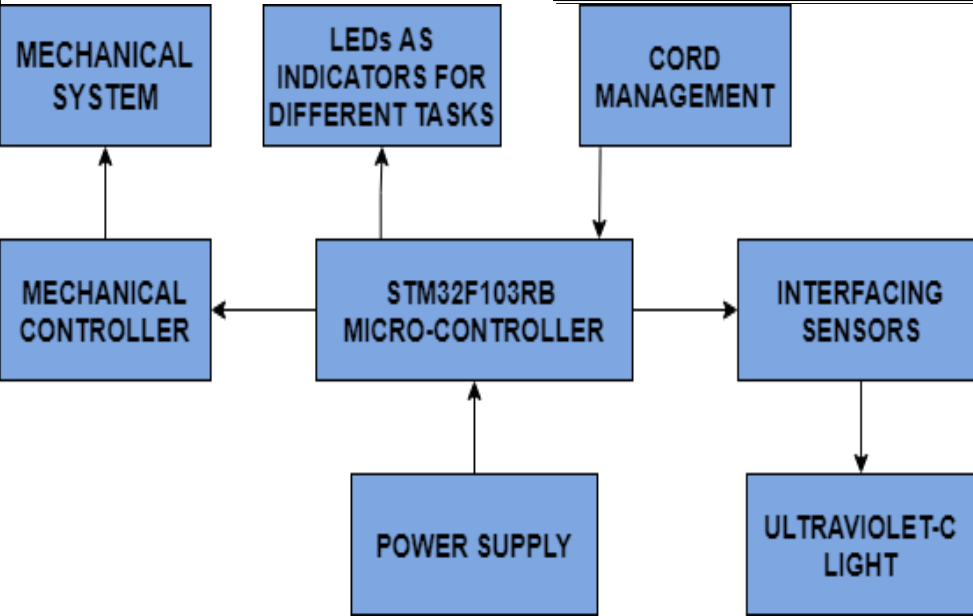




SEMI-AUTONOMOUS UV-C DISINFECTANT ROBOT

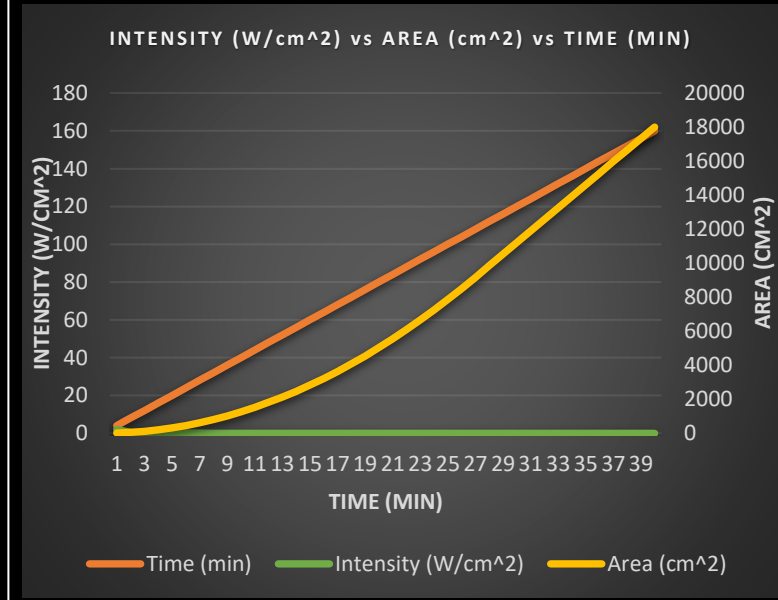
OBJECTIVE

To create a system which can automatically and intelligently travel and disinfect the surroundings using UV-C light.



Results and Safety:

- Ω UV-C light emits $4.485 \frac{mJ/s}{cm^2}$.
- Ω Requires 4 minutes to disinfect $1 cm^2$.
- Ω Keep out of reach of children.



- ### Design Specifications:
- Ω Travels at a speed of 0.25 cm/minute.
 - Ω Uses a 25W 110V UV-C light to disinfect surroundings.
 - Ω Turns off the UV-C light when motion is detected.
 - Ω Winds and unwinds the power cord at (10 ± 1) RPM.
 - Ω Maintains a safe distance of (10 ± 1) cm from the obstacles.
 - Ω Size of the robot is 60.96 x 33.02 x 43.18 cm.
 - Ω Weight of the robot is approximately 40 lbs.
 - Ω Indoor use only.

Electrical Specifications

Operating Voltage for UV-C Light	Operating Voltage for Motors	Operating Voltage for Sensors	Operating Temperature	Operating Power
120 VAC	24 VDC, 15 A	3.3 – 5 VDC	-20°C to 70°C	400 W

Project Advisor: Douglas T. Wagner

Team Members: Gunjeet Dhaliwal | Gurinder Brar | Precious Wangwe | Vitalli Andriievskiy