

IT465: Cryptocurrencies and Blockchain Technologies

Lab Assignment 2

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CrowdFunding

Deploying the contract: Since metamask had limitations on the number of test ethers requested I have made the goal of 2 ethers in the demo along with increased time duration to 500 seconds.

Extension: (MetaMask) - MetaMask Notificat...

Ropsten Test Network

Owner → New Contract

https://remix.ethereum.org

CONTRACT DEPLOYMENT

0

DETAILS DATA

Estimated gas fee ⓘ 0.000703 0.000703 ETH

Site suggested Max fee: 0.000703 ETH

Unknown processing time ⓘ

Total 0.000703 0.000703 ETH

Amount + gas fee Max amount: 0.000703 ETH

Reject Confirm

Injected Web3 ⓘ

Ropsten (3) network

ACCOUNT ⓘ

0x7ed...590fd (0 ether) ⓘ ⓘ

GAS LIMIT

3000000 ⓘ

VALUE

0 ⓘ wei ⓘ

CONTRACT

CrowdFunding - CroudFunding.sol ⓘ

DEPLOY ⓘ

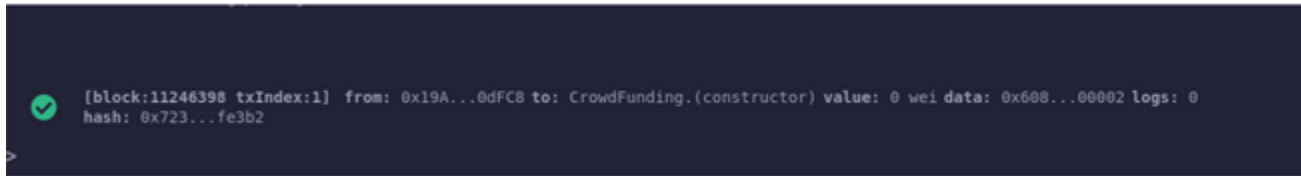
_DURATION: 500

_OWNER: 650cED9aCACf9A0DF5590fd

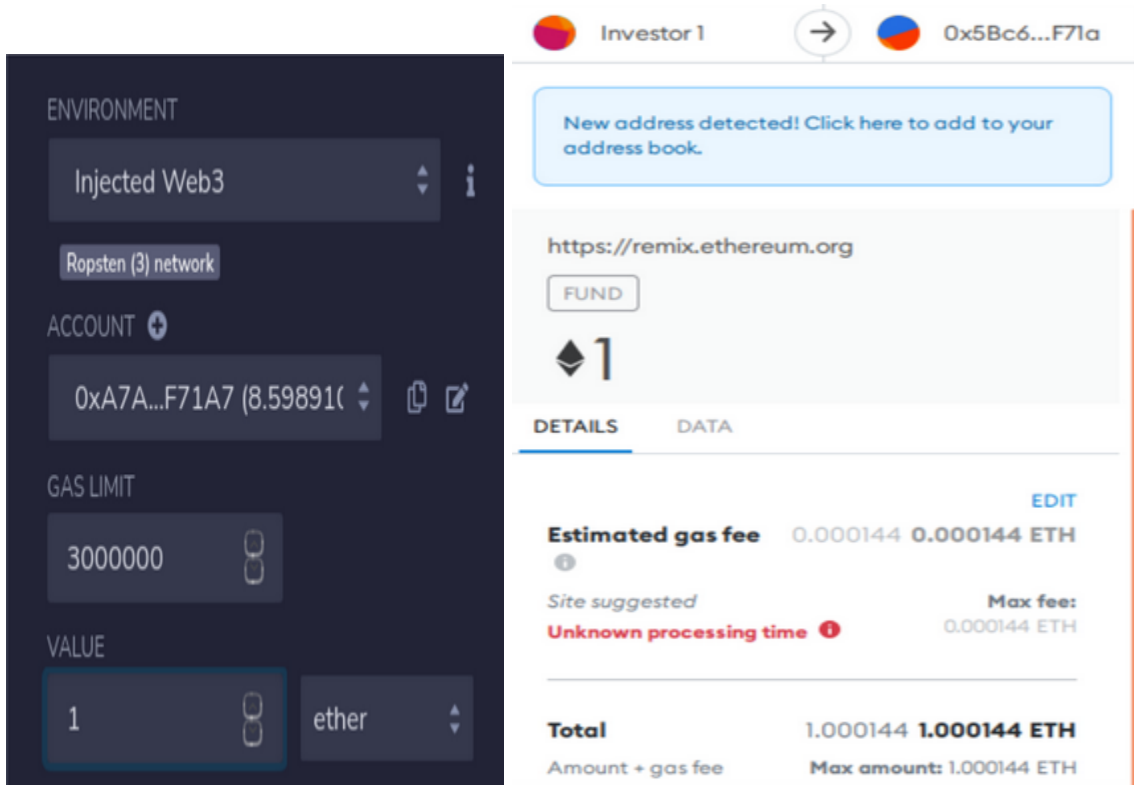
_GOAL: 2

transact


Deployed Contract confirmation:




Sending 1 ether from investor 1 and investor 2 each making it 2 ether in total:



Total balance left:




Ropsten Test Network




Connected


Investor 2


0x2622...8b99



6.9991ETH


Buy

Send

Swap


Assets

Activity

Contract Interaction


Oct 17 · remix.ethereum.org

-0 ETH
-0 ETH


Check Status

Oct 17 · remix.ethereum.org

-0 ETH
-0 ETH




Ropsten Test Network




Connected


Investor 1


0xA7A2...71A7



7.5988ETH


Buy

Send

Swap


Assets

Activity

Fund

Oct 17 · remix.ethereum.org

-1 ETH
-1 ETH

Receive

Oct 17 · From: 0x78c1...ee78

5 ETH
5 ETH

Owner Balance Left:



Owner

2.489893 ETH













Deploy another contract whose duration is 50 sec:

Ropsten (3) network


ACCOUNT 


0x7ed...590fd (0 ether)  

GAS LIMIT


3000000 


VALUE

0 

wei 

CONTRACT


CrowdFunding - CroudFunding.sol 

DEPLOY 

_DURATION: 50

_OWNER: 650cED9aCACf9A0DF5590fd

_GOAL: 2



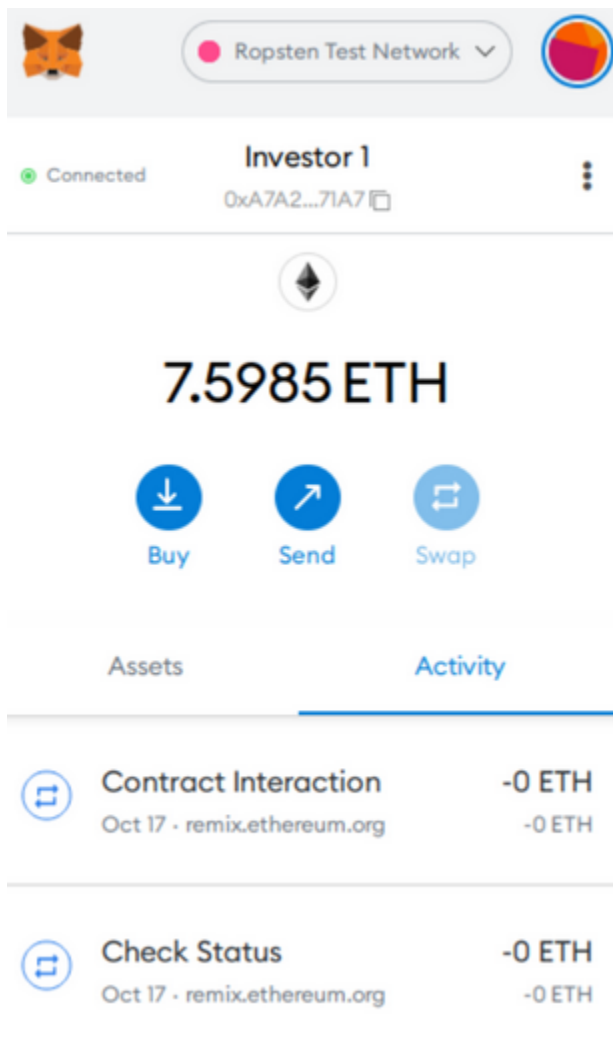
transact

Send 1 ether from investor 1:

 [block:11246429 txIndex:5] from: 0xA7A...F71A7 to: CrowdFunding.fund() 0x25b...2Ee93 value: 1000000000000000000 wei data: 0xb60...d4288
logs: 0 hash: 0x6e4...fd849

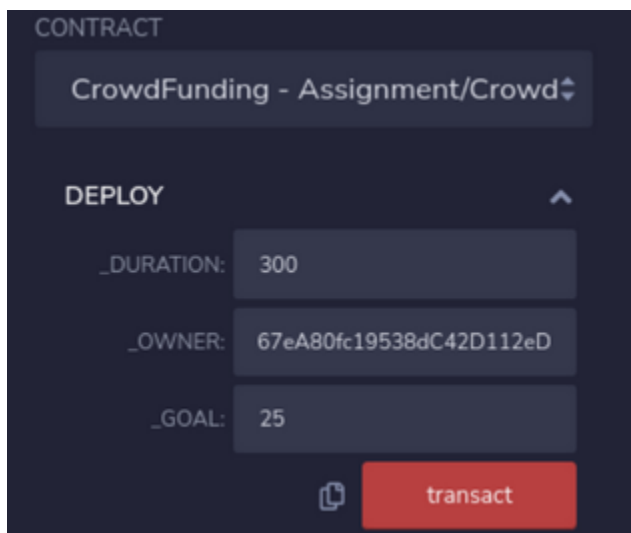
Debug 

After 50 sec we now know that the campaign has failed. and money returns back to investor 1:



Ganache

Ganache dashboard with 10 accounts with 100 ether each. Contract deployed with 25 ether as a goal:



Ganache

ACCOUNTS

BLOCKS

TRANSACTIONS

CONTRACTS

EVENTS

LOGS

SEARCH FOR BLOCK NUMBERS OR TX HASHES

CURRENT BLOCK0

GAS PRICE20000000000

GAS LIMIT6721975

HARDFORKMUIRGLACIER

NETWORK ID5777

RPC SERVERHTTP://127.0.0.1:7545

MINING STATUSAUTOMINING

WORKSPACEQUICKSTART

SAVE

SWITCH

MNEMONIC

rich twelve drift device fiber sausage monitor stable inject then twenty erode

HD PATHm/44'/60'/0'/0'/account_index

ADDRESS

0xCc689B0eF43f8181C67eA80fc19538dC42D112eD

BALANCE100.00 ETH

TX COUNT0

INDEX0

ADDRESS

0x5AbACB9BdBA96DEAfd19421dB096114CA44c485

BALANCE100.00 ETH

TX COUNT0

INDEX1

ADDRESS

0x5AeD98Fbcd5C79A5A1159762ab118F0AB72501CE

BALANCE100.00 ETH

TX COUNT0

INDEX2

ADDRESS

0x73644b42354758dE28bc25d85cae720d0632Ec00

BALANCE100.00 ETH

TX COUNT0

INDEX3

ADDRESS

0x66b5a99A7109ef76fB7B4Cf53E343DaDfb862BaE

BALANCE100.00 ETH

TX COUNT0

INDEX4

ADDRESS

0x5751070B1Cbb000E0621671E25c3261e3769Ca37

BALANCE100.00 ETH

TX COUNT0

INDEX5

ADDRESS

0x03549e4CB20F84E2A957B78FCff8fE8b6b9DD339

BALANCE100.00 ETH

TX COUNT0

INDEX6

Investor 1 contributing 10 ether:

ENVIRONMENT

Web3 Provider ⓘ

Custom (5777) network

ACCOUNT ⓘ

0x5Ab...4c485 (100 ether) ⓘ ⓘ

GAS LIMIT

3000000 ⓘ

VALUE

10 ⓘ ether ⓘ

Investor 2 contributing 15 ether.:

[block:3 txIndex:0] from: 0x5Ae...501CE to: CrowdFunding.fund() 0x883...716F5 value: 15000000000000000 wei data: 0xb60...d4288

logs: 0 hash: 0xd28...56074

Debug

Campaign successful after goal reached:

ACCOUNTS

BLOCKS

TRANSACTIONS

CONTRACTS

EVENTS

LOGS

CURRENT BLOCK

5

GAS PRICE

20000000000

GAS LIMIT

6721975

HARDFORK

MUIRGLACIER

NETWORK ID

5777

RPC SERVER

HTTP://127.0.0.1:7545

MINING STATUS

AUTOMINING

WORKSPACE

QUICKSTART

SAVE

SWITCH

MNEMONIC

rich twelve drift device fiber sausage monitor stable inject then twenty erode

HD PATH

m/44'/60'/0'/0/account_index

ADDRESS	BALANCE	TX COUNT	INDEX	
0xCc689B0eF43f8181C67eA80fc19538dC42D112eD	124.99 ETH	1	0	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x5AbACB9BdBA96DEAfda19421dB096114CA44c485	90.00 ETH	1	1	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x5AeD98Fbcd5C79A5A1159762ab118F0AB72501CE	85.00 ETH	3	2	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x73644b42354758dE28bc25d85cae720d0632Ec00	100.00 ETH	0	3	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x66b5a99A7109ef76fB7B4Cf53E343DaDfb862BaE	100.00 ETH	0	4	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x5751070B1Cbb000E0621671E25c3261e3769Ca37	100.00 ETH	0	5	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x03549e4CB20F84E2A957B78FCff8fE8b6b9DD339	100.00 ETH	0	6	

A new contract with a 50-sec duration and 25 ether goal:

ACCOUNTS

BLOCKS

TRANSACTIONS

CONTRACTS

EVENTS

LOGS

SEARCH FOR BLOCK NUMBERS OR TX HASHES

CURRENT BLOCK0

GAS PRICE20000000000

GAS LIMIT6721975

HARDFORKMUIRGLACIER

NETWORK ID5777

RPC SERVERHTTP://127.0.0.1:7545

MINING STATUSAUTOMINING

WORKSPACEQUICKSTART

SAVE

SWITCH

MNEMONIC

hurry genius blame dilemma clap easily lawn legend develop giggle vehicle media

HD PATHm/44'/60'/0'/0/account_index

ADDRESS

0x6Cadbc332D2c35Fee31d685dC6275DFc13D22AA7

BALANCE100.00 ETH

TX COUNT0

INDEX0

ADDRESS

0x504cD5b99d2973879b7e564134F051F9831F04BE

BALANCE100.00 ETH

TX COUNT0

INDEX1

ADDRESS

0xC730F6fEFF4d014D737f764899e189eeD1d3fe45

BALANCE100.00 ETH

TX COUNT0

INDEX2

ADDRESS

0x90fF5b46688b99F2BDa751CF776B0f6a32bFB5Bb

BALANCE100.00 ETH

TX COUNT0

INDEX3

ADDRESS

0x0a2412158e3a34d2725E4c37c2f0060105285aa7

BALANCE100.00 ETH

TX COUNT0

INDEX4

ADDRESS

0xe26df70F008bbfE9EbD0018351C2d1d64Dbea197

BALANCE100.00 ETH

TX COUNT0

INDEX5

ADDRESS

0xe77B818b859dF2e77C2228922294A7F0e00617E2

BALANCE100.00 ETH

TX COUNT0

INDEX6

Sending 5 ether from investor 1 and 10 ether from investor 2:

	[block:2 txIndex:0] from: 0x504...F04BE to: CrowdFunding.fund() 0xA4D...E5CA4 value: 5000000000000000000 wei data: 0xb60...d4288 logs: 0 hash: 0xc77...59d97	Debug
transact to CrowdFunding.fund pending ...		
	[block:3 txIndex:0] from: 0xc73...3fe45 to: CrowdFunding.fund() 0xA4D...E5CA4 value: 10000000000000000000 wei data: 0xb60...d4288 logs: 0 hash: 0xa8b...f9d50	Debug

ACCOUNTS

BLOCKS

TRANSACTIONS

CONTRACTS

EVENTS

LOGS

SEARCH FOR BLOCK NUMBERS OR TX HASHES

CURRENT BLOCK3

GAS PRICE2000000000

GAS LIMIT6721975

HARDFORKMUIRGLACIER

NETWORK ID5777

RPC SERVERHTTP://127.0.0.1:7545

MINING STATUSAUTOMINING

WORKSPACEQUICKSTART

SAVE

SWITCH

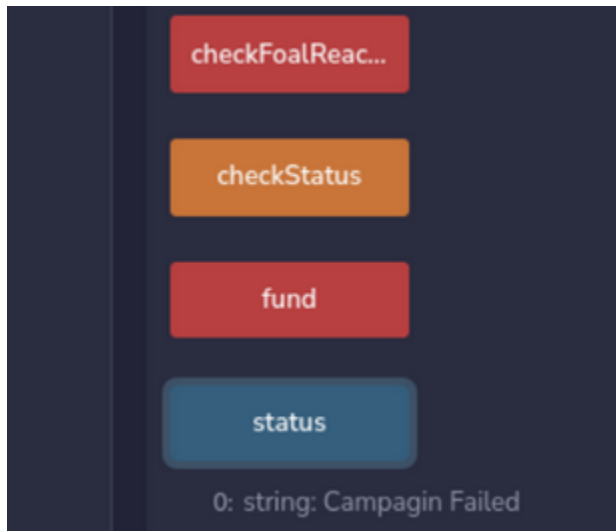
MNEMONIC

hurry genius blame dilemma clap easily lawn legend develop giggle vehicle media

HD PATHm/44'/60'/0'/0/account_index

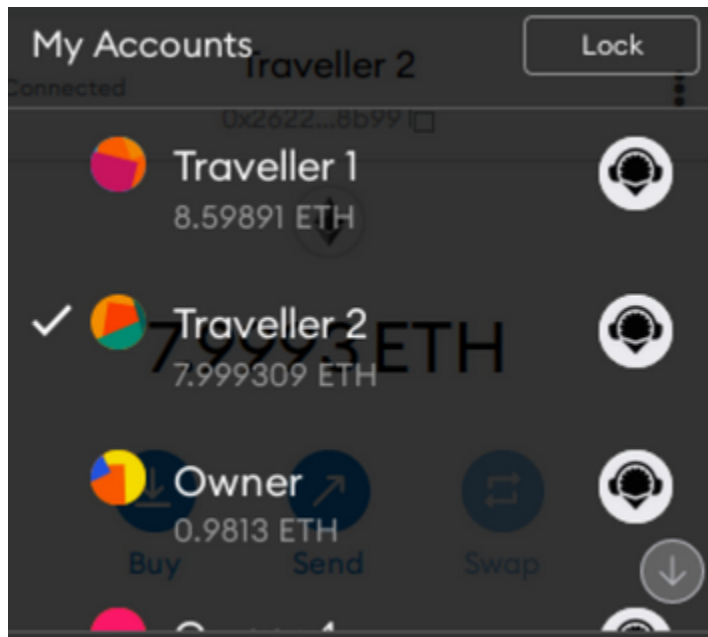
ADDRESS	BALANCE	TX COUNT	INDEX	
0x6Cadbc332D2c35Fee31d685dC6275DFc13D22AA7	99.99 ETH	1	0	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x504cD5b99d2973879b7e564134F051F9831F04BE	95.00 ETH	1	1	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xC730F6fEFF4d014D737f764899e189eeD1d3fe45	90.00 ETH	1	2	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x90fF5b46688b99F2BDa751CF776B0f6a32bFB5Bb	100.00 ETH	0	3	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x0a2412158e3a34d2725E4c37c2f0060105285aa7	100.00 ETH	0	4	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xe26df70F008bbfE9EbD0018351C2d1d64Dbea197	100.00 ETH	0	5	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xe77B818b859dF2e77C2228922294A7F0e00617E2	100.00 ETH	0	6	

Campaign Fails:

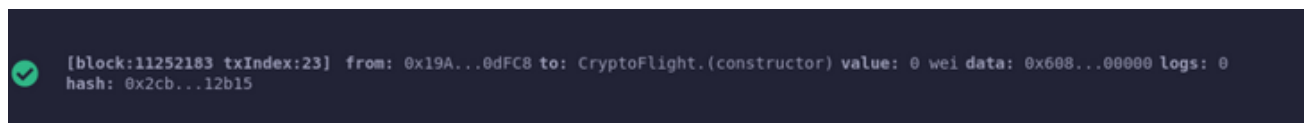
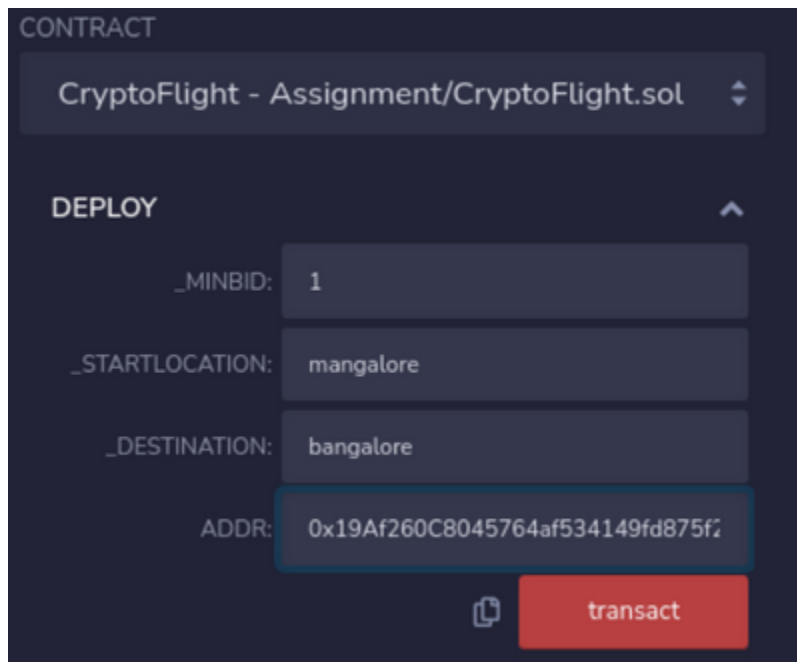


CryptoFlight

Initial balance:





Deploy the contract with min bid 1 ether:



Travelers bidding:

Extension: (MetaMask) - MetaMask Notificat...

Ropsten Test Network

 Traveller 1 →  0xDC11...c2A9

New address detected! Click here to add to your address book.

<https://remix.ethereum.org>
CONTRACT INTERACTION

1



DETAILS DATA

Estimated gas fee 0.000093 0.000093 ETH [EDIT](#)
i
Site suggested **Max fee:**
Unknown processing time i 0.000093 ETH

Total 1.000093 1.000093 ETH
Amount + gas fee **Max amount:** 1.000093 ETH

Extension: (MetaMask) - MetaMask Notificat... ×

Ropsten Test Network

 Traveller 2 →  0xDC11...c2A9

New address detected! Click here to add to your address book.

<https://remix.ethereum.org>
CONTRACT INTERACTION

2

DETAILS DATA

Estimated gas fee 0.000076 0.000076 ETH [EDIT](#)
i
Site suggested **Max fee:**
Unknown processing time i 0.000076 ETH


Total 2.000076 2.000076 ETH
Amount + gas fee **Max amount:** 2.000076 ETH

Finalize bidding for 1 seat:

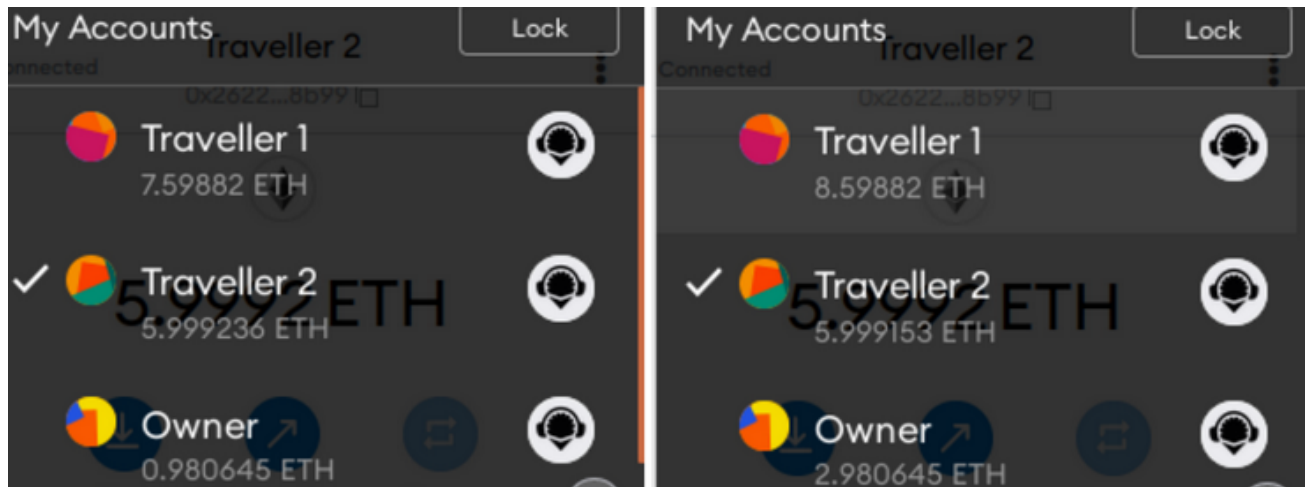
addTraveller

finalizeFlight

seatsLeft: 1

 transact

Balance before and after finalizing the bid:



We see that traveler 2 won the bid and got the ticket while traveler 1 bid was returned to him.

Ganache

Initial balance:

ACCOUNTS

BLOCKS

TRANSACTIONS

CONTRACTS

EVENTS

LOGS

CURRENT BLOCK0

GAS PRICE20000000000

GAS LIMIT6721975

HARDFORKMUIRGLACIER

NETWORK ID5777

RPC SERVERHTTP://127.0.0.1:7545

MINING STATUSAUTOMINING

WORKSPACEQUICKSTART

SAVE

SWITCH

MNEMONIC

connect rail lesson virus deer tube mail shell virus online snap stairs

HD PATH

m/44'/60'/0'/0/account_index

ADDRESS	BALANCE	TX COUNT	INDEX	
0x31071C5E60070D09843a689a55Ca66c0290CE0e0	100.00 ETH	0	0	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xaBb7BFB13b506749AF93693876517647C1aBf21d	100.00 ETH	0	1	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xf0F39fc882899938Cf1Ed7Bc1d9C2E43b8246666	100.00 ETH	0	2	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x0ccB99370dD04783b7282DbC3916d3699811a1B0	100.00 ETH	0	3	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xA303db48C1d9AfC306eC4d947B5cbD2ebC04a598	100.00 ETH	0	4	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x49F2119E382C1761d3b404AD213A2412cB623114	100.00 ETH	0	5	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xEA483ea6a7be2cb32FFCc56750a30149E60190D3	100.00 ETH	0	6	
ADDRESS	BALANCE	TX COUNT	INDEX	

Deploy the contract with min bid 50 ether:

0x310...CE0e0 (100 ether)

GAS LIMIT

3000000

VALUE

0

ether

CONTRACT

CryptoFlight - Assignment/CryptoFlight.sol

DEPLOY

_MNEMONIC

54

_STARTLOCATION

mangalore

_DESTINATION

bangalore

ADDR

0x19A260C8045764aF534169a879C

Transact

Publish to IPFS

OR

At Address

Load contract from Address

Transactions recorded

Deployed Contracts

Currently you have no contract instances to interact with.

```

51 require(msg.value >= 50 ether);
52
53 Bidder memory newTraveler = Bidder({
54   addr: msg.sender,
55   bid: msg.value,
56   won: false
57 });
58
59 travellers.push(newTraveler);
60
61
62
63
64
65
66
67
68
69
70
71
72 function finalizeFlight(uint seatsLeft) public payable {
73   uint seatsFilled = 0;
74   while (seatsFilled < seatsLeft && seatsFilled < travellers.length) {
75     uint highestBid = 0;
76     uint highestIndex = 0;
77     for (uint i = 0; i < travellers.length; i++) {
78       if (travellers[i].bid >= highestBid && !travellers[i].won) {
79         highestBid = travellers[i].bid;
80         highestIndex = i;
81       }
82     }
83     travellers[highestIndex].won = true;
84     seatsFilled++;
85   }
86   for (i = 0; i < travellers.length; i++) {
87     if (travellers[i].won) {
88       owner.transfer(travellers[i].bid);
89     } else {
90       travellers[i].addr.transfer(travellers[i].bid);
91     }
92   }
93   end = true;
94 }
95
96
97
98

```

ContractDefinition AddNewFlights 0 reference(s)

listen on network









Search with transaction hash or address

[block:11252189 txIndex:118] from: 0x262...88099 to: CryptoFlight.addTraveler() 0x0C1...8c2A9 value: 2000000000000000000 wei data: 0xcb4...2ccfc logs: 0 hash: 0xfc0...39ef1 Debug









transact to CryptoFlight.finalizeFlight pending ...

[block:11252192 txIndex:84] from: 0x262...88099 to: CryptoFlight.finalizeFlight(uint256) 0x0C1...8c2A9 value: 0 wei data: 0xa00...00001 logs: 0 hash: 0xfbb...601e8 Debug



Traveler 1 bidding 55 ether:

MNEMONIC 		HD PATH		
connect rail lesson virus deer tube mail shell virus online snap stairs		m/44'/60'/0'/0'/0/account_index		
ADDRESS 0x31071C5E60070D09843a689a55Ca66c0290CE0e0	BALANCE 99.97 ETH	TX COUNT 2	INDEX 0	
ADDRESS 0xaBb7BFB13b506749AF93693876517647C1aBf21d	BALANCE 45.00 ETH	TX COUNT 1	INDEX 1	
ADDRESS 0xf0F39fc882899938Cf1Ed7Bc1d9C2E43b8246666	BALANCE 100.00 ETH	TX COUNT 0	INDEX 2	
ADDRESS 0x0ccB99370dD04783b7282DbC3916d3699811a1B0	BALANCE 100.00 ETH	TX COUNT 0	INDEX 3	
ADDRESS 0xA303db48C1d9AfC306eC4d947B5cbD2ebC04a598	BALANCE 100.00 ETH	TX COUNT 0	INDEX 4	
ADDRESS 0x49F2119E382C1761d3b404AD213A2412cB623114	BALANCE 100.00 ETH	TX COUNT 0	INDEX 5	
ADDRESS 0xEA483ea6a7be2cb32FFCc56750a30149E60190D3	BALANCE 100.00 ETH	TX COUNT 0	INDEX 6	

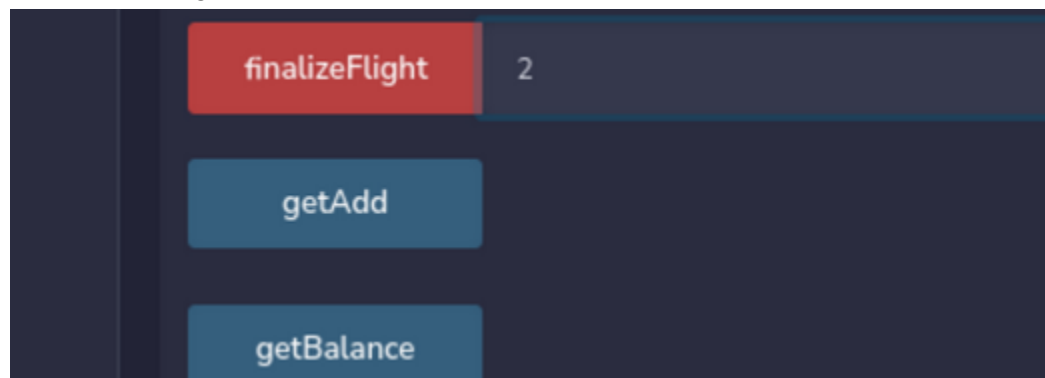
Traveler 2 bidding 60 ether:

MNEMONIC 		HD PATH		
connect rail lesson virus deer tube mail shell virus online snap stairs		m/44'/60'/0'/0'/0/account_index		
ADDRESS 0x31071C5E60070D09843a689a55Ca66c0290CE0e0	BALANCE 99.97 ETH	TX COUNT 2	INDEX 0	
ADDRESS 0xaBb7BFB13b506749AF93693876517647C1aBf21d	BALANCE 45.00 ETH	TX COUNT 1	INDEX 1	
ADDRESS 0xf0F39fc882899938Cf1Ed7Bc1d9C2E43b8246666	BALANCE 40.00 ETH	TX COUNT 1	INDEX 2	
ADDRESS 0x0ccB99370dD04783b7282DbC3916d3699811a1B0	BALANCE 100.00 ETH	TX COUNT 0	INDEX 3	
ADDRESS 0xA303db48C1d9AfC306eC4d947B5cbD2ebC04a598	BALANCE 100.00 ETH	TX COUNT 0	INDEX 4	
ADDRESS 0x49F2119E382C1761d3b404AD213A2412cB623114	BALANCE 100.00 ETH	TX COUNT 0	INDEX 5	
ADDRESS 0xEA483ea6a7be2cb32FFCc56750a30149E60190D3	BALANCE 100.00 ETH	TX COUNT 0	INDEX 6	









Traveler 3 bidding 70 ether:

MNEMONIC 		HD PATH		
connect rail lesson virus deer tube mail shell virus online snap stairs		m/44'/60'/0'/0'/account_index		
ADDRESS	BALANCE	TX COUNT	INDEX	
0x31071C5E60070D09843a689a55Ca66c0290CE0e0	99.97 ETH	2	0	
0xaBb7BFB13b506749AF93693876517647C1aBf21d	45.00 ETH	1	1	
0xf0F39fc882899938Cf1Ed7Bc1d9C2E43b8246666	40.00 ETH	1	2	
0x0ccB99370dD04783b7282DbC3916d3699811a1B0	30.00 ETH	1	3	
0xA303db48C1d9AfC306eC4d947B5cbD2ebC04a598	100.00 ETH	0	4	
0x49F2119E382C1761d3b404AD213A2412cB623114	100.00 ETH	0	5	
0xEA483ea6a7be2cb32FFCc56750a30149E60190D3	100.00 ETH	0	6	

Finalize bidding for 2 seats:



Final balance. We can see travelers 2 and 3 won the bid and traveler 1 got his bid returned:

MNEMONIC 		HD PATH		
connect rail lesson virus deer tube mail shell virus online snap stairs		m/44'/60'/0'/0/account_index		
ADDRESS	BALANCE	TX COUNT	INDEX	
0x31071C5E60070D09843a689a55Ca66c0290CE0e0	229.97 ETH	2	0	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xaBb7BFB13b506749AF93693876517647C1aBf21d	100.00 ETH	1	1	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xf0F39fc882899938Cf1Ed7Bc1d9C2E43b8246666	40.00 ETH	1	2	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x0ccB99370dD04783b7282DbC3916d3699811a1B0	30.00 ETH	2	3	
ADDRESS	BALANCE	TX COUNT	INDEX	
0xA303db48C1d9AfC306eC4d947B5cbD2ebC04a598	100.00 ETH	0	4	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x49F2119E382C1761d3b404AD213A2412cB623114	100.00 ETH	0	5	
ADDRESS	BALANCE	TX COUNT	INDEX	
0x5A4820c5e7b22b22550c56750a2014056010002	100.00 ETH	0	6	