DeFi Fundamentals: A Visual Introduction

Standalone Mini-Lecture

"Your bank — without the bank"

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University Lecture Series

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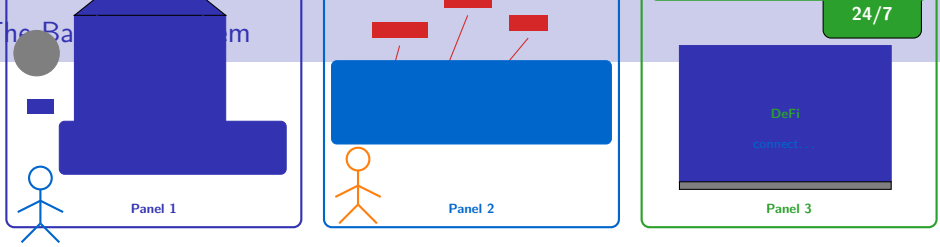
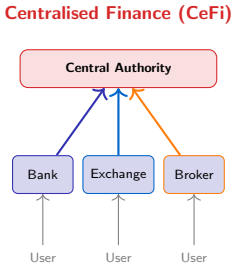
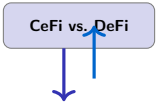
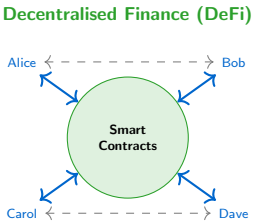


DeFi removes intermediaries – anyone with internet can access financial services.

What is DeFi? CeFi vs. DeFi



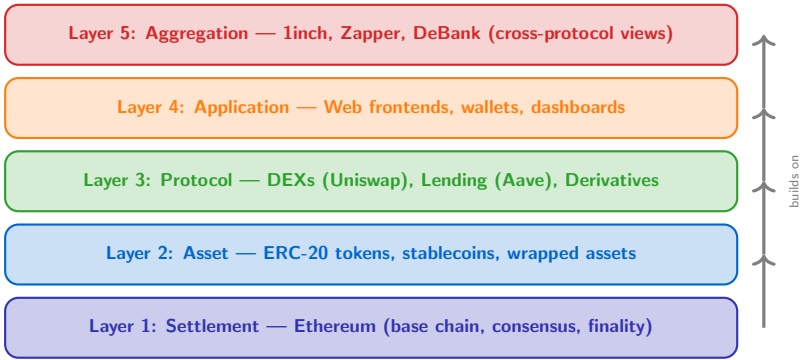




Permissionless | Transparent | Composable | Non-custodial

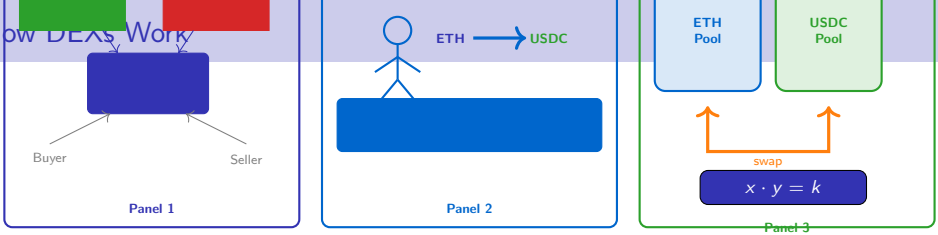
DeFi = financial services built on public blockchains, governed by smart contracts.

The DeFi Stack



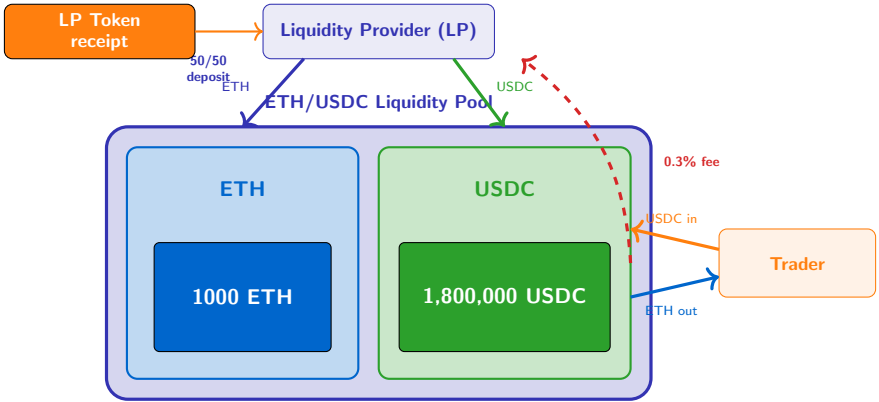
DeFi is built in composable layers – each layer builds on those below it.

How DEXs Work



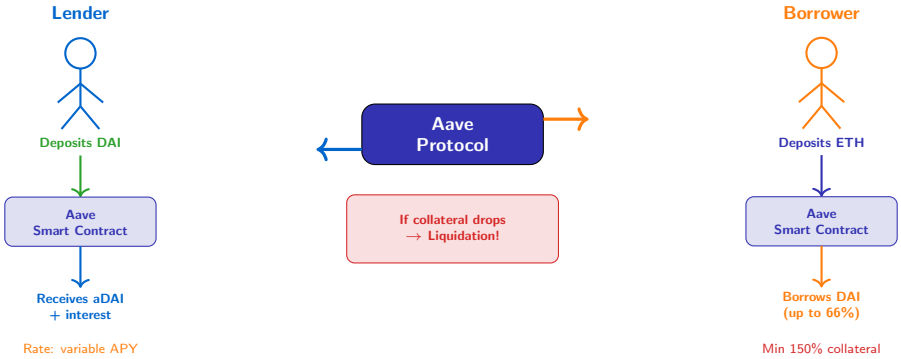
DEXs replace order books with liquidity pools governed by a constant-product formula.

Liquidity Pools Visualised



Liquidity providers deposit equal value of two tokens and earn trading fees.

DeFi Lending and Borrowing



DeFi lending is overcollateralized – borrowers must deposit more than they borrow.

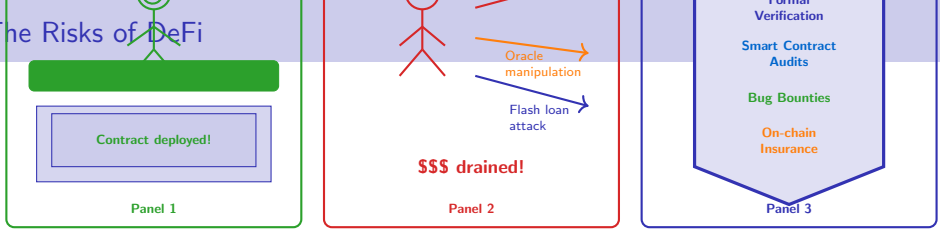
DeFi by the Numbers

Protocol	Type	TVL (approx.)	Users (approx.)
Uniswap	DEX / AMM	$5B+	4M+
Aave	Lending	$10B+	500K+
MakerDAO	Stablecoin	$8B+	200K+
Lido	Staking	$15B+	300K+

DeFi TVL peaked at $180B+ in 2021 — now stabilising at $50–100B

TVL (Total Value Locked) measures total assets deposited in DeFi protocols.

The Risks of DeFi



Smart contract bugs are permanent – DeFi protocols need audits, insurance, and formal verification.

Key Takeaways

1. DeFi = permissionless, transparent financial services on public blockchains
2. AMMs replace order books with liquidity pools governed by $x \cdot y = k$
3. Lending is overcollateralized – borrowers must lock more than they borrow
4. Composability ("money legos") lets protocols build on each other freely
5. Smart contract risk is real – always verify audits before depositing funds

Deep dive into AMM math, lending mechanics, and yield farming stra

Next: Deep dive into AMM math, lending mechanics, and yield farming strategies.