SurveyChain

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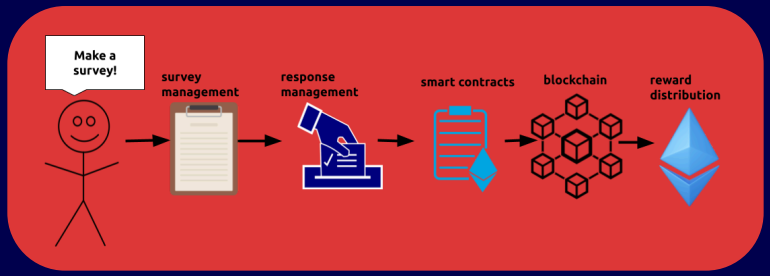
Background

SurveyChain leverages blockchain technology to ensure transparency, security, and anonymity in collecting user responses for surveys. Our system offers a seamless experience for both survey creators and participants. The blockchain survey system simplifies the process of creating, managing, and participating in surveys while maintaining integrity and reliability.

Security & Anonymity

One of the key security challenges we addressed in our Blockchain Survey System is ensuring data integrity and user anonymity. To prevent tampering with survey results, we leveraged the immutability of blockchain technology, ensuring that once data is recorded, it cannot be altered. We maintain participant anonymity by allowing users to respond without linking their identities to their responses. Additionally, to avoid double voting, we employed unique participant IDs and cryptographic signatures, ensuring that each user can only submit one response per survey. These measures collectively safeguard the system against common security threats like data tampering and unauthorized multiple submissions.

Framework Flowchart



Anticipated Challenge

Reward Manipulation

- After a survey closes, we need to ensure that an appropriate amount of ETH is distributed
  - We propose that we can solve this within strict smart contracts to ensure that only legitimate users are rewarded
  - Also, cryptographic verification techniques such as digital signatures and key pairs will allow us to verify that users are valid participants of a survey

Key Components

- User Interface: The front-end interface that users interact with to create surveys, view active surveys, and submit responses.
- User Management: Handles user registration, login, and account management.
- Survey Management: Manages the creation, storage, and retrieval of surveys.
- Response Management: Handles submission, storage, and retrieval of survey responses.
- Smart Contracts: Implements business logic for survey creation, participation, and reward distribution.
- Blockchain: Stores all immutable data related to surveys and responses, ensuring data integrity and transparency.
- Reward Distribution: Manages the distribution of rewards to survey participants.

Uniqueness

Customizable Reward Structure

- Survey creators can decide what rewards they will grant to participants, with potential bonuses for key contributors

Reputation System

- As users participate in more surveys, their reputation increases and their survey is listed higher. This promotes user interaction.

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