Credit Score Protocol: Decentralized Trust and Credit Building on Telos

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Abstract

Credit Score Protocol (CSP) introduces a novel approach to building trust and establishing credit history in the decentralized finance ecosystem. Built on a L2 for optimal cost efficiency, CSP enables users to send to friends and contacts as trust-building exercises, with the expectation of repayment to establish mutual credit histories. Through a minimal 0.02% round-trip fee structure, the protocol generates revenue that is systematically used to buy back CSP tokens, creating buying pressure and long-term value appreciation.

1. Introduction

1.1 Problem Statement

Traditional credit scoring systems are centralized, opaque, and often inaccessible to large populations worldwide. In the Web3 ecosystem, there exists no standardized, decentralized method for individuals to build credit history or demonstrate trustworthiness through peer-to-peer financial interactions. Current DeFi protocols focus primarily on over-collateralized lending, missing the opportunity to create trust-based relationships that mirror real-world financial interactions.

1.2 Solution Overview

Credit Score Protocol addresses these limitations by creating a decentralized platform where users can:

- Send Telos to trusted contacts as a trust-building exercise
- Build verifiable credit history through successful repayments
- Participate in a deflationary token economy through fee-generated buybacks
- Access low-cost transactions via Layer 2 infrastructure
- Benefit from continuous CSP token buybacks that create upward price pressure

2. Protocol Architecture

2.1 Core Components

Smart Contract Infrastructure

- Main Protocol Contract: Handles all Telos transfers and fee collection
- Credit History Registry: Stores immutable records of all transactions and repayments
- Token Contract: implementation of CSP tokens
- Buyback Mechanism: Automated system for purchasing CSP tokens using collected fees

User Interaction Layer

- Web3 interface for sending and receiving
- Social features for managing trusted contacts
- Analytics dashboard for protocol metrics

2.2 Transaction Flow

1. **Initiation**: User A initiates a trust transaction to User B with specified amount and repayment terms
2. **Transfer**: Token is transferred from User A to User B, minus 0.01% fee
3. **Recording**: Transaction is recorded on-chain with timestamp and terms
4. **Repayment**: User B repays the amount to User A, minus 0.01% fee
5. **Credit Update**: Both users' credit scores are updated based on transaction outcome
6. **Fee Processing**: Collected fees are used to purchase CSP tokens from the market

3. Fee Structure and Tokenomics

3.1 Fee Mechanism

- **Round-trip Fee**: 0.02% total (0.01% on send, 0.01% on repayment)
- **Fee Destination**: All fees are accumulated in the protocol treasury
- **Automated Buybacks**: Fees are automatically used to purchase CSP tokens

3.2 CSP Token Utility

Governance Rights: CSP token holders can vote on protocol upgrades and parameter changes **Fee Discounts**: Users holding CSP tokens receive reduced transaction fees **Staking Rewards**: Token holders can stake CSP to earn a portion of protocol revenue **Buyback Pressure**: Continuous token purchases create sustained demand

3.3 Buyback Mechanism

The protocol implements an automated buyback system that:

- Accumulates fees in a treasury smart contract
- Executes periodic purchases of CSP tokens
- Uses a time-weighted average price strategy to minimize market impact
- Distributes purchased tokens to CSP stakers or holds them in the treasury

4. Technical Implementation

4.1 Telos Integration

Credit Score Protocol leverages Rollup technology to provide:

- **Low Transaction Costs**: Sub-penny fees for most interactions
- **Fast Finality**: Near-instant transaction confirmation
- **Compatibility**: Full compatibility with tooling and infrastructure
- **Security**: Inherits security while providing scalability

4.2 Smart Contract Security

Multi-sig Treasury: Protocol fees are held in a multi-signature wallet **Upgradeable Contracts**: Uses upgrade pattern for protocol evolution **Audit Requirements**: All smart contracts undergo comprehensive security audits **Emergency Procedures**: Time-locked emergency functions for critical situations

5. Use Cases and Applications

5.1 Primary Use Cases

Trust Building Between Friends: Establish financial trust through small, manageable loans **Credit History Creation**: Build verifiable on-chain credit history for future DeFi interactions **Social Lending Networks**: Create circles of trusted individuals for peer-to-peer lending **Credit Score Portability**: Export credit scores to other DeFi protocols and applications

5.2 Integration Opportunities

DeFi Lending Protocols: CSP credit scores as additional risk assessment tools **Social Networks**: Integration with Web3 social platforms for trust verification **Employment Verification**: Employers using CSP scores as reliability indicators **Cross-chain Bridges**: Extending credit scoring to other blockchain networks

6. Economic Model

6.1 Revenue Streams

- Transaction fees from Telos transfers and repayments
- Potential premium features for advanced credit analysis
- Partnership revenue from DeFi protocol integrations

6.2 Token Value Accrual

CSP token value increases through:

- **Constant Buying Pressure**: Automated buybacks from protocol fees
- **Utility Demand**: Need for tokens to access discounted fees and governance
- **Network Effects**: Growing user base increases transaction volume and fees
- **Staking Incentives**: Token holders earn rewards for participating in protocol governance

7. Governance and Decentralization

7.1 Governance Structure

CSP is governed by the owner solely, who has no intentions to modify or alter the smart contract logic or implementation.

7.2 Progressive Decentralization

The protocol follows a gradual decentralization path:

1. **Initial Phase**: Core team maintains operational control
2. **Community Phase**: Governance tokens distributed to active users
3. **Full Decentralization**: Complete community control of protocol parameters
4. **Long-term Sustainability**: Self-sustaining ecosystem with minimal intervention

8. Risk Assessment

8.1 Technical Risks

- Smart contract vulnerabilities and potential exploits
- Arbitrum network downtime or security issues
- Oracle failures affecting price feeds for buybacks

8.2 Economic Risks

- Low adoption leading to insufficient fee generation
- CSP token price volatility affecting incentive alignment

- Competition from similar trust-building protocols

8.3 Regulatory Risks

- Potential classification of CSP tokens as securities
- Changing regulations around DeFi and peer-to-peer lending
- Cross-jurisdictional compliance requirements

9. Roadmap and Development Timeline

Phase 1: Foundation (Q4 2025)

- Smart contract development and testing
- Security audits and bug bounty programs
- Initial CSP token distribution
- Basic web interface launch

Phase 2: Growth (Q1-Q2 2026)

- Mobile application development
- Integration with major wallets
- Partnership with existing DeFi protocols
- Enhanced credit scoring algorithms

Phase 3: Expansion (Q3-Q4 2026)

- Cross-chain expansion to other L2 networks
- Advanced analytics and credit reporting
- Institutional partnerships and integrations
- Global community building initiatives

Phase 4: Maturity (2027+)

- Full protocol decentralization
- Advanced AI-driven credit assessment
- Integration with traditional finance systems
- Establishment as industry-standard credit protocol

10. Conclusion

Credit Score Protocol represents a paradigm shift toward decentralized, transparent, and accessible credit scoring. By combining the trust-building aspects of peer-to-peer lending with

the efficiency of blockchain technology and the value-accrual mechanism of automated token buybacks, CSP creates a sustainable ecosystem that benefits all participants.

The protocol's implementation ensures cost-effective operations while maintaining security and decentralization principles. Through continuous CSP token buybacks funded by transaction fees, the protocol creates a sustainable economic model that aligns the interests of users, token holders, and the broader DeFi ecosystem.

As the DeFi space continues to mature, Credit Score Protocol is positioned to become the foundational infrastructure for decentralized credit assessment, enabling a new generation of trust-based financial services and applications.
