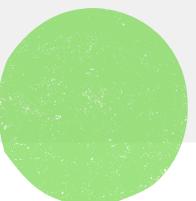


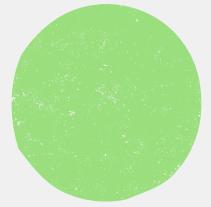
## **start2impact - Final Project - Blockchain Developer**

Design a platform to manage a charitable auction of electric vehicles and write on block chain the result for each action.

# MICROMOB



MicroMob Charity EV Auction

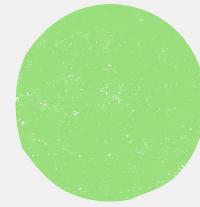


# MicroMob

## Key Requirements:

- Design a user-friendly bidding mechanism, enabling participants to bid on any auction active;
- Use a very fast database to manage the various bids, such as Redis, and then store the outcome of the auction, like all other user data, in a relational database;
- Development of an auction posting and creation interface accessible only for the Admin user;
- Implementation of write on blockchain procedure in order to archive information for concluded auctions with all the relative informations.





# django Web App

MicroMob Charity EV Auction was built with Django.

Django is a high-level Python web framework that simplifies and accelerates the process of building web applications. It follows the model-view-controller (MVC) architectural pattern, which in Django's case is often referred to as the model-view-template (MVT) pattern. This framework provides a robust set of tools, libraries, (like web3) and conventions that help developers create complex web applications efficiently and with good coding practices.

With Django we implemented:

1. Dynamic Auctions Display;
2. Redis interaction to manage the bid auction;
3. User Registration and Login Forms;
4. Admin-exclusive Auction Creation Page;
5. Web3 Library to write on chain the result of Auctions;

MicroMob - Charity EV Auctions

Active Auction Closed Auction Auctions Won Create New Auction Log Out

Signed in as: **marirossi**.

**Active Auctions:**

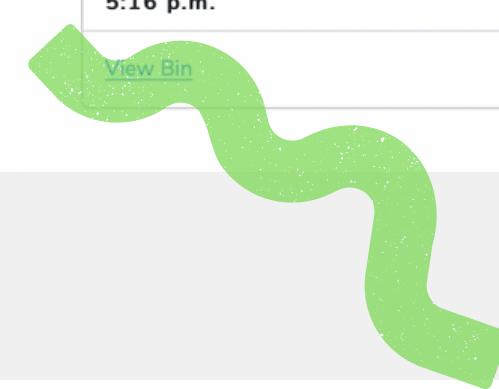
"Join us for a greener future! Bid on electric vehicles in our time-limited charity auctions and support worthy causes while driving innovation. Your bids drive change!"

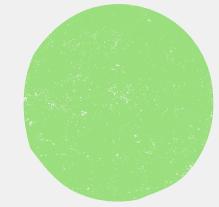
A white and green electric scooter with glowing green wheels.

A small, compact green and black electric car.

A red and black city bike.

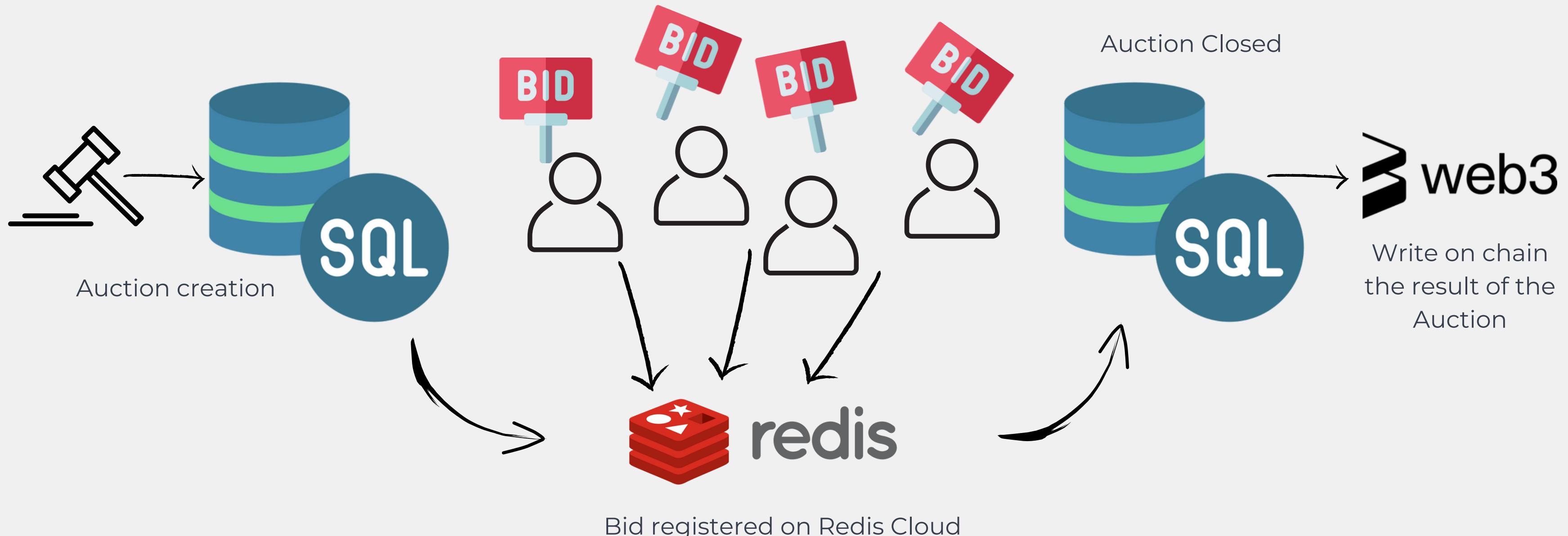
EcoScoot 2024	GreenGo X1	EcoPedal X1
The EcoScoot 2024: A green revolution on two wheels. This fully electric micro scooter is your ticket to effortless and eco-friendly urban mobility in 2024. Glide through the city in style with its sleek green design, while knowing you're contributing to a cleaner tomorrow.	Introducing the GreenGo X1 by MicroMob – the epitome of eco-friendly urban mobility. Zip through the city effortlessly in this compact electric wonder, designed for a greener future.	Meet the EcoPedal X1 from MicroMob – a city bike reimagined for green urban mobility. Glide silently through city streets, powered by pedal and purpose, as you champion a cleaner, more connected tomorrow.
Status of Auction: <b>Active</b>	Status of Auction: <b>Active</b>	Status of Auction: <b>Active</b>
Started on: Aug. 26, 2023, 5:25 p.m.	Started on: Aug. 26, 2023, 4:08 p.m.	Started on: Aug. 26, 2023, 4:46 p.m.
Will close on: Aug. 31, 2023, 3:52 p.m.	Will close on: Aug. 31, 2023, 4:08 p.m.	Will close on: Aug. 31, 2023, 5:16 p.m.
<a href="#">View Bin</a>	<a href="#">View Bin</a>	<a href="#">View Bin</a>

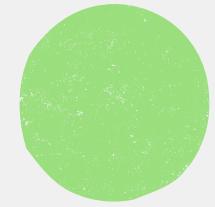




## Database Manage

The Django app use standard Sql DB to store all the data relative to Auction Items, at the beginning and at the end of each Auction, and implement Redis Cloud to manage the various bids from the users.





# Register/Login Page

To bid the Auctions each user should be register to the app and login trough the Register and Login form.

MicroMob - Charity EV Auctions

Active Auction Closed Auction Log In Register

User not signed in. Please log-in to partecipate at the auction.

Register new user:

Username:  Required. 150 characters or fewer. Letters, digits and @/./+/-/\_ only.

Email address:

Password:

• Your password can't be too similar to your other personal information.  
• Your password must contain at least 8 characters.  
• Your password can't be a commonly used password.  
• Your password can't be entirely numeric.

Password confirmation:  Enter the same password as before, for verification.

Already have an account? [Log In here.](#)

MicroMob - Charity EV Auctions

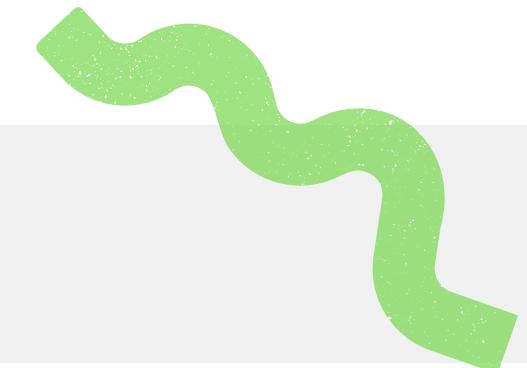
Active Auction Closed Auction Log In Register

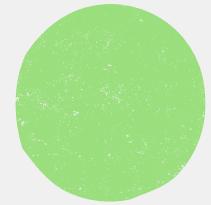
User not signed in. Please log-in to partecipate at the auction.

Login

Username

Password





# Create Page

In order to respect the Key Requirement, it was developed in the app an auction posting and creation interface accessible only for the Admin user.

MicroMob - Charity EV Auctions

Active Auction Closed Auction Auctions Winned Create New Auction Log Out

Signed in as: **mariorossi**.

Creation of new actions are permitted only to admin. If you are an admin, please, login with ID ad admin password.

MicroMob - Charity EV Auctions

Active Auction Closed Auction Auctions Winned Create New Auction Log Out

Signed in as: **matteofoschi**.

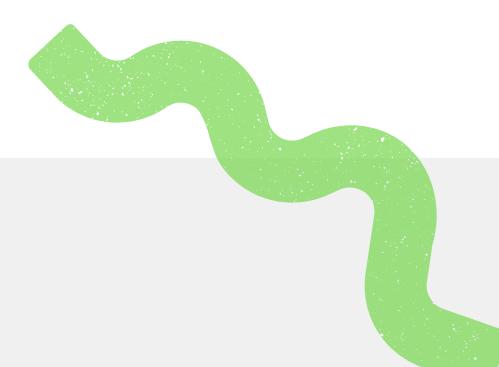
Create new Auction:

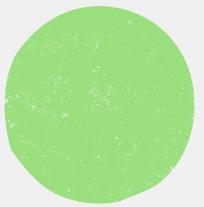
Title:

Description:

StartingBid:

Image url:





# Web3 - Blockchain

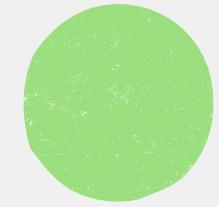
Incorporating the web3 library into MicroMob Django app empowers seamless blockchain interaction. With this integration the app gains the ability to securely compose and dispatch transactions onto the blockchain, In this case on Goerli Test Net.

When the auction will be closed all the information will be store in SQL Database and will be write, using web3 library and this procedure, on the blockchain ETH.

This procedure return a transaction ID that will be show to the users.

```
# Procedure to send the transaction on GOERLI TEST NET
def sendTransaction(message):
    w3 = Web3(
        Web3.HTTPProvider(
            "https://goerli.infura.io/v3/ecadd76dd30247b4bf4fd9238723bba2"
        )
    )
    address = "0x3eDb1E13ae5D632a555128E57052B7662106DEa6"
    privateKey = os.getenv("privateKey")
    nonce = w3.eth.get_transaction_count(address, "pending")
    # w3.eth.get_transaction_count(address)
    gasPrice = w3.eth.gas_price
    value = w3.to_wei(0, "ether")
    signedTx = w3.eth.account.sign_transaction(
        dict(
            nonce=nonce,
            gasPrice=gasPrice,
            gas=100000,
            to="0x000000000000000000000000000000000000000000000000000000000000000",
            value=value,
            data=message.encode("utf-8"),
        ),
        privateKey,
    )

    tx = w3.eth.send_raw_transaction(signedTx.rawTransaction)
    txId = w3.to_hex(tx)
    return txId
```



# Auction Pages

MicroMob - Charity EV Auctions

Active Auction Closed Auction Auctions Won Create New Auction Log Out

Signed in as: **marirossi**.

**Auctions Closed:**

**ElectraCity E1**  
Discover the ElectraCity E1 from MicroMob – an e-bike revolutionizing green urban mobility. Effortlessly navigate the city with electrifying speed while reducing your carbon footprint.

**Status of Auction: Closed**

Closed on: Aug. 26, 2023, 6:57 p.m.

Winned by: **marirossi**

with the best bid: **3480 USD**

TxD of blockchain of this action:  
0x5a5465135813af39b241a131a7e9b16176e65a25c17542d1eaf6c1d6db3cc76e

MicroMob Django app incorporates an array of functionalities designed in order to enhance user experience:

- Closed auction page: a specific page where each user could see all the Auction Closed and check the informations about the last bid price, the winner user and the Transaction ID of transaction wrote on the block chain.
- Win Page: a specific page where user log on could check the Auction won, the price and the Transaction ID of the transaction wrote on the block chain at the end of the auction.

MicroMob - Charity EV Auctions

Active Auction Closed Auction Auctions Won Create New Auction Log Out

Signed in as: **marirossi**.

**Closed Auction that you won:**

**ElectraCity E1**  
Discover the ElectraCity E1 from MicroMob – an e-bike revolutionizing green urban mobility. Effortlessly navigate the city with electrifying speed while reducing your carbon footprint.

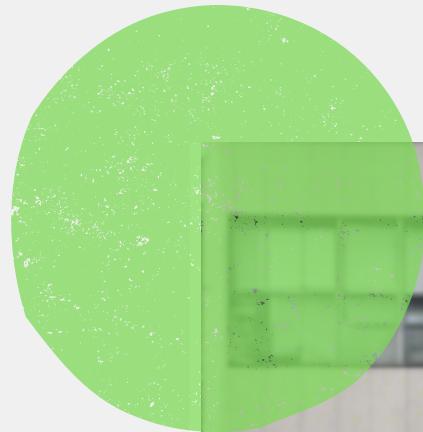
**Status of Auction: Closed**

Closed on: Aug. 26, 2023, 6:57 p.m.

Winned by: **marirossi**

with the best bid: **3480 USD**

TxD of blockchain of this action:  
0x5a5465135813af39b241a131a7e9b16176e65a25c17542d1eaf6c1d6db3cc76e



Happy  
Our happy dog.

# Thank you.

## Link:

-  [Deploy on AWS Server - MicroMob Charity EV Auction](#)
-  [GitHub - https://github.com/matteo-foschi/micromob](#)
-  [Linkedin - www.linkedin.com/in/foschimatteo/](#)

Matteo Foschi - start2impact - Final Project - Blockchain Developer