

Chapter– 20

FANPOWER

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Fan Power Fantasy Sports platform. The objective of FanPower is to combine the Sports and Cryptocurrency Ecosystem of India positively. It is a small start-up and still in its development phase. The vision of FanPower is to "Binding Worlds Together" by engaging Sports Enthusiasts with Sports matched through Fantasy Sports, Events, content etc. with the new emerging digital currency i.e., cryptocurrency.

Working of FanPower

FanPower is a Sports Fantasy platform in which various people create fantasy teams for a real sports match & join different contests. Each player of your team is given some points based on their performance in the actual match. At the end of the match, the team with the most number of points wins the contest.

The best thing about fantasy games is that there are a lot of contests in which there are more than 1 winners in each contest. You are given the prize money on the basis of your team's positioning in the joined contest.

Along with the enjoyment and thrill of different sports match, the aim is to link cryptocurrency world to the average users.

SCOPE

The major goal of this project is to bind cryptocurrency and fantasy gaming world, both of which are at early stages so it might take some time to get as big as the major players in the field but that's where cryptocurrency comes into action. With the help of cryptocurrency there will no boundaries of any kind to expand it in any direction needed. As the project is still in very early stages, various things are yet not clear to many people. There might be a lot of people dealing with cryptocurrency, but its concept is still not clear to most of them.

Along with all these Indian Government is also adding a lot of new taxations and boundaries to keep people as far from new digital currency as possible, hopefully within a few years all the rules will be clear as everyone with start using cryptocurrencies.

WORKING OF FANPOWER

Logging In

For logging in to FanPower, you simply need to create a new account first, after that one can login using the saved credentials. For more security one can link their mobile number and email id, and to add an extra layer of security 2 step authentication will be added soon.

Sports matches available

As of now only cricket is available which is the most watched game in India, but in future all sorts of major games and leagues will be added in application. Some of the main Sports contests which will be available soon are: -

- Cricket
- Football
- Kabaddi
- Baseball
- Basketball
- Hockey
- Handball

Steps to join a match

The step-by-step procedure to join any contest in FanPower is as follows:

Select a Match

- Once you open FanPower, you will see a lot of matches under different Cricket

matches which are soon going to happen.

- You can select any match from any of them.
- Once you will click on the match you are interested in, you will be shown a screen on which all the available contests will be visible.
- For joining any contest, you must create a team from the players available for that sports match.

Create your teams

- Suppose I want to join Mumbai Indians vs Chennai Super Kings 2022 IPL Match then I will have to create the team from the MI & CSK players first.
- There are some important points related to Team creation in FanPower. Let us discuss those points by taking example of MI vs CSK Cricket match quickly so that you are ready to create your first team
- You can select a total of 11 players only.
- You will have to select the players from both MI & CSK teams.
- You have to select minimum 3 & maximum 7 players from a team.
- You are given total 100 credits for creating the team. Every player has already been assigned fixed credits.
- Fantasy Points scored by players so far in the tournament are also shown with each player.
- You can also see the percentage of people who picked that player for this match.

Join Contests

- Every contest has a participating fee & fixed number of people who can join the contest. Once the mentioned number of spots have been filled, you can't join the contest.
- You can sort the contests on the basis of the entry fee or the number of spots.
- You can also filter out these contests on the basis of entry fee, prize pool, contest type etc.
- Some of the contests have 0 entry fee so that you can participate in some contests for practice before joining any match having fee & prize money associated with it.
- For joining any contest, you have to pay the entry fee which can be added using any crypto exchange or crypto wallets.
- As of now user can add money using Ethereum only, but more currencies will be added soon.

Follow the match

- Once the match has started, you can see how your players & team is performing. The points get assigned to the players as they perform in the match on a real time basis so you can check out your performance against all other participants & see your standing in the contest leader board.

Withdraw your winnings

- Once the match has ended, winners can be checked in the leader board.
- You can see if you are in the winning spot.
- If you are then the money won by you will get added to your FanPower account automatically as per your leader board standing.
- All the winners can use the money either for participating in other contests or can withdraw the money & celebrate victory.

Fantasy Points System

- FanPower points system is pre-defined by each of the sports fantasy app. Fantasy points are the points which are earned by the players after some performance in the match they are playing.
- The points system will be different for all the games. Complete details will be added as more games are added.

Taxation on Earnings

- As all the transactions are done in crypto here and there is 30%tax on any profit gain as of this time.
- This is same as compared to any other fantasy applications out there.

FANPOWER ENGINEERING PROCESS

Development Methodology

As FanPower is a startup so the member in the company is limited and so there are no definite roles to anyone.

So this makes the group to use the Agile Methodology

Agile Development

I am working closely with the design, testing and content development team to prepare the project on time. Agile and fast sprints are used to deliver modules on time. Regular sprints and meetings were conducted between design, developers, so that everyone is on same page. It is the SCRUM environment with that everyone is working on almost everything and knows how thing is working properly.

Training Process

Initially when I joined the company, I was given a training module that was to be completed along with some of the basic work done.

Traning Module 1

The list included all the topics mentioned below:

- **GIT**
 - i. Intent
 - ii. Timelines (6 hours)
 - iii. Resources
 - iv. Few most used git commands
 - v. Assignment
 - vi. Conclusion
- **JavaScript**
 - i. Intent
 - ii. Timeline (20 hours)
 - iii. Resources
 - iv. Basic Concepts for beginners.
 - v. Advanced Concepts
 - vi. Assignments
 - vii. Simple html form assignment
 - viii. Person object sorting assignment
 - ix. Conclusion
- **React JS with Hooks & Redux**
 - i. Intent
 - ii. Timeline (40 Hours)
 - iii. Resources
 - iv. Assignment

- v. Conclusion
- vi. Evaluation
- **CSS**
 - i. Intent
 - ii. Timeline (40 hours)
 - iii. Resources
 - iv. Assignment
 - v. Conclusion
- **React Native**
 - i. Intent
 - ii. Timeline (20 hours)
 - iii. Resources
 - iv. Assignment
 - v. Conclusion
 - vi. Evaluation
 - vii. Coding Guidelines
 - viii. Intent
- **NODE JS**
 - i. Intent
 - ii. Timeline (20 hours)
 - iii. Resources
 - iv. Assignment
 - v. Conclusion
 - vi. Evaluation
- **Typescript, TypeORM, Nest**
 - i. Intent
 - ii. Timeline (20 hours)
 - iii. Resources
 - iv. Assignment

v. Conclusion

vi. Evaluation

As the company deals with cryptocurrencies and web3 with all these languages and methodologies I was given another module to study which was more exciting than the first one.

TRAINING MODULE 2

- **Module 1**
 - An introduction to cryptocurrency



- **Module 2**
 - The types of cryptocurrency
- **Module 3**
 - The mechanics of Cryptocurrency
- **Module 4**
 - The legalities of Cryptocurrency
- **Module 5**
 - Using and storing Cryptocurrency
- **Module 6**
 - Cryptocurrency mining
- **Module 7**
 - The anonymity of Cryptocurrency
- **Module 8**
 - Regulations, policies and the crypto community

- **Module 9**
 - Trading Cryptocurrency
- **Module 10**
 - The future of Cryptocurrency

TOOLS/TECHNOLOGIES USED

Git

Before we start getting into how to use git, we should first talk about what Git is. Git is a system built to help you organize changes, create releases, and collaborate with others on a project. Git projects can be stored locally (only on your machine) or remotely (online somewhere like GitHub, BitBucket, or GitLab) depending on what you want to do with it.

It is an open-source version control system created by Linus Torvalds in the year 2005. Git is also known as a distributed version control system i.e all the codebase and history are available on every developer's computer, which allows for easy branching and merging.

Using version control in a project allows you to make a copy of your project, make and test your changes, then merge it back in with the original copy.

Javascript

JavaScript is a scripting or programming language that allows you to implement complex features on web pages – every time a web page does more than just sit there and display static information for you to look at – displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, etc. – you can bet that JavaScript is probably involved. It is the third layer of the layer cake of standard web technologies, two of which (HTML and CSS) we have covered in much more detail in other parts of the Learning Area.

React Js

ReactJS is JavaScript library used for building reusable UI components. According to React official documentation, following is the definition –

React is a library for building composable user interfaces. It encourages the creation of reusable UI components, which present data that changes over time. Lots of people use React as the V in MVC. React abstracts away the DOM from you, offering a simpler programming model and better performance. React can also render on the server using

Node, and it can power native apps using React Native. React implements one-way reactive data flow, which reduces the boilerplate and is easier to reason about than traditional data binding.

Css

CSS (Cascading Style Sheets) is a declarative language that controls how webpages look in the browser.

The browser applies CSS style declarations to selected elements to display them properly. A style declaration contains the properties and their values, which determine how a webpage looks.

CSS is one of the three core Web technologies, along with HTML and JavaScript. CSS usually styles HTML elements, but can be also used with other markup languages like SVG or XML.

REACT NATIVE

React Native (also known as RN) is a popular JavaScript-based mobile app framework that allows you to build natively rendered mobile apps for iOS and Android. The framework lets you create an application for various platforms by using the same codebase.

React Native was first released by Facebook as an open-source project in 2015. In just a couple of years, it became one of the top solutions used for mobile development. React Native development is used to power some of the world's leading mobile apps, including Instagram, Facebook, and Skype. We discuss these and other examples of React Native-powered apps further in this post. There are several reasons behind React Native's global success.

Firstly, by using React Native, companies can create code just once and use it to power both their iOS and Android apps. This translates to huge time and resource savings. Secondly, React Native was built based on React – a JavaScript library, which was already hugely popular when the mobile framework was released. We discuss the differences between React and React Native in detail further in this section. Thirdly, the framework empowered frontend developers, who could previously only work with web-based technologies, to create robust, production-ready apps for mobile platforms. Interestingly, as with many revolutionary inventions, React Native was developed as a response to a big technological mistake.

UNDERSTANDING CRYPTOCURRENCY

In simple words, cryptocurrency is a digital asset. The name originates from the fact that all its transactions are highly encrypted, making the exchanges highly secure. It is decentralized in nature, unlike traditional currencies, which are managed and controlled by a central authority. A cryptocurrency is finite in number and at times equated to precious metals like gold and silver.

Cryptocurrency is created through mining, which is a process of very complex problems being solved by powerful computers, usually as a reward for making successful cryptocurrency transactions. In other words, the exchange of cryptocurrency often results in more cryptocurrency being introduced in the world.

Many cryptocurrencies use blockchain for managing and recording transactions, wherein multiple entities maintain identical transaction records, making it an extremely secure technology for your investments.

The Crypto Market



The total worth of the cryptocurrency market as of March 2022 is a whopping \$2.1 trillion. There are over 10,000 listed cryptocurrencies at the time of writing, and this number is only bound to increase. Out of this, Bitcoin has the largest share in terms of market capitalization, amounting to about \$900 billion, followed by Ethereum.

Acceptance of cryptocurrency around the world has been on the increase for many years now. For example, when a major US online retailer – Overstock.com – started accepting Bitcoins in 2014, it made \$124,000 in Bitcoin sales on the first day itself. More interestingly, corporations are also recognizing the investment value of this digital asset – US-based MicroStrategy Inc. purchased more than \$1 billion of Bitcoin in 2020!

Bitcoin – The Gamechanger

Bitcoin emerged as a gold rush of opportunity when the world realised problems with the existing financial systems after the 2008 crisis. It was the very first crypto developed through blockchain and perhaps changed the way people thought about

money. In 2013, Bitcoin was recommended as the best investment by Forbes. Today, it has become a household name.

Why Invest in Bitcoin?

In addition to being highly secure in nature, Bitcoin is also peer-to-peer (P2P), which means it involves no intermediary (such as a bank or credit card agency) and offers a minimal transaction cost.

It is fast and fully transparent – for instance, every Bitcoin transaction you make is recorded in a public ledger that is visible to all. It cannot be forged or counterfeited. Blockchain transactions are also irreversible, making the chances of fraudulent activities even smaller and your investments much more secure. You can trade Bitcoin through exchanges such as WazirX, which are a safe and secure platform for investors.

BLOCKCHAIN



Blockchain technology is the concept or protocol behind the running of the blockchain. Blockchain technology makes cryptocurrencies (digital currencies secured by cryptography) like Bitcoin work just like the internet makes email possible. The blockchain is an immutable (unchangeable, meaning a transaction or file recorded cannot be changed) distributed digital ledger (digital record of transactions or data stored in multiple places on a computer network) with many use cases beyond cryptocurrencies.

Proof of Work (PoW) vs. Proof of Stake (PoS)



A public blockchain functions through consensus mechanisms: the process for validating transactions without a third party like a bank.

PoW and PoS are two such mechanisms. While their goal—to reach a consensus that a transaction is valid—remains the same, how they get there is a little different.

What Is PoW?

PoW, the technical term for mining, is the original consensus mechanism. It is still used by Bitcoin and Ethereum as of writing but, as mentioned, Ethereum will move to PoS by 2022. PoW is based on cryptography, which uses mathematical equations only computers can solve. The example in the previous section of how blocks get added to the Bitcoin Blockchain explains this system. The two big problems with PoW are that it uses a lot of electricity and can only process a limited number of transactions simultaneously (seven for Bitcoin). Transactions typically take at least ten minutes to complete, with this delay increasing when the network is congested. Though compared to the days-long wait required to wire money across the globe, or even to clear a check, Bitcoin's ten-minute delay is quite remarkable.

What Is PoS?

PoS still uses cryptographic algorithms for validation, but transactions get validated by a chosen validator based on how many coins they hold, also known as their stake. Individuals aren't technically mining, and there's no block reward. Instead, blocks are 'forged.' Those participating in this process lock a specific number of coins on the network.

The bigger a person's stake, the more mining power they have—and the higher the chances they'll be selected as the validator for the next block. To ensure those with the most coins aren't always selected, other selection methods are used. These include randomized block selection (forgers with the highest stake and lowest hash value are chosen) and coin age selection (forgers are selected based on how long they've held their coins) The results are faster transaction times and lower costs. The NEO and Dash cryptocurrencies, for example, can send and receive transactions in seconds.

MAIN TERMINOLOGIES

Decentralization

Decentralization means there's no central point of control. Instead, decisions are made via consensus over a distributed network of computers. There is, however, one significant tradeoff: speed. Sending transactions takes longer because multiple confirmations are required to validate a transaction. Hence why Bitcoin is slow.

Scalability

Scalability is the ability of the system to cope with a growing number of transactions. Scalability is crucial for mass adoption because any system needs to operate efficiently as more people use it.

Below is a rough breakdown of how many transactions Ethereum, Bitcoin, and credit card companies can process per second:

- **Bitcoin:** seven per second
- **Ethereum:** 30 per second
- **Credit cards:** 5,000 credit card transactions per second with the ability to process much more if needed. Visa, for example, can process up to 24,000 transactions per second.

But achieving scalability often comes at the expense of decentralization. EOS, for example, promises a maximum of 4000 TPS but has come under criticism for being too centralized.

Security

Security is the ability of a blockchain to be protected from attacks. Unfortunately, exchanges and source code have been hacked on many occasions, suggesting that many developers focus on scalability and decentralization at the expense of security.

Ethereum Basics

In 2013, after traveling, meeting with bitcoin developers, and discovering Bitcoin's limitations, Vitalik Buterin decided to improve upon the Bitcoin blockchain and built Ethereum. The Ethereum network is a public, decentralized peer-to-peer network. Like Bitcoin, it uses nodes and allows users to send and receive cryptocurrency – in this case, Ether. The network is much more than a payment system – it was primarily created to deploy decentralized applications (dapps) and smart contracts. Dapps are simply 'decentralized apps,' or computer programs that interact with the Ethereum blockchain. Smart contracts, however, operate on the Ethereum blockchain, and are contracts that automatically execute without an intermediary once certain conditions (written into computer code) are met. For example, a smart contract could be programmed to send a designated person a portion of your Bitcoin when you die.

Benefits of Blockchains Over Traditional Finance

1. **Trustless:** The blockchain is immutable and automates trusted transactions between counterparties who do not need to know each other. Transactions are only executed when programmed conditions are met by both parties.
2. **Unstoppable:** Once the conditions programmed into a blockchain protocol are met, an initiated transaction cannot be undone, changed, or stopped. It's going to execute and nothing – no bank, government, or third party – can stop it.
3. **Immutable:** Records on a blockchain cannot be changed or tampered with – Bitcoin has never been hacked. A new block of transactions is only added after a complex mathematical problem is solved and verified by a consensus mechanism. Each new block has a unique cryptographic key resulting from the previous block's information and key being added into a formula.
4. **Decentralized:** No single entity maintains the network. Unlike centralized banks, decisions on the blockchain are made via consensus. Decentralization is essential because it ensures people can easily access and build on the platform, and there are multiple points of failure.
5. **Lower Cost:** In the traditional finance system, you pay third parties like banks to process transactions. The blockchain eliminates these intermediaries and reduces fees, with some systems returning fees to miners and stakers.
6. **Peer-to-Peer:** Cryptocurrencies like Bitcoin, let you send money directly to anyone, anywhere in the world, without an intermediary like a bank charging transaction or handling fees.
7. **Transparent:** Public blockchains are open-source software, so anyone can access them to view transactions and their source code. They can even use the code to

build new applications and suggest improvements to the code. Suggestions are accepted or rejected via consensus.

8. **Universal Banking:** 2 billion people globally do not have a bank account. Because anyone can access the blockchain to store money, it's a great way to bank the unbanked and protect against theft that can happen due to holding cash in physical locations.

FRONTEND DEVELOPER

My major work as a frontend developer is to work on the website and fix existing bugs and implement some new features.

So whenever we find a new bug in the program, according to that work is assigned to the fellow members and try to solve it as soon as possible.

Month wise division of work:

1st Month (Feb 2022)

Got to know about the company, work culture, and most importantly studied about cryptocurrencies and how all digital currencies work in general.

2nd Month (March 2022)

Started to fix existing bugs in the website, and improved its UI, as I was still new with the whole existing code so I was extra careful with that or other parts of the website may have crashed.

3rd Month (April 2022)

As I was getting comfortable with the code and everything, Indian government imposed a 30% taxation on crypto. So this was the choppy month as all of us were tensed about the future of application. But still there were many changes applied in the website during this time.

4th month (May 2022)

This was one of the most productive month as a lot of things were added. Firstly, the login authenticator was added using reactjs, lots of changes were made in ui also, almost whole ui was changed and banners were added.

IPL was live during this time so we made it like almost working website banners were added token system was implemented and almost everything was working fine.

5th month (June 2022)

Now we studied and implemented the payment system properly with Ethereum, and tried with some cryptocurrencies as well.

But in June again global crisis started which impacted the cryptocurrency along with many things, so not that much was achieved on the website front but we used to have some discussion sessions about the future of the company and cryptocurrency.

The work has been little slow that what was supposed to happen, there are various reasons for that is everyone is still learning and understanding about this new world. Cryptocurrency is still at a very early stage as of now and people are already afraid of it and govt is imposing new harsh laws regularly which is making the condition even worse.

FUTURE PLANS

- As of now we have only tested cricket matches, once this will be completely fine and working smoothly all other major games and leagues will be added.
- Currently payment can only be made by ETH but soon other major crypto currencies will be added.
- With the help of Ethereum smart contracts will also be added soon.

CONCLUSION

With the help of this project, I have learned a lot about frontend development, along with that I am able to explore the whole new world of crypto currencies.

I learned to work in a team and learned to work in pressure situations. Along with this I also learned how to create documentation & also improved my communication skills.