Project Title:

A-REC: An automated solution to REC

TEAM NO.: 2

NAMES OF THE STUDENTS PARTICIPATED IN THE
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Project Details and problem statement:

The government issues a REC(Renewable energy certificate) when 1MWh of energy generated through RERs is inserted into the grid. At least a plant that produces more than or equal to 10MWh of energy is issued the certificate. The government handles the verification and certificate distribution.

The transactions of RECs only happen on the last Wednesday of the month. It starts at about 1 pm and continues till about 6 pm. The verification of the transaction and audit was previously done by a government organization called IEX(Indian Energy Exchange), but according to the new policy issued in 2021 by GOI, the need for a 3rd party in the transaction is not necessary. Yet, the tracking of energy and RECs is still an issue, which can be resolved.

Problem Statement:

Automation in the process of the REC.

Need of Project:

- Bring automation.
- Introduce a tracking system.
- Introduce security.
- Create awareness.

Proposed Solution:

1. Smart sensor tracking system.
2. Better trading interface.

Technology Used:

- SQL-DBMS
- JS-Front end
- HTML-Front end
- CSS-Front end
- DJANGO-ML model application
- ML-Find best price
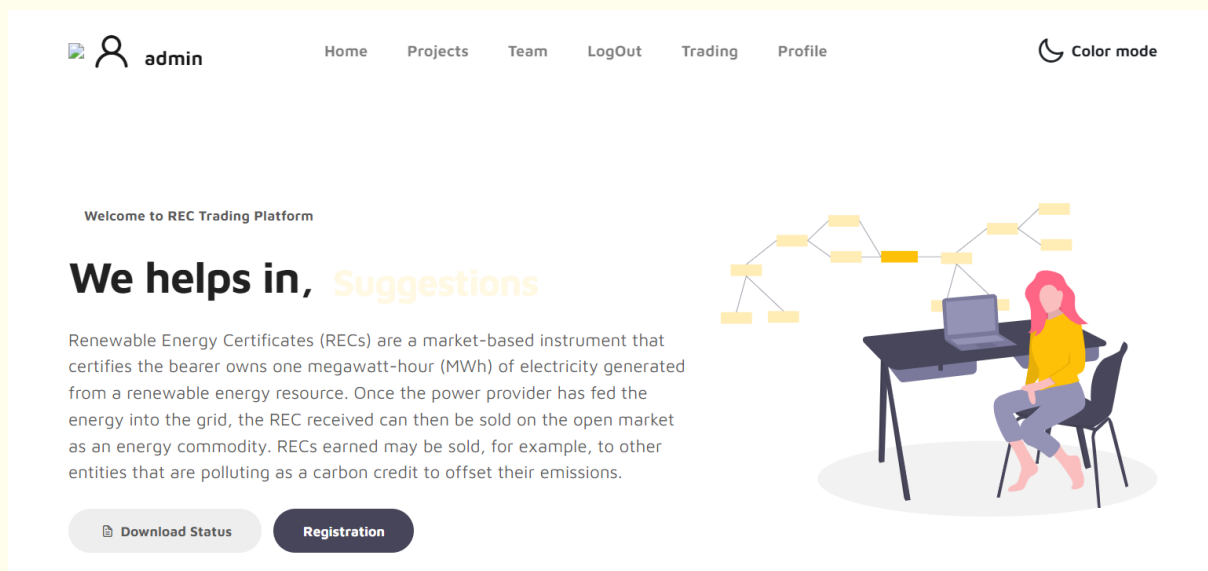- BLOCKCHAIN-Security and tracking
- NODE-RED-Analytics

Project Outcomes:

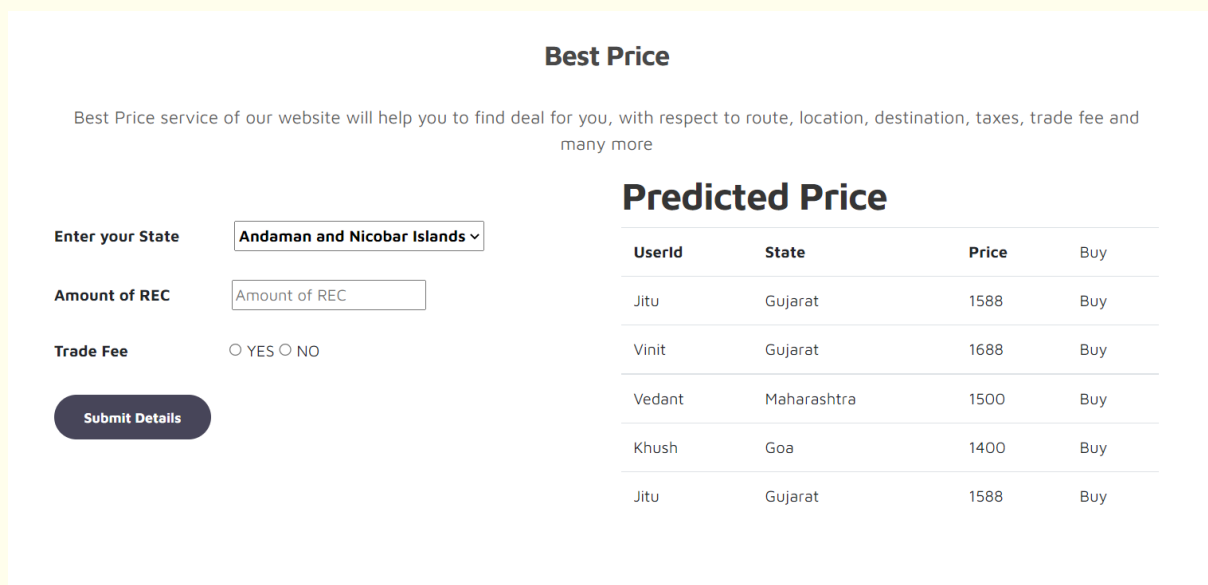Better interface with updates of ML model and blockchain implementation.

Modeling:

- Obtain Dataset
- Preprocessing
- Test-train split
- Linear regression modeling for best price determination.

Results:

Best Price

Best Price service of our website will help you to find deal for you, with respect to route, location, destination, taxes, trade fee and many more

Enter your State	Andaman and Nicobar Islands ∨
Amount of REC	Amount of REC
Trade Fee	○ YES ○ NO

Submit Details

Predicted Price

UserId	State	Price	Buy
Jitu	Gujarat	1588	Buy
Vinit	Gujarat	1688	Buy
Vedant	Maharashtra	1500	Buy
Khush	Goa	1400	Buy
Jitu	Gujarat	1588	Buy

Future scope for project enhancement:

- File Sharing
- Blockchain
- Better Concentration Ratio