theblockchaincoders

THE WEB 3.0 ROADMAP

What is in simple terms?

Web 3.0 has the potential to change the internet as we know it forever. You're still early in catching the trend and building your first blockchain application, acquiring the skills to get a highpaying job, or creating your own web 3.0 projects that can make you money.

In Web 2.0 all the data is controlled by the Big Tech companies, such as Google, Apple, etc. In the decentralized web, no single person/ company owns any data or information about anyone, and everything is visible to the public.

Web3, also known as the decentralized web, is the third and latest" phase" of the internet. Web3 is built on peer-to-peer networks of computers that talk to each other without middlemen.

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This guide will provide you with useful information and actionable steps, but if you truly want to dominate the competition and secure a high-paying job as a full-stack software developer, *theblockchaincoders.com* is the answer.

Read until the end for more information and unlimited free courses by "The Blockchain Coders"!

Web 3.0 Roadmap

❶ You should have Web 2.0 Skills

Most people make one mistake to dive straight into smart contracts without having a technical background in web development. Blockchain technologies are built on top of web technologies.

You can't learn Web 3.0 if you don't have a solid understanding of web 2.0. So before digging deeper into more web 3.0, better understand the fundamentals of web development in general.

Your Web 2.0 skills like React.js, Next.js will be beneficial because Decentralized Applications have a standard vanilla JavaScript or JavaScript framework Front-end.

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② Learn the Fundamentals of Blockchain

As a Web 3.0 developer, you need to understand what the blockchain is, how it works, why do we use it. You first need to know about what you are working with.

So what is a blockchain?

A blockchain is a network of computers connected in some way, and they collectively run what is called a blockchain client. Blockchain technology is no more related only to crypto coins.

To learn and master the basics of blockchain technology. First, learn the fundamental things such as:

- **What the blockchain is**

- **How it works**

- **How to Interact with the blockchain**

- **How to connect oui web alications to the blockchain**

Web 3.0 Roadmap

And it is recommended that you get started with the Ethereum blockchain as it is very popular.

Also, one of the reasons to learn Ethereum blockchain first is there is a lot of technical support from its developer's team plus considerable community support.

③ Learn About Smart Contracts

A Smart Contract is software stored on a blockchain-based platform that automatically executes an agreement. Smart contracts are how you can program the blockchain to perform a specific set of instructions, like you telling the blockchain what to do.

Smart contracts enable you to exchange anything of value while also eliminating the middle man. The self-executing feature of a smart contract is what makes it very important.

The smart contract code cannot be changed, which in technical terms, we say is immutable.

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Smart contracts can do everything, right from NFTs to creating your own Crypto Currency to handling the backend of dApps.

Here's the IBM definition for Smart Contracts:

Smart contracts are simply programs stored on a blockchain that run when predetermined conditions are met. They are typically used to automate an agreement's execution so that all participants can be immediately sure of the outcome without any intermediary's involvement or time loss.
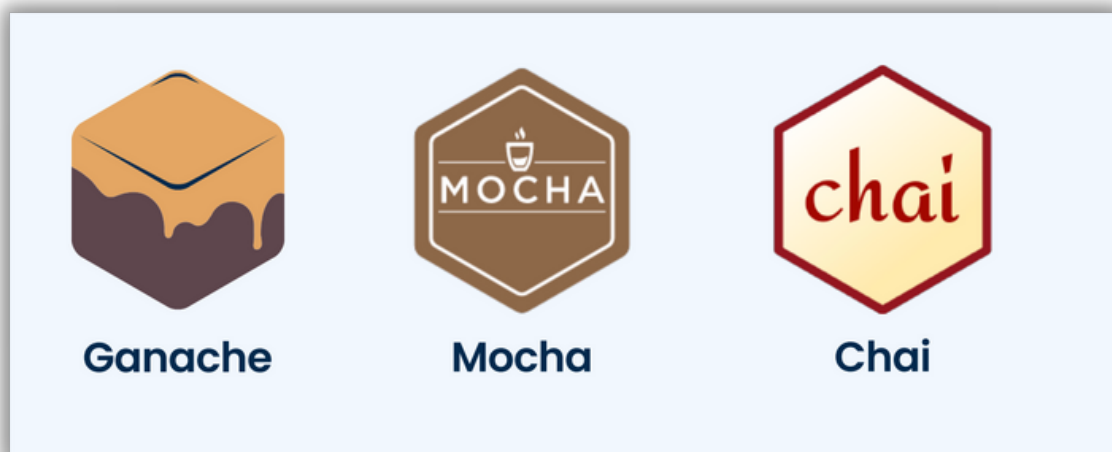
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Things to learn about Smart Contract

- **Ba.ic. of Smart Contract**
- **Life Cycle of Smart Contract**
- **Interacting with .mart contract. u.ing web3.j.**

Compiling, Testing, Deploying SmaXt ContXacts

Compiling, Testing, and Deploying Smart Contracts is an essential part, as we know those smart contracts, once deployed, are immutable, so you would like to test them before deploying.

For Testing, you can go with:

Ganache   Mocha   Chai

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For deployment purposes, you can use:

Infura   Hardhat   Truffle

4 Learn Solidity

Knowing how to write smart contracts is essential in blockchain app development. So in which programming language do we write smart contracts? It's *Solidity*!

Of course, there are some other programming languages also, but Solidity is the most popular one. So understanding Solidity is crucial.

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Solidity is an object-oriented programming language for writing smart contracts. It is used for implementing smart contracts on various blockchain platforms.

Solidity is a relatively new programming language used for Ethereum blockchain, and it's a combination of a few languages. The creators of Solidity got inspired by JavaScript, Java, C++, rust, & many other languages, therefore making Solidity extraordinarily versatile & intuitive.

As you start to write code in Solidity, you'll notice that all of that seems similar, maybe from Java, JavaScript, but it will make sense as it's almost written in pure English.

Here is a small code sample of solidity programming language

```solidity
// My First Smart Contract
pragma solidity ≥0.5.0 <0.7.0;
contract HelloWorld {
    function get()public pure returns (string memory){
        return 'Hello Contracts';
    }
}
```

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Also, one more reason to learn Solidity is the job market. Many companies require developers who know Solidity well.

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⑤ Learn more about Decentralized applications

Once you build and deploy your smart contract, you'll need to create a friendly user interface at the front end so that any user use it. Remember I said earlier you should have Web 2.0 skills before starting blockchain development.

In the front-end interface, you create a DAPP (Decentralized application). The DAPP can be a mobile app or a web app, but it is usually a web app in most cases. The web app is usually just like your regular web apps with HTML, CSS, and JavaScript.

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And when building the dApp, there will be two essential tasks,

1. The integration with the blockchain
2. The integration with the wallet

We shall use a JavaScript library for integration with the blockchain, Web3.js, which is pretty helpful and easy to use.

❻ Learn about Metamask or any equivalent Crypto Wallet

A blockchain wallet helps someone exchange funds quickly. The transactions are secure, as they are cryptographically signed. A wallet is used to interact with the blockchain. The wallet is accessible from web devices, including mobile ones, and the privacy and identity of the user are maintained.

Blockchain wallet provides all the necessary features for safe and secure transfers and exchanges of funds between different parties. It is very similar to sending or receiving money through PayPal or any other gateway used today, but you use cryptocurrency instead.

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There are a lot of crypto wallets out there, but my recommendation would be first to learn how to integrate your smart contract with the Metamask wallet and then learn about the other wallets.

Metamask allows users to access their Ethereum wallet through a browser extension or mobile app, which users can then use to interact with decentralized applications.

❼ Learn Web3.js and Ethers.js to connect your dAPP

You'll need to interface with your front end to talk to the blockchain. Here are two popular choices to interface with blockchains that implement the Ethereum API, web3.js and ethers.js.

Web3.js is a collection of libraries that allow you to connect with a local or remote Ethereum node using HTTP, Websockets, & other communication protocols directly from your JavaScript Based front-end.

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Ethers.js is a lightweight JavaScript library used to connect the JavaScript front-end with Smart Contacts as an alternative to Web3.js.

8 **Practice your skills by building a blockchain application.**

After that, I suggest you should get your hands dirty with the technologies you have learned so far. Practice, Practice, and Practice!

To keep learning effectively, you have to challenge your capabilities. Take up a project well beyond your capabilities and stick to that project until you complete it. By the end of just 4-5 such assignments, you will be almost more proficient than others around you.

Web 3.0 Roadmap

⑨ Build your Portfolio

When you're comfortable working with blockchains/dApps, you should consider building your portfolio; a portfolio website shows evidence of expertise in your field. It can also help build trust with clients because they have direct evidence of the quality of your work.

A portfolio will be beneficial whether you are looking for Jobs or Internships. More importantly, potential clients and employers will sense confidence in you.
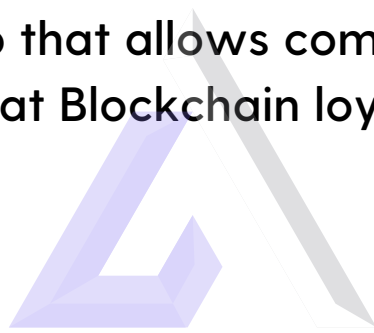
Blockchain Project Ideas

Customers Loyalty tokens

Nowadays, companies provide traditional paper, coupons, discount and other sorts of reward and loyalty rewards to their customers.

You can build an app that allows companies to make use of this new digital format Blockchain loyalty tokens for their customers.

Pay Per Use

Tired of montly subscription fee model? Then build a platform where service providers give viewers an option to decide on a pay-per-use basis for digital content. This payment can be via micropayments in Ethereum based tokens.

Blockchain Project Ideas

Medical Records

It's really hard to keep your complete, accurate health records.

Create an app where you can publish your medical records safely on the blockchain. And, be assured that you or an authorized person can access it anywhere in the world.

Rent Parking

You can create an app using blockchain, where parking owners can rent out their long-term parking space that is unused, and other drivers can take benefit from it, especially drivers that only need temporary parking.

Registry of Land Ownership

Transferring ownership of a property from one person to another person.

Create a secured platform for real estate record keeping. It should record, track title and other property records.

Blockchain Project Ideas

Ride Sharing

Currently, most ride sharing systems are in the control of agencies.

You can create a real-time ridesharing service, powered by blockchain. This platform can synchronize empty seats with passengers in real time, matching like-minded people.

Crowdfunding

Build a secure and transparent blockchainpowered framework for crowdfunding.

Nowadays there are lots of wrong campaigns that can misuse everyone's money. With blockchain technology, you know more info, about the campaigns, to who are you sending money and where is the money going.

Blockchain Project Ideas

Polling system

Build a polling system, where people would be able to create a new poll, and in that poll, they would be able to mention different choices. Users would place their vote for one of the mentioned choices.

Charge For Consultation

You can provide a way to connect two or more people to exchange a paid knowledge via online voice or video call. Instead of per hour block, per minute rates can be set by experts.

Once both parties are happy, payment can deducted via the Ethereum blockchain.

Blockchain Project Ideas

Decentralized Hosting

With blockchain, you can split your website content into granules and distribute it all over the internet and then link them together using a blockchain registry.This eliminates web hosting costs and always accessible.

The Blockchain Coders Pro

Looking to advance your career and understand the concepts & technologies that top-shelf employers are looking for?

The Blockchain Coders Pro offers two courses that will help you master libraries, tools, and technologies such as React.js, Next.js, Material UI, Solidity, Redux, and many more.

If your goal is to earn a high income while working on projects you love, The Blockchain Coders Pro can help you develop your skills to become a top candidate for lucrative employment and freelance positions.

Visit www.theblockchaincoders.com to get Started