Professional Blockchain Course

Blockchain Technology Stack

User Interface	**Mobile/Web Applications**		
Support system	**Open Source API**	**Commercial API**	
Decentralised protocols	**Social** **Asset mapping** **Certificate verification** **Communications**		Shared protocol layer
Overlay Networks	**Smart Contracts** **Storage** **Side Chains**		Shared data layer
Blockchain	**Blockchain(s)**		
Open Source			
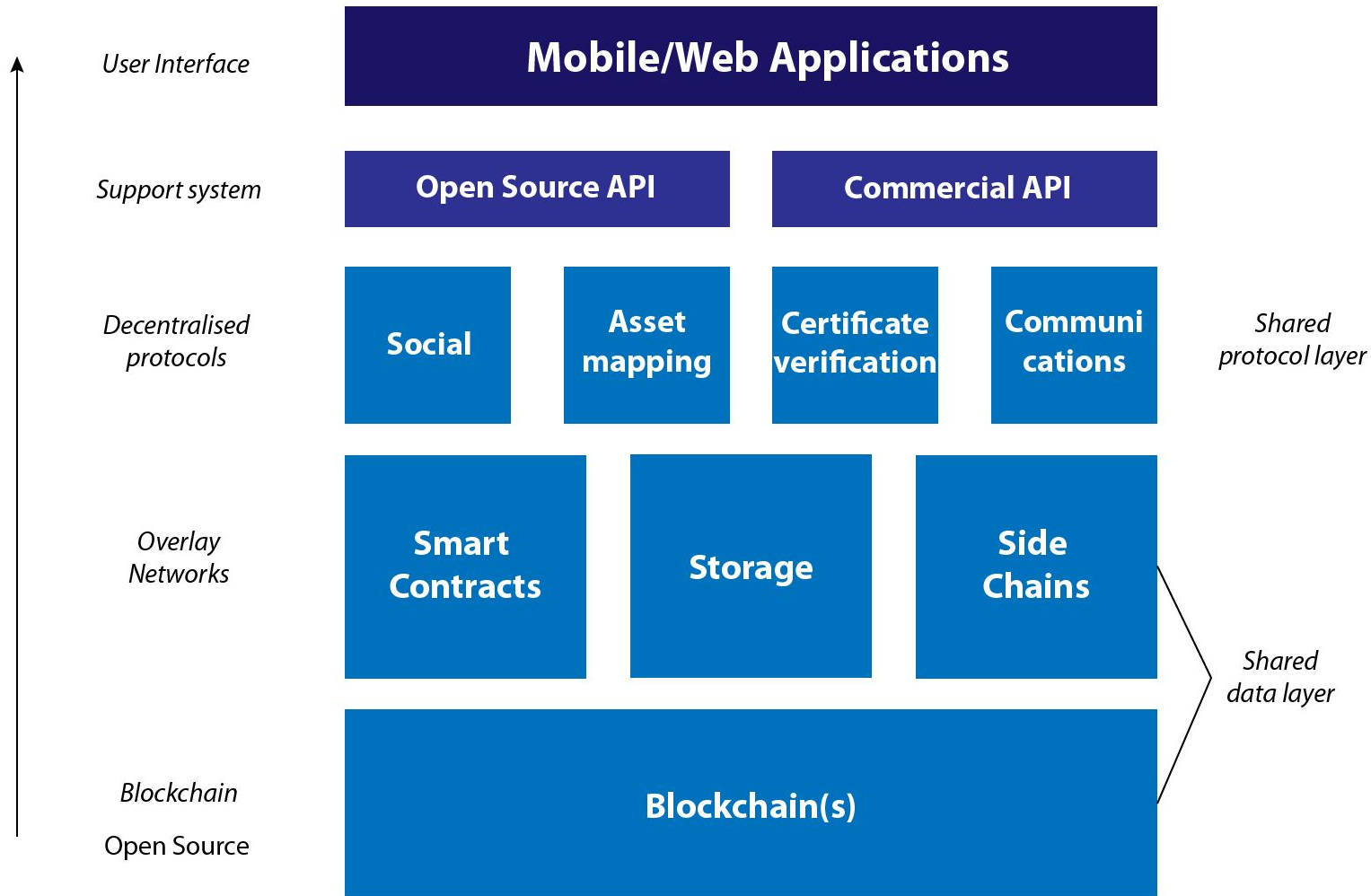
Blockchain

- This is the base of all Blockchain based applications.
- It is a network of nodes spread across the world which run algorithms to verify and commit transaction over the Blockchain.
- This is a decentralized network and mostly based open source cryptography algorithms.
- This can be created as public, private or consortium.
- This can also include Certificate Authorities and Membership services for government and enterprises.

Overlay Networks

- This is a network that achieves additional functionality without bootstrapping the original protocols.
- They benefit from the network effects and build on top of that.
- Some of the additional functionalities you achieve are:
  - Smart Contracts - crypto agreements between two parties
  - Storage - renting network
  - Sidechains - transfer tokens from one Blockchain to a different Blockchain.

Decentralised Protocols

- This is the essential part of the Blockchain Technology stack as it makes sure the Blockchain layer and overlay networks do not depend on a single entity for validation and transactions.
- It helps to create decentralized peer-to-peer datasets.
- Decentralized Protocols can be based on asset mapping, social identities, verification algorithms or communication channels.

Support System

- For building Blockchain applications, you require APIs to interact with the underneath technology.
- You can directly build a solution using the existing APIs, without depending and working on your ledger.
- Most APIs respond to JSON format, thus can be easily integrated with existing Front End Technologies.
- You can use the open source APIs like Bitcoin and Ethereum, or you can choose from commercial APIs like block.io or blockcypher for more boxed up functionalities.

User Interface

- Finally, a user interface is required for your users to connect to your Blockchain.
- User Interface can be built with existing frontend mechanisms and can easily employ the power of Blockchain by using APIs.
- Some platforms like Hyperledger also provide generators to produce a box user interface for the applications built open them.
- Most Blockchain platforms also provide with connecting services to link Applications to Blockchain.

THANK YOU

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