
BITCOIN
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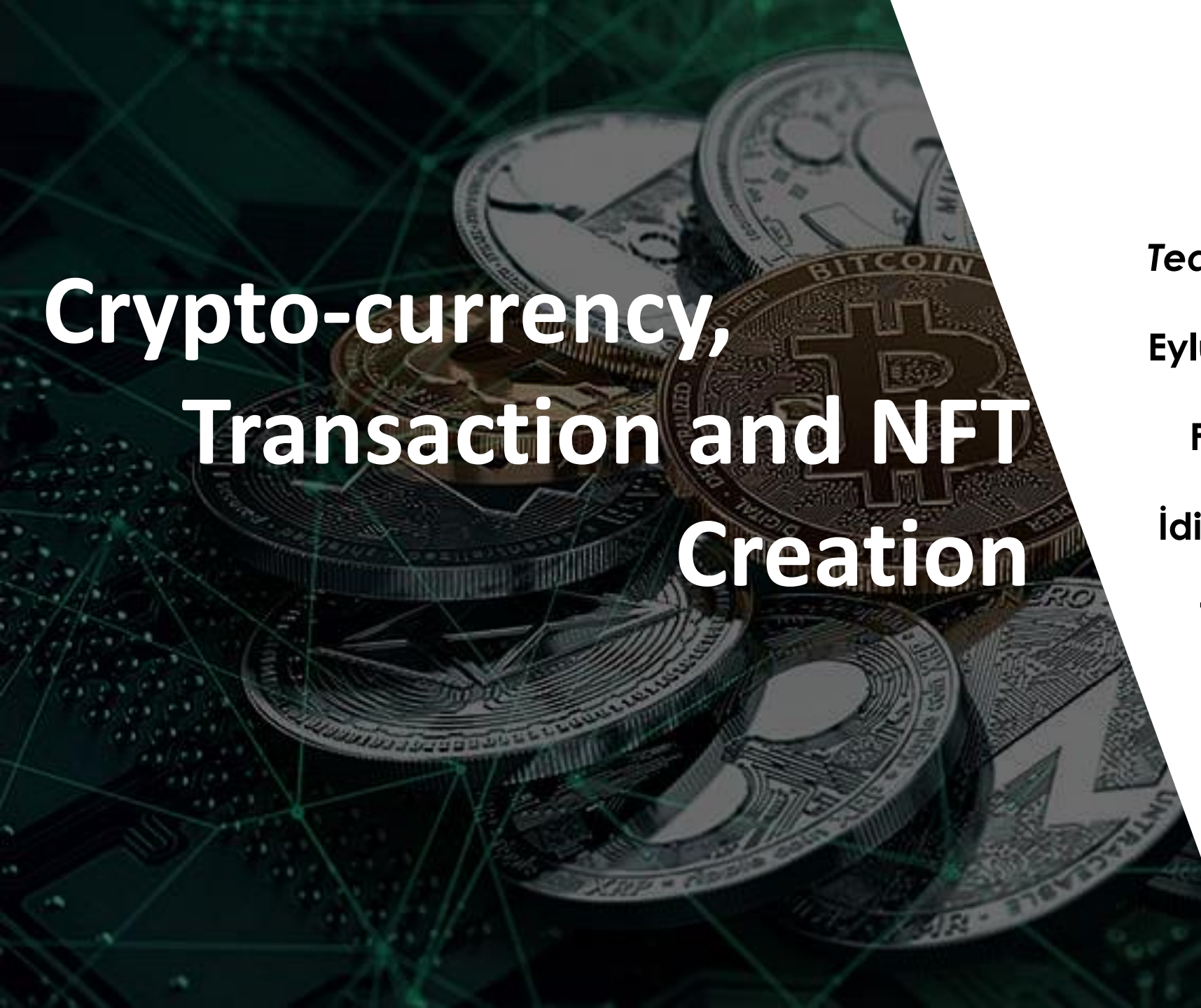
BITCOIN



Crypto-currency, Transaction and NFT Creation

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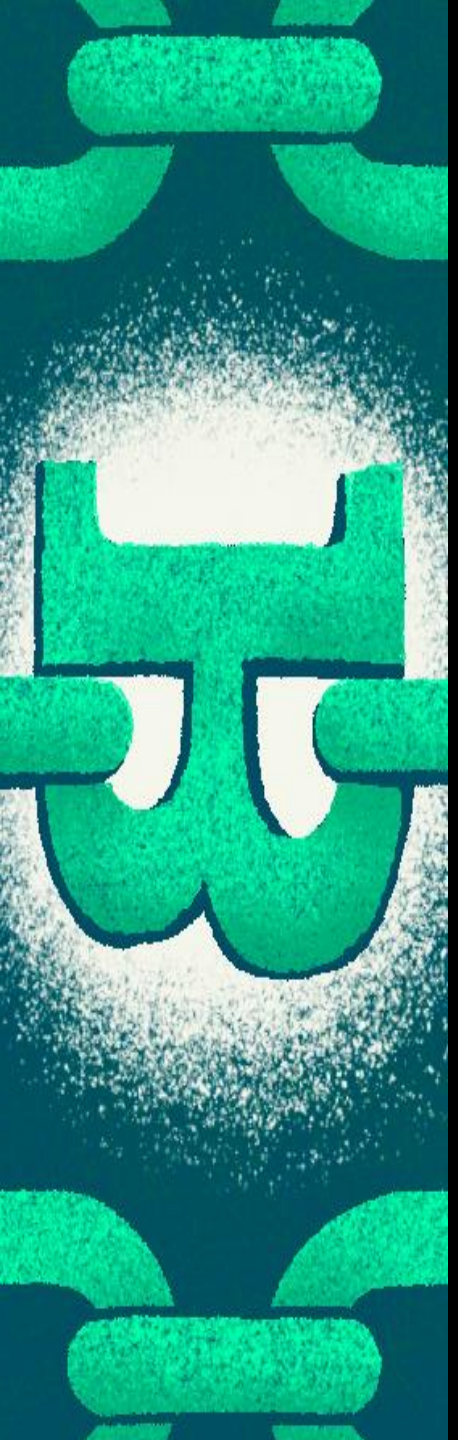
Purpose

We aim to create a new Crypto-currency (inside an Ethereum Testnet, which means these tokens will not have any value), A Crypto wallet web application using ASP.NET with Mongo DB, and publish our own NFTs inside a marketplace (maybe NFTICALLY Testnet).We believe that this project will teach us about the fundamentals of how blockchains and cryptocurrencies work and how these new technologies are developed.



Main Features

Blockchain

Blockchain, which has a chain structure conforming to blocks, is a distributed database system that provides translated sale shadowing.

Blockchain technology offers data sequestration with the capability to securely store the information it contains. In order to change the data contained then, you need to get a blessing from other blocks. This activates the evidence medium as much as the number of blocks. therefore, the system ensures that the data is safe by precluding any good or vicious action that may come from the outdoors.

Crypto-currency

The purpose of cryptocurrencies is to serve as a medium of exchange for money in order to safeguard financial transactions, restrict the production of new ones, and confirm the transfer of assets. In an attempt to replace traditional currencies with a more secure alternative, cryptocurrencies were developed. It belongs to the family of virtual currencies as well.

Crypto Wallet

A cryptocurrency wallet is an account with software, hardware, and the owner's private key that may be used to purchase, sell, and (in most cases) sign transactions for the NFTs that were introduced to the world with the first cryptocurrency, Bitcoin. On a blockchain, private keys serve as account identifiers. Public and private keys are present in all crypto wallets.

NFT

NFTs, known as non-fungible tokens, are digital assets and a unit of data stored on the blockchain that are not interchangeable because they are unique. NFTs are digital artifacts such as photos, videos, and GIFs.

By creating NFT, you can produce your own works of art and can easily buy and sell well-known works in the virtual environment and earn passive income from it.

Current Technologies

In field of Crypto-currencies, many examples can be said, such as Bitcoin, Ethereum, Tether, FTX which filed for bankruptcy during 2022, and many more.

In field of Crypto Wallets, there are many different wallets, such as Metamask, Binance Wallet, Phantom Wallet, and many more. There are many different NFT albums available in any NFT marketplace such as artists selling their art to a random kid selling his/her super rare card collection as an NFT collection. There are many examples out there.

Languages & Libraries

.NET Framework

The .NET Framework (pronounced as "dot net") is a proprietary software framework developed by Microsoft that runs primarily on Microsoft Windows. It was the predominant implementation of the Common Language Infrastructure (CLI) until being superseded by the cross-platform .NET project.

Nethereum Libraries

Nethereum is the .Net integration library for Ethereum; it simplifies the access and smart contract interaction with Ethereum nodes. It is compatible with all the major operating systems and is tested on mobile, desktop, cloud, Xbox, hololens, and Windows IoT. Nethereum is great for Web3 development.

MongoDB

MongoDB is a cross-platform, free and open-source document-oriented database program. MongoDB, a NoSQL database program, employs JSON-like documents with optional schemas. MongoDB was created by MongoDB Inc.

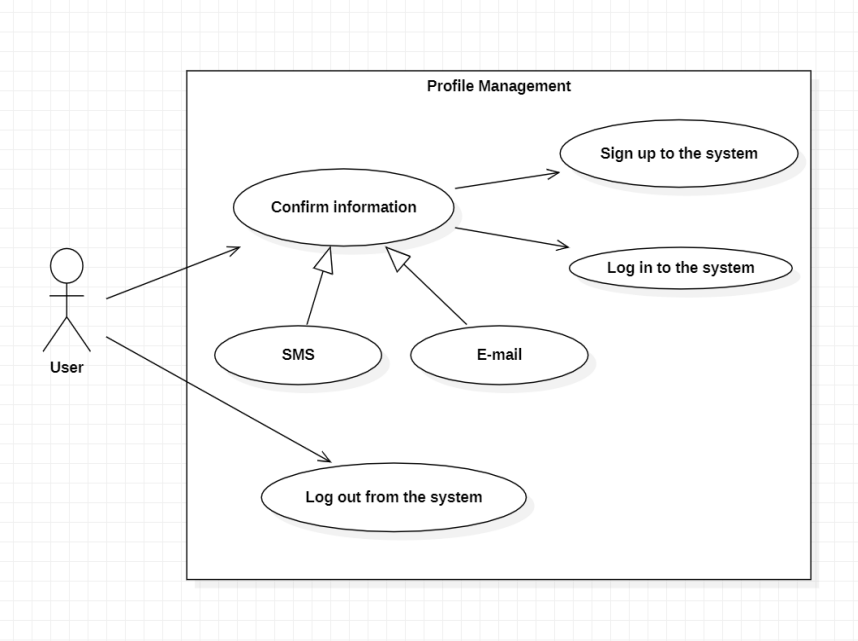
Solidity

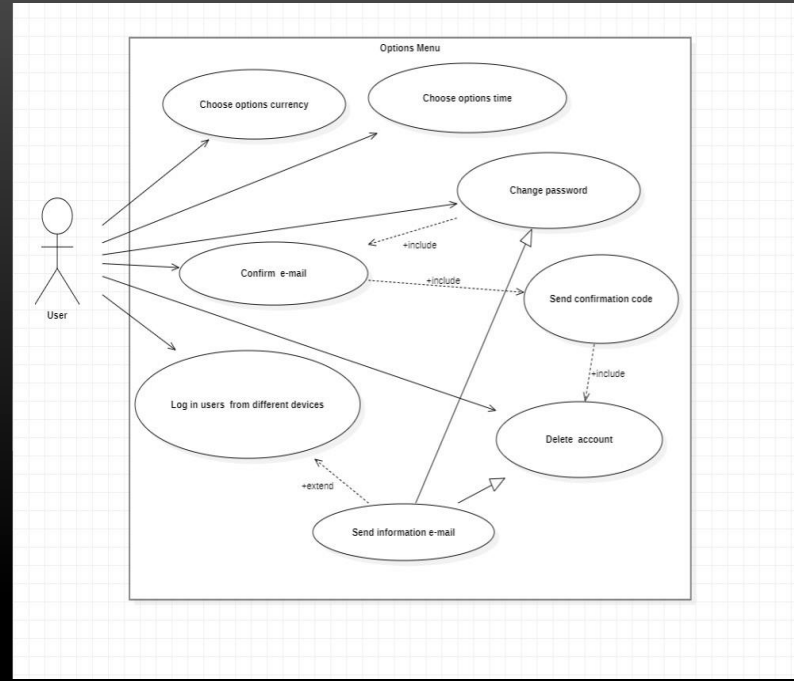
Solidity is an object-oriented programming language developed by the Ethereum Network team specifically for building and designing smart contracts on Blockchain platforms. It is used to create smart contracts in the blockchain system that implement business logic and generate a chain of transaction records.

EIP-20: Token Standard

The following standard enables the use of a standard API for tokens within smart contracts. This standard provides basic functionality for transferring tokens and approving tokens so they can be spent by another on-chain third party.

Use Cases


Profile Management
Sign up to the system
Confirm information
Log in to the system
User
SMS
E-mail
Log out from the system


Options Menu
Choose options currency
Choose options time
Change password
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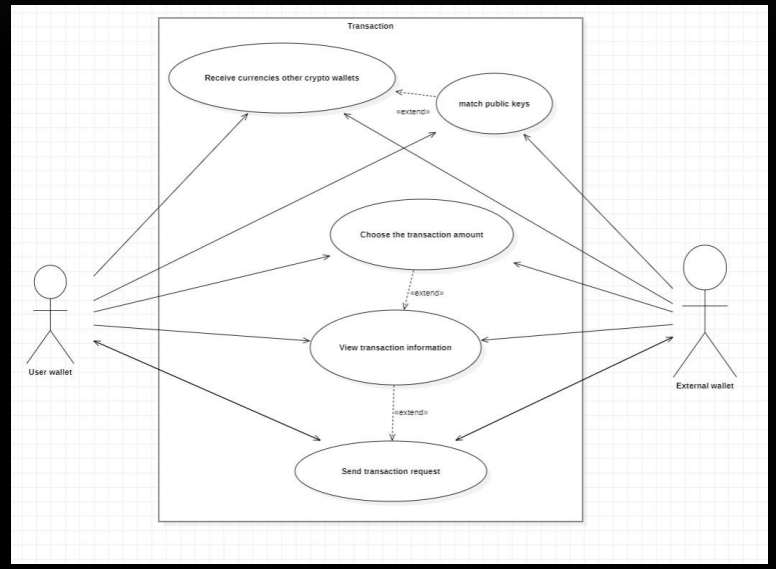
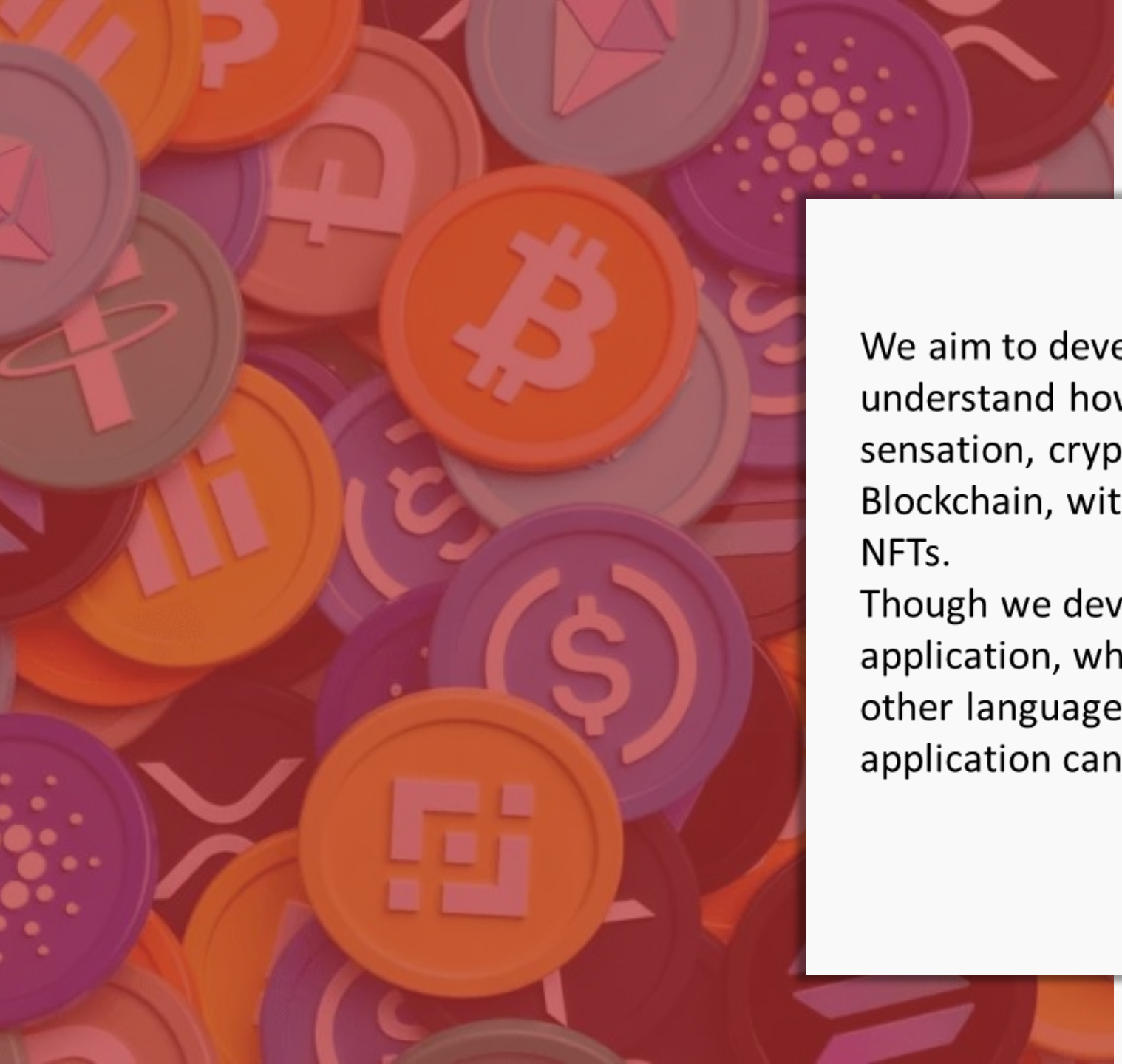
Confirm e-mail
+include
Send confirmation code
User
+include
Log in users from different devices
Delete account
+extend
Send information e-mail


Transaction
Receive currencies other crypto wallets
«extend»
match public keys
Choose the transaction amount
«extend»
User wallet
View transaction information
External wallet
«extend»
Send transaction request

Project Work Plan



Conclusion

We aim to develop our technologies to understand how the current economic sensation, crypto currencies work with Blockchain, with Crypto wallets and with NFTs.

Though we develop our wallet as a web-only application, which acts as a simulation, with other languages such as Flutter-Dart, this web application can work on different platforms.

References

https://www.cnbc.com/2022/11/28/blockfi-files-for-bankruptcy-as-ftx-fallout-spreads.html
https://en.wikipedia.org/wiki/Cryptocurrency
https://en.wikipedia.org/wiki/Cryptocurrency_wallet
https://tr.wikipedia.org/wiki/NFT
https://nethereum.com/
https://www.mongodb.com/docs/drivers/csharp/#mongodb-c--.net-driver
https://blog.devgenius.io/introduction-to-web3-in-c-using-net-and-nethereum-ea3d9812aa16
https://en.wikipedia.org/wiki/.NET_Framework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