SOIL COMPOSITION CONTROL

TEAM 4

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Domain Analysis

21% of Moldova’s workforce is employed in agriculture

60.5% of Moldova's arable land area is affected by soil degradation

Problem Definition

- Soil Degradation
- Inefficient fertilizer use
- Climate-induced fluctuations

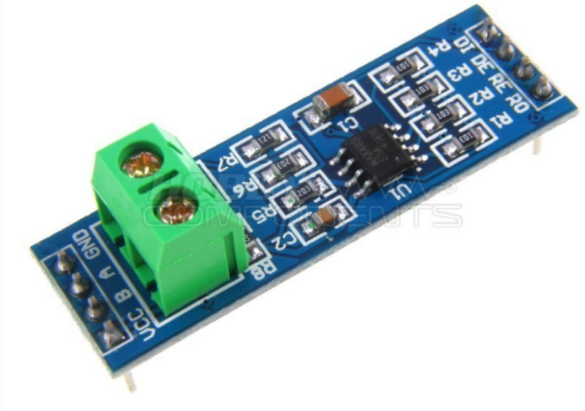
These issues combine to threaten agricultural productivity, national food security, and the long-term sustainability of farming in Moldova.

Solution

- Functional lot soil monitoring system with integrated sensors
- Cloud-based data visualization dashboard
- Web application for user access
- Secure data storage and analytics module

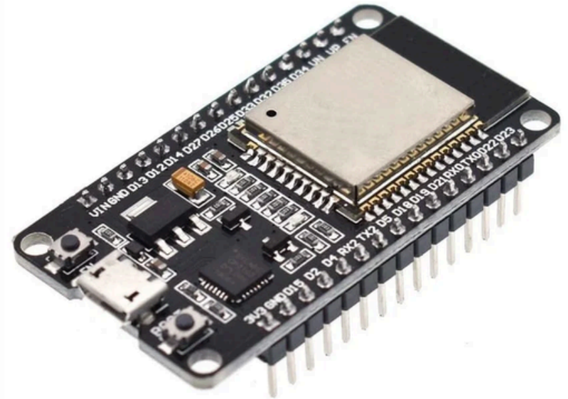
Hardware Components

RS485 Transceiver Module



Soil Multi Parameter Sensor

ESP32



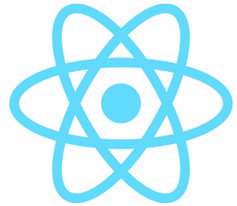
The Soil Multi Parameter Sensor collects real-time soil data, the RS485 Transceiver Module transmits this data reliably over long distances to the ESP32, which processes and sends the information wirelessly for monitoring and automated soil management.

Tools to Use

Backend

Cloud Platform

Frontend



THANK YOU!