Crash Course on Ethereum Smart Contract

Overview

In this workshop, we will cover the basics of blockchain technology, appraise blockchain use-cases and create our own non-fungible tokens on the Ethereum blockchain following the ERC721 standard. By the end of the course, participants will be able to do basic customisation on a non-fungible token (NFT), modify a basic smart contract application and deploy it on the Ethereum testnet. Upon completion of the course, participants will receive a blockchain-based digital certificate.

Objectives

A. Knowledge and Understanding (Theory Component)

At the end of this course, participants should be able to:
- Discuss the fundamentals of blockchain technology and the tools used in smart contract development
- Review the basic components of a smart contract and their functions
- Describe the flow from smart contract creation to deployment
- Appraise various use cases on adoption of blockchain technology

B. Key Skills (Practical Component)

At the end of this course, participants should be able to:
- Create and customise own unique ERC721 tokens
- Use block explorer and monitor transactions on the blockchain
- Develop and deploy smart contracts on a test net

Topics

Time	Agenda
09:00 – 09:15	1 - Day Course Overview
09:15 – 10:15	Blockchain 101 -- theoretical foundations - Fundamentals of blockchain technology - How a distributed development differs from traditional software development (Theory and practice) - EVM (Ethereum Virtual Machine) 101
10:15 – 10:30	Break
10:30 – 11:30	Introduction to Development Tools - Set up the development environment (installing Virtual Machine) - Connect to the test network - Generate wallet - Navigate around the block explorer - Receive the first token. (Participants need to receive a set of tokens throughout the course in order to be able to take the exam.)
11:30 – 13:00	Lunch
13:00 – 14:00	Use Cases on Distributed Networks - Finance (DeFi – decentralised finance) - Assets - Games - Logistics - Conclusion -- finding the patterns of what use case works
14:00 – 15:15	Creating your own ERC20 Tokens - Review the code of an ERC20 token - Customise our token - Deploy token to testnet and validate source code with etherscan.io - Get the second ReqToken: "Buy" it with your token!
15:15 – 15:30	Break
15:30 – 16:30	Non-Fungible (NFT) Tokens - NFT theory and examples - Difficulties of connecting the real world - Creating Digital Collectibles -- Deploying an NFT token
16:30 – 17:30	Assessment - Conclusion + results - Handing out Digital Certificates

Requirements

- Attendees should be passionate about understanding blockchain technology and deploying their own smart contracts

- Attendees will need a laptop / desktop to participate in this workshop

Duration   **: 1 day**

Venue   **: Online (Zoom)**

Minimum number to run   **: 10 participants**

Certificate of participation is awarded upon 80% attendance for the course

Trainer's Profile

Andras Kristof
Founder, Skilltree.org & Akomba

Andras is an entrepreneur and a blockchain technology/smart contract expert. He has 20+ years of IT experience with building robust, scalable systems. After a successful exit from viki.com, he became an early adopter in the blockchain space and released a host of successful products.

Andras is also the founder of Skilltree.org & akomba.com. Skilltree.org is an edu-tech company, building an innovative, online exam and certification framework. It also works on content creation, building courses relating to Ethereum and online privacy.

Akomba, is a deep tech research and product development company. It is helping other companies and developing products in the privacy technology and blockchain space.