BuckeyeCoin: Building OSU's First Campus Crypto Prototype (Fall 2025)

A Buckeye FinTech × Computer Science Collaborative Build Project

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Project Summary

BuckeyeCoin is an interdisciplinary FinTech project where **Finance** and **Computer Science** students **design, build, and deploy a functional cryptocurrency token** that models how digital currencies could operate inside OSU's ecosystem.

Unlike a theoretical simulation, this project delivers a **working token on a blockchain test network** (Ethereum Goerli, Solana Devnet, or Avalanche Fuji) — complete with a front-end wallet interface, transparent analytics, and defined financial logic.

The goal is to make crypto tangible: to help finance students understand the mechanics of decentralized value and to help CS students see how real-world market design shapes code.

Team Structure

Team	Focus Theme	Example Campus Application
Team Scarlet	**Student Life Economy**	Campus transactions — club dues, event tickets, dining-point replacement
Team Gold	**Research & Alumni Economy**	Research incentives, alumni donations, faculty rewards, compute-for-token programs

Each team will **deploy its own version of BuckeyeCoin**, built on the same base contract but customized to its economic purpose (different tokenomics, use-case logic, and branding).

Both teams will showcase their token at the end-of-semester **Buckeye FinTech Demo Day**.

Project Goals

1. **Build a Real Token**
    - By project end, each team will have **a deployed smart contract** for BuckeyeCoin on a public testnet.
    - The token should be **mintable, transferable, and viewable** via a wallet/explorer.

2. **Collaborative Design × Implementation**
    - Finance defines the token's economics and utility; CS encodes and deploys it.
    - Every decision (supply, staking, governance, transaction fee logic) requires joint sign-off.
3. **Campus-Centric Innovation**
    - Adapt token behavior to campus use cases.
    - Build lightweight **web or dashboard interfaces** simulating real OSU-style payments.
4. **Feasible in 6 Weeks**
    - Balanced so newcomers can learn blockchain basics while advanced members handle deployment details.
    - Emphasis on *education* + *execution*, not production-grade security.

Collaborative Build Phases

Concept & Token Blueprint (Weeks 1–2)

- Brainstorm: What should BuckeyeCoin *do* on campus?
- Finance defines token supply, purpose, and incentives.
- CS drafts smart-contract variables in Solidity or Rust.
- Jointly decide network (Goerli vs Solana devnet).
- **Deliverable:** Tokenomics Doc + Contract Skeleton on Remix/Devnet.

Deployment & Minting (Week 3)

- CS finalizes contract, deploys to testnet.
- Finance members learn to **interact with the contract** (Metamask, Phantom wallet, etc.).
- Teams mint initial supply, distribute to members, and record first transactions.
- **Deliverable:** Deployed Token Address + Transaction Proofs.

Campus Use Case Integration (Weeks 3–4)

- Each team designs a small **prototype application** using their token:
    - Scarlet → Event Ticket Purchase Portal (mock frontend).

    - Gold → Donation Tracker or Research Reward Portal.
- Finance models cost flow; CS connects simple wallet API or writes JS/Python scripts.
- **Deliverable:** Interactive Demo / Webpage + Use Case Flow Chart.

Dashboard & Analytics (Week 5)

- CS collects on-chain data (transactions, holders, gas costs).
- Finance analyzes metrics (velocity, transaction volume, cost efficiency).
- Together they build a **shared analytics dashboard** (Streamlit, Google Sheets API, or HTML charts).
- **Deliverable:** BuckeyeCoin Dashboard + Summary Report.

Governance & Final Pitch (Week 6)

- Design simple **governance logic**: who can mint, burn, or stake.
- Draft a **joint presentation** covering:
    - Technical build (CS)
    - Financial model & impact (Finance)
    - Live demo of token transactions
- **Deliverable:** 5-7 minute presentation + working demo.

Expected Deliverables

Category	Description	Format
Smart Contract	Working ERC-20 / SPL token deployed on a public testnet	Token address + GitHub repo
Use Case Demo	Front-end or script demonstrating a realistic campus transaction	Live demo / recorded video
Analytics Dashboard	Visuals for transaction count, wallet holders, energy estimate	Web / Streamlit / Google Sheets
Governance Doc	Overview of minting rights, caps, and ethical controls	Short PDF section
Final Presentation	Joint technical + financial pitch	Slides + demo

Learning Outcomes

By the end, members will:

- **CS Students:**
    - Learn end-to-end token deployment (Solidity / Rust, testnet tools, basic frontend integration).
    - Gain experience explaining smart-contract mechanics in plain language.
- **Finance Students:**
    - Learn tokenomics, staking logic, and how real blockchain variables impact economic outcomes.
    - Interact directly with testnet wallets and dashboards, analyzing live data.
- **All Members:**
    - Build a working token, a demonstrable use case, and a cohesive story about how digital assets can reshape university finance.

Project Vision

BuckeyeCoin will be OSU's first **student-built, interdisciplinary cryptocurrency prototype** — a live experiment showing how decentralized systems can serve real campus communities.
Through collaborative design and shared responsibility, Team Scarlet and Team Gold will create two distinct, functioning BuckeyeCoins that embody different aspects of the campus economy — and prove that *students can build the future of FinTech right here at Ohio State.*

WEEKLY TIMELINE

Week 1 – Kickoff & Concept Alignment

Goal: Understand the blockchain fundamentals and decide your team's specific use-case vision.

Collaborative Focus:

- Finance + CS jointly define *"What problem does our BuckeyeCoin solve?"*
- Brainstorm features: fixed vs mintable supply, staking, rewards, etc.
- Decide blockchain platform (Ethereum Goerli or Solana Devnet).
- Sketch team roles (finance analysts, devs, UI, presentation leads).

Finance Tasks

- Research 2–3 real student-focused tokens (e.g., Student Coin, Helium, Gridcoin).
- Draft initial tokenomics: supply, unit value, incentive plan.

CS Tasks

- Review token standards (ERC-20, SPL) and learn deployment tools (Remix, Solana CLI).
- Set up wallets + testnet faucets.

Hints / Resources

- YouTube: "ERC-20 token tutorial Remix IDE" – freecodecamp.org
- YouTube: "Solana Devnet token mint tutorial" – Buildspace or SolDev
- Reading: *CoinDesk – What is Tokenomics?*

Week 2 – Token Design & Parameter Planning

Goal: Finalize token variables and start implementing the contract skeleton.

Collaborative Focus:

- Finance proposes token model → CS maps those variables in code.
- Iterate until both groups agree the logic and code match.

Finance Tasks

- Define supply, distribution rules, transaction fees, staking rate.
- Begin drafting a short "Token Blueprint" (one-page PDF).

CS Tasks

- Write starter contract: name, symbol, decimals, initial supply.
- Demo how parameters affect the network (e.g., gas fees, minting).

Hints / Resources

- "Write and deploy ERC-20 token from scratch" – Dapp University
- Docs: Solidity by Example → `erc20.sol`
- Tool: Remix IDE + MetaMask Goerli faucet

Week 3 – Deployment & First Transactions

Goal: Deploy BuckeyeCoin to testnet and send your first transactions.

Collaborative Focus:

- CS deploys contract → Finance learns to use wallets and explorers.
- Mint tokens and distribute them among team members.
- Record transactions for later analytics.

Finance Tasks

- Document transaction results and gas costs in a shared sheet.
- Start thinking about pricing and value stability (e.g., 1 BuckeyeCoin = $1 credit).

CS Tasks

- Handle deployment to testnet and verify contract on Etherscan/Solscan.
- Teach Finance how to interact with the contract in MetaMask/Phantom.

Hints / Resources

- "How to deploy Solidity contracts on Goerli Testnet" – EatTheBlocks
- "Solscan Explorer Tutorial" – SolDev
- Google "testnet faucet Goerli ETH or Solana Devnet SOL"

Week 4 – Campus Use Case Prototype

Goal: Build a lightweight demo that shows how your token is used.

Collaborative Focus:

- Finance designs the user flow ("A student buys a ticket with BuckeyeCoin").
- CS builds a simple frontend or Python script that runs that transaction.

Finance Tasks

- Create a mock payment journey diagram and UI mockup (Canva/Figma).
- Write short copy explaining the benefit of this transaction type.

CS Tasks

- Build demo (web3.js, ethers.js, or Python web3.py).
- Display real token balances and confirmations from testnet.

Hints / Resources

- "Build a simple DApp with web3.js and MetaMask" – Dapp University
- Docs: ethers.js getting started → `sendTransaction`
- Design tool: Figma for wireframing UI

Week 5 – Analytics & Governance

Goal: Measure activity and introduce basic governance mechanics.

Collaborative Focus:

- CS extracts on-chain data → Finance analyzes and interprets it.
- Together they decide who controls minting/burning and voting rights.

Finance Tasks

- Calculate token velocity and potential ROI metrics.
- Draft a "governance and risk" summary page.

CS Tasks

- Use web3.py or API calls to pull transaction counts and holder stats.
- Add mint/burn functions and optional simple DAO-style vote.

Hints / Resources

- "Building a token dashboard with Streamlit" – Patrick Loeber
- Docs: Etherscan API for token supply + holders
- Article: "Intro to DAO governance tokens" – Bankless Academy

Week 6 – Showcase & Reflection

Goal: Prepare a live demo and present findings at the Buckeye FinTech showcase.

Collaborative Focus:

- Each team (SCARLET vs GOLD) presents their unique token + demo.
- Finance handles economic story and metrics; CS handles live demo and tech explanation.
- Discuss which model better fits OSU and what they learned from each other.

Finance Tasks

- Finalize slides (purpose, impact, economics).
- Prepare Q&A on financial feasibility and ethical concerns.

CS Tasks

- Polish frontend or demo video for live run.
- Summarize architecture and deployment process in plain terms.

Hints / Resources

- “How to make a pitch deck for tech projects” – Slidebean
- Tool: Canva / Google Slides for presentation
- Example inspo: “Uniswap Demo Day 2023 student projects” on YouTube

End Result

By the end of six weeks, both teams will have:

- A working BuckeyeCoin token on testnet.
- A prototype application demonstrating a campus use case.
- A joint dashboard and final presentation showcasing their technical and economic design choices.

Every member — finance and CS alike — will walk away with hands-on experience in token creation, blockchain analytics, and cross-disciplinary FinTech collaboration.