Idea/Approach Details

Introduction:

The "Urban Wind Energy Revolution" project is a visionary endeavor aimed at addressing the critical need for clean and sustainable energy sources in urban environments. As urbanization accelerates and environmental concerns grow, there is a pressing demand for innovative solutions that can harness wind energy efficiently while seamlessly integrating into the fabric of modern cities. This project centers on the development and integration of Small-Scale Vertical Axis Wind Turbines (VAWTs) as a game-changing approach to meet these demands.

Our solution:

Compact Omnidirectional Power Generation: Vertical Axis Wind Turbines (VAWTs) offer a compact and versatile design, capable of capturing wind from all directions. This unique feature makes them ideal for urban environments with unpredictable wind patterns, maximizing energy production efficiency.

Integration with Urban Infrastructure: VAWTs can be seamlessly integrated into existing urban infrastructure, such as roads, railways, and public spaces. This integration optimizes land use and minimizes visual impact, allowing cities to harness clean energy without sacrificing valuable space.

Enhanced Accessibility and Affordability: By advocating for supportive policies, fostering local business growth, and standardizing VAWT models, this solution aims to make wind energy more accessible and affordable for urban communities. This commitment to affordability sets it apart, ensuring a cleaner and greener urban future for all.

Technology Stack

Hardware:
(Tools & Technology)

- DC Generator
- Inverter
- Aluminium Sheet
- Reduction Gearbox
- Fly Wheel

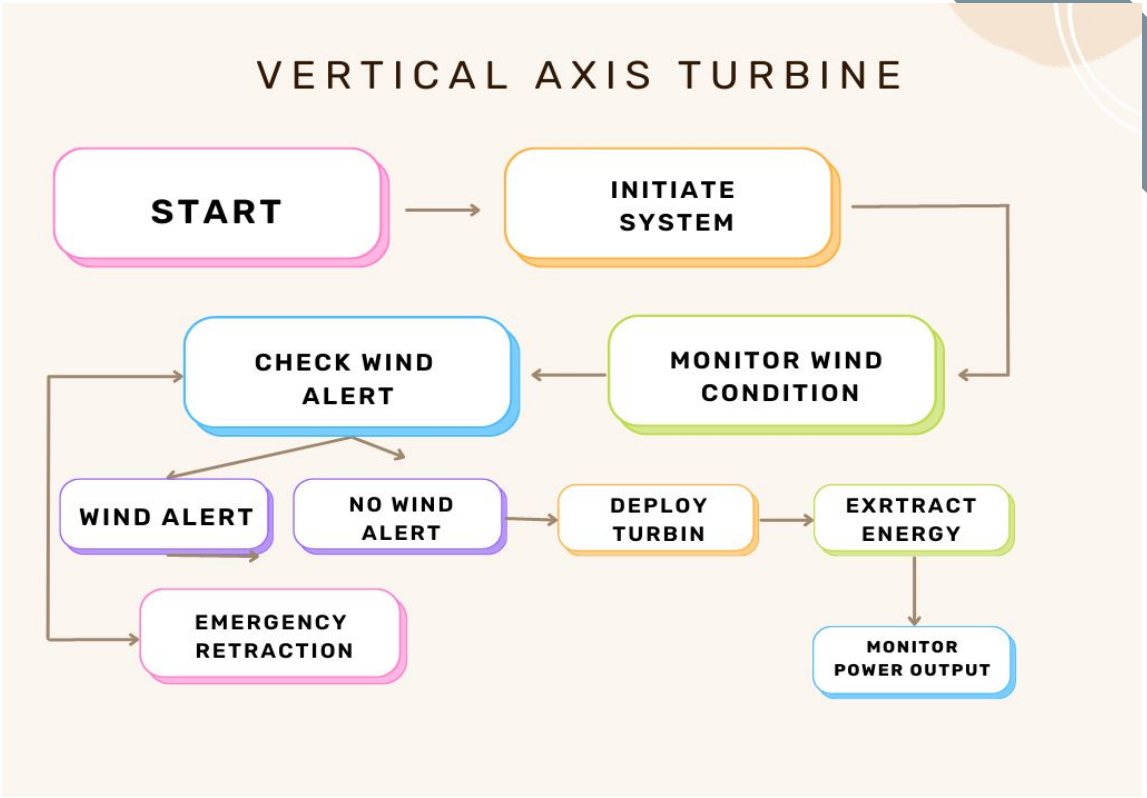
Software:
(Monitoring System)

- Raspberry pi
- Sensor technology
- HTML
- CSS
- React JS
- MangoDB

सत्यमेव जयते
GOVERNMENT OF GUJARAT

SolidWorks

Workflow :


VERTICAL AXIS TURBINE
START
INITIATE SYSTEM
CHECK WIND ALERT
MONITOR WIND CONDITION
WIND ALERT
NO WIND ALERT
DEPLOY TURBIN
EXRTRACT ENERGY
EMERGENCY RETRACTION
MONITOR POWER OUTPUT

Model Diagram :

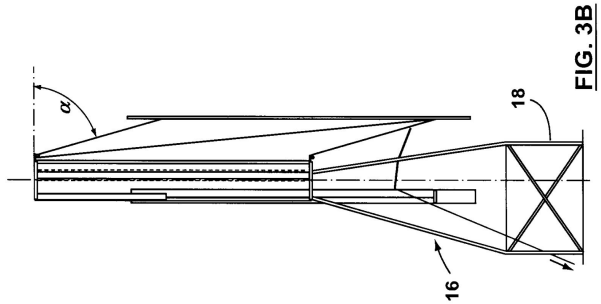


FIG. 3B

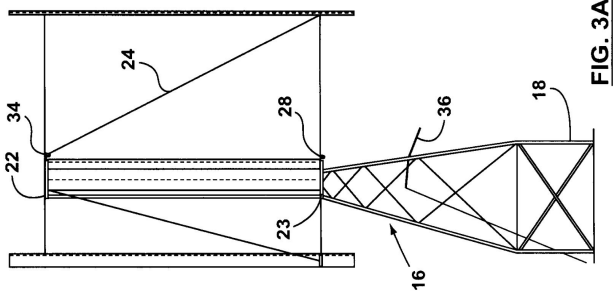


FIG. 3A

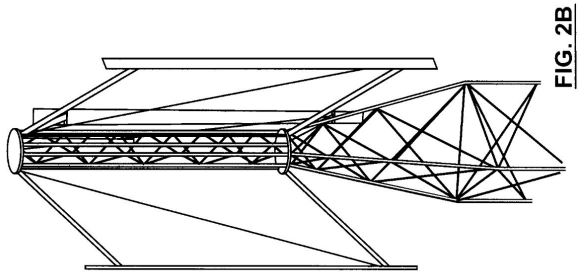


FIG. 2B

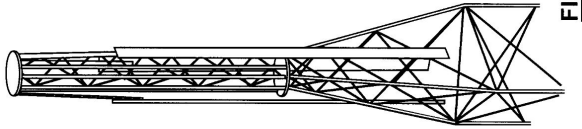


FIG. 2A

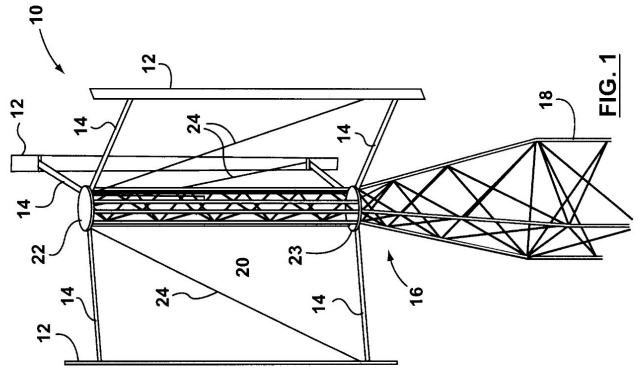


FIG. 1

Model Diagram :

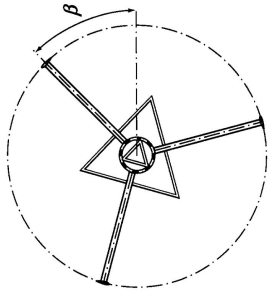


FIG. 8

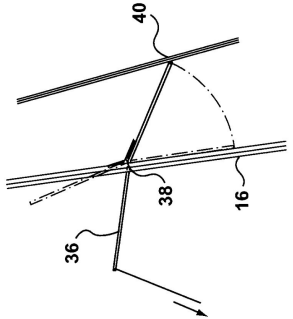


FIG. 7

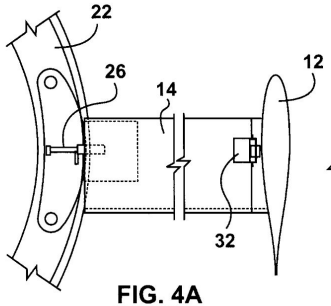


FIG. 4A

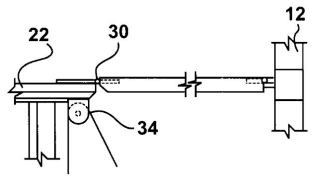


FIG. 4B

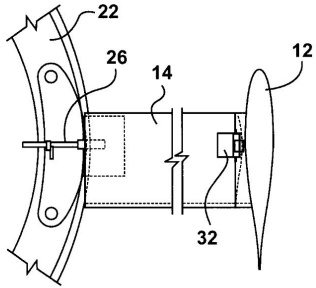


FIG. 5A

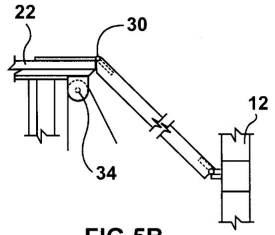


FIG.5B

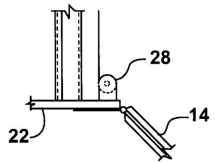
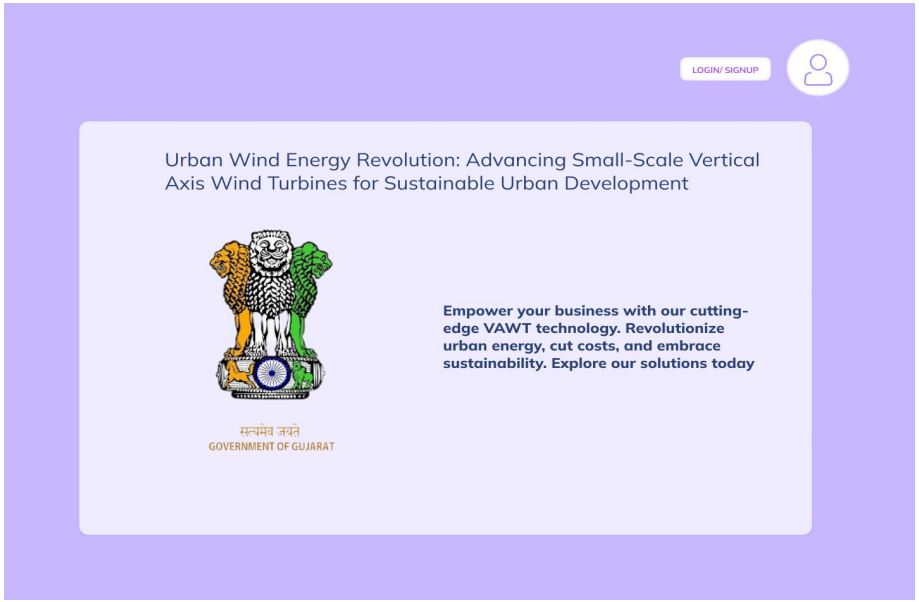
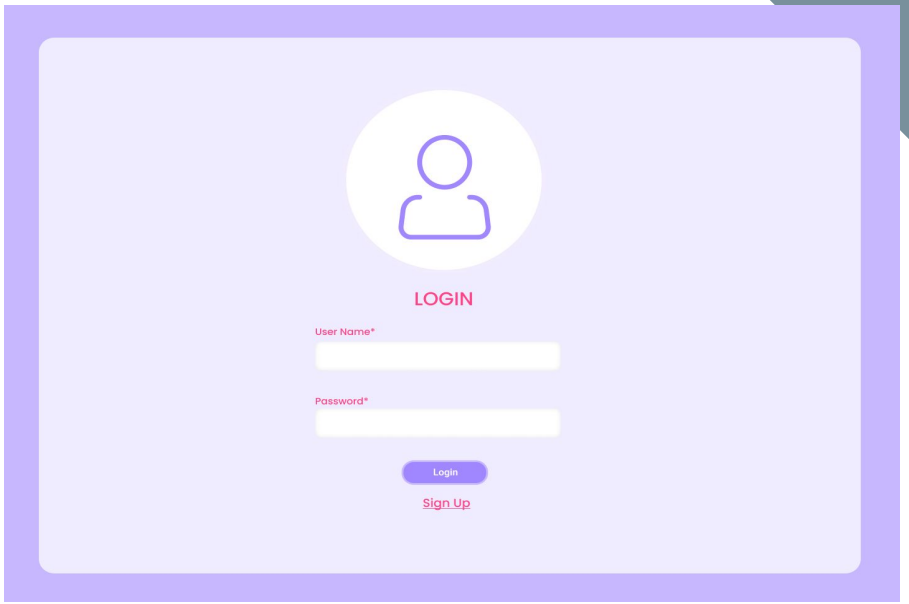


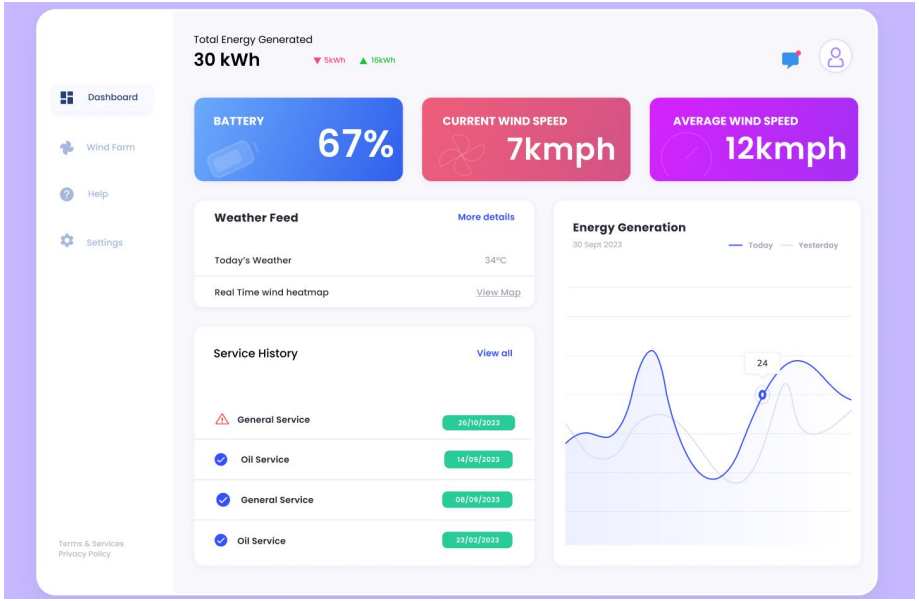
FIG. 6

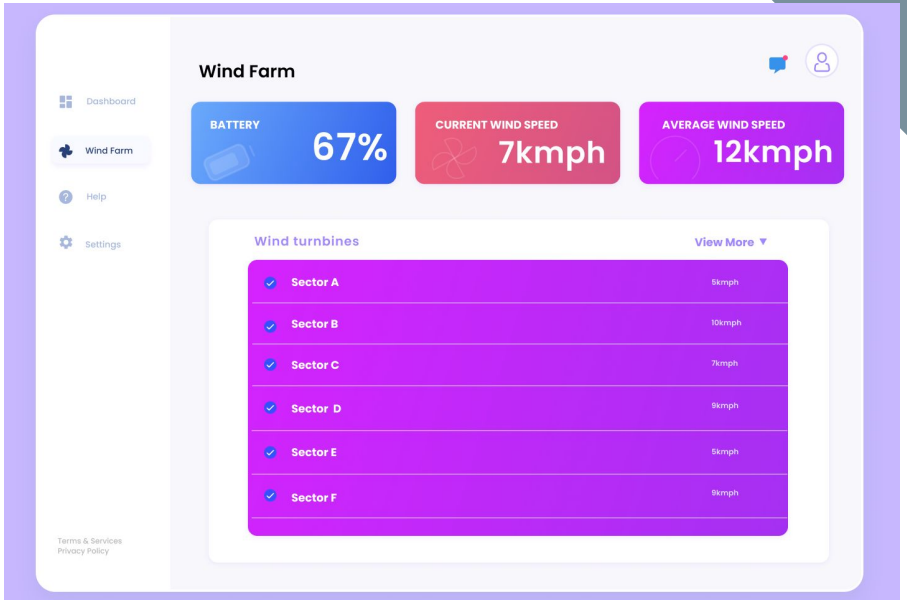
Website :


LOGIN/ SIGNUP
Urban Wind Energy Revolution: Advancing Small-Scale Vertical Axis Wind Turbines for Sustainable Urban Development
सत्यमेव जयते
GOVERNMENT OF GUJARAT
Empower your business with our cutting-edge VAWT technology. Revolutionize urban energy, cut costs, and embrace sustainability. Explore our solutions today


LOGIN
User Name*
Password*
Login
Sign Up

Website :


Total Energy Generated
30 kWh
▼ 5kWh ▲ 16kWh
Dashboard
Wind Farm
Help
Settings
BATTERY
67%
CURRENT WIND SPEED
7kmph
AVERAGE WIND SPEED
12kmph
Weather Feed
More details
Today's Weather
34°C
Real Time wind heatmap
View Map
Service History
View all
General Service
26/10/2023
Oil Service
14/09/2023
General Service
08/09/2023
Oil Service
23/02/2023
Energy Generation
30 Sept 2023
Today
Yesterday
24
Terms & Services
Privacy Policy


Wind Farm
Dashboard
Wind Farm
Help
Settings
BATTERY
67%
CURRENT WIND SPEED
7kmph
AVERAGE WIND SPEED
12kmph
Wind turnbines
View More
Sector A
5kmph
Sector B
10kmph
Sector C
7kmph
Sector D
9kmph
Sector E
5kmph
Sector F
9kmph
Terms & Services
Privacy Policy