Round — decentralized ethereum-based Esports platform

Playing Matches

The Round platform is a combination of desktop and web software. The platform allows its users to interact with the Round smart contracts. In competitive eSports matches on the platform you can use Round token as stake. Users can send their stakes to a decentralized escrow represented by the smart contract. Once our decentralized result verification system (RVS) has processed the match the smart contract will handle both the matchmaking and reward settlement.

Verification of Match Results

The platform's result verification system is decentralized and is built in such a way that it is able to resist any policy changes in game API, various criminal actions as well as fraud based on subjective reporting. In addition, any holder of Round has the right to help determine outcomes of a match by being a witness during a match and voting as a juror.

The result of a match is considered as contested if the opponents have a disagreement about it. On the other hand, the result of a match is considered uncontested if the opponents fully agree its outcome. Regardless of contested or uncontested status, the match has to be confirmed by at least two witnesses.

Witnesses

The match verification system provides for a special role to Witnesses. To become a Witness a holder of Round must use automated Witness node software. Such nodes are the guardians of matches. Witness nodes serve as final checkpoints before the processing of matches and rewards begins. To ensure that the platform is not processing any suspicious, false or fraudulent matches the network of Witness nodes is granted the role of a decentralized proxy with access to game APIs and ability to cross-reference match outcomes. Any holder of Round wishing to become part of the pool of potential Witnesses must opt in to act as one. And they can do so by sending a transaction to the smart contract. At least two Witness nodes are chosen for each match. This is done by a weighted random selection process. Volunteering to be a Witness is a rewarding process too. Each Witness node gets Rounds for their services. The process is quite simple: first, the Witness node software looks at each game assigned to it; then it checks game APIs for official results; and, finally, it sends the results to the blockchain so that everyone can see them. People running Witness node software don't need to intervene in any way because the software is fully automated.

The chance of a Witness being selected is proportional to his/her share of the total Round supply which has been opted in to the jury voting pool. The share of Round is calculated based on the following formula: user Round balance / opted in Round supply. The random selection algorithm works in such a way that the smart contract provides a function which hashes a random seed furnished by Round platform, address of user and the match ID. This hash will be used by the smart contract to extract a completely random number from 0 to 1. Following that, the random number is

scaled by the required number of Witnesses. In the end, the random number is compared to the Round share of the user. The user is selected as a Witness if the random number is less than his/her Round share.

The platform's integrity and reputation is protected by running a Witness node which also brings game results data in the system.

Because of such invaluable service that Witnesses provide, they are rewarded with Round. The higher the number of matches that are needed to be processed in the queue, the higher is the potential incentive of running Witness node. In other words, Witnesses are very much interested in the continuity and success of the platform.

Jury Voting Pool

Another of the many incentives holding Round tokens provides is getting compensated for jury duty. At least two jurors (Witnesses) will be required when a match is contested. They will be randomly selected from the jury voting pool to fulfill jury duty. If a user (holder of Round) wants to become a member of the jury voting pool, he/she has to opt in. For that the smart contract has to receive a transaction from the aspiring Witness using the graphical user interface (GUI). We also recommend to all holders of Round tokens to be opted in to get their rewards. This will also allow the platform to handle high match volume more efficiently. The selection of jurors is done via the weighted random selection process. Every juror has only one vote in the dispute. The following factors are to be considered by a juror in making his/her decision: results provided by the Witnesses; screenshots and any other evidence provided by the players. Players will be able to submit evidence of their result via the software provided by Round platform. The reward will be given to the winner only after the required quorum has been reached.

Dynamic Reward Formulas

The system may change the desired jury size, rewards, penalties and quorum size as necessary. As soon as they become available users will get the formulas to plan accordingly. This may be the case when there is a requirement for Round project to scale during times when more matches are being played at a given time. In that case the system will implement a Dynamic Reward Mechanism (DRM) at the smart contract level. The principle of dynamic change also applies to rewards for running a Witness node and voting accurately on a jury. The size of reward will depend of the number of cases available versus the processing speed at a given time. Following the surge pricing used to incentivize drivers in a ridesharing app, Round's reward structure is also floating.

This means when there's a hike in match volume there's a hike in rewards for prospective jurors and Witnesses.

Hosting Tournaments

One of the many perks of Round tokens is the ability to host tournaments on the platform. A tournament means a competitive match between individuals or teams that can be an array of

prearranged matches (bracketed, charity, free to play). Such tournaments are subject to same procedures such as Witness nodes and jury voting pool or JVP. The Round eSports ecosystem will include a fantastic tournament creation function which will help it attract new users and convert them into Round tokens holders in the network.

Matchmaking Ranking

Matchmaking Ranking or MMR is a value that determines the skill level of each player and is adjusted after every match. The current MMR of the player and the opponent will determine the adjustment. Maximum possible increase in case of winning is up to 99 points and maximum possible decrease in case losing is up to 99 points. In addition, MMR values of the player and the opponent in a match are opposite. For example:

```
var calcMMR = function ( MMR1 , MMR2 ){
var adjustment = ( Number ( MMR1 ) Number
( MMR2 )) / 20 ;
var s1 = 20 Math
. min ( Math . max ( adjustment , 19
), 19 );
return [ adjustment , s1 ];
};
```

User Reputation System

The Round platform will establish a mechanism for protection of players, restriction of criminals and hackers, and promotion of healthy competition. This mechanism is called a User Reputation System or URS. The URS will track every step of users, from initial registration to professional competitive matches. The higher is your reputation the more trust you will have in the community.

With the help of public ranking, which is part of URS, users will be able to easily identify any wrongdoings of players. This can help substantially reduce the number of cases reviewed by jurors. It will also promote a healthy competition and encourage players to build their positive reputation.

Reputation Incentive

The reputation building mechanism of the Round platform will serve as an incentive for users to be honest and fair as well as discourage criminals or hackers from registering multiple accounts. The reputation score is also one of the key factors considered by the MMR-based matchmaking engine which gives the priority to users with higher scores. On top of that, all users will be able to set the minimum reputation score threshold for joining a specific match on the GUI level. Users with higher reputation will also be able to enjoy playing at higher levels with higher stakes.

App Architecture

● This will be a single-page application (SPA).

● The interface will have a button to create an account by funding a new Ethereum address with Ether

● After funding a new Ethereum address the user will be able to enter a username. Account information will be stored in the browser (in the form of cookies). For backup purposes the user will see a recommendation to note down their Ethereum account and private key.

● Round platform will have a separate server in place to monitor that the Ethereum events are emitted by the smart contracts via Geth. This server will also keep track of statistics (like players, top payouts, reputation scores etc.) and make sure that statistics is easily accessible from the application, therefore eliminating the need to do heavy blockchain calls.