

Opero.IO

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I. INTRODUCTION

Online freelancing, despite being one of the most flexible preferable ways to make profit doing the things one is good at, still faces a good number of problems that make it inconvenient for both the clients and the freelancers. The lack of a trustless method to approve and maintain deals between both parties discourages a possible growth of the industry. Even after the deal is done, one or both parties could end up not satisfied with the end result which requires a sophisticated solution that might involve one or more third-parties with the responsibility of overseeing deals and resolving disputes that might arise for the mutual benefit of the client and the freelancer.

Opero.IO is a decentralized online platform that is built to help in the process of matching clients and freelancers, help them maintain agreements based on milestones (more details in section x.x) and resolve disputes that might arise during or after the work is done through judges that are picked based on criteria and economic games. The judges are overseen by a higher authority called the council of experts that are elected by token holders.

Opero's model is built to incentivize everyone involved in the system, from clients to members of the council of experts, to behave with the best interest and steer away from malicious behavior.

II. DEFINITIONS

Timeout: of Experts:

III. MOTIVATION

IV. SYSTEM DESCRIPTION

A. System Overview

During the entire process of the project, as defined in section II, Opero acts as a decentralized in-betweener helping both clients attain the quality they desire within a reasonable time-cost framework and freelancers maintain a portfolio and projects that are secure and flexible.

Projects are supposed to be broken into milestones, especially in the case of large-scale projects, in order to ensure mutual satisfaction and agreement to the work done throughout the entire duration of the project. If a dispute arises during any stage in the project or even after, both parties are referred to a judge specializing in the field of the project, a dispute timeout is set and both parties support their cases then the judge rules a decision. In the case the judge's decision was not satisfying to either of the parties, they can appeal the judge's decision in front of the supreme council knowing that the council's decision is final and can not be repealed.

All users involved in the system are incentivized through different ways to attain honest benevolent behavior that helps the system to always serve all beneficiaries.

B. Life Cycle of a Project

The potential client proposes a project described by a title, clear description, a proposed budget, potential fields (or programs or programming languages), and a proposed timeline. Freelancers apply by sending their proposals which include a budget, fields -as described earlier- and a timeline which are sent along with their profiles.

Once the client approves the freelancer's proposal, all the budget is locked out in a smart contract and a pre-agreed upon downpayment is sent to the freelancer but is locked out until the freelancer delivers the first milestone and the client approves the work done. Throughout the project, the free-

lancer submits the work that's supposed to be done by a certain deadline, deadlines correspond to the previously defined milestones. If the freelancer is late to a milestone by 24 hours, the client is entitled to report the freelancer and the freelancer should provide a reasonable explanation for such delay; if the reason is rejected by the judge, the freelancer is penalized by reducing the total sum to be paid at the end of the project.

If the client rejects a work done by the freelancer, the freelancer can report the client, and a judge reviews the report to either approve or reject the freelancer's work.

Once the project is done, if the client does not like the end-product or realizes it was plagiarized, they can report the freelancer to the judge and if the judge rules that the project was plagiarized, the freelancer does not get paid for the project and does not get the down-payment for the next five projects.

c. Judges

A judge is someone who is responsible to resolve disputes between the client and the freelancer, yet their decisions can be repealed or reviewed by the council of experts.

In the proposed system, certain individuals that meet the following criteria:

1. **Dispute** Have a sufficient balance of OPTokens which is kept as a collateral for a given period of time,
2. Are approved by the council of experts based on their portfolios (e.g: Linkedin profiles)
 - (a) Judges are not allowed to remain anonymous.

resolve disputes between clients and freelancers, are incentivized to do so for a number of reasons:

1. They are rewarded for their jobs as Judges with OPTokens weekly from the prize pool.
2. The minimum stake requirement makes the number of possible master nodes smaller than if this was implemented as an open market.
3. The minimum stake requirement can be justified as the judge having enough stake in the system makes them feel more involved in the platform and enforces a sense of responsibility towards the users of the systems.

It is planned that as the system grows the judges will be appointed from the veteran freelancers on the platform since it is easier to check their work as it is logged in the job history which is made public to help clients pick the best performing freelancers. Appointing veteran freelancers as judges is a way to repay the freelancers who helped build the platform from the beginning or as it evolves.

D. The Council of Experts

A number of 11 experts are voted by all token holders in a DPoS-like process, are delegated two important tasks: (i) determining an appropriate job submission collateral fee and (ii) reviewing the judges' decisions

The second task involves the witness voting on reports sent by one of the parties involved in a project concerning a ruling by a judge, and once a case has the majority (50% or more) of the experts votes in the favor of the report, the ruling is repealed and the judge is penalized by paying a small fee.

To incentivize the council members, they are rewarded after each round with 35% of the prize pool as a base payment, in addition to half the penalty of malicious clients, freelancers or judges. Not all members are equal in the reward, the more reports a member helps decide, the bigger

their share of the reward is. A member who doesn't vote in a single report is not paid at all.

E. Incentivization Model

1. *Clients and Freelancers*
2. *Judges*
3. *Council of Experts*

F. Prize Pool

The prize pool is where the OPTokens are kept to reward judges and members of the council weekly. The prize pool is funded through two ways: the first is by a reward that is issued weekly and is halved periodically, and by the penalties clients and judges pay as penalties. 35% of the reward is divided among the 11 members of the council, the remaining 65% are rewarded to the judges.

G. Projects History

A history explorer will be available for the public to view the history of projects and disputes arising, if any, in said project. Each party in any project has a complete history stored in the explorer which means they will have a permanent public record of their actions on the platform stored on the blockchain forever. This is, in part, contributing the incentivization/disincentivization model to help both freelancers and clients pick their counterparts carefully.

H. Governance and Pluggable Architecture

Since this is basically a dispute resolution platform for freelancers and clients, it is supposed to be subject to consistent scrutiny to arrive at the

most optimal solutions for dispute resolution, so in case the majority of token holders decide to upgrade the platform a new smart contract can be easily plugged in place of the old one. In order to achieve this we set the following rules:

1. The token smart contract is permanent.
2. The platform smart contract can be upgraded by plugging a new contract in place of it and connecting it to the token smart contract.

The new smart contract is signaled, meaning that once more than fifty percent of all token holders vote on a new platform contract to replace the current, it immediately goes into operation.

V. RELATED WORKS

VI. TOKENOMICS

A. Token Emission Logic

VII. CONCLUSION