

# EXA Protocol talk

## L1 Blockchain & Decentralisation

### Introduction (5 minutes)

- Greetings and brief introduction of yourself
- Overview of the topics you'll be discussing

### Why Web3? or why decentralisation? (10-15 minutes)

- Explanation of the current centralized system and its limitations
- Introduction to the concept of decentralization and its benefits
- Examples of successful decentralized systems (e.g. Bitcoin, Ethereum)
- How Web3 and decentralization can change the world

### Layer 0, Layer 1, Layer 2 (Pros & Cons) (10-15 minutes)

- Explanation of each layer and their role in the Web3 ecosystem
- Pros and cons of each layer (e.g. scalability, security, speed)
- Importance of layer 2 solutions for scaling Web3

### Barriers to Decentralization (10-15 minutes)

- Overview of the current barriers to decentralization (e.g. regulatory, technical, social)
- How these barriers can be addressed and overcome
- Importance of community building in promoting decentralization

### Decentralized Storage (Arweave & IPFS) (10-15 minutes)

- Explanation of Arweave and IPFS and their role in Web3
- Comparison of Arweave and IPFS (e.g. features, use cases)
- Benefits of decentralized storage (e.g. security, privacy, permanence)
- Examples of successful decentralized storage applications

### Conclusion (5 minutes)

- Recap of the topics covered
- Importance of Web3 and decentralization for the future
- Call to action for the audience to get involved in the Web3 community

### Q&A Session (15 minutes)

- Open the floor to questions from the audience
- Provide thoughtful and informative responses to each question

## Introduction:

Good afternoon everyone, my name is Reet, and I am a builder in the web3 community. I have used rust based frameworks, solidity and zero-knowledge based blockchains to build projects and today we'll be discussing the topic of L1 blockchains and decentralization.

The internet as we know it today is a centralized system, which means that a few powerful entities control the majority of the content and information that we access online.

To say, most of our data is held by a few major companies like Amazon, Google, FAANG and they usually trade data to run ads.

But, with the rise of blockchain technology, we now have the opportunity to create a more decentralized internet, where information and resources are more evenly distributed.

## Explanation of the current centralized system and its limitations:

In a centralized system, a few powerful entities have control over the majority of the content and information that we access online. This creates several limitations, including issues with censorship and privacy. For example, if a government or corporation decides to censor certain content, there is little that individuals can do to access that information. Additionally, centralized systems are vulnerable to security breaches and hacking attempts, which can compromise the privacy and security of user data.

## Introduction to the concept of decentralization and its benefits:

Decentralization is the concept of distributing control and resources among a larger network of individuals, rather than a few powerful entities. This has several benefits, including increased privacy, security, and transparency. With a decentralized system, individuals have more control over their own data and can access information without fear of censorship or security breaches.

## Examples of successful decentralized systems:

Bitcoin and Ethereum are two of the most successful examples of decentralized systems. Bitcoin is a decentralized digital currency that operates without the need for a central bank or financial institution. Ethereum is a decentralized platform that allows developers to build decentralized applications (dApps) on top of its blockchain. Both of these systems have gained widespread adoption and have shown the potential for decentralization to transform the way we interact online.

## How Web3 and decentralization can change the world:

Web3 and decentralization have the potential to change the world in several ways. By creating a more decentralized internet, we can increase privacy, security, and transparency for individuals and organizations around the world. Additionally, by allowing individuals to control their own data and resources, we can create a more equitable and just society.

## Layer 0, Layer 1, Layer 2 (Pros & Cons)

### Introduction:

In the world of Web3, there are several layers that make up the overall ecosystem. These layers, known as Layer 0, Layer 1, and Layer 2, each have their own unique role to play in the Web3 landscape. Today, we'll be discussing the pros and cons of each layer and their overall impact on the Web3 ecosystem.

### Explanation of each layer and their role in the Web3 ecosystem:

Layer 0, also known as the "physical layer," includes the physical infrastructure that makes up the internet, such as servers and data centers.

Layer 1, also known as the "protocol layer," includes the underlying protocols that make up the Web3 ecosystem, such as Bitcoin and Ethereum.

Layer 2, also known as the "application layer," includes the applications and dApps that are built on top of the underlying protocols.

### Pros and cons of each layer:

Layer 0 has the advantage of providing the physical infrastructure that makes up the internet, but it is also vulnerable to physical attacks and security breaches. Layer 1 has the advantage of providing the underlying protocols that power the Web3 ecosystem, but it is also limited in terms of scalability and transaction throughput. Layer 2 has the advantage of providing scalable and fast applications and dApps, but it is also more complex and requires additional layers of security.

### Importance of layer 2 solutions for scaling Web3:

Layer 2 solutions are critical for scaling the Web3 ecosystem and allowing for more efficient and cost-effective transactions. These solutions, such as state channels and sidechains, allow for off-chain transactions that don't require every transaction to be recorded on the underlying blockchain. This reduces congestion on the blockchain, increases transaction throughput, and lowers transaction fees.

### Examples of successful layer 2 solutions:

One successful layer 2 solution is Lightning Network, which is a second-layer solution for Bitcoin that allows for fast, cheap, and scalable transactions. Another example is Polygon, which is a sidechain solution for Ethereum that allows for faster and cheaper transactions,

while still maintaining the security and decentralization of the underlying Ethereum blockchain.

### Challenges facing layer 2 solutions:

While layer 2 solutions have the potential to greatly improve the scalability and efficiency of the Web3 ecosystem, there are also several challenges that must be addressed. These challenges include interoperability between different layer 2 solutions, security concerns, and user adoption.

### Overall impact of layer 0, layer 1, and layer 2 on the Web3 ecosystem:

Each layer plays a crucial role in the Web3 ecosystem, and the success of the overall ecosystem depends on the successful integration and coordination of each layer. Layer 0 provides the physical infrastructure, layer 1 provides the underlying protocols, and layer 2 provides the scalable and efficient applications and dApps that make up the Web3 ecosystem.

## Barriers to Decentralisation

### Introduction:

While decentralization has many potential benefits, there are also several barriers that must be overcome in order to achieve a truly decentralized system. Today, we'll be discussing some of the major barriers to decentralization and what can be done to overcome them.

### Barriers to decentralization:

One major barrier to decentralization is the issue of scalability. Current blockchain systems like Bitcoin and Ethereum can only process a limited number of transactions per second, which limits their ability to scale to meet the needs of a global network. Additionally, there are issues with interoperability between different blockchain systems, which makes it difficult for different systems to work together.

Another major barrier to decentralization is the issue of governance. Decentralized systems require a distributed governance model that ensures all stakeholders have a say in the decision-making process. However, achieving consensus among a large and diverse group of stakeholders can be difficult, and there is often a lack of formal governance structures in place.

Regulatory and legal challenges are also a major barrier to decentralization. Many governments around the world are still grappling with how to regulate and tax blockchain and cryptocurrency systems, which creates uncertainty and can make it difficult for these systems to gain mainstream adoption.

## Overcoming barriers to decentralization:

To overcome these barriers to decentralization, there are several potential solutions. For scalability, layer 2 solutions like state channels and sidechains can help increase transaction throughput and reduce congestion on the underlying blockchain. Interoperability solutions like cross-chain bridges can help different blockchain systems work together more effectively.

For governance, there are several potential solutions, including the use of decentralized autonomous organizations (DAOs) and formal governance structures that ensure all stakeholders have a say in the decision-making process.

Finally, for regulatory and legal challenges, there is a need for increased collaboration between the blockchain and cryptocurrency industry and governments around the world. By working together, we can create regulatory frameworks that support innovation while also ensuring consumer protection and security.

## Conclusion:

While there are certainly barriers to decentralization, there are also many potential solutions that can help us overcome these challenges and create a more decentralized and equitable society. By working together and embracing the power of Web3 technology, we can create a better future for everyone.

## Decentralised Storage (Arweave & IPFS)

### Introduction:

Decentralized storage is a critical component of the Web3 ecosystem, allowing for the secure and decentralized storage of data and information. Today, we'll be discussing two popular decentralized storage solutions: Arweave and IPFS.

Talk about floppy disks to cloud storage, google drive, drop box, BUT blockchain based storage solutions can offer: data immutability, enhanced privacy and better security.

### Arweave:

Arweave is a blockchain-based decentralized storage solution that provides permanent, tamper-proof storage for data and information. It uses a unique consensus mechanism called Proof of Access, which rewards users who store data for longer periods of time. Arweave is also designed to be cost-effective, with low storage fees and no bandwidth or egress fees.

### IPFS:

IPFS (InterPlanetary File System) is a peer-to-peer protocol for decentralized file storage and sharing. It uses a content-addressed system, where files are identified by their content rather than their location. This allows for easy sharing and retrieval of files, even if the

original host is offline. IPFS is also designed to be highly scalable, with no central point of failure and the ability to handle large amounts of data.

### Pros and cons of decentralized storage:

Decentralized storage solutions like Arweave and IPFS offer several advantages over traditional centralized storage solutions. These advantages include increased security, privacy, and censorship resistance, as well as lower costs and increased accessibility. However, there are also some potential drawbacks to decentralized storage, including slower retrieval times and the need for additional security measures to protect against data loss or theft.

### Use cases for decentralized storage:

Decentralized storage has a wide range of potential use cases, from storing important documents and records to hosting decentralized applications and dApps. Decentralized storage can also be used for content distribution, such as hosting media files and streaming video.

### Conclusion:

Decentralized storage is a critical component of the Web3 ecosystem, providing secure, tamper-proof, and cost-effective storage for data and information. While there are some potential drawbacks to decentralized storage, the benefits it offers make it an important tool for building a more decentralized and equitable society. Solutions like Arweave and IPFS are paving the way for a new era of decentralized storage and data management.