

19BCE248

BCT

Practical 9

AIM: To write a Solidity contract that implements a distributed ticket sales system. Anybody can create an event (specifying the initial price and number of tickets). Anybody can then purchase one of the initial tickets or sell those tickets peer-to-peer. At the event, gate agents will check that each attendee is listed in the final attendees list on the blockchain. (Ethereum programming).

Code:

```
// SPDX-License-Identifier: MIT
pragma solidity >=0.8.0;

contract Ticket {
    uint256 ticketPrice = 100 wei;
    address owner;
    mapping(address => uint256) public ticketHolders;

    constructor() payable {
        owner = msg.sender;
    }

    function buyTickets(address _user, uint256 _amount) public payable {
        require(msg.value >= ticketPrice * _amount);
        addTickets(_user, _amount);
    }

    function useTickets(address _user, uint256 _amount) public {
        subTickets(_user, _amount);
    }

    function addTickets(address _user, uint256 _amount) internal {
        ticketHolders[_user] = ticketHolders[_user] + _amount;
    }

    function subTickets(address _user, uint256 _amount) internal {
        require(
            ticketHolders[_user] >= _amount,
            "You do not have enough tickets!"
        );
        ticketHolders[_user] = ticketHolders[_user] - _amount;
    }
}
```

```

}

function withdraw() public {
    require(msg.sender == owner, "You are not the owner!");
    (bool success, ) = owner.call{value: address(this).balance}("");
    require(success);
}
}

```

Deploying on etherscan.io

Goerli test network

Account 1
New contract

<https://remix.ethereum.org>

CONTRACT DEPLOYMENT

DETAILS
DATA

EDIT

Estimated gas fee ⓘ

Site suggested
Very likely in < 15 seconds

Max fee:

0.00898952

Total

0.00898952 GoerliETH

Amount + gas fee

Max amount:
0.01541072 GoerliETH

Reject
Confirm

Deployed on etherscan:

Transaction Hash:	0x07fdbddf87940a08cddc5b5faf6efb885dd5f60b9a18cf785ee11b952ef2cb39 ⓘ
Status:	Pending
Block:	(Pending)
Time Last Seen:	00 days 00 hr 00 min 25 secs ago (Nov-21-2022 06:22:19 PM)
From:	0x2cc67fe5cbf0988526adb08e82e813ccfe57188a ⓘ
To:	[Contract Creation] ⓘ
Value:	0 Ether (\$0.00)
Max Txn Cost/Fee:	0.0104591143033822 Ether (\$0.00)
Gas Price:	0.00000003561992536 Ether (35.61992536 Gwei)

Running of the Project:

Balance: 1 ETH

buyTickets

_user: 0x5B38Da6a701c568545dCfcBC

_amount: 20

Calldata Parameters

transact

ticketHold... 0x5B38Da6a701c568545dCfcB

0: uint256: 20

useTickets

_user: "0x5B38Da6a701c568545dCfcB"

_amount: "5"

Calldata Parameters

transact

ticketHold... 0x5B38Da6a701c568545dCfcB

0: uint256: 15