



Institute of Engineering and Technology (IET) JK
Lakshmipat University, Jaipur

DESIGN AND PROTOTYPING

ES1110

Faculty Guide :-

- Prof. Bhargav Prajwal Pathri
- Prof. Rajlakshmi Nayak
- Prof. Tanmoy Deb

B.tech 1st Year

★ GROUP – M6 ★

GROUP MEMBERS

1. Mridul Goyal (2020BTECHCSE051)
2. Minal Pandey (2020BTECHCSE048)
3. Mohammad Asad (2020BTECHCSE050)
4. Mittapally Sai Charan (2020BTECHCSE091)
5. Mridul Gupta (2020BTECHCSE052)

Our Aim: -

"Designing & Fabrication of Automated Mechanism
to Facilitate Medical Care System"

TITLE – MEDICARE ROBOT (MBOT)

INITIAL IDEAS

Mridul Goyal

Making a robot type structure which helps in delivering food, medicines etc. to coronavirus affected patients inside a COVID ward. So the doctors and nurses don't go in that ward again and again.

Mohammad Asad

A device attached in the hand of a patient if he want anything patient have to move his hand. The device send call message to doctor or patient .

Minal Pandey

A idea of door guard. It is a type of a door which detects the temperature of any person who is entering in any room. If the person entering the room have the symptoms of coronavirus like high temperature then door will click the photograph of that person and siren rings so that he or she will stop entering that room.

Monday, February 06, 2021 10:07:50 AM

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'One in three doctors dying of coronavirus'

By September 10, a total of 382 Covid related deaths and 2,174 infections were reported amongst doctors with a Case Fatality Rate of 16.7%.

Published: 02nd October 2020 09:05 AM | Last Updated: 02nd October 2020 09:03 AM

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Home > Nation

155 healthcare staff, including 64 doctors, died due to COVID-19 as on September 11: Government

Centre was responding to a question on the number of healthcare staff, including doctors, nurses, support staff and ASHA workers, affected by the disease.

Published: 15th September 2020 11:01 PM | Last Updated: 15th September 2020 11:01 PM

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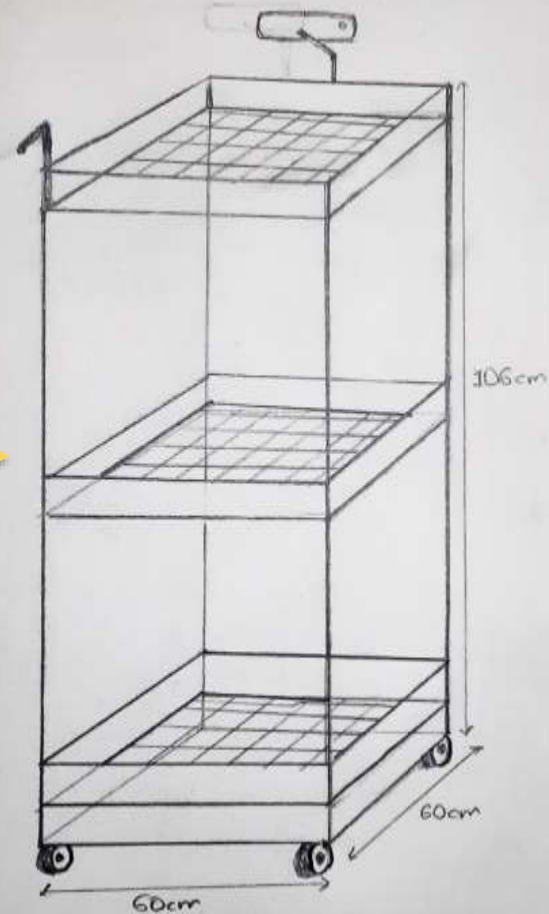
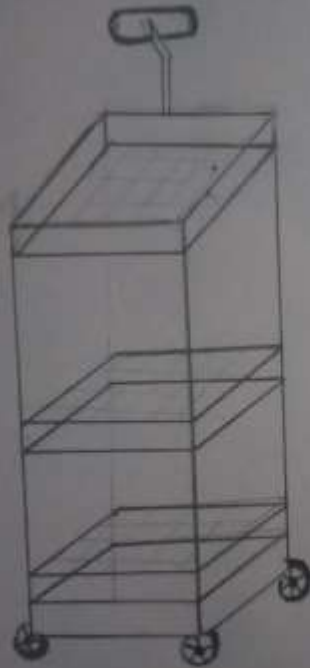
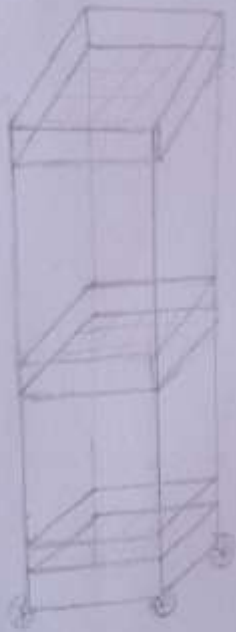
Business News > News > Politics and Nation > IMA says nearly 200 doctors in India have succumbed to COVID-19 so far; requests PM's attention

IMA says nearly 200 doctors in India have succumbed to COVID-19 so far; requests PM's attention

Last Updated: Aug 08, 2020, 03:18 PM IST



SKETCH



ROUGH

INITIAL

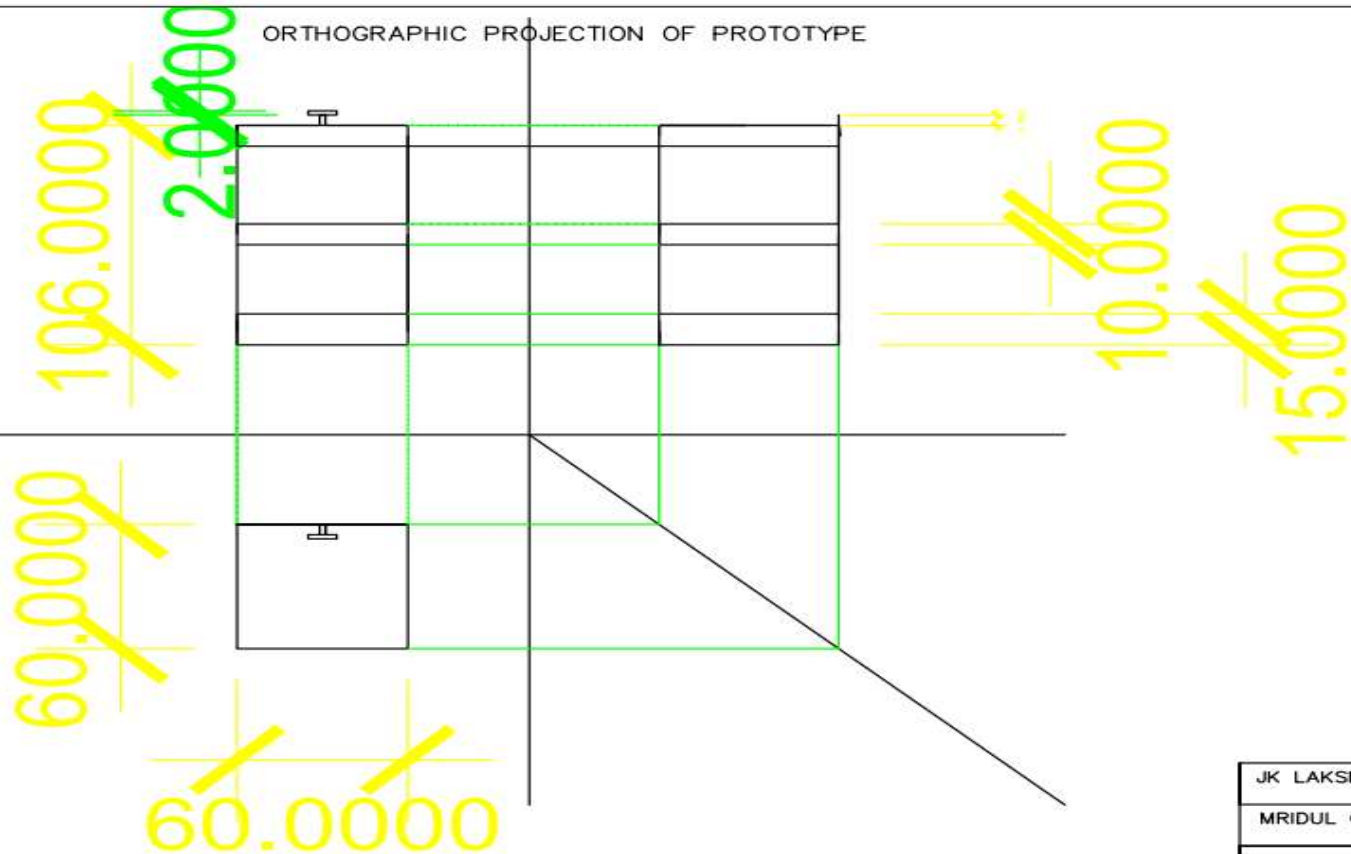
FINAL SKETCH

Orthographic Projections



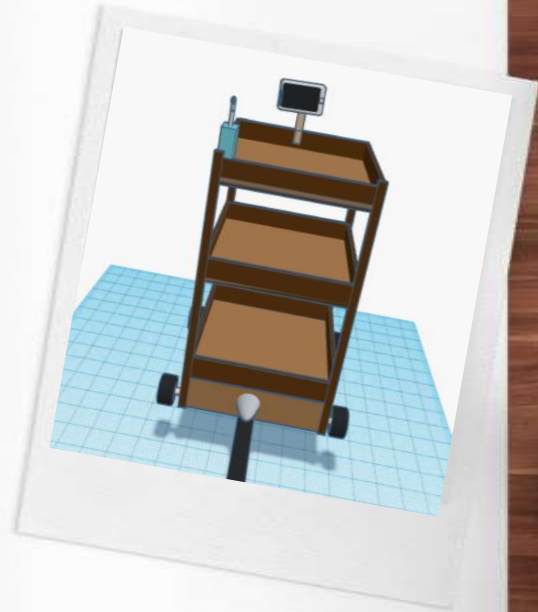
AUTO-CAD

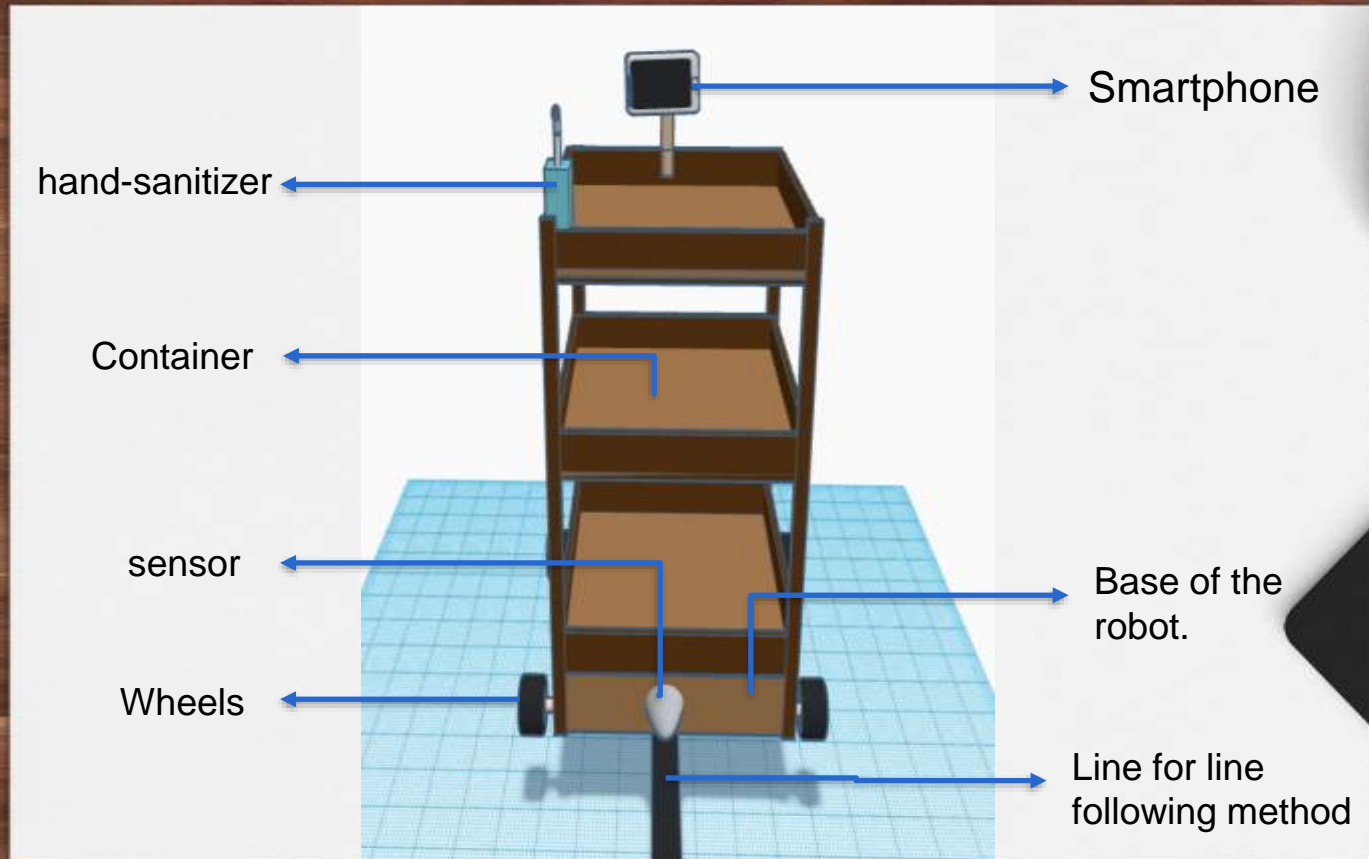
ORTHOGRAPHIC PROJECTION OF PROTOTYPE



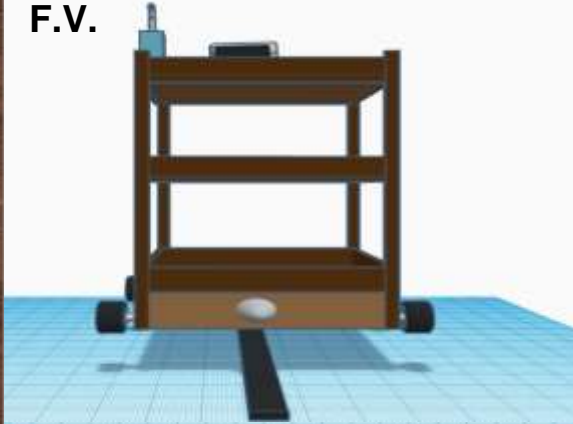
JK LAKSMIPAT UNIVERSITY, JAIPUR	
MRIDUL GOYAL	
2020BTECHCSE051	SECTION -- B
ORTHOGRAPHIC PROJECTION	
04-02-2021	SCALE
SIGN	GRADE

3D DIAGRAM OF M-BOT





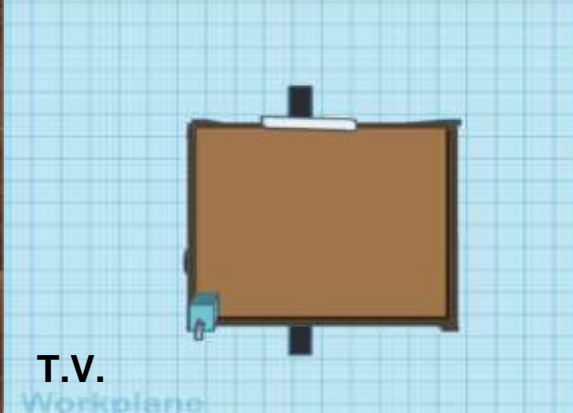
F.V.



R.S.V.

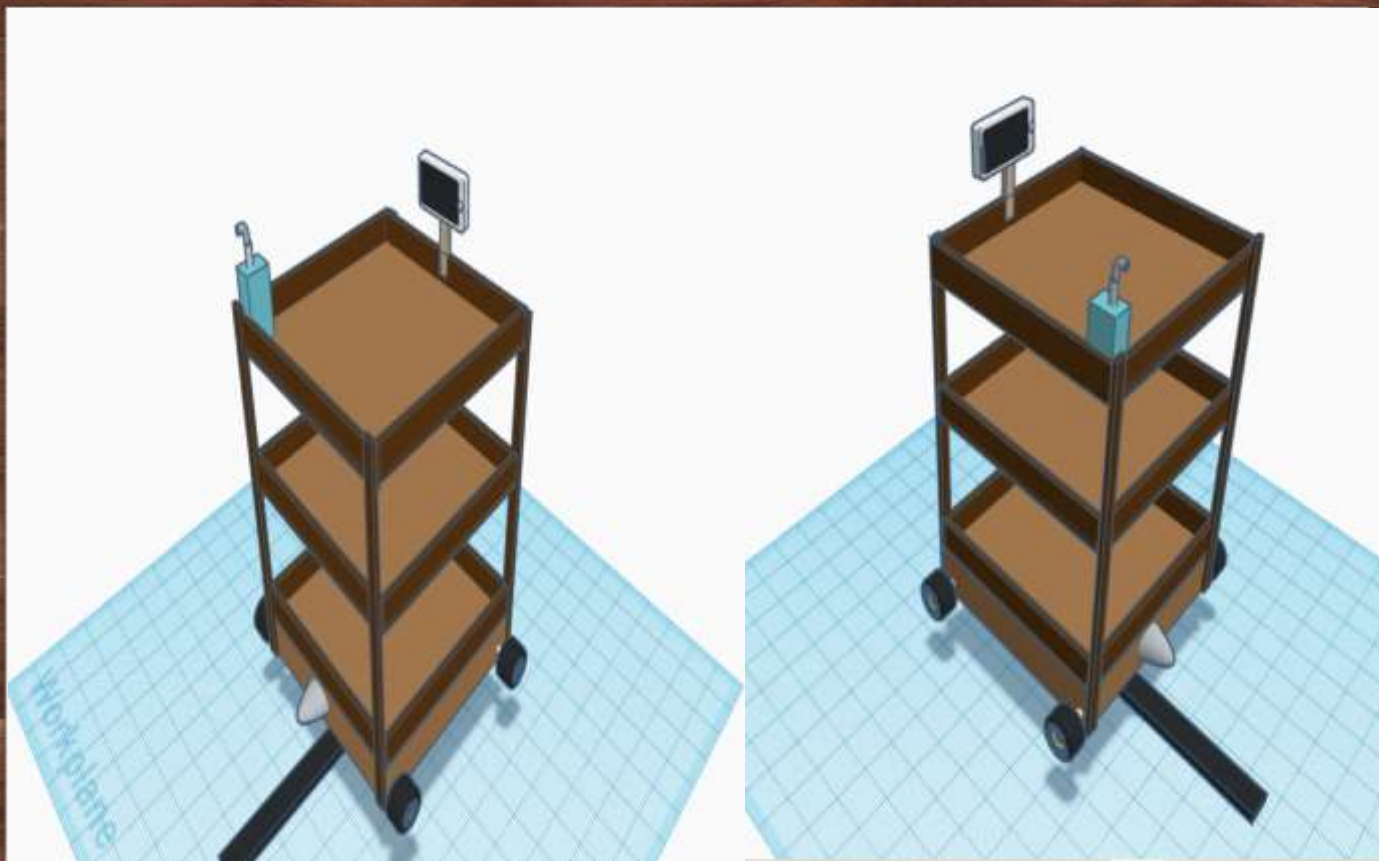
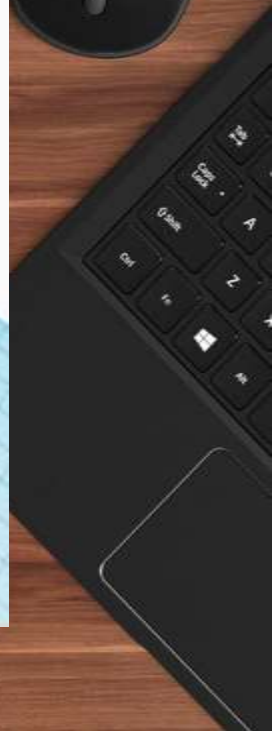


T.V.



L.S.V.



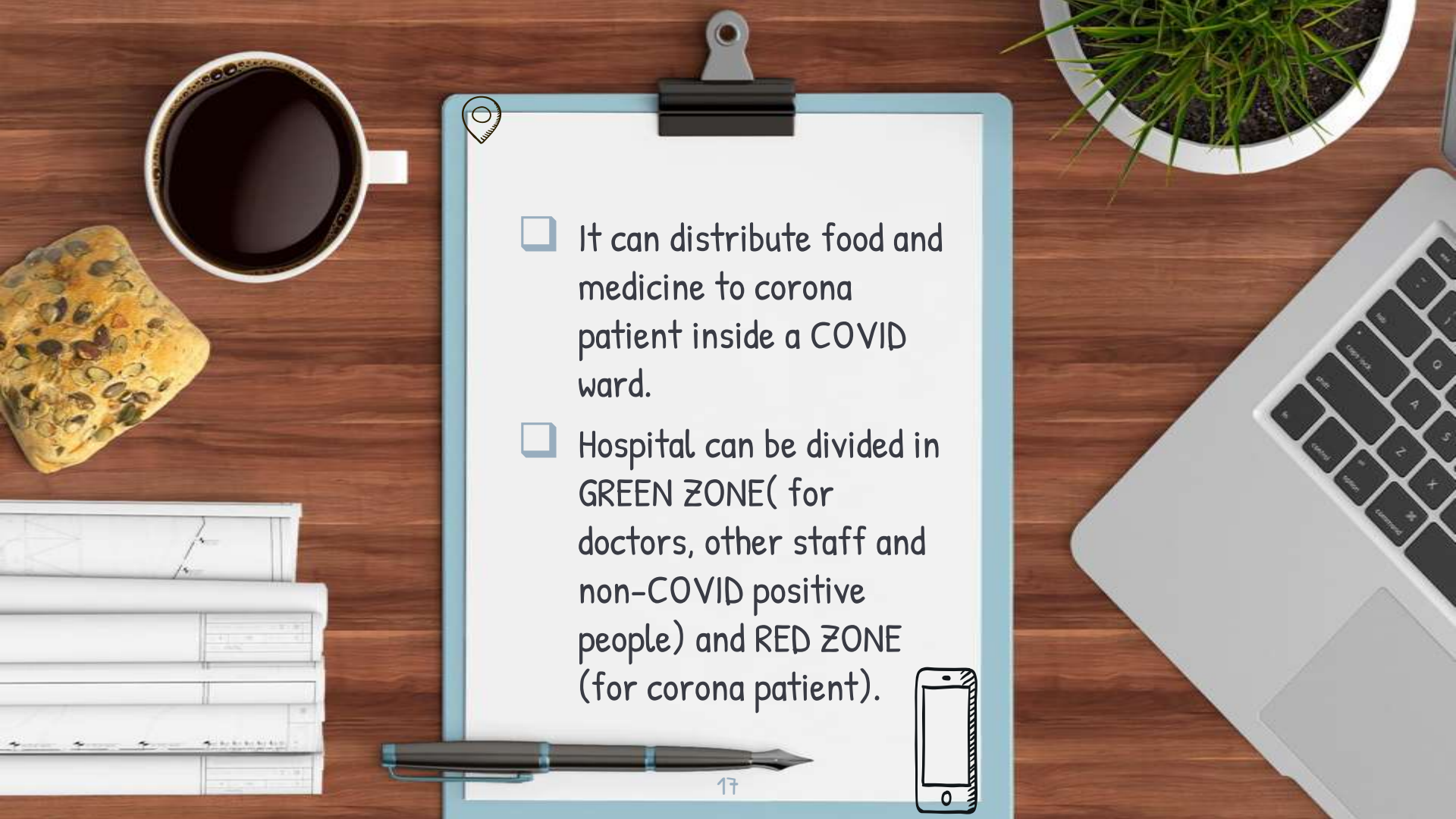




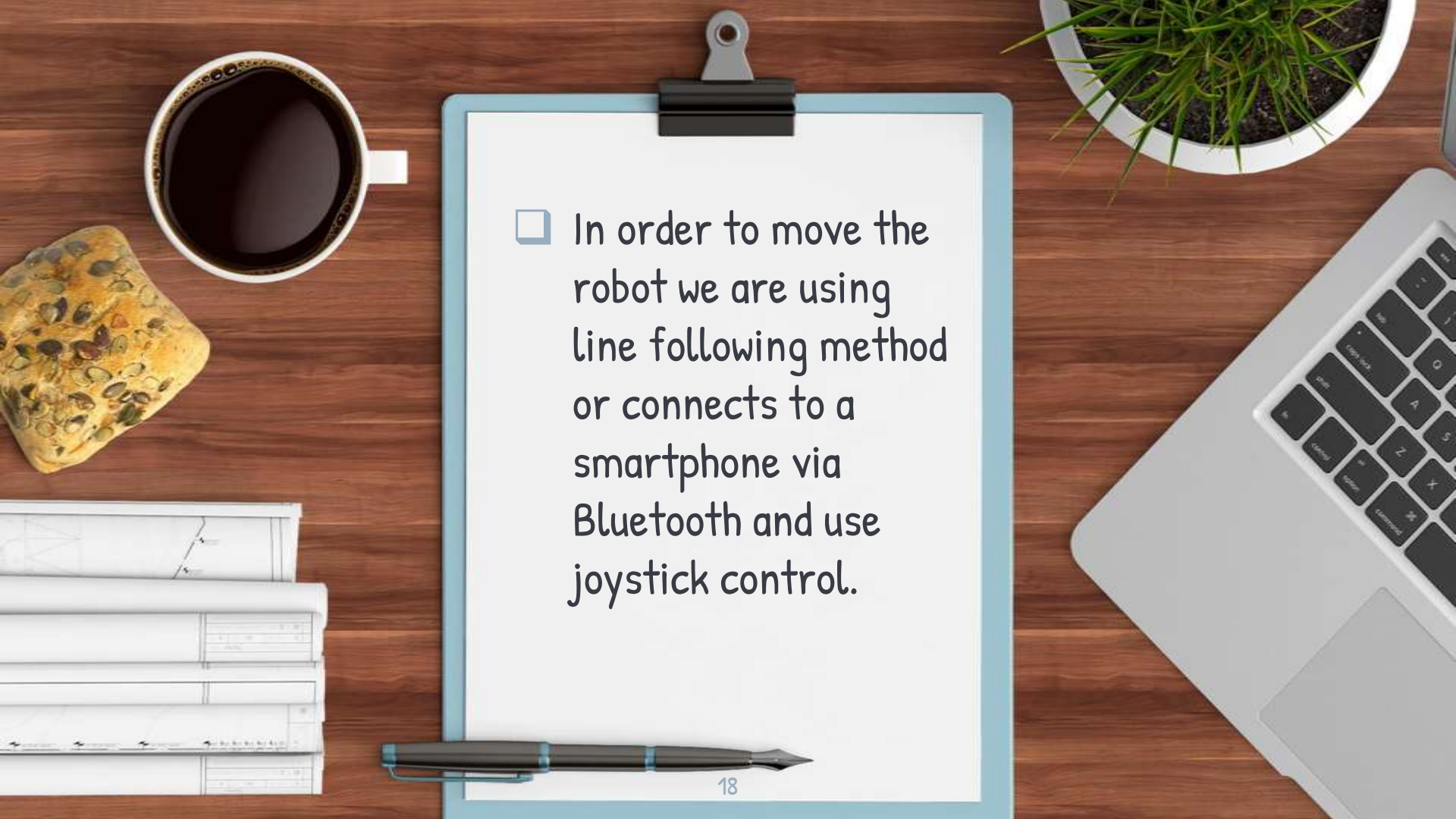
FEATURES OF M-BOT

- ❑ This robot can help frontline COVID-19 warriors – nurses, doctors and other health care staff to avoid direct contact with patient and being exposed to the virus.



- 
- ☐ It can distribute food and medicine to corona patient inside a COVID ward.
 - ☐ Hospital can be divided in GREEN ZONE(for doctors, other staff and non-COVID positive people) and RED ZONE (for corona patient).

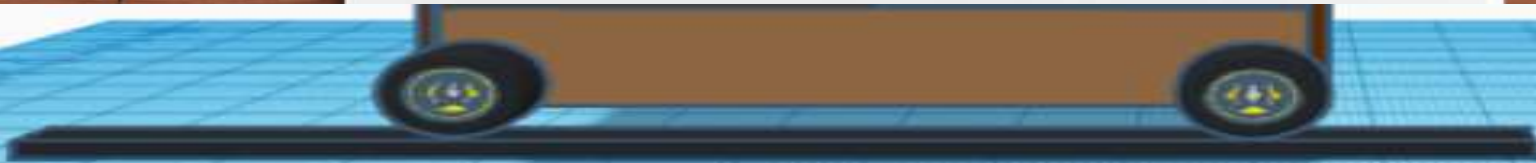


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- ❑ In order to move the robot we are using line following method or connects to a smartphone via Bluetooth and use joystick control.



LINE FOLLOWING METHOD

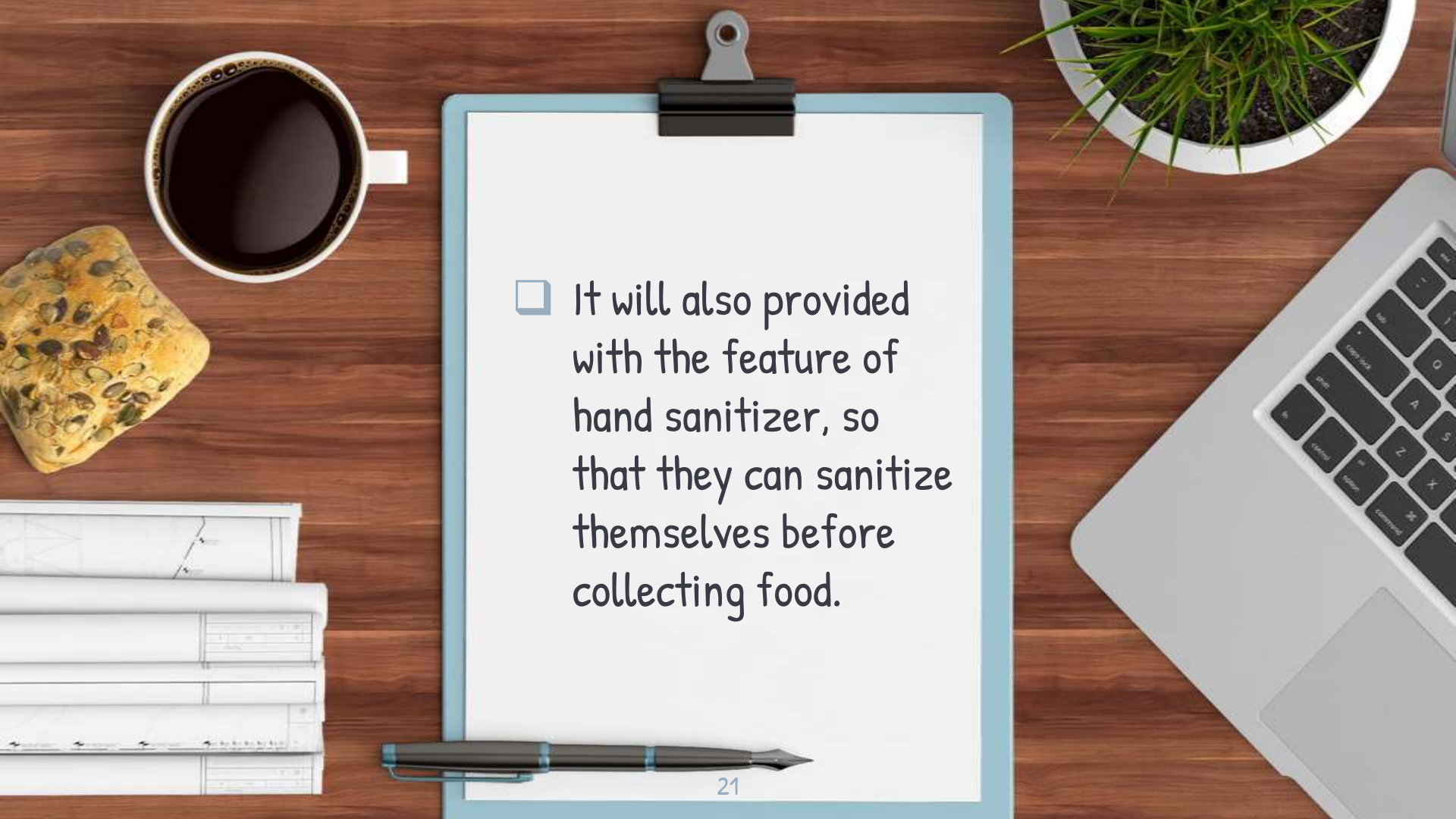
Line following method can be defined as, a robot which follows a particular path or trajectory and decides its own course of action which interacts with obstacles. The path can be a black line on the white floor. The workings of the line following robot are pretty straightforward. These robots will have the capability to detect a black or dark line on a lighter surface depending on the contrast. It will use an array of IR (infrared) sensors in order to calculate the reflectance of the surface beneath them. For this method, the line following sensor is an add-on for our robot that gives our robot the ability to detect lines or nearby objects. The sensor works by detecting reflected light coming from its own infrared LED.

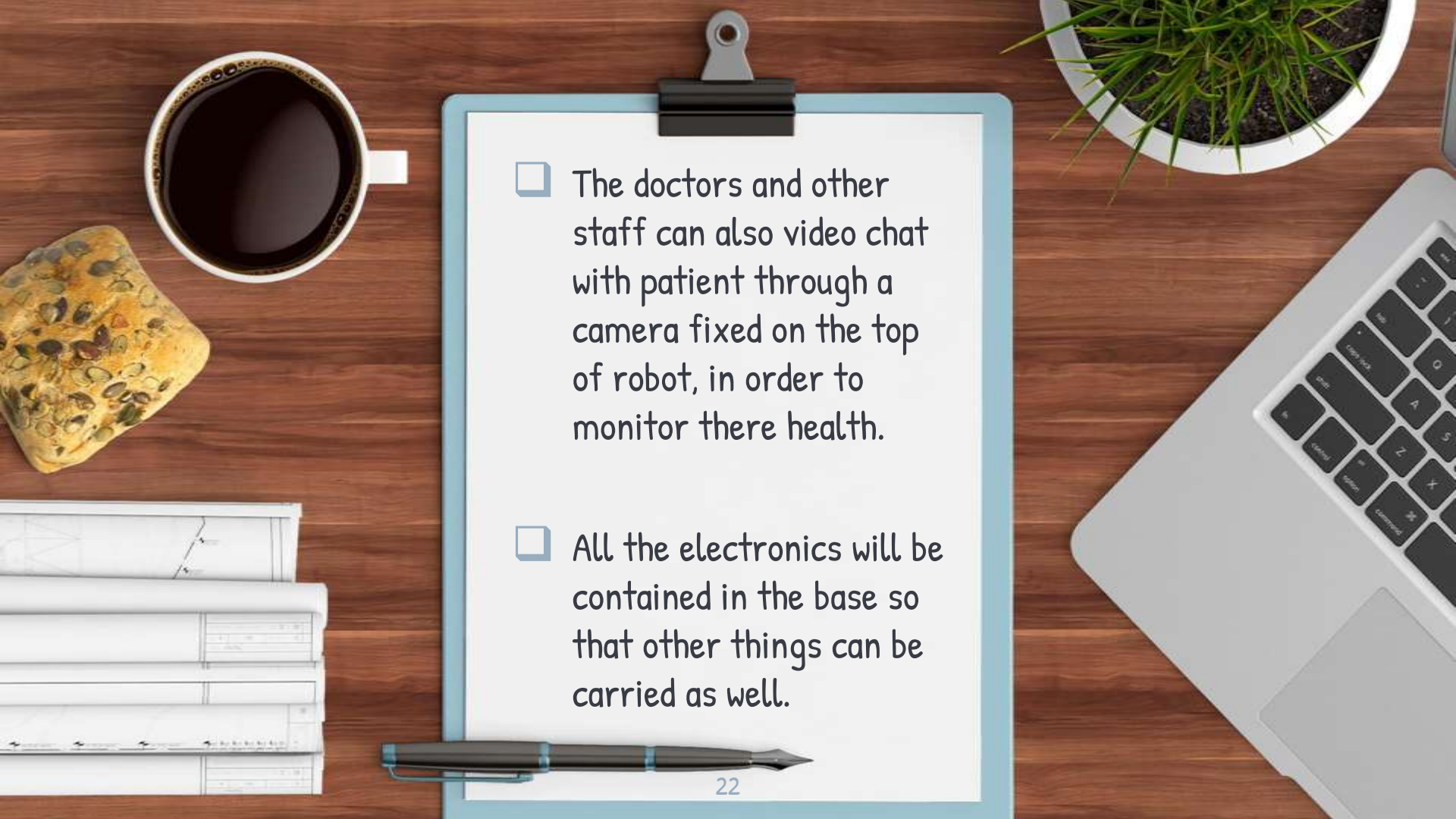


ARDUINO UNO



Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online.

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- ❑ It will also provided with the feature of hand sanitizer, so that they can sanitize themselves before collecting food.

- 
- ☐ The doctors and other staff can also video chat with patient through a camera fixed on the top of robot, in order to monitor there health.
 - ☐ All the electronics will be contained in the base so that other things can be carried as well.

MATERIAL & COST



Motor x 4

1000 Rs.



Arduino UNO

577 Rs.



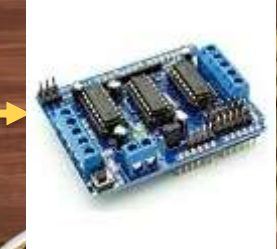
IR sensor x 2 & Female jumper wire

199 Rs.



Wheels x 4

300 Rs.



Motor driver

110 Rs.



Wires

100 Rs.



Body

500 Rs.

Phone

1300 Rs.



Total

5000 Rs.

LINKS FOR MATERIAL

Sr. no.	Links
1.	https://amzn.to/3rE5K3J
2.	https://amzn.to/36VKLBB
4.	https://amzn.to/3rF9Uly
5.	Electronicspices Self Locking Switch, DC 260V 1.5 A Tactile Tact Switch 2Pin On Off Push Button Switch DIY Electronics Accessories - Pack of 5: Amazon.in: Industrial & Scientific
6.	https://amzn.to/2Z6B3lh
7.	https://amzn.to/2MREobE



THANKYOU



Special Thanks To:-

Prof. Rajlaksmi nayak

Prof. Tanmoy Deb

Prof. Bhargav Prajwal Pathri

Prof. Dhruv Saxena

-M6



QUESTIONS?