

**NOCTA WHITEPAPER
(draft v. 0.7)**

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INTRODUCTION

The annual turnover of the sex leisure market exceeds \$200 billion. There has always been demand on this market and whatever are exchange rates, oil prices or geopolitical problems, the demand on the market is stable and constantly growing. The main customer on this market is the most active and at the same time one, the most payable part of the world's population.

Adult entertainment industry and modern technologies have had stronger connections day by day, and with spreading of blockchain technology together with p2p web, it's obvious, that the birth of the global platform, which can unite sexworkers (offerers, workers) and customers from all over the world is predetermined¹.

SPECIFICITY AND PROBLEMS

The closeness of the market and high risk to get low-quality service are the main problems. Due to specifics, neither offerers nor customers can fully enjoy benefits of the Internet and social networks.

When we need to visit another city or country, there are aggregators, such as booking.com, which contain lots of real people reviews and ratings. In case of adult entertainment, there is nothing like that. Some cities have local websites, some of them even have ratings and reviews system. However, you cannot always trust to every website because of unpredicted service level. That is why the selection process is very confusing and difficult. If you are inexperienced customer and if you go to another city / country, you cannot trust to local services for sure. Where should you look for good service? How to choose between them? Currently, there are no answers. That is where our service can solve these and other serious problems.

Anonymity. The vast majority of customers and the most of offerers prefer to keep their identity incognito. Moreover, customers generally want to keep their transactions related to this market in secret, and cash for some reasons is not always convenient.

Security. This problem touches sexworkers mainly. There is always an opportunity to meet an inadequate customer.

¹ <https://www.forbes.com/sites/modeledbehavior/2015/02/22/why-is-there-no-uber-for-prostitution/>

Quality. Customers that want to get service from new offerers cannot be completely sure about the quality of the service provided until they try it.

SOLUTION

The solution to problems, which are described above, is the creation of specialized, global, decentralized website with advanced rating system.

HOW IT WORKS

Nocta is the marketplace, where customers and sexworkers have their own personal cabinets. Filters allows to select a location, type of service, budget, etc. In other words, **Nocta** allows to accurately adjust plan for leisure in any city in the world. User can always find what he (or she) needs, read about desired services, leave and read feedback, use secure payment system. All attributes of the platform are aimed at convenient and long-term use. Payment for the services will be provided using **Nocta** internal currency. There is extra set of services and opportunities for offerers as well.

The user's personal cabinet contains information about his balance that can be easily replenished; there are bookmarks (favorites) for preferred offerers, pre-sets of filters for different geolocations. The customer can create his own request for the service or the number of services, noting the desired area on the map.

The offerer's personal cabinet has the same attribute series like customer's personal cabinet, but there is personal settings page as well, such as list of services provided, prices, service options, media-content (photo, video and audio). Offerers can request for the information about customer's balance and ratings anytime.

Monetizing of the platform will occur in the following ways:

- Offering the special statuses for the workers accounts;
- Commissioning fees;
- Organizing of the promotional events;
- Paid articles and posts in related media and social networks.

QUALITY AND SAFETY

The rating system is a 5-point scale. After newly registered profile appear in system, its rating is not shown and account is marked as "new". When user reach a certain number of successfully completed contacts rating will be displayed.

The rating system is based on the blockchain. All given points are stored in blocks and invulnerable for malicious changes.

Customers that have reached positive balance and minimum order history can leave their feedback and rate offerers right after service is provided. It increases the involvement of suppliers and improves quality service. It will also protect other customers from low-quality services.

On the other hand, sexworkers will be able to leave comments about customers; these comments will be visible only for other suppliers together with customer's requests. Based on the rating and feedback, offerers can easily decide if they want to provide the service.

WORKERS VERIFICATION

Basic verification of sexworkers will proceed by Nocta platform users. Workers will have an ability (not a duty) to provide a photograph with clearly visible face and ID with all personal data hidden, except photo and birthdate.

Users will be able to check the worker's profile by a single criteria: "is the photograph real?" Process will be totally random to prevent a fraud. To qualify as the "checked", worker's profile must be approved by a minimum of 3 users. Nevertheless, workers profile appear in the search engine immediately after registration, but without "checked" mark on it.

System will randomly generate pairs of encryption keys to grant or deny access of users to verification process. When user asks to view the file the system will check whether the user has access to the view and to the vote. In the future with the development of artificial intelligence, functions of workers approval will be delegated to the AI.

TRUSTED CUSTOMERS APPROVAL

Nocta will have the customer's approval option. For example, to use special services that directly related to the physical risk (bondage, BDSM, etc),

user have to be identified and have the "trusted" status. At the same time, sexworkers are free to contact untrusted customer on their own risk. Function of customer's approval will be driven by a trustful offline regional organization as it works nowadays, and we find this model trustworthy. Nocta team is negotiating the establishment of autonomous local customer verification services worldwide. Providers of the services will be public and related to the trustful sexworkers organizations so offerers will be able to contact them directly in person.

After the service implementing, providers will get personal encrypted key, which include unique hash value that identify the service provider. Service will give it to the checked customer, who will activate it within form in his profile. Since the organization will be public, it will be responsible for the quality of the approval. The "trusted" mark also contains information about provider that issued it.

In addition, workers always can check customers rating and discuss him in an internal chat.

PAYMENT SYSTEM

The cash payment process will occur as usual.

Payment by Nocta currency will be carried out as follows: after an agreement is reached between the client and the offerer, they meet and discuss the details, if both parties agree to contact, the client transfers from his personal wallet to the employee's account in a simple way, using NFC or QR code.

NETWORK ARCHITECTURE

The most suitable ready-made solution that can be used before developing own database is IPFS. It has a number of significant weaknesses:

- 1) Data storage is not guaranteed;
- 2) Data cannot be deleted or modified;
- 3) Data is not structured.

Building the NoSQL database over the IPFS may help to solve some problems described above, but not all of them. During alpha/beta tests common SQL DB will be used as static data storage to show the main platform usability.

BLOCKCHAIN

Nocta blockchain will use the new perspective algorithm called proof-of-space². Specs of the blockchain will be announced after the ICO and before blockchain run. Total premine will be equal to the number of Nocta ERC20 tokens issued during presale, ICO and bounty campaigns.

Blockchain by its nature already has an ability to store decentralized data. Main issue here is limited data capacity, all nodes replicate all data, include all of its states. Therefore, it is impossible to store all data of the global platform like **Nocta** and maintain a reasonable size of the blockchain. For example, size of Bitcoin blockchain is approximately 140GB by now, despite the fact that its blocks consist of transactions hash only. Size of the Ethereum blockchain, that has much more complicated structure, exceeded 100GB in just two years of activity.

The **Nocta** platform designed to unite hundreds of thousands of users and it is required a separate distributed database to store such data array. This

² <https://eprint.iacr.org/2017/893.pdf>

way **Nocta** needs its own decentralized data storage besides the blockchain.

DATABASE MANAGEMENT SYSTEM

DBMS (NoctaDB) will follow requirements described below:

- Publicity. Every user can create records. Only creator of record must have permission to change the records made by him (ability of create and edit profile specs);
- Authorized records. Profiles have public/restricted status within the platform. Every user can see profiles of workers. Only workers can see profiles of customers. Using public keys to regulate access rights among users.
- Sharding ability to support smooth scalability of the platform.
- Invulnerability to known issues of the distributed services.

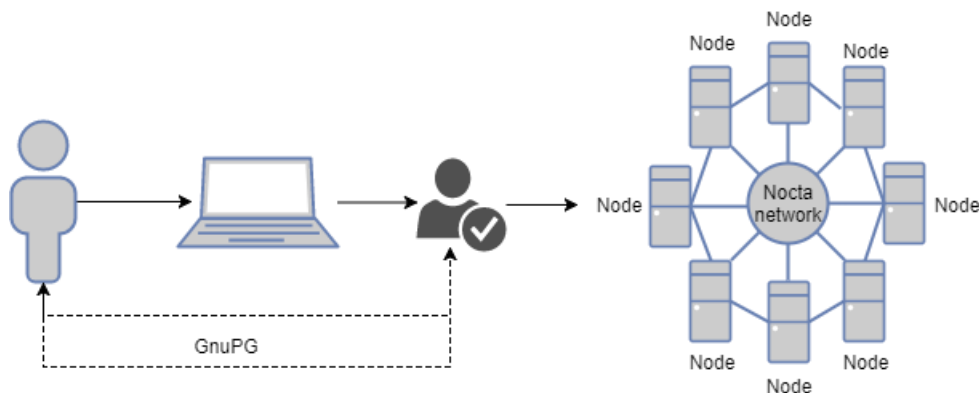


Figure 1: Basics of the user access

Full specification of the NoctaDB will be described in the yellow paper.

Summarizing the above, Nocta must meet the following requirements to successfully perform its functions:

1. Decentralization (consist of decentralized network);
2. Anonymity and privacy of clients and servers (nodes);
3. Invulnerability to known distributed system weaknesses (sybil attack³, byzantine generals problem⁴, etc.);
4. Ability to store and search structured data;
5. Scalability (readiness for rapid growth without access speed loss);
6. Publicity (everybody must be able to download node and become the part of the network).

³ <https://www.microsoft.com/en-us/research/wp-content/uploads/2002/01/IPTPS2002.pdf>

⁴ <https://www.microsoft.com/en-us/research/wp-content/uploads/2016/12/The-Byzantine-Generals-Problem.pdf>

After the final release of the platform, network node architecture will consist of three layers:

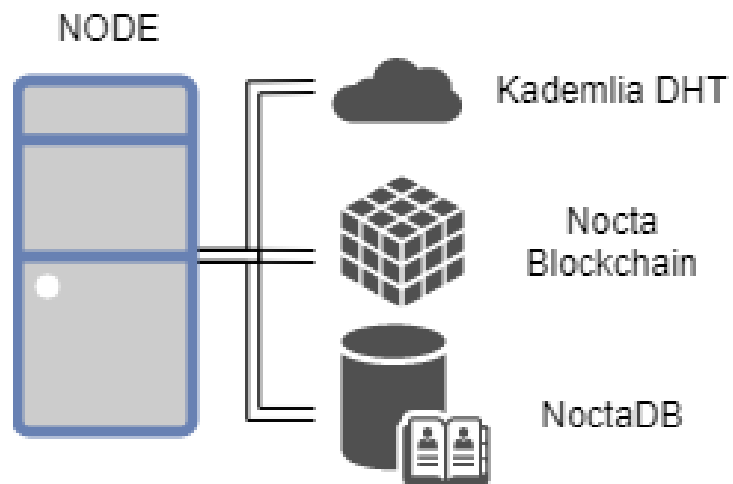


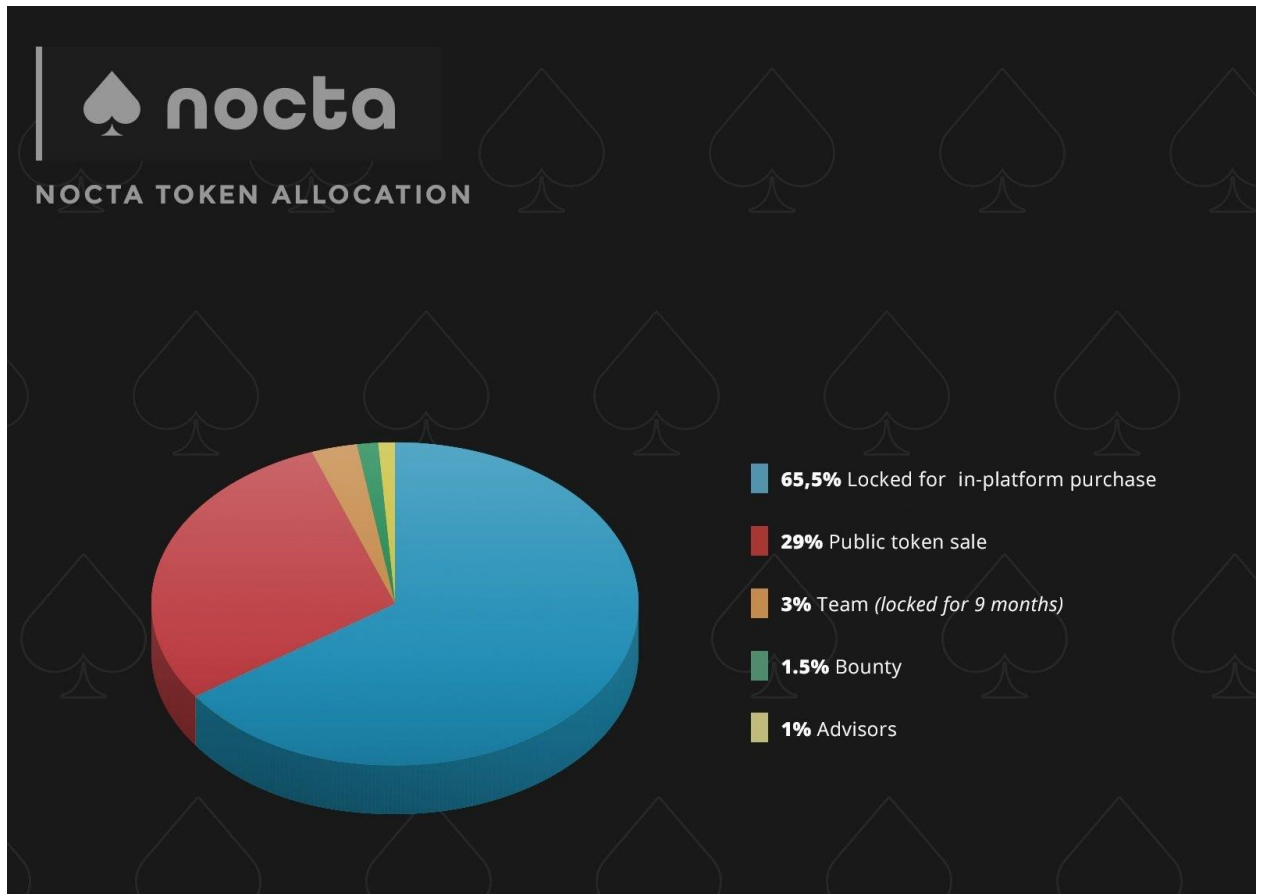
Figure 2: Node structure

MAIN TOKEN DISTRIBUTION

Main token distribution (MTD) will be conducted using the Ethereum platform.

MTD starts 23.02.2018 at 12:00 p.m. (UTC). Main rate is 12600 NOCTA per 1 ETH (~\$0.07 per NOCTA). Hardcap of the MTD is 2450 ETH. Early participants will receive 30% bonus with the rate of 16800 NOCTA per ETH till the 24.02.2018 12:00 p.m. (UTC).

Total token supply is 300 000 000 NOCTA. Token allocation will be as follows:



Tokens, issued for the team⁵ and in-platform purchase⁶ are locked on open-source smart contracts.

After the run of the platform, token->coin swap will be performed using internal Nocta platform exchange. The main volume of issued currency

⁵ <https://etherscan.io/address/0x115957ac3f61c6dba8a8519a4a9c6e2680d6becf>

⁶ <https://etherscan.io/address/0x32a9938d567adfed4fde49e8846a86d278f893f0>

(65,5%) will be distributed via the internal platform exchange at Q3 2018 with the fixed price of \$1.

Thus, the platform will receive necessary funding using the most convenient tool and after several months will move to the fully autonomous financial operations through its own blockchain.

LEGITIMACY & MINORS

We are against the violation of international and national laws that regulate age of consent and find it unacceptable and disgusting to populate child prostitution and platform will use distributed pre-moderation system as it described above.

ADVANTAGES

For sexworkers:

- **Significant safety increase**

Thanks to the rating system, the employee will be able to assess the sanity of the customer based on ratings and colleagues' feedback. After the provision of services worker is able to expose the customer's rating and leave review, which is visible only to other offerers.

- **Wide marketing opportunities**

Each sexworker can offer their services and find as many customers as they want. The worker has the opportunity to view the statistics of requests for a particular region, which will allow him to assess the information about the demand for all types of services.

- **The ability to completely deny services of unscrupulous third parties that deprive a significant part of sexworker's earnings**

In many respects, the existence of such people is conditioned by the closed nature of the market, and Nocta solves this problem. Workers will be able to set their own price for providing services. The customer rating system and the opportunity to create funds for hiring security guards will remove the major risks.

- **Opportunity to merge into unions and create funds to support workers in different life situations**

The platform allows creating funds for professional unions, like financing security services and medical insurance and funds for combating occupational diseases. Unions will allow more flexible approach to the issue of marketing, pricing policy and timely reaction to possible pressure from the authorities or third parties.

- **Easy customer search**

Worker is able to configure the list of provided services as well as served region and the cost. Offerer also sets the minimum level of the customer's rating to avoid major risks.

- **The ability to choose customers and to work anywhere in the world**

A worker will be able to change the region of his activity any time without losing customers. An offerer can view unique queries from customers about services that does not fall under search filters.

- **Statistics and maintaining of loyal customers**

There is order statistics inside offerer's personal cabinet, with the ability to sort information using selected criteria's, to receive statistics for different period of time, and about different customers. There is an opportunity to encourage favorite customers with discounts.

For customers:

- **Free and easy to use**

Customer just needs to login and choose desirable offer. This simplicity will greatly increase the number of customers on the market.

- **Anonymity**

The platform will not require any personal information and will give user only id and password to enter. Otherwise, in some cases, user can get verified status.

- **Secure payments**

Nocta will fully provide on-platform transactions in its own blockchain. This will make the system fully autonomous. Nevertheless, we are well aware of the established traditions of the market, so, until the cryptocurrency is used universally, customer can make payments in cash, if wanted.

- **Confidence in the quality of services**

Integration with blockchain tech excludes any rating wrapping or review falsifications, so the customer may not worry about service quality.

- **Satisfaction of every taste, worldwide**

The flexible system of filters will allow customer to choose a worker for any even the most refined taste, anywhere in the world, this will allow customer to find what he has been looking for, as well as easily plan his vacation or working trip in other cities and countries.

- **Custom orders**

If for some reason the user cannot get the desired result using search engine, he can create custom request with the description of his wants; this can be anything from escort for the event to any exquisite services.

SUMMARY

Nocta solves main problems of leisure industry for adults. It allows customer to make convenient choice anywhere in the world, to get quality assurance and anonymity in simple form. Moreover, customer can be sure in the services that he is going to use. **Nocta** allows offerer to promote services all over the world using secure and confident platform.

TEAM

We clearly understand our ultimate goals to successfully launch the project. To be long-term oriented, we clearly realize the need to preserve the incognito of the team, since we remember inglorious end of the story of Backpage⁷ and MyRedBook⁸.

We are like-minded specialists. Our team well balanced with web and crypto developers, PR specialists and entertainment industry experts.

We came to change the industry forever, to create decentralized, safe and most convenient service for everyone.

We are **Nocta**.

⁷ <https://www.theguardian.com/us-news/2016/oct/06/backpage-ceo-arrested-sex-ads-forced-prostitution>

⁸ <https://www.wired.com/2015/02/redbook/>