Blazing Sensor

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Problem Statement

•The project aims to alert authorities of potential wildfires and minimize damage.

•Potentially save the lives of firefighters and citizens.

•The goal of the project is to preserve the wildlife and protect our forests from wildfires.

Background

- Over 7 millions acres of wildfire were consumed by fires in the US in 2021.
- Prediction suggest that the number of extreme fires globally will increase to 14% by 2023, 30% by 2050, and 50% by 2099.
- Wildfires accounted for over $11.2 billion in damage across the United States between 2021-2022.

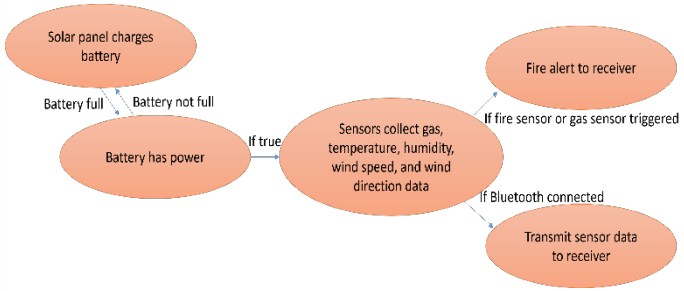
Golden Circle

Why: To prevent wildfires and protects lives, forest, and wildfire through innovative sensing technology.

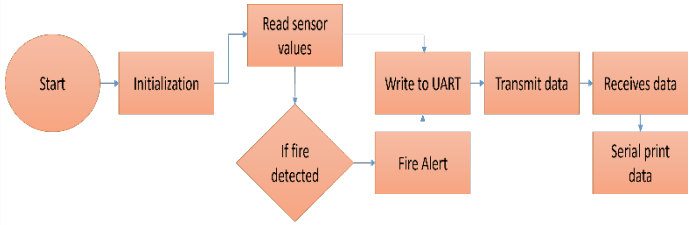
How: By developing a pre-forest fire detection system using sensors, along with GPS and wireless technology for efficient communication.

What: A cutting-edge technology solution that provides early wildfire detection and prediction, enhancing the safety and efficiency of firefighting efforts.

Finite State Machine

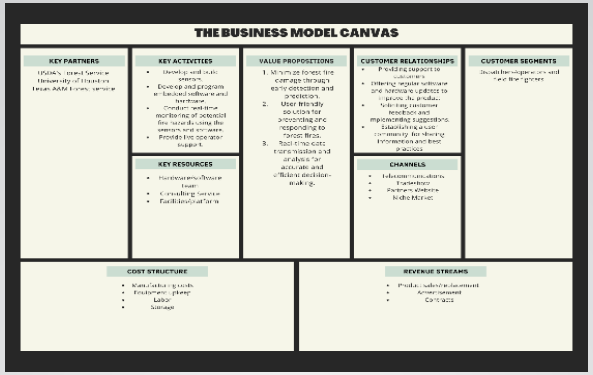


Block Diagram



Design Description

Business Model



Global & Societal Impact

• Help reduce the devastating effects of wildfires, which causes billions of dollars in damages and threaten communities worldwide.

•By providing early detection and prediction of wildfires, our technology can save lives, protect homes and businesses, and preserve natural resources for future generations.

Result & Conclusion

- Developed and tested a pre-fire detection system using Arduino and various sensors
- Real-time Bluetooth communication between master and slave modules allows quick response to potential fire hazards.
- Accurate real-time data collected by the sensors provide valuable information for early detection and wildfire prevention.

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