Dapp-init

Decentralized application

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Summary: In this project, you will implement your first smart-contracts.

Chapter I

Forewords

The past is not an accurate compass to the future, but understanding where we came from helps us gain an enlightened perspective and a better context for where we are going. The blockchain is simply part of the continuation of the history of Internet technology, represented by the Web, as it carries on its journey to infiltrate our world, businesses, society, and government, and across the several cycles and phases that often become visible only in the rearview mirror.

Whereas the Internet was first rolled out in 1983, it was the World Wide Web that gave us its watershed evolutionary moment, because it made information and information-based services openly and instantly available to anyone on earth who had access to the Web.

In the same way that billions of people around the world are currently connected to the Web, millions, and then billions of people, will be connected to blockchains. We should not be surprised if the velocity of blockchain usage propagation surpasses the historical Web users growth.

By mid-2016, 47% of the world's 7.4 billion population had an Internet connection. In 1995, that number was less than 1%. It took until 2005 to reach one billion Web users. In contrast, cellular phone usage galloped faster, passing the number of landlines in 2002, and surpassing the world's population in 2013. As for websites, in 2016, their total number hovered at around one billion. Quite possibly, blockchains will grow into several flavors, and will become as easily configurable as launching a website on Wordpress or Squarespace.

The blockchain's usage growth has an advantage on the Web's trajectory, because its starting point is amplified along four segments: Web users, cellular phone users, website owners, and any "thing" that gains benefits from being connected, and becoming a "smart thing." This means that blockchain usage will ride on these four categories, instead of purely seeking new users."

The Business Blockchain
by Vitalik Buterin, William Mougayar

The Times 03/Jan/2009 Chancellor on brink of second bailout for banks

Chapter II

Introduction

Blockchain is a rapidly growing technology, popularity of which is growing too. Many of you probably heard about Bitcoin and other things like cryptocurrencies. You will not start with something complicated or write something related to the cryptocurrency or for it, you will start with simple things, namely smart contracts. Smart contracts have a perspective of becoming the most important application of Blockchain technology. Acting as an autonomous agent-program, they can solve many different problems and they are useful in many cases, ranging from secure decentralized voting to the creation of platforms that can absolutely replace centralized services such as Uber, iTunes, Google music, Twitter.

Chapter III

Objective

The purpose of the project is to introduce you the basic concept of Blockchain technology and give you the opportunity to understand how you can use the features of this technology to solve different problems. For this, you will need to write several smart contracts that allow you to store user data and use unique users for voting.

Chapter IV

General instructions

- This project will be corrected by humans only. So, feel free to organize and name your files as you wish, but within the constraints listed here.
- In this project you are free to use whatever language and blockchain (EOS, Ethereum) you want for smart-contracts. If the project requirement will be met.
- You are also free to use any libraries you want as long as they do not do all the work for you.
- You'll have to submit a file named author containing your username followed by a '\n' the root of your repository.

You can find some useful information here

Be careful. Use only the private blockchain. The capacity of a public blockchain can reach tens of gigabytes

Chapter V

The project

V.1 Mandatory part

You must implement two simple smart contracts.

- The first smart contract (Passport) is a program for storing data about users, something like a passport. The contract must store the user data (such as Name, Surname, age, personal hash or user id) and have the functionality to record new users. These data must be public for other contracts. It is allowed to expand the list of user parameters if you think that it is necessary.

- The second smart contract (Election) is a voting program. Users who were registered in the first smart contract and only them, can take part in the voting, and after the end of voting to know who won. One user can vote only for one candidate. The contract must also contain the functionality available only to the owner of the contract.
  Such as:
  - Adding a new candidate for voting
  - Termination of voting

Chapter VI

Peer-evaluation

Your program will be reviewed by humans only, so you are free to organize your files whatever way you want.

Here are the points that your peer-corrector will have to check :

- The absence of libraries that do the work for you.
- If your smart contracts are downloaded into private blockchain on your computer.
- Your knowledge in Blockchain technology.