**Product Integrity Assurance System**

**Github :**  <https://github.com/BlockChainMajorProject/ProductIntegrityAssuranceSystem.git>

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Pre-requisites: Ganache and Metamask

1. Clone project from Git:

git clone <https://github.com/BlockChainMajorProject/ProductIntegrityAssuranceSystem.git>

1. Go to the project folder, open terminal there and run following command to install required node\_modules:-

npm install

1. Compile contract source files. (Compilation and deployment can be done using truffle migrate

truffle compile

1. Open Ganache, (to setup local blockchain)
   * create new workspace
   * add truffle-config.js in truffle project
   * change port to 7545 in server settings (same as port in truffle-config.js)
2. In chrome, open metamask
   * add new test network using
     + NETWORK ID (i.e. 5777 ,from Ganache Server settings)
     + RPC SERVER (i.e [HTTP://127.0.0.1:8545](http://127.0.0.1:8545/) ,from Ganache Server settings)
     + CHAIN CODE (i.e. 1337)
   * import account using private key of any account from local blockchain available in Ganache.
3. In terminal, run following commands:-

* Run migrations to deploy contracts.

truffle migrate

* To start a server and it will open a homepage (index.html) file in the default browser.

npm run dev

1. Login to metamask ,and connect the added account to local blockchain (i.e.localhost:3000)
2. Interact with website

**Registration/ Login page for Manufacturers and Seller:**

A screenshot of a computer

Description automatically generated

**Successful registration of Manufacturer/ Seller:**

A screenshot of a computer screen

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A screenshot of a computer screen

Description automatically generated

**Login as a Manufacturer:**

A screen shot of a fake product identification

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**Adding the product details:**

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A screenshot of a computer

Description automatically generated

**Download the QR code for the product added:**

A screenshot of a qr code

Description automatically generated

**Logout as a Manufacturer:**

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**Login as a Seller:**

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**Seller Login page:**

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**Sell product to the customer:**

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**Upload the QR file:**

A screenshot of a computer

Description automatically generated

**Provide Consumer code to sell the product to Customer and Click on ‘Sell to Consumer’:**

A screenshot of a qr code

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A screenshot of a computer

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**Logout as a Seller:**

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**‘Continue as a Consumer’ to check Product integrity:**

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A screenshot of a computer

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**Click on ‘Product verification’ and upload QR code:**

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**Give Consumer code to check the Product status:**

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**Negative testcase -product is fake:**

Add product by manufacturer

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A screen shot of a computer

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A screenshot of a computer

Description automatically generated

Login as seller and Use Downloaded QR code to sell product

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A screenshot of a computer

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Description automatically generated

Continue as consumer to verify the product using the QR code and consumer code,since the seller has sold the product to consumer77 but if we provide the incorrect consumer code the output is fake product.

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