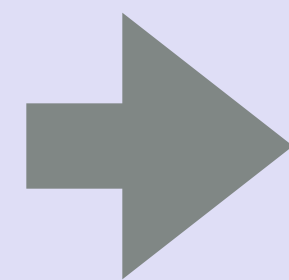


# SignatureStorage Dapp proof of concept using web3.js

**CONTRACT**



**CONTRACT**

**0x27382f42A8847873aB202DFDD59a194E6CEe03A4**

**0x7dDf569F0b030f8D86D03862785C8aC05c55971c**

# INTRO

- In this video I will demonstrate the Ethereum SignatureStorage Dapp.
- This Dapp is a proof of concept how to store signatures in a smart contract.

# DISCLAIMER

- The SignatureStorage Dapp is a proof of concept and should only be used for demonstration purpose.
- The SignatureStorage Dapp is not production ready.
- I have no legal experience. If you want to use this proof of concept (poc) you should contact a legal adviser in your country and verify if this poc is a legally sound solution.

# ETHEREUM SIGNATURESTORAGE DAPP

- The Ethereum SignatureStorage Dapp uses the web3.js v0.19.0 library.
- This proof of concept was created based on a discussion I had with a Dutch company which has a problem regarding to contracts and the signatures needed in order to close the deal.



# PROBLEM DESCRIPTION

- Lets assume the ACME company wants to create a movie and hires two actors: Wily Coyote and Elmer Fudd.
- The ACME company (from now on referred to as “owner”) creates a paper contract and Wily and Elmer (from now on referred to as “signees”) both need to sign the contract in order to close the deal.
- For each signee, the owner creates a copy of the contract and the owner signs all 3 copies.
- The owner sends these 3 copies to Wily using the postal service. Wily signs these 3 copies and sends them back to the owner.

# PROBLEM DESCRIPTION

- The owner now sends the 3 copies to Elmer.  
Elmer signs these 3 copies, he keeps one copy and returns the other 2 to the owner.
- Finally the owner sends a copy to Wiley.
- The owner and signees now each have a copy of the contract with all the signatures.
- In case of a legal dispute each party can use their contract as evidence.

# PROBLEM DESCRIPTION

- Using paper contracts and actual signatures has pros and cons:
  - Pros:
    - Easy to setup and use.
  - Cons:
    - Using the postal service takes time compared with sending an email.
    - Using the postal service costs money think of: mail shipping rates and insurance.
    - The signees must send contracts back (extra burden for them).



# PROBLEM DESCRIPTION

- Of course the owner can use other solutions such as using SMS as signature or using signature images. But the owner always pays for these third party services.



# SIGNATURESTORAGE DAPP

- The SignatureStorage Dapp is an alternative solution to paper contracts. The SignatureStorage Dapp uses the Ethereum blockchain.
- In this video I will demonstrate how to use the SignatureStorage Dapp and what the costs are.
- The SignatureStorage Dapp consists of two parts:
  - A web interface:  
<https://www.mobilefish.com/download/ethereum/SignatureStorage.html>
  - A solidity smart contract:  
<https://www.mobilefish.com/download/ethereum/SignatureStorage.sol.txt>

# INSTALL SIGNATURESTORAGE DAPP

- To install the SignatureStorage Dapp:
  - First deploy the smart contract.  
How to deploy a smart contract watch my video  
“Compile and deploy solidity code”: <https://youtu.be/nnVX6fQUu4o>
  - Next change the contract address in the SignatureStorage.html file.  
For more information watch my video  
“Ethereum contract Application Binary Interface”: [https://youtu.be/F\\_I4HycnHAI](https://youtu.be/F_I4HycnHAI)

# INSTALL SIGNATURESTORAGE DAPP

- Download and install the two javascript libraries used by the SignatureStorage.html:
  - The web3.min.js v0.19.0:  
<https://github.com/ethereum/web3.js/tree/0.19.0/dist>
  - The sha256.js v3.1.2:  
<https://code.google.com/archive/p/crypto-js/downloads>  
CryptoJS v3.1.2.zip  
Use the file: CryptoJS v3.1.2/rollups/sha256.js  
More information: <https://code.google.com/archive/p/crypto-js>
- Install the SignatureStorage.html on a web server.



# HOW TO USE THE SIGNATURE STORAGE DAPP

- The SignatureStorage.sol is already deployed on the Rinkeby network.  
The contract address is: 0x2abdbeab89620b1d0837a9089a1b20447457fad2
- Install the Chrome browser and install the MetaMask extension.  
For more information, watch my video:  
"MetaMask: How to restore your accounts": [https://youtu.be/cqz8-hOz\\_nk](https://youtu.be/cqz8-hOz_nk)
- Open the SignatureStorage.html and click the help link.  
It will explain how to use the Dapp.



# OVERVIEW MAXIMUM TRANSACTION FEES

- In the following tables you will find an overview of the maximum transaction fees when using the Signature Storage Dapp (Sep 19, 2017).
- These tables will give you some indication what the costs will be when using the Signature Storage Dapp.
- The Signature Storage Dapp is a proof of concept.  
I have made no effort to optimise the code to limit the number of operations and thus limit the gas usage.
- For users it is difficult to calculate the actual transaction fees.  
More information about transaction fees watch my video  
“Ethereum gas, gas limit, gas price”: <https://youtu.be/yFb2nuUUDX0>

## OVERVIEW MAXIMUM TRANSACTION FEES

Action	ETH	USD
Deploy contract	0.020159	5.84
Add contract	0.002957	0.85
Delete contract	0.001732	0.50
Sign contract	0.001107	0.32
Transfer ownership	0.000869	0.25

## OVERVIEW MAXIMUM TRANSACTION FEES

Add signees Number of signees	ETH	USD
1	0.002759	0.81
2	0.004207	1.23
3	0.005655	1.65
4	0.007103	2.07
5	0.008551	2.50

## OVERVIEW MAXIMUM TRANSACTION FEES

Add signees Number of signees	ETH	USD
6	0.009999	2.92
7	0.010997	3.21
8	0.011995	3.50
9	0.012993	3.79
10	0.013991	4.08