

Arbitrum Pulse Bootcamp

May 4-11, 2025

Umojaverse Initiative



Arbitrum Logo

Why Blockchain Matters in Africa

Financial inclusion for 57% of unbanked Africans

Remittance solutions saving \$4B+ annually in fees

Supply chain transparency for agricultural exports

Governance systems reducing corruption by 30%

Building local tech talent across the continent

Meet the Team

Griffins Oduol - Lead Developer, Umojaverse

Arbitrum Advocates - Technical Support Team

Local Partners across Ethiopia, Kenya, South Africa, Uganda, and Rwanda

You! - The builders creating Africa's blockchain future

Bootcamp Agenda

Day 1: Introduction to Arbitrum and Layer 2

Day 2: Stylus Contract Development in Rust

Day 3: Orbit Chains and Layer 3 Solutions

Day 4: Hands-on Workshops with Local Use Cases

Day 5: Hackathon and Project Development

What to Expect

Hands-on experience with Arbitrum technologies

Real-world examples of African blockchain applications

Networking with local developers and blockchain enthusiasts

Technical support for your project ideas

Community building for ongoing collaboration

What is Arbitrum?

Arbitrum is a Layer 2 solution for Ethereum

Makes transactions faster and cheaper

Perfect for African apps like remittances and marketplaces

Runs on Sepolia testnet for practice

No special hardware needed to develop

Arbitrum's Benefits

Faster transactions for African apps

Cheaper fees than Ethereum (95% reduction)

Compatible with existing Ethereum tools

Scalable for millions of African users

Arbitrum in Action

Transactions process in seconds, not minutes

Fees reduced from \$10-50 to cents

Same security as Ethereum mainnet

Works with MetaMask and other familiar wallets

No new language to learn for Solidity developers

Getting Started with Arbitrum

Create a MetaMask wallet

Switch to Arbitrum Sepolia network

Get testnet ETH from the faucet

Use familiar tools like Remix or Hardhat

Deploy your first contract in minutes

Arbitrum Use Cases

Kenyan fintech: M-Pesa integration for crypto-fiat

Ethiopian coffee exports: Transparent supply chain

South African logistics: Tracking and verification

Rwandan voting: Secure and transparent governance

Introduction to Stylus

Stylus lets you write smart contracts in Rust

10-100x faster than traditional EVM contracts

Perfect for computation-heavy African use cases

Memory safe and highly reliable

Deployable on Arbitrum Sepolia testnet

Why Stylus?

Speed: Critical for high-volume African apps

Safety: Rust prevents common smart contract bugs

Ecosystem: Use existing Rust libraries and tools

Efficiency: Less gas used for the same operations

Writing Stylus Contracts

Simple Stylus contract for Kenyan microfinance:

```
#[stylus_sdk::entrypoint]
impl MicrofinanceDAO {
    #[payable(true)]
    pub fn deposit(&mut self) -> Result<(), Vec<u8>> {
        let sender = msg::sender();
        let amount = msg::value();
        self.deposits.insert(sender, current_deposit + amount);
        Ok(())
    }
}
```

Deploying Stylus Contracts

Install Rust and Cargo Stylus

Write your contract using `stylus_sdk`

Build with `cargo stylus build`

Deploy using `cargo stylus deploy --network sepolia`

Test with standard Ethereum tools

Stylus for Africa

Microfinance DAOs for local savings groups (Kenya)

Trade escrow systems for exporters (Ethiopia)

Voting platforms for community decisions (Rwanda)

Supply chain tracking for valuable goods (South Africa)

What are Orbit Chains?

Orbit Chains are customizable Layer 3 solutions

Built on top of Arbitrum for specific use cases

Offer ultra-low fees (under \$0.01 per transaction)

Can be governed by local communities

Perfect for African-specific applications

Building with Orbit Chains

Simple JavaScript to create an Orbit Chain:

```
const orbitChainConfig = {  
  chainName: "KenyaFintechChain",  
  chainId: 42070,  
  parentChainId: 421614, // Arbitrum Sepolia  
  nativeToken: {  
    name: "Kenya Fintech Token",  
    symbol: "KFT"  
  }  
};
```

```
const chain = await createRollupChain(wallet, orbitChainConfig);
```

Orbit for Innovation

Create country-specific blockchain infrastructure

Design custom tokens for local economies

Set governance rules for African communities

Enable extreme scalability for millions of users

Build interoperable networks across Africa

Local Use Cases

Kenyan Fintech: M-Pesa integration with Arbitrum

Ethiopian Trade: Coffee export tracking using Stylus

Rwandan Governance: E-voting systems on Orbit

Ugandan Microfinance: Village savings on Stylus

South African Logistics: Supply chain on Orbit

Workshop & Next Steps

Clone our GitHub repo: github.com/Umojaverse/ArbitrumPulse

Run validation scripts to check your code works

Join our Discord for ongoing support

Apply for grants to build your Arbitrum project

Participate in our upcoming hackathon

Thank You!

Contact: griffins@umojaverse.org

Resources: arbitrum.io | github.com/Umojaverse/ArbitrumPulse



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Building Africa's blockchain future together