

# Draft Document [www.Open3D.club](http://www.Open3D.club)

## Introduction

Most of the products we use in our daily lives have travelled thousands of miles before we get to consume them. Long distance transportation of goods and raw materials is not a friendliest process to the environment and it is not a very efficient way to manage resources. In order to take advantage of the cheap workforce, we had to develop and build large infrastructure projects related to transportation (roads, shipyards, railways, pipe lines, fleets etc.). Endless storage spaces and huge shopping malls are just another piece of that puzzle, financed on expectation of constant sales growth. Cost of these investments is mostly mispriced and only partly built in the price of products we use. We have failed to recognize the true economical cost of such a system and now majority of production is centralised in Asia. That has led us to problems of poor diversity, short engineered lifespan - low quality, expensive recycling and long, expensive development cycle of products.

On the other hand, there are a lot of positive aspects of centralization - we have achieved a significant improvement in our production capabilities. It has also allowed us to successfully and quickly forefeel growing customer demands for the last century and it will keep doing so for some years to come, but it is becoming clear that further scalability and sustainability of the current production system is a big issue.



*Nikola Tesla*

*"Invention is the most important product of man's creative brain. The ultimate purpose is the complete mastery of mind over the material world, the harnessing of human nature to human needs."*

**Approaching the mastery of mind over material world** - Is our mission and all innovations that can speed up the process of generating objects from ideas are welcomed. With better use of available technical tools and advanced fabrication technologies we would like to suggest an alternative way of producing more goods with less use of raw materials. Redesigning and rethinking the production system from the ground up allows us to have a fresh perspective, free from existing constraints. We have decided to look out for a solution which can improve energy and material footprint, embrace diversity of products, enable faster product development, improve delivery times and encourage recycling, while avoiding many marginal costs and big infrastructure investments.

Firstly, the aim is to develop the web platform [www.Open3D.club](http://www.Open3D.club) - a large database of 3D printable digital blueprints, easy to use and open for everyone to participate in it. Since these 3D objects are digital data they should, if done properly, be easy to search, be adjustable to user requirements and easily comparable to each other in terms of dimensions, weight and cost of material. By enabling people with 3D printing hardware to compete for those 3D prints, significant reduction of many marginal costs of today's system of production will naturally follow: labour, packaging, need for advertisement, transportation, storage spaces and retail networks. We believe that this is the best way to move one step closer to our mission. In the beginning we expect production of small, simple objects to be dominant. However, as 3D printing industry gains traction, technical boundaries for producing more complex objects will disappear.

## Fundamentals and principals

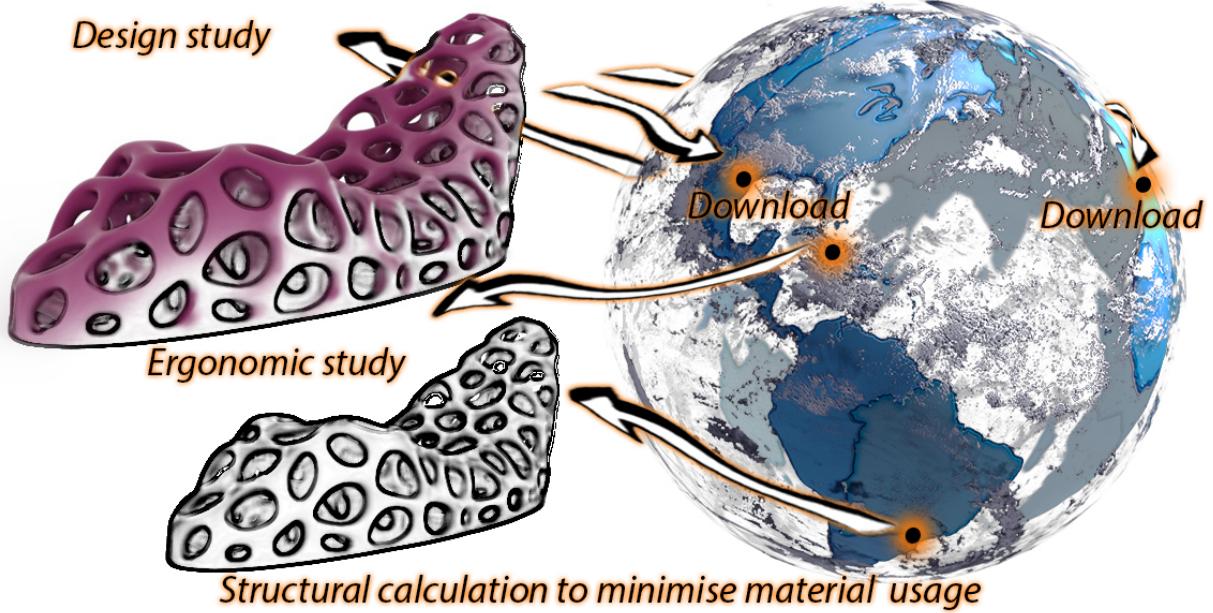
Last 25 years of internet have shown us that intellectual property laws are obsolete and that they are increasingly becoming an obstacle to progress and freedom of sharing. Sharing component is a fundamentally important part of our platform and we have established three principles as a guideline for all people who want to take a part in its future development. Our opinion is that these principles are essential for the success of Open 3D Club.

**Free** - Instant and free access to public imagination through a free software and free 3D printable objects. Any 3D model, once uploaded to the platform is, and will forever be free for everyone to use it. This includes privacy protection by not collecting data about users' activity. This feature should always stay verifiable through the open source code. It represents our fundamental core value and a base for our marketing strategy as well.

**Fair** - All credits should be fairly attributed to the participants of the project. Their added value should be objectively measured by monitoring statistical data from the platform usage, or rated by other contributors in order to get a fair share of the potential income for their involvement.

**Decentralised** - This is our long term goal. Centralised solutions should be in use only in the lack of good decentralised ones. All areas of the platform should eventually evolve towards a distributed network which will reflect a will of the majority of participants.

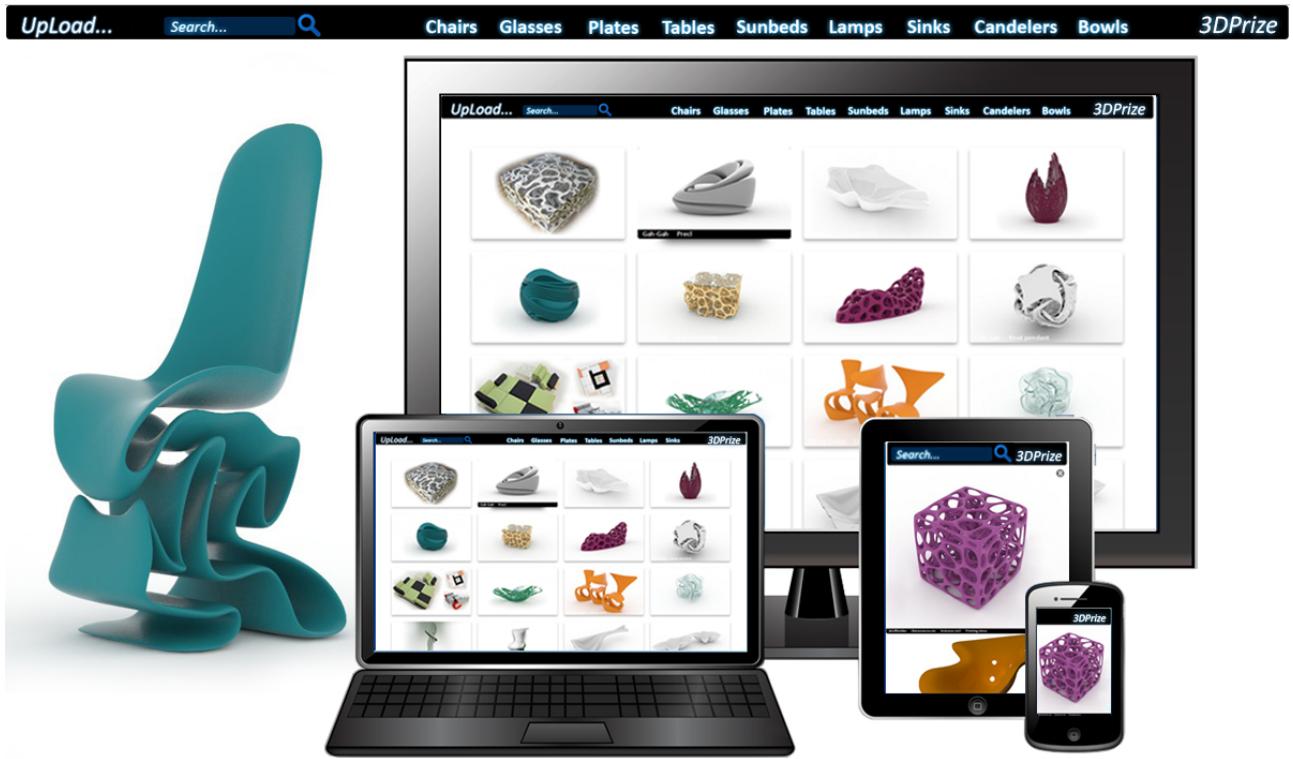
*Free Software & Blueprints - allow us to build on top of each other's work, regardless of location*



In the early days of "central control" we will try to avoid oversupply of simplistic 3D models and steer development of platform through the control of 3D Prize page. In this document we are suggesting a way of developing, monetising and governing this platform, backed up with some basic features on [www.Open3D.club](http://www.Open3D.club). We want to initiate a debate about the best and the most efficient way to achieve decentralization of production through 3D printing and internet sharing. Professional background of our team is 3D modelling, CNC milling, architectural designing, project management and presentation and we are entering this discussion from that point of view. We are looking for help from open-minded people who are willing to contribute and collaborate with each other in 3D modelling, software development, web design, structural design, production and all other necessary fields so that we can make the future a little bit better.

## User interface and experience

User interface is an evolving category and it should take into account all emerging technological trends - virtual reality, augmented reality, voice control and similar. New devices are going to become increasingly important. That is why the platform should progress towards a holographic presentation with the possibility to interactively customise and adjust 3D models to users' preferences. Instant access to all available information about any particular 3D model (volume, structural strength, price, production time, delivery time, recycled material value) should allow us to make easier and better choices.

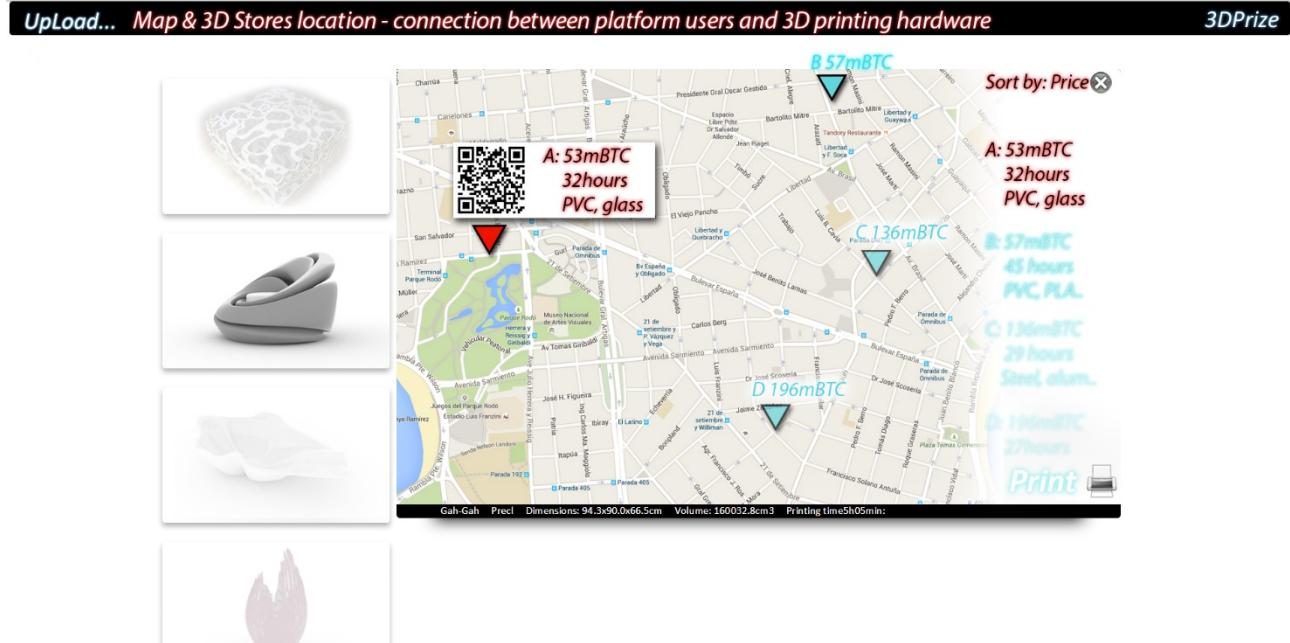


Let's get to the basics first. In the early phase we would like to spark public's imagination by highlighting advantages and possibilities of the additive manufacturing. This should be done by presenting highly complex items which can hardly, or cannot be built at all, by using traditional production methods. The best way to embrace high complexity of 3D printable items is through a simple and intuitive interface, done by using mostly a graphical presentation, so that people without any previous experience in using 3D softwares can easily browse through the platform. This interface simplicity, with a good balance of shown information about designers and 3D objects, will enable us to maintain a recognisability on other devices as well. We do not require a registration or any personal information from users, so anyone can easily access Open 3D Club platform. Users who want to have a closer look at a particular 3D model should be able to explore it interactively, rotate, zoom in and out, apply different materials and colours to it and see all technical data (dimensions, weight, volume) about a particular 3D model.

Technically speaking, this platform should be one big database of many STL 3D models. From 3D artists' perspective, uploading files should be simple - they should be able to upload properly named STL files and presentation and all functionalities mentioned above should derive automatically.

## Connecting with 3D printing stores

After all interactive modifications and adjustments have been made and once the user is happy with a 3D printable object, he or she can download the 3D model or should be able to request to print it in an independent 3D printing store, directly through Open 3D platform. Our goal is to present all these 3D printing stores on a map in user's proximity, so that he or she can determine where the closest ones are, what kind of materials they can print, time to print the particular object, price and other useful information.



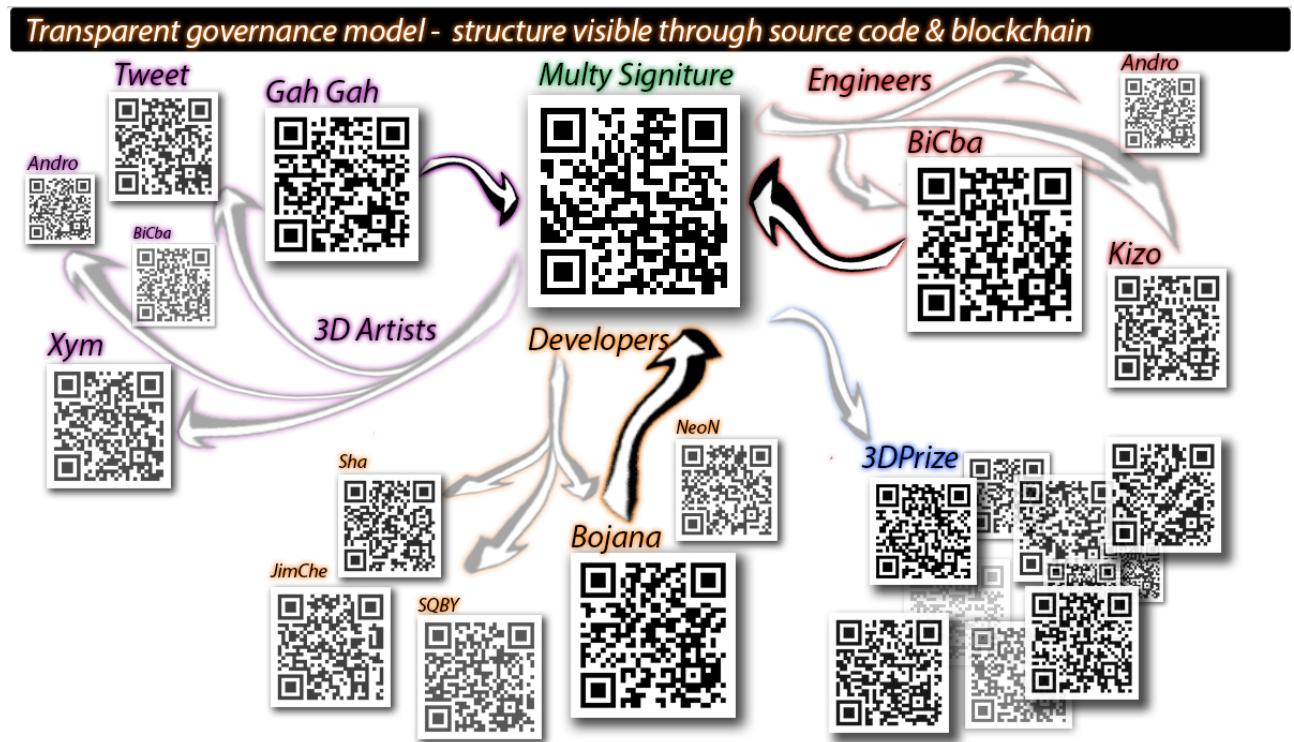
In the early phase of developing this feature on the platform, we should provide users with contact details like phone number and email address of 3D printing stores on the map. With this level of information interested parties can get in touch to arrange production of a 3D object, but the experience is not very smooth. To develop this service further and to reduce friction we should move towards providing a complete production information package. By having access to the geometrical data of 3D models (object form, volume etc.), 3D printing stores they can offer an information package to our users - 3D printing time, price, structural strength, delivery time and possibility to secure the deal through the bitcoin escrow capability. This would allow us to introduce Voluntary payment<sup>1</sup> as a reward for providing the whole service. 3D printing stores should be able to get involved in the platform without any barriers to entry, but their reputation over time should become reflective of users' satisfaction with their service, similar to any other selling platform on the web.

Entire experience should be free from any commercial interference until the user decides that he or she wants to download or print a 3D model. At that point, we have an opportunity to promote and present a commercial message. In the beginning, 0ΣAdvertisement<sup>1</sup> content should be controlled by the admin team. We would like all ads to be exclusively related to 3D printing industry or to some useful services connected to the industry. As we move towards automation content control should evolve to some kind of rating system, but this is a subject for further discussion.

<sup>1</sup> – Voluntary payment & 0ΣAdvertisement are methods explained in the Monetizing Platform section

## Distributed Autonomous Organization

Ideally, all functioning rules of Open 3D Club website would be encoded in an openly available source code without having anyone to be involved in the execution of all the rules. Statistical measurement of the platform usage should be in the constant feedback loop with a distribution of an income on a daily bases. When a multy signature wallet, connected to the revenue sources, reaches a previously defined amount of BTC in order to avoid significant fees (other possibility is low fee off chain solution), it should be automatically executing a monetary value transfer between participants in the Open 3D Club. Anyone should be able to upload 3D models and get paid if users find those 3D models useful. The whole platform should also be able to dynamically evolve and incorporate new ideas and features agreed by participants, using the same consensus mechanism. Anyone may suggest and develop a new idea by themselves or through 3D prize page (described later). Same statistical measurement tool which is in charge for income distribution should define voting power of participants. Every single aspect of this platform is decentralised: decision making process, payroll, accounting, hosting, storage etc.



Bitcoin technology and programmable money have pointed out a way towards the Distributed Autonomous Organisation (D.A.O.) and have put this idea in the realm of possible. Achieving this goal is not an easy task and we should use all available and useful tools and solutions out there - Open Bazar, Etherium, MaidSafe etc., although we have to be really careful to maintain and improve user experience simplicity and not to overcomplicate or block decision making process. There is a team involved in Open 3D Club platform development and interested people can get into one of the existing groups (refer to the chart above) by uploading 3D models, improving source code or solving some of the tasks on the 3D Prize page.

Level of automation on Open 3D Club is currently very low. All potential transfers are going to be executed manually following the charts in this document. It is critical to develop and set up some sort of automation as soon as possible. We are looking forward to potential solutions.

## Dynamic reputation system for Artists

Each group working on Open 3D platform (software developers, engineers, artists and others) will have to come up with a set of rules for measuring contribution and payments to people in their field. Anyone should be able to participate in this project and to get paid automatically through their earned reputation. Since we have 3D modelling background we will be presenting a reputation system ideas for this group only. Some goals and ideas on how engineers should be organised will be written additionally, whereas software developers section is completely open for a debate.

Our main objective and focus is to provide users with flawlessly working 3D printable models on demand. In the long run, once Open 3D platform is fully functional, and users can purchase real 3D objects, a number of executed 3D printed objects should become the most significant factor in the valuation process of contributing artists. 3D printing stores should provide us with their feedback about the quality of 3D objects. A number of 3D model downloads should be taken into account as a fraction of that value, in order to eliminate a possible manipulation. This should evaluate each 3D artist in the group and form a reward ratio between them.

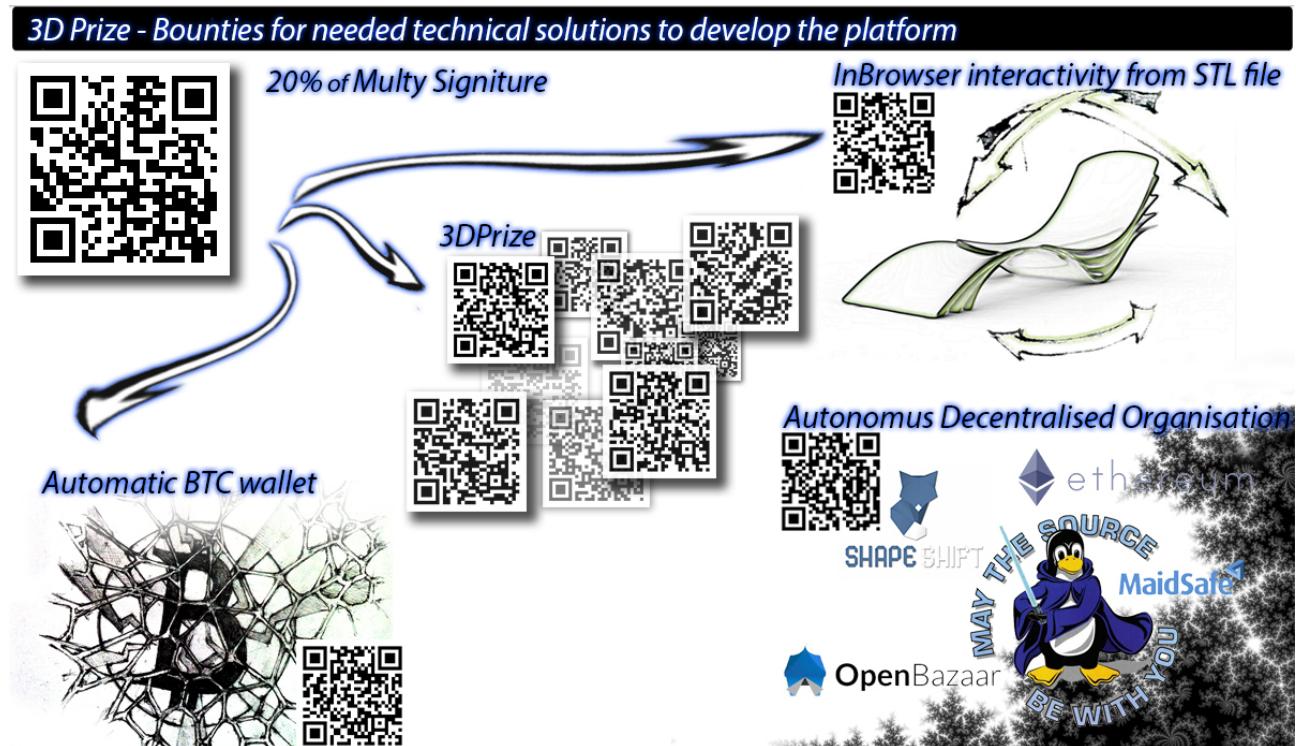
### Distributed system - measuring artist's contribution by a number of achieved 3D prints or downloads



In the short term, we have to establish this website as a database of high end 3D printable models. Maintaining quality will be done through double checking each other's work. People with reliable history of good 3D models will check quality of the new ones, in the absence of a better solution. In the early phase, a reward for artists should be distributed equally based on the number of uploaded 3D models. We do encourage people to produce highly artistic and complex 3D models as a part of our marketing strategy to promote possibilities of additive manufacturing. We are open for suggestions to find a better way of maintaining quality and avoiding oversupply of simplistic models, while encouraging fair and equal chances for all participants.

## 3D Prize page

This page is envisioned as a place where we can advertise sub-projects we find important for the platform development and put bounty for their solutions. 20% of the total income will be automatically allocated towards 3D-Prize page. Each bounty address (QR code) is connected to a particular project only, transparent and publicly open. Anyone is able to check the financial honesty through the block chain. Since all presented challenges will stay open source, people who find a particular bounty useful for a different purpose, can speed up the process and increase a reward for the needed solution. Once someone makes a claim that he or she has solved a particular problem, we will check its validity and if shown as valid, that will trigger one month ending period. During that period other people can finish and send their work. If other, later arrived solutions, are technically better, the bounty will then be split. The ratio will be 38% for the first working solution and 62% for the best quality solution. The idea behind this is to motivate people to approach these challenges using their highest skills and not to be pressurized by a first acceptable solution.



In the short run, Open 3D team will choose what bounties to announce at 3D prize page, for the website development. Programmers and software developers who solve the first set of problems will get in charge of the IT part of the platform. As soon as Open 3D becomes more decentralised, users will get in charge of this page. Anybody should be able to start their own 3D Prize as long as it is relevant to Open 3D Club mission. Before we get to this point, we need to make this page fully automated and easy to use, where projects are ranked by the amount of money they offer. At that point, a payment of 20% from the main wallet should be split to mimic the existing ratio between 3D Prizes.

We would like to have a public discussion about the ways to achieve full automation on 3D Prize page and about distribution of funds in percentages, since all of the above is arbitrary at the moment. In the beginning, all bounties will be related to the software development, but in the later stages, a nature of prizes will shift more towards mechanical engineering and hardware tasks.

## Ways of monetizing platform

At the moment, we can perceive two different ways of monetizing this platform, which are consistent with our core principles. So called  **$O\Sigma$ Advertisement** and **Voluntary fee** are in the development stage, yet to be built. We have created some basic suggestions and we are open to new ideas and solutions on how to develop these services in order to align incentives for all interested participants. As we progress forward and keep building Open 3D Club platform, new ways of monetising will appear. As long as they are not in violation of our core principles they should be executed and put to work. **Donations** have been implemented and hopefully can help us jump start the project.

### Revenue sources

**$O\Sigma$ Advertisement** - As previously mentioned, advertisements will be shown on the platform while 3D models are being downloaded or being sent to 3D printing stores. We would like to have an automatic add system on top of block chain protocol where anyone can participate by simply relating each payment transaction to "Automatic Add wallet" URL (web address) which contains a commercial content. Algorithm should measure a ratio between payments and automatically adjust a number of displaying ads. You can see Bob, Alice & Jo diagram below which explains this further. Every year, the system should be restarted and bidding for the marketing space should start all over again. Bitcoin is going to be used as the currency and the accounting unit, while other crypto currencies can be accepted through Shapeshift service.

#### Automatic Advertisement - Bidding for a percentage of the commercial space

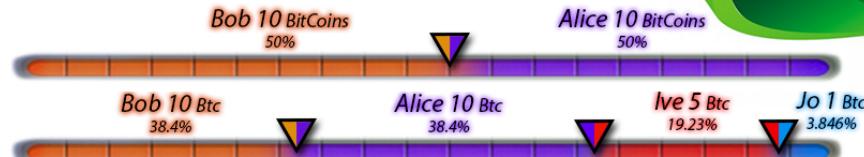


... link to content

... amount of Btc

#### $O\Sigma$ Advertisement ..... Crypto Only

This service should be an open competition for sharing the commercial space based on zero sum game. A ratio between presented content should be determined by the payment value in bitcoins.

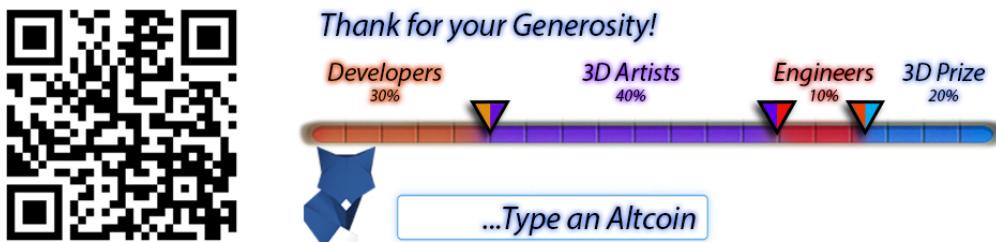


Besides this displaying adds ratio, the algorithm should be improved to use IP addresses and geographical data, to allow small 3D printing stores to get involved in marketing their businesses to interested people in their proximity.

**Voluntary payment** - This revenue source is possible in the long run. Once users can buy real physical objects from 3D stores and execute payments on Open 3D Club platform, we should process that transaction and charge a fee, if that is technically possible. On top of that, we should take a small optional cut (for example around 0.1\$) on each payment for the contributors (artists, developers and engineers) to Open 3D Club. Users should always have an option to disable this voluntary fee by simply unticking the box on the screen. Potential income should be distributed following a donation chart. This is a subject to further discussion.



**Donations** – are accepted and currently in function. All donations will be split according to the chart below. This should be verifiable through the source code and it is recorded on block chain forever. In order to advance this option further, we would like to allow donators to control splitting ratio themselves, by simply moving the adjustment sliders. That way, they can have a full control over their donations. Besides Bitcoin we also accept Litecoin, Ethereum and Dash. The plan for other altcoins is to implement ShapeShift.io and accept all of them.



Many features on this platform are yet to be built and developed. This is our vision of how Open 3D should function and all suggestions on how to improve user experience and functionality of the website are welcomed. We cannot emphasize enough that this has to be a joint effort of many different groups of people having a wide range of various skills. All contributions will be respected and rewarded. Self-involvement of enthusiasts and their mutual cooperation and governance is the only way to constantly evolve and improve Open 3D Club in the coming years.

**[www.Open3D.club](http://www.Open3D.club)**

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**[Github: Open3Dclub](#)**