

1 A Modern Way

As a TA of the DTB course, it is unacceptable for me to still have to use social media groups for selling my extra Netflix screens. It is of paramount importance that I should be able to buy and sell things within the IIIT-H community more securely. The obvious solution here is to use a smart contract to facilitate buying and selling within the community. Unfortunately, I am too lazy to build it myself. Fortunately, I have you.

2 Specifications Of Smart Contract

The smart contract must fulfil the following specifications:

2.1 Making a Listing

Any person should be able to make a listing for their item using the smart contract. Each listing should contain the following information:

1. Listing ID
2. Item Name
3. Item description
4. Asking Price
5. Unique Seller ID

2.2 Viewing Listings

It should be possible to look at all active listings. Listings of already sold items should not be included.

2.3 Buying an Item

You should be able to buy an item being actively listed for the asking price. Assume the items to be strings of maximum 50 characters and that the seller will always deliver the item once sold (but he/she should not get paid until the item is delivered). The item (above mentioned string) should not be leaked to any other person during the course of the transaction (listing, sale, delivery).

2.4 Delivery

The smart contract should be able to facilitate delivery of sold items.

3 Additional Requirements

1. **Test Cases:** Each submission should contain 4 sample test cases.
2. **Commenting and Documentation:** All relevant code should properly be explained with **Doxygen comments**. Additionally, each submission should contain a brief about the programming logic.

4 Marking Scheme

1. Functionality - 40%
2. Programming Logic - 15%
3. Security (keeping item string secret) - 20%
4. Proper visibility and modifiers (for functions in the smart contract) - 15%
5. Commenting, Documentation and Test Cases - 10%