

Adityaraj Patil - Project Portfolio

DefendHer - Women Safety Device

Problem Statement: Women face increasing threats to their safety during travel or in vulnerable situations, lacking a quick self-defense and alert system.

Solution: A wearable device that sends live GPS location to registered contacts, triggers an emergency buzzer, and activates a shock circuit for self-defense when a panic button is pressed.

Tech Stack: Arduino Uno, SIM900A GSM Module, GPS NEO-6M Module, buzzer, self-defense shock circuit

Use Case: Used by women for personal safety during travel or in isolated areas.

Estimated Price: Approx. cost: INR 1500 - INR 2000

Take It Easy - Engineering Roadmap Platform

Problem Statement: Students often lack clear guidance for planning their engineering career path and domain specialization.

Solution: A web portal that provides curated roadmaps, domain insights, and study materials for engineering students.

Tech Stack: HTML, CSS, JavaScript, React.js

Use Case: Helps students plan their academic and career paths effectively.

Estimated Price: Approx. cost: Domain + Hosting ~ INR 2000/year

QR Shield - Payment Scam Protector

Problem Statement: Fake QR codes and fraudulent transaction IDs are increasingly used to scam customers and businesses.

Solution: A smart scanner device that scans QR codes and verifies transaction IDs to detect mismatches and alert the user with a buzzer.

Tech Stack: Arduino Uno, QR Code Scanner Module, SIM900A GSM Module, buzzer

Use Case: Small businesses and delivery agents can verify payments before confirming orders.

Estimated Price: Approx. cost: INR 1000 - INR 1500

Color-Detecting Robotic Arm

Problem Statement: Manual sorting of colored objects is time-consuming and prone to human error.

Solution: A robotic arm that detects block colors using a sensor and sorts them accordingly with servo motors.

Tech Stack: Arduino Uno, TCS3200 Color Sensor, 4 Servo Motors

Use Case: Used for automation in packaging and sorting industries.

Estimated Price: Approx. cost: INR 2000 - INR 2500