting big cotton bundles and threads, to smaller threads which includes machine such as Guarding, Simplex, and RSP. These machines frequently experience cutting of thread, which stops the machine's production. When workers fail to notice the machine's cutoff, the machine may remain idle for ten to fifteen minutes, which ultimately leads to decrease in production and increase in electricity use.

Major problems:

01

Extreme consumption of electricity

02

Loss of production

03



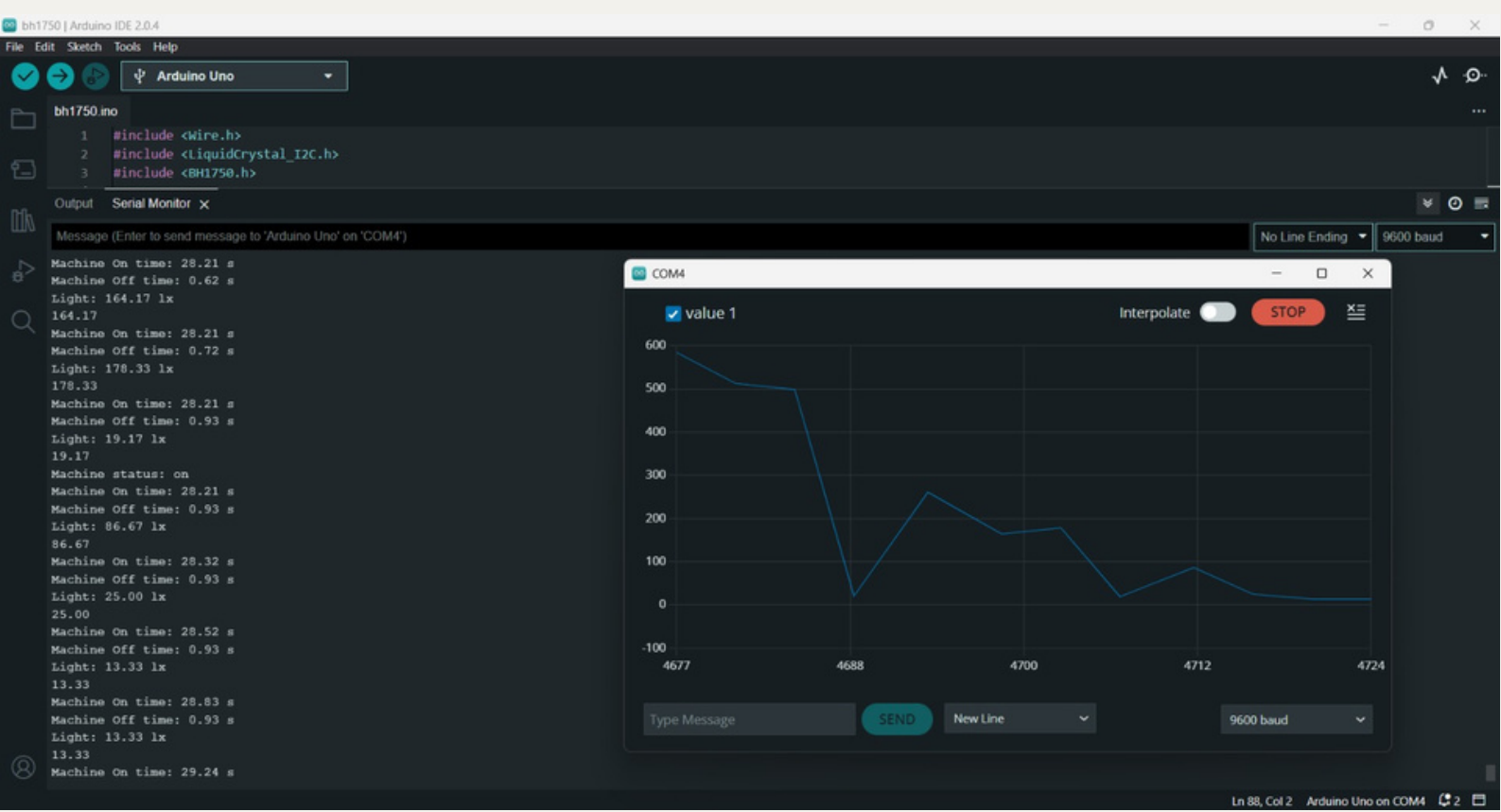
Proposed Solution



The main initiative is set up to address the issue in a way that the sensors(BH 1750) could anticipate the brightness of the buzzer, which is installed in each machine and glows when it is off. It would be simple to analyze worker's performance and output by measuring the light intensity and calculating the overall amount of time the machine has been idle. At the same time the sensors could send alert signals to the workers about machine idle time. The proposed results is to increase in production and decrease in electricity use. The data is extracted to the mobile application or the developed web page



Pictures of the circuit and output



Budget Required:

***Sensors and tool kits- Rs. 8,000**

(Arduino UNO boards, BH1750 sensors, LCD displays, Real time calculating module, ESP 32 WIFI module, Jumper Wires)

***Installing Buzzer Lights - Rs. 10,000**

***Software or web development- Rs.5,000**

(These include only for small scale industries, the budget varies based on the scale of the industries and number of machines implanted)

Team



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