Introduction to Smart Contracts: Course Preview

INTRO Preview

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Why Smart Contracts Matter

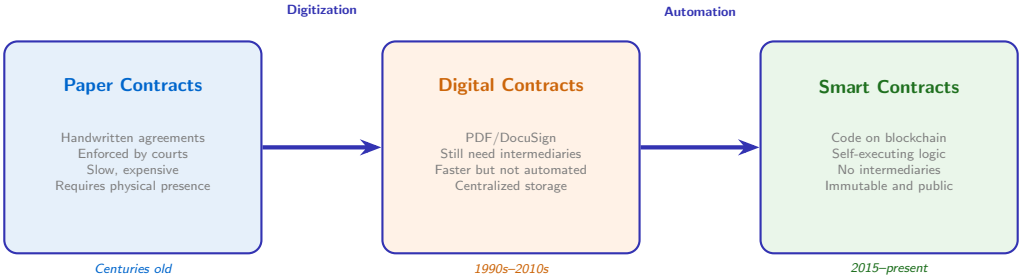
Key Advantages

- ✓ **95% faster** settlement (seconds vs days)
- ✓ **90% lower** transaction costs
- ✓ **24/7/365** availability, no downtime
- ✓ **100% transparent** and auditable

Smar

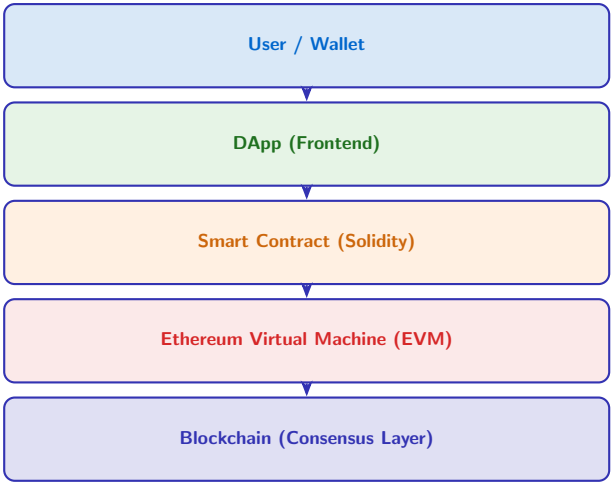
contracts dramatically reduce settlement times and costs while providing round-the-clock availability that traditional systems cannot match.

From Paper Contracts to Code



The evolution from paper to smart contracts represents a shift from human-enforced agreements to machine-enforced, trustless execution on a global ledger.

The Smart Contract Stack

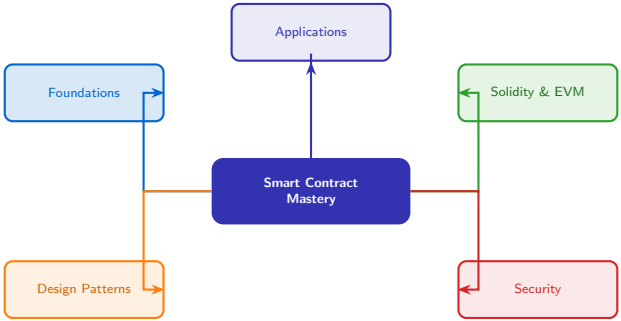


Users interact through wallets and DApps; transactions flow down through smart contracts and the EVM to the consensus layer for permanent recording.

What You Will Learn

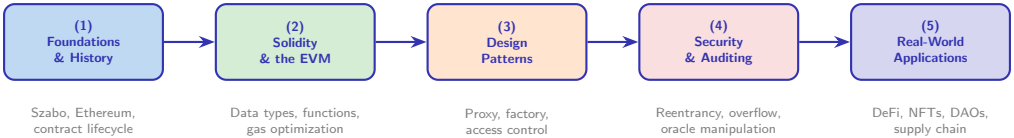
Learning Outcomes

- ✓ **Foundations** — history from Szabo to Ethereum, contract lifecycle and deployment
- ✓ **Solidity & EVM** — data types, functions, storage vs memory, gas optimization
- ✓ **Design patterns** — proxy, factory, access control, upgradeability
- ✓ **Security** — reentrancy, integer overflow, oracle manipulation, auditing
- ✓ **Applications** — DeFi protocols, NFT marketplaces, DAOs, supply chain



By the end you will be able to read, write, audit, and deploy smart contracts with awareness of security trade-offs and real-world applications.

Course Roadmap



Prerequisites

- ✓ Basic blockchain and cryptography concepts
- ✓ Familiarity with any programming language

Outcomes

- ✓ Read, write, and audit Solidity smart contracts
- ✓ Deploy contracts and build DApp front-ends

From historical origins to production deployment in five interconnected modules covering language, patterns, security, and applications.