IOT PROJECT

RAHUL – 2101102081
SAHIL – 2101102074
RUBEN – 2101102086

ABSTRACT

Tirupur is one of the largest producers of textiles and related products in India. It has hundreds of factories producing textiles, especially knitted garments for the country and even for exporting. The production process is long and clumsy, involving a variety of steps, many of which are executed manually over hundreds of large machines. We aim to address any issues that could arise during the process, starting off with an automated counter for a stitching unit, an easy-to-use software and a database which stores all significant data.

PROPOSED MODEL

IR COUNTER

IR counters can be installed at every station to easily count cloth pieces and maintain count consistency through stations.

DISPLAY SCREEN

Labour working at these stations are uneducated and do not know how to operate software. A display screen will help them keep track of count.

EASY TO USE SOFTWARE

Business owners can use our software remotely to keep track of the unit. This will include information about other parameters in the factory too.

DATABASE

Real-life data from the manufacturing unit will be stored here. This data can also reveal several things which weren't being noticed so far.

UNIT COST CALCULATION

One-time Expenses	Cost in rupees	Recurring expenses	Cost in rupees
NodeMCU ESP8266	250	IR Sensor	30
		Protection mold	15
		Wires	05
TOTAL	250	TOTAL	50

Manufacturing cost for the first 10 units : 750/10 = **75**

Manufacturing cost for the first 100 units : 5250/100 = **52.5**

Therefore, manufacturing cost per unit will hover around **Rs.50**

IMPACT

Guaranteeing a
seamless flow in
the system.

It does not lead to
unemployment,
infact encourages
smart work

No stress of
wrongdoings at
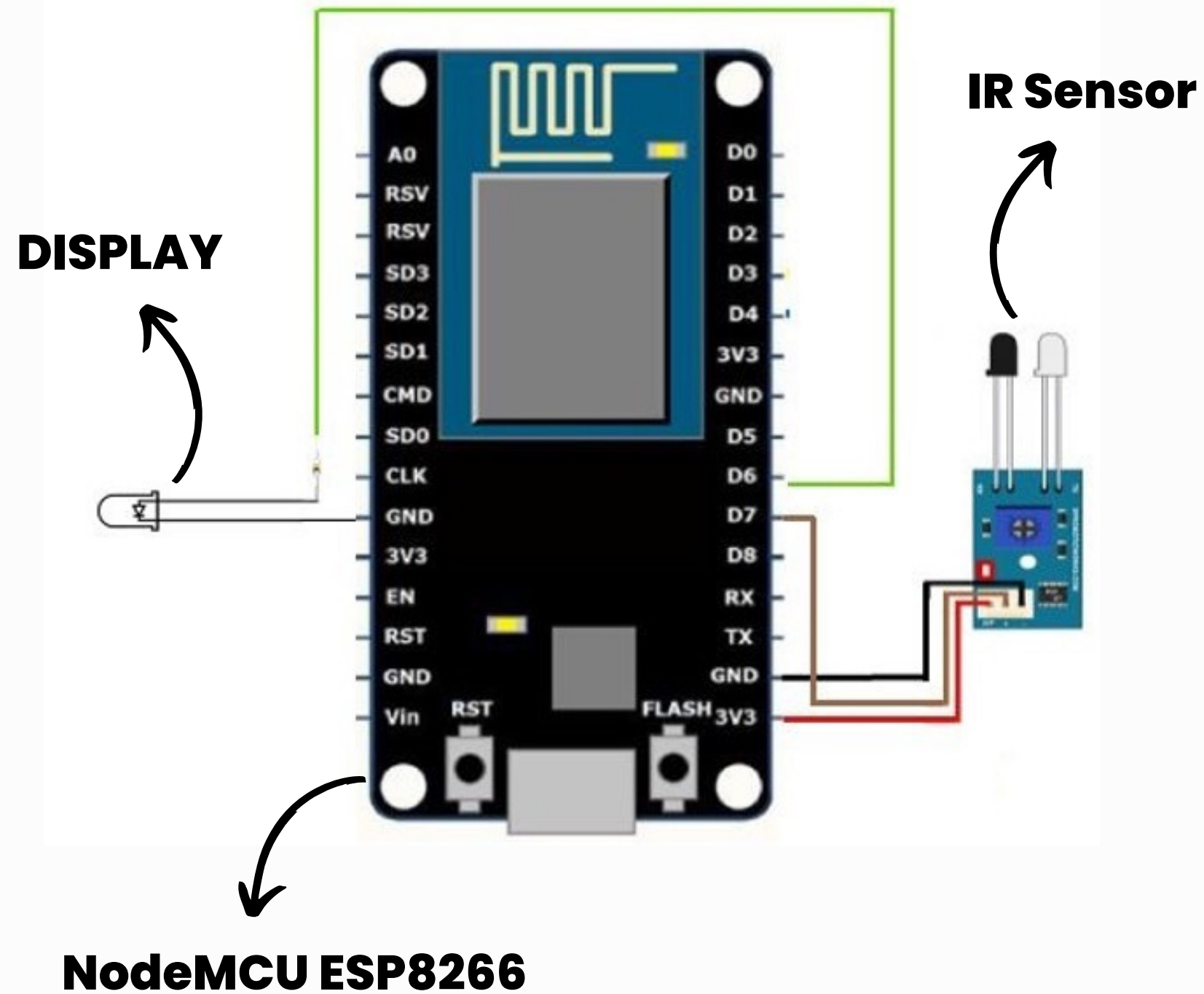the manufacturing
unit for business
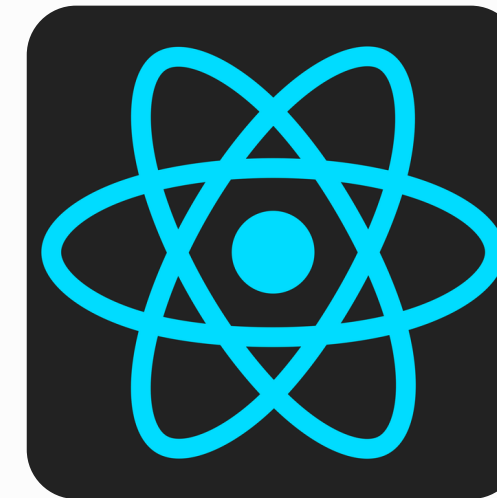owners

Can score
productivity of
employees

Saves a lot of time
thus increasing
throughout the unit

HARDWARE

DISPLAY

IR Sensor

A0	D0
RSV	D1
RSV	D2
SD3	D3
SD2	D4
SD1	3V3
CMD	GND
SD0	D5
CLK	D6
GND	D7
3V3	D8
EN	RX
RST	TX
GND	GND
Vin	3V3

RST   FLASH

NodeMCU ESP8266

SOFTWARE

React (front end)

MongoDB (back end)

mongoDB

FUTURE

Our project is highly scalable, especially the software end of it. We're making a software that not only shows data from the IR counter but also manages several other aspects in the manufacturing unit. Temperature control and optimization is crucial when working with these machines. DHT11 in coordination with our software can monitor changes in temperature and notify. This can avoid malfunctions and reduce maintenance costs and inturn increase robustness of the whole system.

Thank You