# HealthToken: Blockchain-Based Health Incentives

A smart system that rewards you with digital tokens for tracking your daily health activities
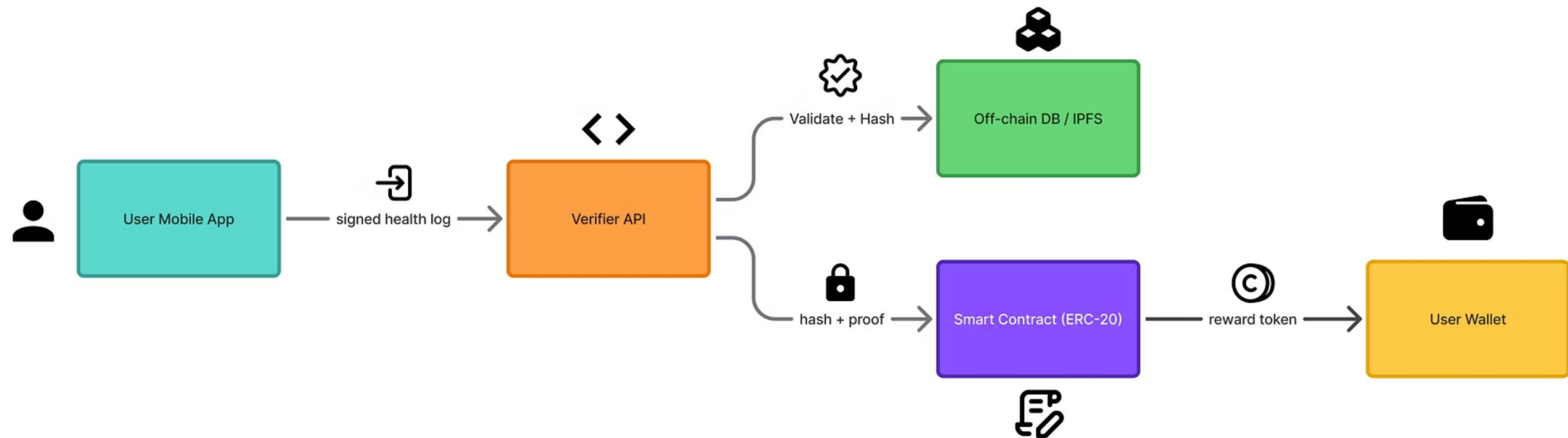
CENG3550 PROJECT

JANUARY 2026

# Off-chain verification + On-chain token rewards

# The Problem We're Solving

## Low Motivation

Most people abandon health apps after the first month

## No Real Rewards

Traditional point systems don't motivate users enough

## Lack of Trust

Users don't trust that their data is secure or rewards are fair

# What is HealthToken?

A blockchain-based system that gives you real digital tokens for logging your health activities

## 01

### Track Your Health

Log steps, water intake, and sleep

## 02

### Earn HLT Tokens

Get rewarded automatically via smart contract

## 03

### Stay Motivated

Tokens have real value and are yours forever

# How Blockchain Makes It Better

## Secure

Your health data is protected by encryption and can't be changed

## Transparent

All rewards are visible on the blockchain - no hidden rules

## Trustworthy

Smart contracts automatically give you tokens - no middleman needed

## Real Value

HLT tokens can be transferred and have actual worth

# How You Earn Tokens

## Early Bird Bonus

First submission: **7.5 HLT**

Second: 3 HLT

Third+: 2 HLT

## Complete Data Bonus

Log all 3 metrics together

Get **1.5× more tokens**

**Example:** First submit "steps + water + sleep hours" = 7.5 HLT tokens!

# We Tested It With Simulations

## 14-Day Pilot Study

*(Note: This was a simulated pilot study, not real participants, as the team didn't have 14 days for a live study.)*

- 10 participants total

- 5 with token rewards

- 5 without rewards (control group)

- Tracked daily compliance

**34%**

Higher Compliance

Token group vs control

**797**

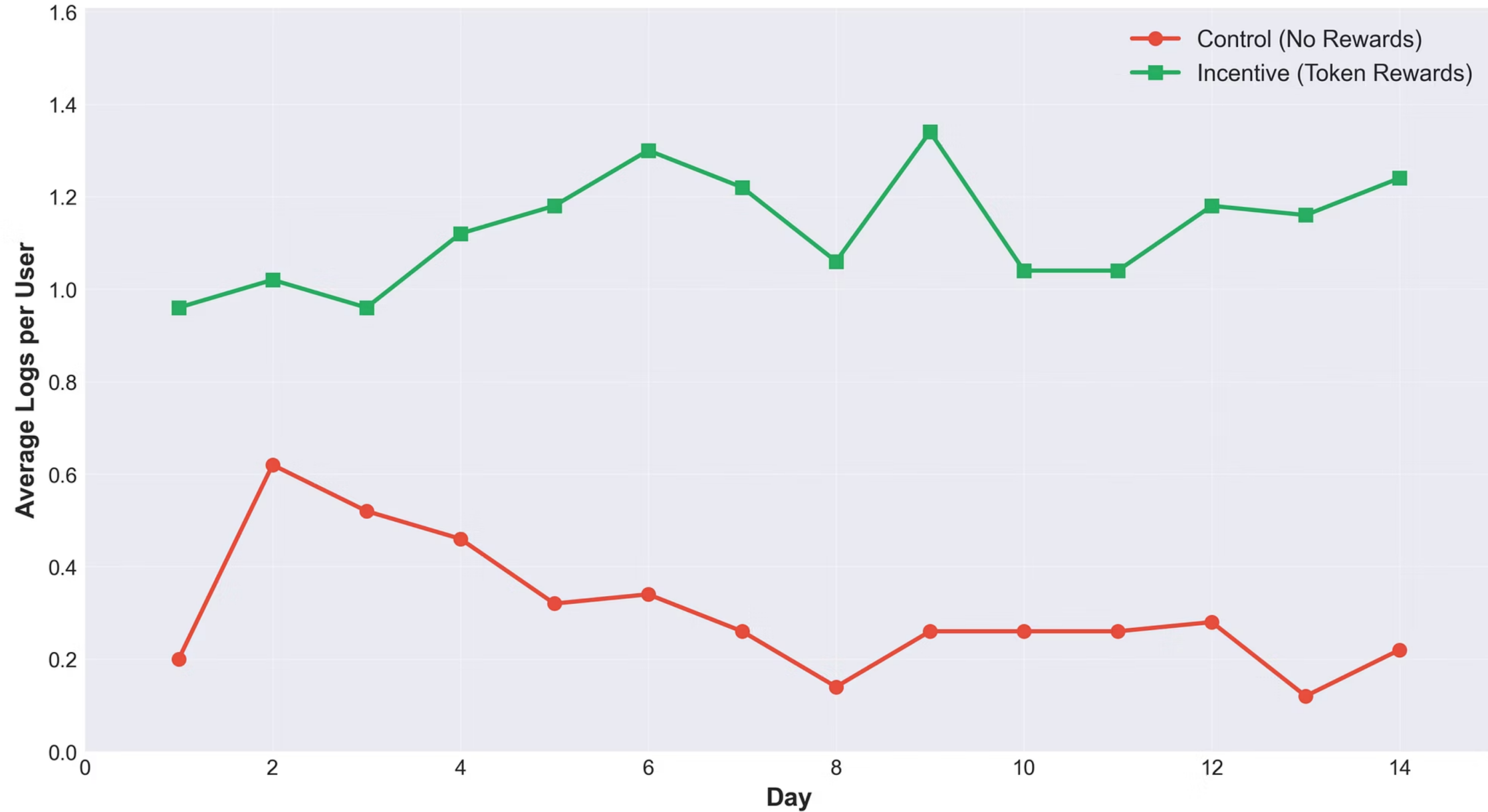Total Tokens

Distributed in 14 days

**77.6%**

Complete Data
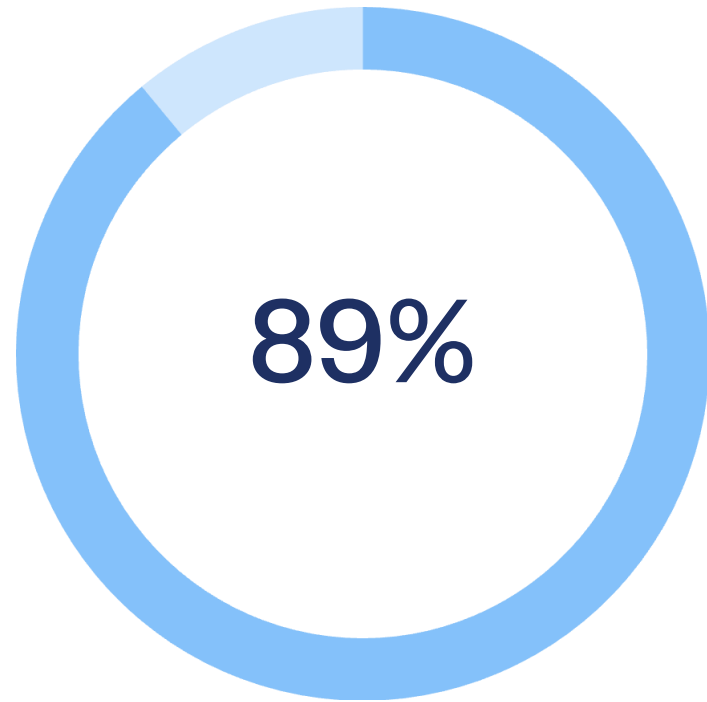
Users logged all metrics

# FIRST PILOT TEST RESULTS
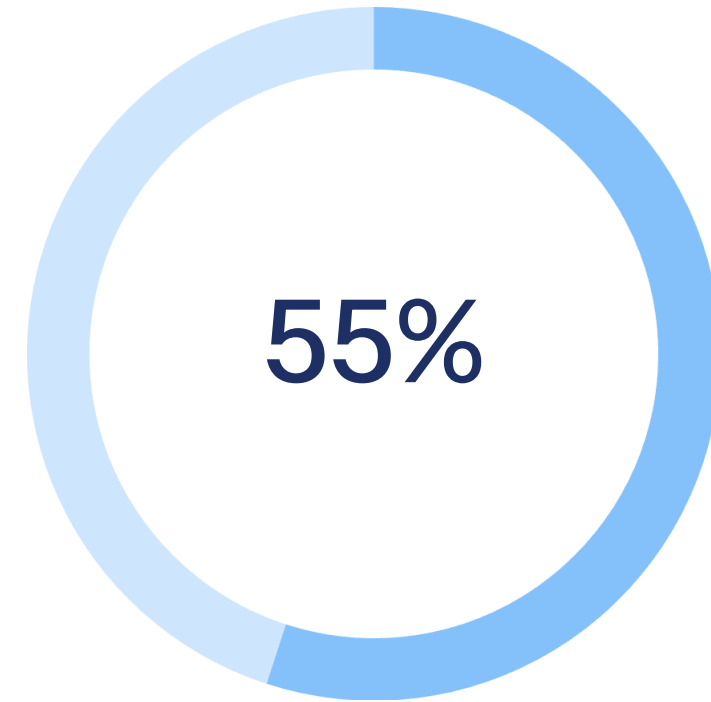


**Daily Logging Compliance: Control vs Incentive Groups**

# The Results Speak for Themselves

**89%**

**Incentive Group**

Stayed active throughout study

**55%**

**Control Group**

Dropped off over time

Token rewards kept users motivated for all 14 days, while the control group's participation dropped from 70% to below 40%
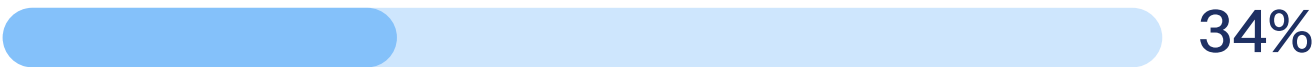
# Much More Affordable

## HealthToken System

████████████████████████ 100%

### Cost per User

$17/month

✓ Transparent rewards

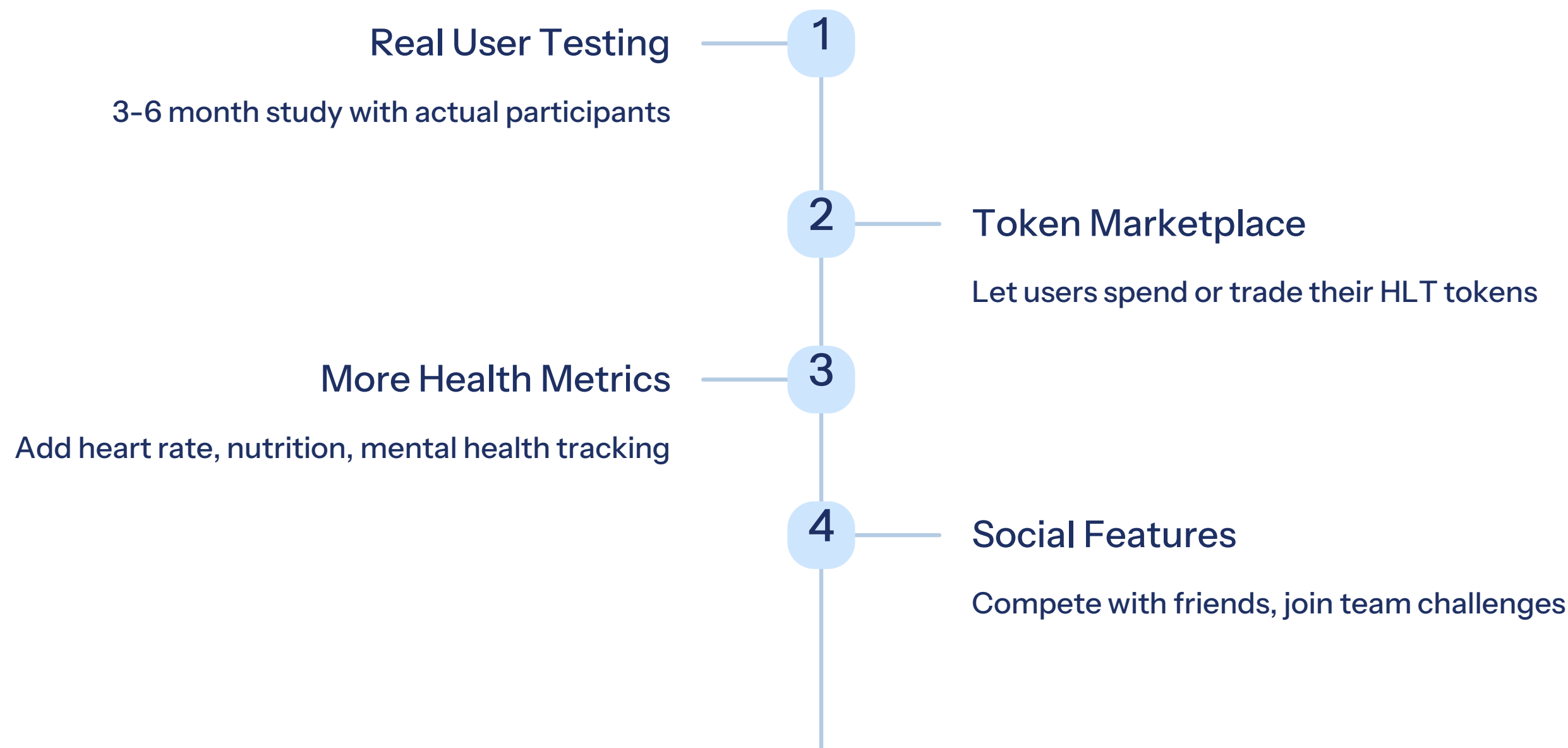✓ Automated system

✓ Real token value

## Traditional Programs

████████ 34%

### Cost per User

$50-$200/month

✗ Hidden costs

✗ Manual processing

✗ No real value

# What's Next for HealthToken

Real User Testing ——— 1

3-6 month study with actual participants

2 ——— Token Marketplace

Let users spend or trade their HLT tokens

More Health Metrics ——— 3

Add heart rate, nutrition, mental health tracking

4 ——— Social Features

Compete with friends, join team challenges

# HealthToken Works!

### Proven Effective

89% compliance in incentive group vs 55% in control group

### Secure & Transparent

Blockchain ensures trust and fairness

### Cost-Effective

Much cheaper than existing wellness programs

Open source project available at: https://github.com/jediaf/Health-Token-Incentive-System

MUĞLA SITKI KOÇMAN UNIVERSITY     CEYDA ARIK & HAKAN KAYACI