



# Portfolio Account Manager V3

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# Goal

- Integrate Portfolio Manager with Ethereum Blockchain and provide users with the ability to purchase and sell tokens as well as get rewards (new user, user passed verification, etc.) which in turn will allow the application to be monetized.



# Summary

## Project 3 Summary:

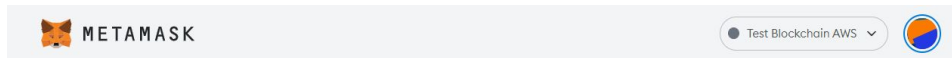
- Public Test blockchain hosted in AWS
- New ERC20 compatible token with extended ownership mechanism
  - Create Token
  - Assign Owners and Admin
  - Purchase token
  - Sell Token
  - Split the Profit between the owners
- TBD - Integration with Portfolio Manager tool



# The Approach

## Techniques that we used to test or evaluate the code.

- Part 1: Using AWS and EC2 instance to create a public test Ethereum blockchain.



- Part 2: Create ERC20 compatible token and define ownership roles to then use in the Portfolio Manager Tool.
- Part 3: Upgrade the Portfolio Manager Tool and support blockchain functionality and roles model for the users.

## Unanticipated insights or problems that arose and how you resolved them.

- **Problem**: How to keep users private keys in the database of the Portfolio Manager Tool safely to be able to restore user wallet to be able to buy and sell tokens.
  - **Solution**: is to store encrypted private key in the database and the corresponding key for the decryption in the environment variable, changing it periodically.
- **Problem**: How to Create a new public test network on the Ethereum Blockchain.
  - **Solution**: Using AWS EC2 instance and Ganache CLI to create a publicly accessible test Ethereum blockchain.

# Results & Conclusion

## Expected Results (after integrating the Blockchain with the Portfolio manager Tool):

- a. Users: After new user signs up, verifies email, and makes any transactions within the portfolio the user is rewarded with some amount of a token.
- b. Owners: Able to make profit from selling tokens and attracting new users using the rewards model.

**Conclusion:** The project goal wasn't completely achieved due to the lack of time.

- Next Step: Integration with Portfolio Manager Tool



# Demonstration



# Next Steps

## **Integrate Portfolio Manager Tool with the test blockchain.**

- a. Support roles model in the tool database
- b. Support creating and restoring wallets for new and current users of the tool
- c. Support rewarding new users with small amount of tokens
- d. Support rewarding of verified users
- e. Configure Monetization while buying new assets for users portfolios.

## **What we would research next?**

- f. How to include visual representation/ statistics of the token
- g. How to integrate this tool with other types of blockchains/ledgers

