CMPE 491

Project Specification Report

for

"Secure Donation Chain"

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1. Introduction

1.1 Description

Secure Donation Chain (SDC) is a blockchain based donation system that aims to create a secure environment for both benefactors and the beneficiaries by minimizing the shortcomings of the traditional donation platforms that were stated before in the Project Proposal.

1.2 Constraints

1.2.1 People

We are having problems in human resources because we are doing this project with two people. In addition, since the technology we will use in our project is new, we do not have high technical knowledge about technology.

1.2.2 Equipment

There is no real environment (office) where two developers can coexist while developing the software. There is only an online environment for us, and communication loss occurs in technical problems. Also, the computers and internet networks owned by both developers are not strong

1.2.3 Cost

Since both developers are students, they don't have budgets and funding for the project. Cryptocurrency networks require gas fees to execute transactions. that may cause a gas fee problem for our project.

1.2.4 Time

Since both developers are already students and their course schedules are busy, they must allocate limited time to the project. They work in projects and works related to their departments outside of school.

1.2.5 Market

Since the interest in crypto-based platforms in Turkey is not that high, our project will only reach very few people compared to the rest of the world.

1.3 Professional and Ethical Issues

1.3.1 User verification

Main constraint with people is that there is an uncertainty while identifying bad actors and sanctioning them accordingly. For this we can use various identification methods. Such as verifying a user with their photos holding their ID's and a piece of paper that has the date and time of the day that they are registering to the system and a referral system that enables registration of new users if and only if they are referred to the system by already verified users.

1.3.2 Campaign verification

There is a chance for people collecting money through fake campaigns. This may eventually lead to money laundering or other illegal activities. We can try to prevent this using the labelling system. (See 2.1.3)

2. Requirements

2.1 Verification

2.1.1 User Verification System (TBD)

A module allowing users to register to the system either if they have a reference from another verified user or verified themselves via uploading a photo of their ID's and the date handwritten to a piece of paper.

2.1.1.1 User Photo Verification System (TBD)

A submodule that allows users to upload a verification picture that contains their formal ID's and the date and determines if they are eligible to register to the system.

2.1.1.2 User Reference Invite Verification System

Another submodule that enables verified users to invite other unregistered users to register to the system.

2.1.1.3 User Controlling System (TBD)

A web app for verified users to vote on another user if they are fraudulent or not using the evidence module. (See 2.1.3.1)

2.1.2 Transaction Controlling System

A module that creates and controls thresholds for given transactions.

2.1.3 Campaign Verification System (TBD)

A web app that creates an environment for verified users to vote on a given campaign and mark the campaign as fraud if necessary.

2.1.4 Evidence Upload System

A module that creates an environment for verified users to upload any evidence that indicates a possibly fraudulent campaign or a user.

2.2 Admin Panel (TBD)

A webpage that enables system admins and moderators to take any action on flagged users and campaigns such as delete and change contents.

3. References

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