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## DIRT DEFENDER CEILING FAN

### ABSTRACT

**Dirt Defender Ceiling Fan system**, a revolutionary solution for the hassle of cleaning fan blades in homes and commercial places. This innovative system utilizes advanced sensors to detect dust accumulation, triggering a dedicated mobile app for user control. The system's integrated dust collection mechanism efficiently stores the removed dust. This practical approach ensures fan blades remain dust-free, without the usual cleaning challenges.

### UNIQUENESS

- Cleaning Mechanism
- Dust Collection
- Secure Communication with sensors
- User-friendly

### METHODOLOGY

The Methodology uses sensors(LDR and IR) on fan blades for dust and edge detection, communicating with a central control unit(ESP32). A motor-driven cleaning mechanism ensures effective cleaning based on algorithms and Integration of a Telegram bot enables remote control via simple commands.

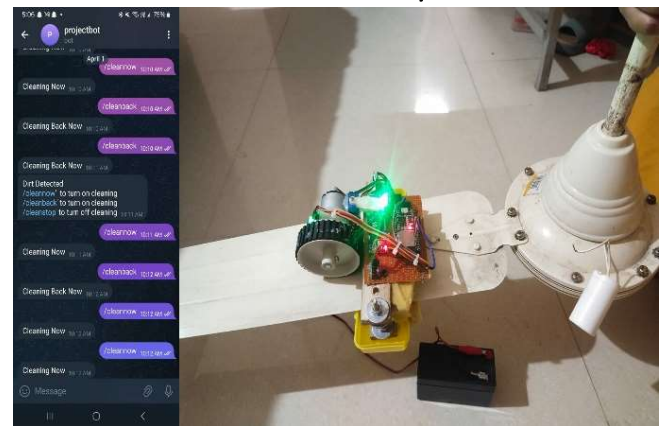
### SOCIETAL USE

The Dirt Defender Ceiling Fan system addresses key SDGs like [SDG-3](#), [SDG-11](#) related to health, innovation, sustainable infrastructure, and responsible consumption, making it a valuable contribution to sustainable development efforts. It has significant societal benefits by improving indoor air quality, reducing allergens and dust particles circulated by ceiling fans. This leads to a healthier living environment especially for individuals with respiratory conditions.

### Dirt Defender



### Results & Analysis



### REFERENCES

- [1] P. S. M. S. H. H. S. S. Shariffudin, M. B. Abdul Razak and M. H. Mamat, "Iot enabled vacuum cleaner using arduino", IEEE Access, pp. 1–6, 2023.
- [2] R. T. B. A. B. Soran and P. Kirci, "Designing a smart vacuum cleaner", IEEE Access, pp. vol. 2, pp. 217–220, 2021.

### GITHUB LINK

<https://github.com/Anika-Reddy/Dirt-Defender-Ceiling-Fan>



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