# 329.https://stackoverflow.com/questions/71574163/how-to-track-transaction-history-in-solidity

**T:**How to track transaction history in solidity?

**Q:**I'm trying to create a blockchainsystem that has the following features  
  
 ● Get current owner  
  
 ● Change owner  
  
 ● Get product history (all users that have owned this product at some point of time)  
  
Now I don't know how do I implement this product history requirement. Like we have to track all the transactions of the type change owner but don't know how to implement this.  
  
We are using this smart contracthttps://github.com/niksvisuals/contracts/blob/master/ProductManager.sol  
  
Note: in our smart contract the change owner is implemented as (ship product + receive product)

**C1:**One thing that I want to understand: when you talk about product history, can we presume that the product is one and this can be exchanged between the customers? Example: I buy a soap, and I resell it to another customer. In this case the product have two records: Me (previous owner and current owner). Is it correct?

**C2:**@Kerry99 yes it's correct.

1 **Answer**

**A1:**You have 2 main options:  
  
 ● Track history on the smart contract (Not recommended since this would be really expensive).  
  
 ● Emit events on the smart contract, listen to them, listen for events and index them.  
  
Example of number 2  
  
Smart contract:  
  
//Declare an Eventevent OwnerChange(address \_from, address \_to);//Emit an event when the transfer happensemit OwnerChange("0x213..", "0x13123...");  
  
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On your backend code, example using web3jsWe will first get your contract instance:(https://web3js.readthedocs.io/en/v1.7.1/web3-eth-contract.html?highlight=events#new-contract)Then set up a listener to monitor those events(https://web3js.readthedocs.io/en/v1.7.1/web3-eth-contract.html?highlight=events#contract-events):  
  
var yourContractInstance= new web3.eth.Contract(yourContractABI,contractAddressYouWantToMonitor);  
  
WARN: THIS PARAGRAPH CONTAINS TAG: [CODE]   
  
yourContractInstance.events.OwnerChange({ fromBlock: 0 //This should be when you deployed your contract, ideally keep track of this number as you read new blocks}, function(error, event){ console.log(event); }).on("connected", function(subscriptionId){ console.log(subscriptionId);}).on('data', function(event){ console.log(event); // same results as the optional callback above}).on('changed', function(event){ // remove event from local database}).on('error', function(error, receipt) { // If the transaction was rejected by the network with a receipt, the second parameter will be the receipt. ...});// event output example> { returnValues: { \_from: '0x123456789...', \_to: '0x123456789...', }, raw: {...}  
  
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