



# blocklancer

FREELANCE ON THE BLOCKCHAIN



White paper

27.06.2017



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## 1. Abstract

In this white paper we will discuss the Blocklancer project and elaborate on its many features and the novelties it introduces to the freelancing world. Furthermore, we will look into our Initial Coin Offering (ICO) round details and we will also delve into our ideas and ambitions for the future of this project.

The Blocklancer platform is intended as a means to revolutionize the process of freelancing and to improve the cooperation between the freelancer and the client. It is going to solve many issues involved in the freelancing process, including but not limited to:

- refusals of paying the agreed-on amount of money for a project,
- fake reviews and
- the uncontrollable influence of a central authority figure

## 2. Distributed Autonomous Job Market (DAJ)

It is our belief, that a completely self-regulatory system is the best solution for a freelancer platform such as Blocklancer. Therefore, we have created a new form of job market: The Distributed Autonomous Job Market (DAJ for short).

This is the embodiment of our vision of the job market of the future and our solution for many of the underlying problems of current freelancing platforms. Most of the decisions made on our platform are in the hands of the token holders, which means that there won't be one single authoritarian instance with an uncontrollable amount of influence on the market.

The token holder tribunal, which will be explained in detail further below, is one example of a decentralized, self-regulatory system for settling disputes between customers and freelancers. But the token holders can also vote on changes to be made on the Blocklancer platform, such as the amount of fees that have to be paid for a contract made via Blocklancer



### 3. Market and Industry

Freelancing is one of the fastest growing markets in the world<sup>1</sup>.

The freelance workforce is comprised of 55 million workers, compared to 30 million workers only 10 years ago, and it hence has almost doubled in workforce numbers within this small timeframe. It currently represents approximately 35 % of the U. S. workforce.

The whole freelance workforce has earned a combined revenue of an estimated \$ 1 trillion<sup>1</sup> this past year, making up a significant share of the U. S. economy.

And that's not all: The freelancing world is an ever-growing market with more and more people getting into freelancing every year. In a survey, nearly half of all the freelancers currently active in this field of work saw an increase in demand and are expecting to raise their revenue in the coming year as well.

If only 0.01 % of the freelancer community were to use our platform – which is feasible for our project - the amount of money in circulation on our platform would exceed \$ 100,000,000, resulting in a yearly income of \$ 3,000,000 at 3 % fees.

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<sup>1</sup><https://www.upwork.com/press/2016/10/06/freelancing-in-america-2016/>

## 4. The Token



<b>Name:</b>	<b>Lancer</b>
<b>Ticker:</b>	LNC
<b>Initial supply</b>	Minimum 200,000,000
<b>Platform:</b>	Ethereum

The Tokens represent the share you have in our project. Everyone who holds Lancer Tokens receives their part of the fees generated by the employment contracts made on our platform. The Tokens are therefore comparable to shares in a company, where you receive a certain percentage of the company's revenue yearly.

The fee entailed in making an employment contract on our freelancing platform is going to be 3 % of its included price and then 100 % percent of these fees are going to be given out to the Token holders.

But the advantages of holding tokens are not going to be limited to only receiving money: Should the parties of an employment contract have a disagreement, the token holders are allowed to vote on who is right. As an example: If the client is not content with the freelancer's work, the token holders will be able to decide whether the freelancer fulfilled his part of the contract and the client is obligated to pay up. Wrong voting is punished with loss of tokens which are distributed among the other voters. This will guarantee that one single authority won't be able to influence this platform in their favor. There will be min. 200 million tokens available because we want to ensure that the voting system, which we deem an integral part of our project, is as diverse as possible.



## 5. Problems in the industry

We now discuss the most pressing concerns of freelancers with the current market and websites that offer jobs.

- *“From the experiences I have made on different freelancing platforms, getting paid by your client often proves to be an unnecessary difficult hurdle to overcome. Is there a way I can ensure that I get paid for the work I deliver?”<sup>2</sup>*

Blocklancer offers an escrow option for fixed price contracts.

After an employment contract has been made, the client’s money is frozen until the contract is fulfilled by the freelancer. Should the client not be satisfied with the work of the freelancer, he has the option to ask the token holders to settle their dispute and decide on who is right. The freelancer has the same option available to him in case he received an unreasonably bad review.

Voting wrong intentionally will be penalized by losing some of your tokens. The lost tokens will then be redistributed to the rest of the voters.

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<sup>2</sup><https://www.quora.com/What-are-the-major-problems-freelancers-face-commonly/answer/Courtney-Webber-2?srid=hFUgy>



- *“Sometimes clients leave undeservedly bad reviews for my work. While this is fortunately not a too frequent occurrence, it is annoying nonetheless, because there are hardly any measures I can take against it. Is there a way to circumvent this problem?”<sup>3</sup>*

On most current sites, the best option is to contact the support of the website, but this is often done to no avail. On our platform, the token holder tribunal will also be applicable here as well.

- *“The fees on many freelancing sites are rather high. While I wouldn’t call them horrendous, it does make freelancing less lucrative for me.”<sup>4,5</sup>*


Blocklancer only takes 3 % of the employment contract’s price in fees, which makes this the lowest amount of fees on any freelancing platform.

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<sup>3</sup><https://hackernoon.com/why-you-should-never-use-upwork-ever-5c62848bdf46>

<sup>4</sup><https://support.upwork.com/hc/en-us/articles/211062538-Freelancer-Service-Fees>

<sup>5</sup><https://www.freelancer.com/feesandcharges/>

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- *“One of my biggest concerns is that the hosts of freelancing websites have almost unlimited power. They can delete my account at will, and there’s nothing I can do about it. As someone who is dependent on the money I make from freelancing, you can probably imagine that this is quite a problem.”<sup>6</sup>*

Sadly, it happens all too often that accounts get deleted without a valid reason by single authorities on freelancing websites, thus freezing all income of the freelancer and hindering him from accepting new job offers by clients. This problem reduces the trust in freelancing platforms, because you could lose your source of income at any given time and therefore making freelancing too unsecure to be your sole form of work.

On the Blocklancer platform, this is an impossible occurrence, because we don’t have a single authority but a shareholder tribunal.

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<sup>6</sup><https://www.blackhatworld.com/seo/my-freelancer-com-account-has-been-closed-with-509.639768/>



## 6. Processes of Blocklancer

In Blocklancer, we implemented a wide range of processes. There are processes for offering jobs, applying for jobs, doing reviews and the token holder tribunal. In this section, we will introduce the most important processes of Blocklancer.

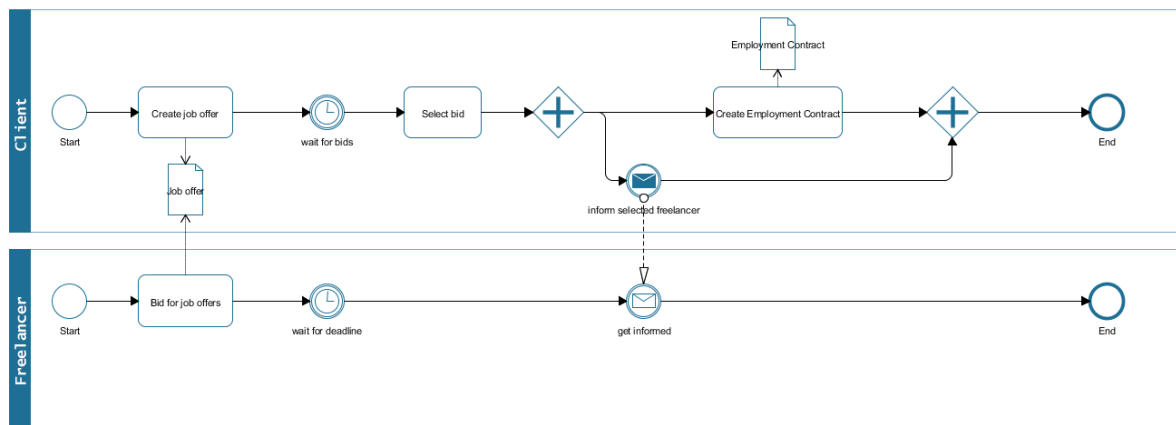


Figure1: Process for creating a job offer

The BPMN model in Figure 1 depicts the process of offering a job and bidding for the job. It can be seen that at first the client creates a new job. The client attaches a deadline to the newly created job. This means that the client has to select a bid before the deadline is reached. After job offering, freelancers are able to bid for the job. The bid of the freelancers contains the salary the freelancer wants to get paid for this job. When the client selects a freelancer and his bid, the employment contract is created. The employment contract binds the salary of the freelancer, so that payment of the freelancer will be guaranteed.

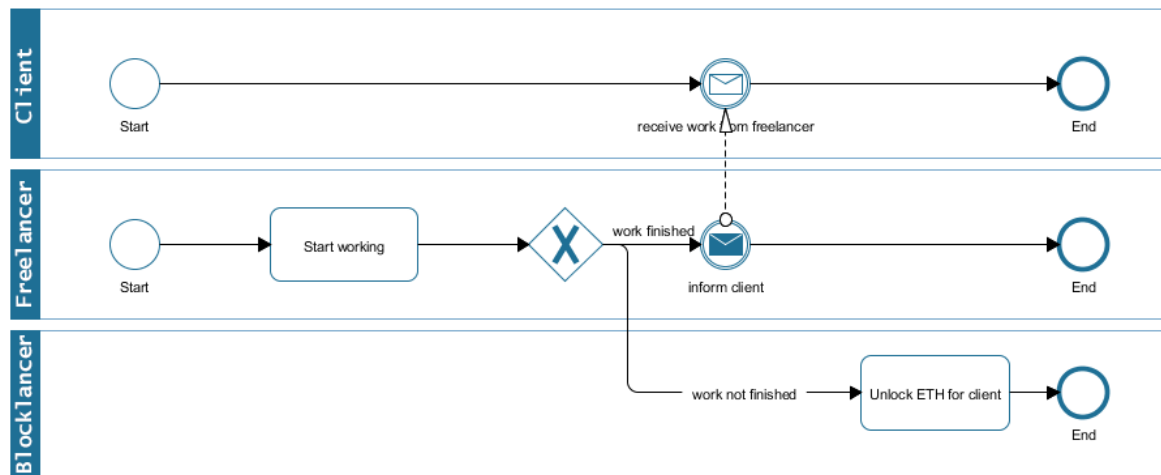


Figure 2: Process of finishing the work

Figure 2 depicts, that the client gets his ETH back, if the freelancer is not able to finish the job within the deadline.

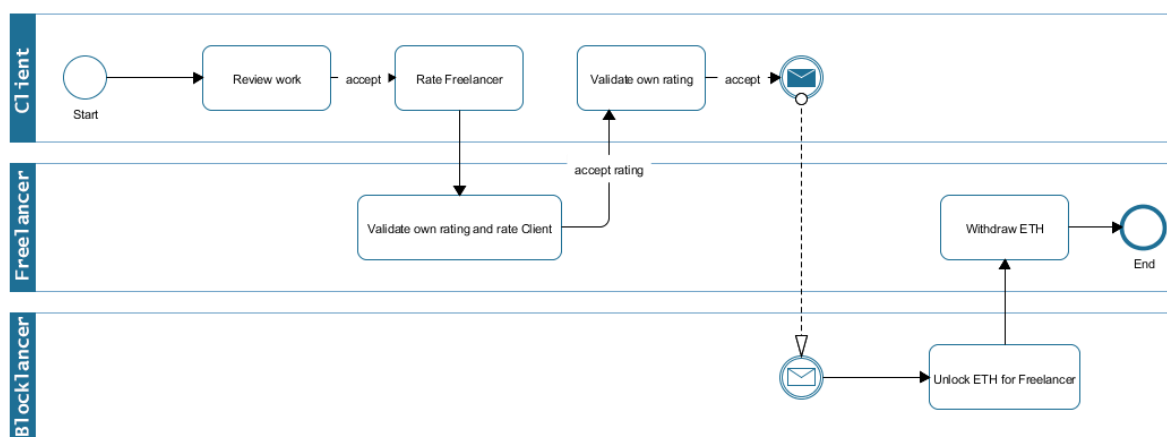


Figure 3: Process of successful project

Figure 3 shows a successful project. The freelancer was able to finish the job and the client was satisfied with the work. It can be seen that the client is creating a review of the freelancer and the freelancer is able to create a review of the client. It is also possible to bring an unfounded review to the token holder tribunal. At the end of a successful project, the freelancer is able to collect his salary.

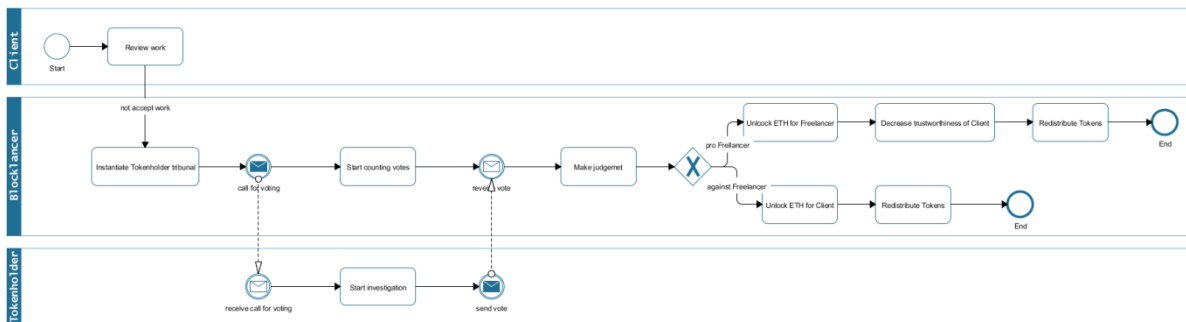


Figure4: Client is not satisfied with work

Figure 4 shows what happens, if the client is not satisfied with the work of the freelancer. The client is then able to initiate a token holder tribunal. The token holders are voting, if the freelancer was able to accomplish the task or not. The token holders look at the job offer and the submitted work of the freelancer, to decide, if the freelancer was able to fulfill the job offer. Decision making is done by majority vote. It is considered that the majority represents the truth. If the majority decides that the contesting of the submitted work was unreasonable, the freelancer is able to withdraw his salary and the trustworthiness score of the client is decreased. If the tribunal decides that contesting was the right thing to do, the client will be allowed to withdraw the frozen ETH. In both cases the Tokens are redistributed among the token holders. Token holders that voted against the majority lose tokens and the lost tokens are redistributed amongst the voters, who voted with the majority.



## 7. System Architecture

Blocklancer is the first decentralized and serverless job market. We accomplish this by combining existing technologies like Ethereum and IPFS. Because the blockchain technology is still in the architecture building phase we also implement our own solutions.

### 7.1. Core Architecture

Blocklancer is compound of three main components:

- 1.) Ethereum: Ethereum is the backbone of Blocklancer. The smart contracts are implemented for Ethereum in the Solidity programming language. Ethereum is needed as the distributed ledger of Blocklancer.
- 2.) IPFS: IPFS allows distributed storage of files. Because it is too costly to store all the data in the Ethereum blockchain, the main part of the data is stored in IPFS.
- 3.) Database: Because we grant a great user experience, querying for job offers must be extremely fast. A main problem with the blockchain technology is that querying the data is far too slow and expensive. Therefore it is needed to somehow save the data in a database that is query-able.

### 7.2. Tribunal Architecture

The automatic dispute settlement is a core feature of Blocklancer. It is used for deciding, if the employment contract was fulfilled by the freelancer and if a given rating (from the client or the freelancer) is justified. To accomplish this, in Blocklancer we use a completely distributed Tribunal Architecture. In Blocklancer the truth is considered a Schelling point. In this scheme, a coordination game is setup and participants are voting in an economically incentivized way. Voting in accordance with the majority is incentivized, whereas voting in accordance with the minority is penalized. This scheme is considered robust and is also used by other big projects (Augur). The tribunal mechanism is implemented in a way that it is exchangeable and extendable.



### 7.3. Database

At the moment, it is not recommendable to store huge amounts of data on the blockchain. Storage on any blockchain (including Ethereum) is extremely expensive and inefficient. IPFS on the other hand offers a cheap storage solution, but there is no possibility to index the data to make it query able. For storing data (user profiles, job offers, etc.) we use IPFS. We also introduce standardized formats for saving this kind of data. The files are uploaded to IPFS and the hash needed for retrieving the data is stored in the blockchain. By doing so, everyone has access to the distributed data.

For querying, an index service is needed. Theoretically, it is possible for all users to have an own indexing service running locally. Because we think that applications are just accepted by users, if the user experience is excellent, we think that at the moment the best solution is to offer a central high performance indexing service to the users. Showing just relevant jobs to the freelancers is a complicated task that needs sophisticated knowledge in Information Retrieval Systems. High precision of the retrieved documents is very important for job markets. We believe that in the near future, there will be new solutions for accomplishing indexing and querying on the blockchain.

The querying syntax is similar to SQL and the retrieved results contain IPFS hashes ordered by their relevance score.

## 8. Comparison between freelancing websites

	Blocklancer	Freelancer	Upwork
<i>Fee for Clients</i>	0 %	3 %	2.75 %
<i>Fee for Freelancers</i>	3 %	10 %	20 %
<i>Money Withdrawal</i>	Immediately into your Ethereum wallet	2.75 % fee for money withdrawal  Additional 5 % fee for currency conversion  Up to 3 days	\$ 0.99 fee  Up to 4 days
<i>Decentralized</i>	✓	✗	✗
<i>Protection from Censorship</i>	✓	✗	✗
<i>Secure payment</i>	✓	✗	✗
<i>Decentralized voting system</i>	✓	✗	✗
<i>Privacy</i>	✓	✗	✗

## 9. The ICO

Buying our Blocklancer Tokens will be open to everyone in the form of a crowdsale by pledging Ethereum into the smart contract. If you don't have Ethereum, you will be able to convert other currencies via a third party conversion service at the main page. During the first hour of the sale the tokens will be available at a rate of 15,000 LNC to 1 ETH (0.02 \$ per LNC). After one hour the rate changes to 10,000 LNC to 1 ETH (0.025 \$ per LNC) for the first 10 million Blocklancer Tokens and this rate decreases by 1 % for every 10 million tokens sold. 10 % of the tokens will be kept by the developers and 2 % are reserved for the Bounty.

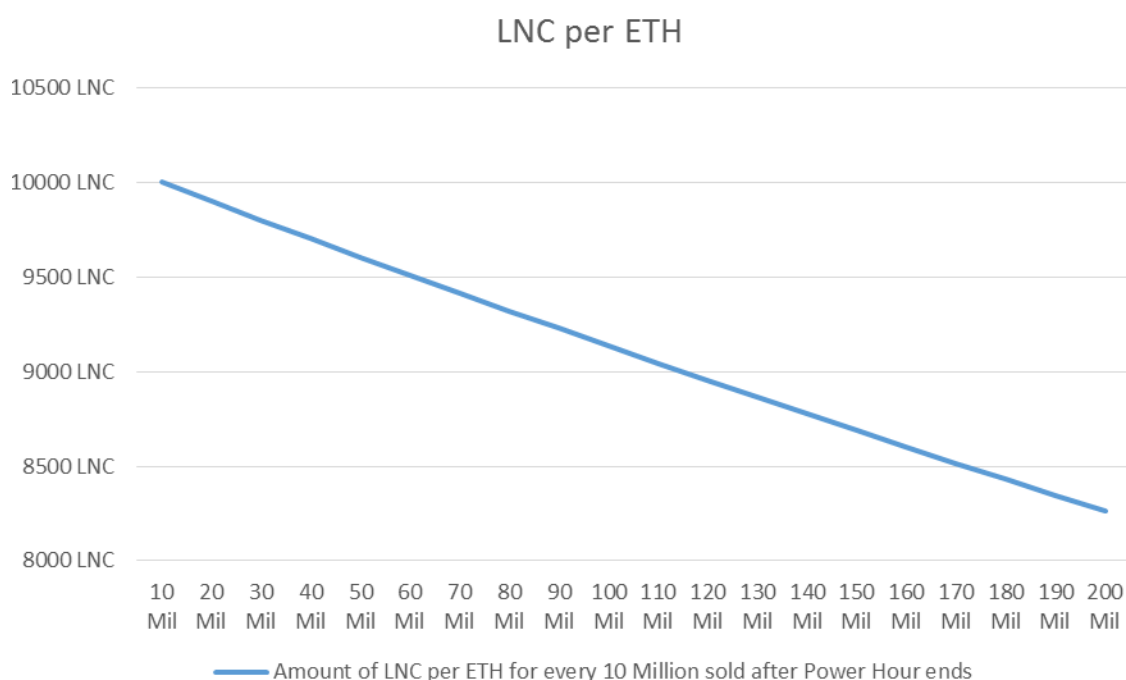


Figure5: LNC per ETH

35 % of the money raised from the sale will be used to improve the Blocklancer platform. 10 % of the fundings will go into general administrative purposes, 40 % are reserved for marketing expenses in order to improve the reputation of our platform and to increase acceptance of cryptocurrencies. 3 % will be used for our IT infrastructure and 2 % for all the software licenses needed. The last 10 % are meant as a reserve for miscellaneous things; a financial buffer, so to say.

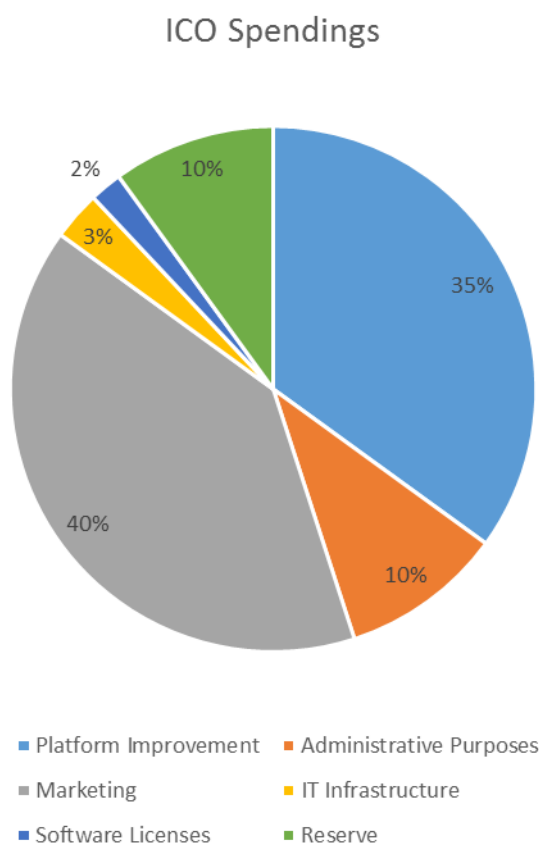


Figure6: ICO Spendings





## 10. Future

Our main goal is to become the biggest player in the freelancing market, but in order to achieve this, we need the money earned from our ICO to finance the marketing for our project and to invest into further development and improvement of our platform. We want to get our name out there, so that we can reach not only the technically versed but the casual people also.

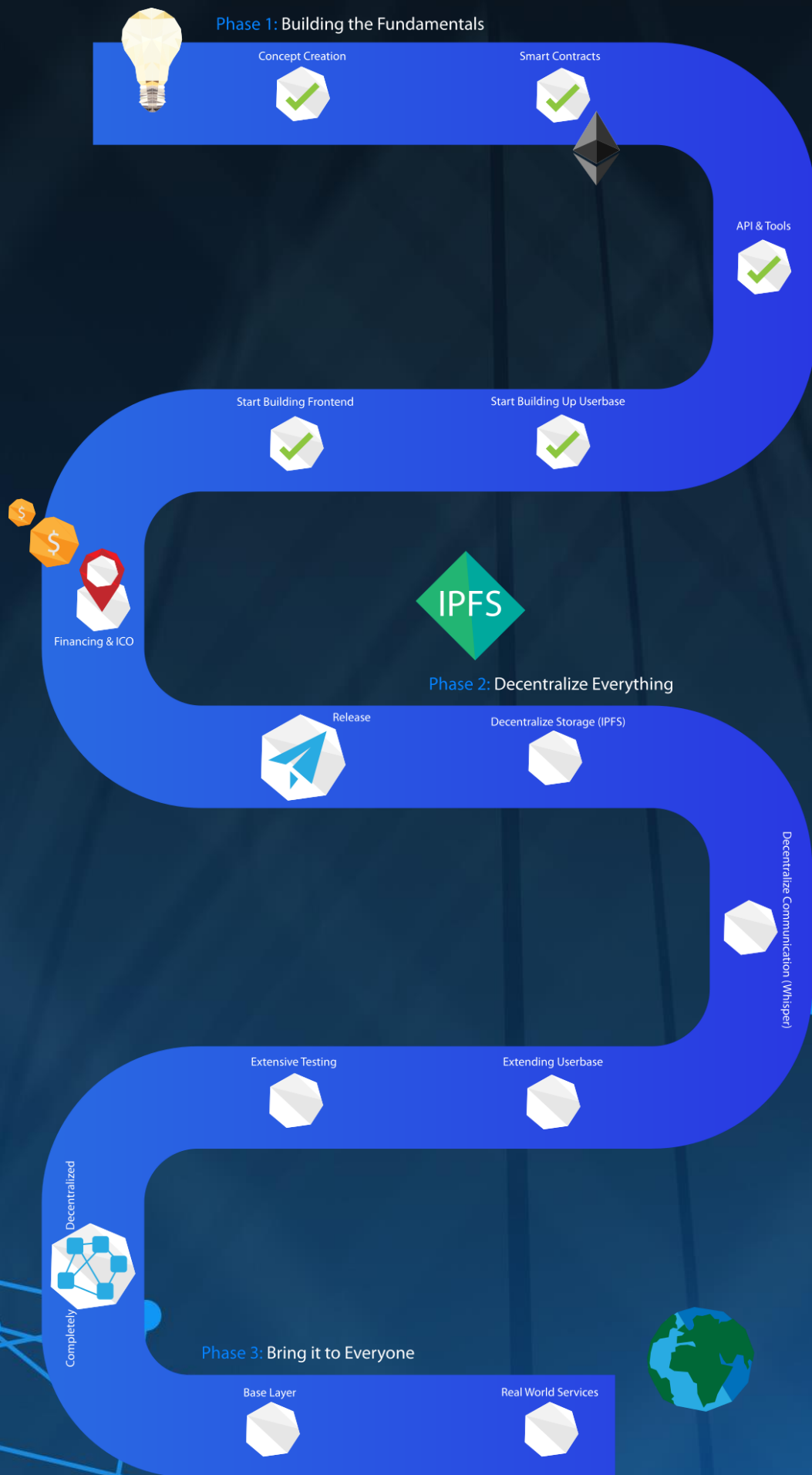
For ease of adoption we want to make our platform as easy and intuitive to use as possible. Simplicity is one of our core principles, because reaching the masses is only possible with an easy-to-use interface. The experience of using Blocklancer should be one without any unnecessary hassles.

For the end of this year, we plan to include an anonymous decentralized storage and a communication network for the projects.

Our long-term goal will be to connect our Blocklancer platform to real world services and to make it accessible and usable for everyone.

We have also conceptualized our platform to be an easily extensible base layer for others to use in their own projects.

See below for the roadmap of our project.





## 11. Contacts

[https://www.facebook.com/Blocklancer-233843607132919/?ref=aymt\\_homepage\\_panel](https://www.facebook.com/Blocklancer-233843607132919/?ref=aymt_homepage_panel)

[blocklancer@gmail.com](mailto:blocklancer@gmail.com)

<https://www.reddit.com/r/blocklancer>

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