CRYDER

WHITEPAPER

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Abstract

In the constantly changing modern world, Cryder is a blockchain based start-up, intended to revolutionize the world of the on-demand rides and freelance driving industries. De facto we are creating Cryder eco-system that will combine riders and drivers, to facilitate movement around the cities. Cryder itself is an independent system, that does not react to governmental decisions and regulations, where all the rules and roles are set at the time of contract creation and can't be change no matter what.

In the core of Cryder idea there are 4 main essences:

- *Profitability*: All the tokens that driver earn, remain with him as no additional charges are applied from Cryder side - Cryder is completely free to use.
- *Decentralization*: Cryder platform is fully decentralized, as there is no central authority, which can regulate eco-system participants or change the rules. After Cryder platform is launched, it will exist on the decentralized network.
- *Invulnerability:* as Cryder is an autonomous essence build on the Ethereum blockchain it is persistent to standard on-demand-market vulnerabilities.
- *Unstoppability*: As soon as Cryder is published to network, nobody can regulate or stop it. Deleting Cryder app, from the app markets, will change nothing, as Cryder itself is open-source and anyone who wants to make their own application with their own name and user interface, and will be able to connect to the Cryder eco-system.

Introduction to Cryder

Main mission of Cryder concept is to become highly flexible and customizable alternative for the currently, highly competitive and over-regulated on-demand rides market. In Cryder eco-system every driver is treated equally, as no personal or identifying information is passed through the network, except for the rate driver is offering for a ride, thus making each ride as small auction. Ultimately, Cryder is offering all of the participating parties, to participate in fair, transparent and non-conflicting ride on-demand market.

We are placing high standards for Cryder eco-system, but on the other hand, no high expectations must be placed for the ride itself as Cryder is and always will be the platform for cheap, private and fast on-demand ride experiences. Each rider will be able to determine limit on price, that he is ready to spend for the ride and based on that, he is getting the type and quality of the services he deserves in this equal environment.

As an open-source ecosystem, Cryder will be creating developers' community, that will bring amazing applications into the world.

Market Analysis

Market overview

Based on United Nations statistics there are 195 countries. Uber is available in only 83 of them and Lyft is available in US only - based on information provided by companies' websites. This statistic show us, that more than half of all countries are pushed to use some local on-demand services, public transport or old-fashioned taxi services. The major drawback of all services currently presented on the market is that all of them use complicated fee structures - price per kilometre / mile, waiting time fee, pickup fee and in total, resulting fee becomes unreasonably high or even unpredictable. And unpredictability of price makes such services sometimes very unpleasant experience.

Additionally, end price may be influenced by such factors as rout, chosen by the driver, that can be not the direct one, traffic jams - that increase overall travel time and price accordingly and other force-majeures and in our opinion such fee policy practice is unfair for the riders and sometimes to drivers.

On the other hand, there will be Cryder, whose simplicity and ease of use, will make it almost an ultimate solution for any Country and City in the

world. As an example, you can take a Cryder car from your US home to airport, take a flight to Italy, take a Cryder car to your Hotel and afterwards, use Cryder for a Gondola ride in Venice, thus making number of Cryder market applications almost unlimited.

After studying numerous official reports made by different regulatory bodies, as well as going through several procedures of acquiring official Taxi and other on-demand licenses we identified the main problems in industry:

- High costs of licenses
- Limited number of licenses available
- Demanding and time-consuming procedures for acquiring license
- Burdening bureaucratic requirements and loads of paperwork
- High day-to-day running costs

But the main problem for the cross-border companies is, that regulations are very different in each jurisdiction.
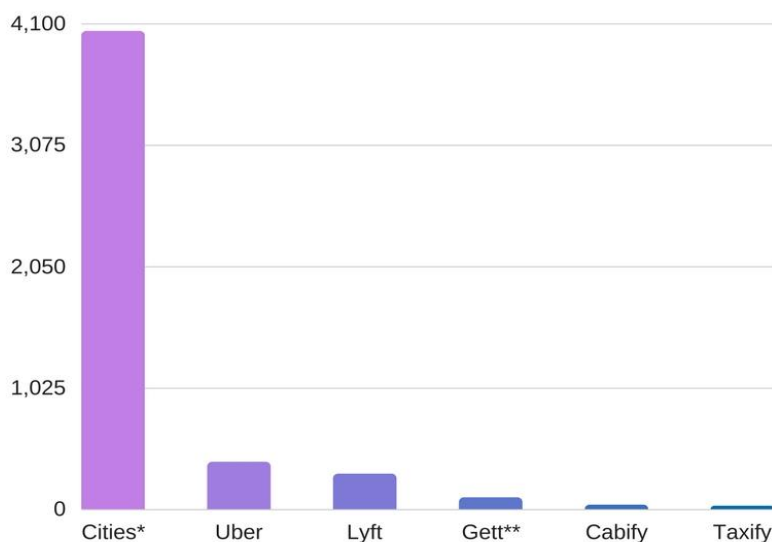
Number of Taxi drivers in China 2016 - *1 404 000*
Number of Taxi Licenses in Germany in 2016 - *53 554*
Number of Taxi Licenses in Spain in 2016 - *66 499*
Number of Taxi Licenses in England and Scotland in 2016 - *83 380*

Bellow you can find visual representation of proportions, of number of cities in the world with the population over 100'000 and number of cities where major ride-sharing companies are available. The chart clearly shows, that due to regulatory issues, pricing policies and other factors, majority of the market is left with traditional taxis or public transport, that are not as flexible and easy to order as Cryder is:

Number of cities with population over 100'000

**More than (no official data available)*

Highly regulated old-fashioned Taxi industry

Numerous unsolved problems are impacting regulations, passenger fees and driver commitments. And with every new year regulations and requirements for becoming a taxi driver or a taxi company, are killing hundreds of smaller companies as well as numerous highly experienced drivers are losing their jobs. To sum-up, governments and regulatory bodies are so excited with adding new and modifying existing regulations, and changing requirements resulting in that taxi industry is entering the stagnation phase. All of the above is resulting in the significant rise in fees with no significant improvement of quality of services.

Stuck in legal law suits Uber, Lyft and its alternatives.

At least once a year or even often we see headlines in newspapers that some drive-on-demand market participant is being sued by official body or by clients, thus bringing multi-million fines and legal charges to the industry, resulting in the fare rise and lack of diversity of services and service providers, that has an impact on the consumer. Additionally, there is no stable legal base or regulation to control ride-sharing companies, thus making this business more complex and burdening than traditional taxi, as such companies can never project what possible new regulations can occur. This results in market instability as main aspects of the industry can't be strictly determined, and is inconvenient for both, riders and drivers. Also, if taken into account, different countries, regions and even cities can have their proper regulations and requirements, that makes impossible, creation of the single, understandable and transparent regulation. Due to the above, companies need to adapt to the different regulations and this results in a widely used principle – Not ready to pay more, nobody will drive you. Such policies and industry standards are breaking the main principles of the free market – that everybody has free choice. Such regulation are implemented to generate income for the governments, to "try" to protect the riders and to increase the quality of the product, but as we see it only results in increase of the prices.

On-demand market overall

On-demand ride market has two major types of service providers, but on the other hand, only two big market participant types, are not adding into diversity of the market. All of the above is making the ride-on-demand market very complex in the terms of constantly changing legal framework and is slowing down introduction of innovations. We know from first-hand

experience that not all of the on-demand rides are resulting in pleasant experience for both rider and driver, thus making society to start search for the alternatives. Other major drawback is that all on-demand platforms are highly centralized and massive user information is stored on company servers, killing the privacy at the start. Almost none of the major cities and even countries, have one or two market participants, that control more than 80% percent of the total market share, thus making entrance of new participants easy, but killing the industry in total.

Privacy issues

In the course of adding new regulations and rules, privacy policies suffered major changes, such as obligations to collect private data, payment card information and Geo locations, all of this was made to increase the level of passenger and driver security in the expense of privacy. All of the information is collected and centrally stored on the company's servers, as well as all of the passenger routes, that when combined can draw a complete image of one's movements and no place for privacy is left. All of the data collected may be used for the marketing and to drive your choices, but nobody is protected from the hack and information leak (even FBI if you do remember Snowden case).

Product details.

Problem definition

As we currently see, there is no alternative or solution for all the problems industry faces. From the company's and drivers side strict regulations, legal issues and additional requirements are holding back and prevent business to establish strong presence in the market as well as to concentrate on the quality of services offered. Current on-demand market is living without the confidence in the next day, as nobody know, how governments can "try" to protect everybody with a new law. From the passenger's side, there are two main issues, first it is high price of on-demand services and secondly by the lack of service as such in some regions.

As we all know, why currently offered services, have high prices, the lack of service and unavailability of service as such, is mainly linked to the unprofitability for the big companies to enter into such regions, or price policies if such markets are entered. So high prices and unavailability for the majority of the region's population are slowly, but steadily killing the industry as such. Even after basic market research we concluded, that

current market situation is very unfavourable, for the both, part time drivers, who just wish to earn extra money and for full time drivers who are in seek of stable income or are requiring flexible working hours.

While working for a standard Taxi Company or on-demand service, you are first of all bounded by companies policies, such as uniform and other unpleasant trivia as minimum commitment you must pay to your taxi company, just for using their name. All of drivers' moves are controlled and monitored by the companies, thus requiring extra resources for the "spy" thing. This leads, to the reduction of the number of the drivers and driving the prices of the rides higher. Rising prices frighten passengers, as the only thing they wish to do is to travel from the point A to the point B at a lowest fare possible. In fact, reducing number of passengers is dividing income from the rides, among greater number of drivers – reducing each individual's income.

Taking into account that for all on-demand services Registration is required (when you provide your name, surname, e-mail and card number), just to have a ride once a week, thus it is too much for basic and low value added service.

Solution

The main goal of Cryder is to grow from an alternative of the standard on-demand ride-sharing companies and platforms, to becoming the stand-alone market and industry.

The new market segment, that we are willing to create is a self-regulated and not-influenced by the regulatory and governmental bodies, where anyone who has driving license, car and knowledge of local regulation of on-demand riding, could earn extra money and provide better services, driving the significant market share from the multi-billion on-demand ride market. In other words, Cryder is set to be a backdoor into becoming a member of an on-demand driver, with no requirements and fees from Cryder itself, as an opposite to on-demand market, which in recent years has become over regulated and tied by requirements and fees.

Just imagine that any bypassing car could be a Crider ride, and you can get a ride, without any involvement of the third party.

Cryder for Rider

For riders, we do offer a transparent environment, where all participants benefit from the privacy and transparency of the fees and expenses.

When you are requesting a ride, you will be provided with several offers from drivers, that compete in-between of each other, to provide you with the lowest rate, no other parameters are being taken into account.

Unfortunately, riders will not be able to see the name, gender and even car make, that is going to pick them up, but on the other side, drivers will not be able to know who they are going to pick up, thus bringing new level of trust – trust through anonymity. The only parameter, that plays any decision-making role is price and no rating or somebody's advice can impact on your decision, and the only reason to trust the driver is than there were no previous trust issues. One of the side bonuses of the token usage for riding, is that no matter what country you are in, you are able to use Cryder as the single ride currency.
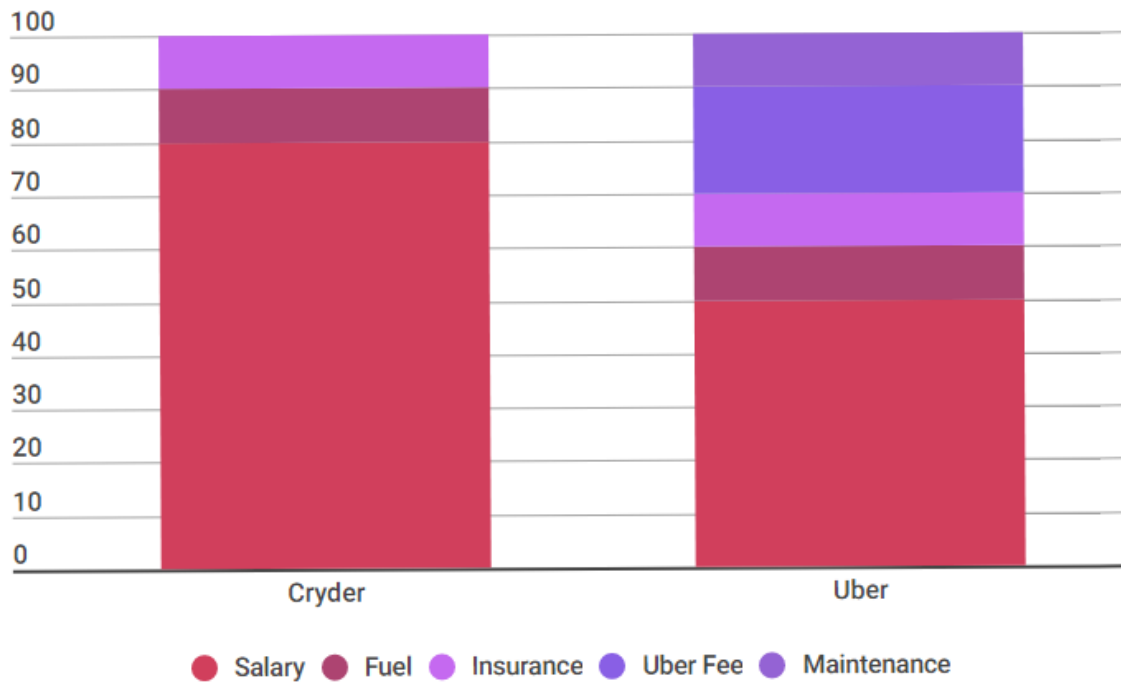
- Transparent environment
- Fair and transparent pricing
- Privacy
- Solidity and protection against fraud

Cryder for Driver

As a Driver, your main benefit will be that, pricing policy is fully determined by you and your financial goals. As local drivers are the ones who know local market the best, they know all possible shortcuts and possible jams, the rate driver is offering will always include all possible risks, thus bringing more satisfaction for riders as there will be no change of final ride expense. As we see from the statistics, Uber and Lyft are charging more than 25% from each ride minimum, and if market conditions demand driver, to charge his clients less, it only means, that he will earn less. With no fees to be paid to Cryder, we are simply the cheapest platform where riders and drivers meet, excluding any possible conflict of interest. Considering, that prepayment is made, you as a driver are protected, from any possible fraud from the client side. Additionally, there are no extra charges or requirements from Cryder side, such as licensing, software usage fees, obligation to wear uniform or minimal commitment - we are creating infrastructure, that is completely free to use! We do strongly recommend checking your local regulations and requirements for on-demand rides, but technically, there is no way, how Cryder can check or oblige driver to comply with them. For Cryder, any driver is a priory fully complying with local regulations and laws and it is not our work to prove otherwise. Individual drivers and even taxi companies are welcomed to use Cryder network, but as fee is the only driving factor, no monopolies or price speculations are possible and fares are only dependant by market conditions and drivers willing to earn.

UBER vs Cryder

As we see from the visual comparison above, Cryder has very transparent and straightforward pricing model, fill up your car, buy car insurance and you are ready to earn Cryder tokens. On the other side, there is Uber and other on-demand services, Uber as an example, leaves driver with only 50% of the riders fee if compared to 80% with Cryder. Additionally, on-demand apps and services have numerous side costs as well as different variables, that sometimes can't be previously forecasted.

- Fee policy is up to you
- Free to use
- Transparent pricing
- No additional regulations

Open-Source

We will maintain Cryder platform ourselves, but as an open-source environment, we are highly interested in other developers using our open-source, that would help to develop an eco- system, where only price plays role and diversity of apps is only adding value to the network itself. In an utopian world, there would be no governmental requirements for the ride-on-demand and these means, less burden for the driver and more value added service for smaller fees for the rider. Cryder code, apps and API's will be open-source, with presence in the Apple App store, Google Play store and on other related web portals, thus making it unstoppable as soon as the network starts working. Taking into account the open-source structure of all the programs, any willing person from developers community or company can integrate its software into Cryder network and infrastructure, expanding number of users and driving capitalization of Cryder up. No-Fee Cryder policy is making it even more interesting for end users - drivers and riders.

- Open-source
- Free to use

Cryder technical specification

Conceptual requirements

In times, when we were conceiving and prototyping the design of Cryder platform, privacy as well as full autonomy and invulnerability were one of our main focuses and the goals to achieve. That said, we have constantly sorted through different decentralized technical implementations and decided to go with the Ethereum blockchain. At first we even proposed our own blockchain, but after more in-depth research we figured out that Ethereum had just all-in-one mechanism we needed. So, in a result we are utilizing such Ethereum technologies as smart contracts, light client and whisper protocols, web3.js library as well as other minor modifications.

A little bit more about our requirements and how these technologies satisfy them.

Privacy

In the first place we needed a concept where ones privacy stays always protected. In decentralized Ethereum blockchain it is done by design without any central authority collecting and parsing your data, moreover no information is personalized. But we still lacked a bit of privacy by publishing all offers and routes within a smart contract to the public distributed ledger. Due to this lack and additional fees one needs to pay to transact with the blockchain we utilize Whisper. Whisper is a communication protocol for nodes to communicate with each other in an anonymous manner. In this way all application logic concerning privacy is built within Whisper and is storing no data permanently, all the information is destroyed after arbitrage nodes complete the deal and send the result to smart contract. Thus, no one knows how and where the deal took place.

It is worth mentioning that Cryder application is a pure DApp built for Android/iOS smartphones and is not using any centralized server in any way. Thus, application is communicating with its own node running on the smartphone, it is done via implementing Ethereum light client that do not need a full blockchain and can get through with just blockchain headers and downloading and verifying the structure only by demand.

Full autonomy

When the privacy was satisfied, the next step was autonomy. The platform we are building must be decentralized, automatic and with no aspect of any kind of interruption and error prune. All the layers of interaction the user goes through are backed by automatic and independent technical solutions. Smart contracts we use are programmed in one exact way and can not be changed or cheated, that makes them ideal for our goals. We are implementing Whisper protocol in such a way that it is allowing free entry into the consensus process and adding the financial incentive for nodes to be honest when arbitraging driver and passenger deals and their actual states. All the states are honestly processed using the data received from drivers and passengers about current locations and the result is sent to smart contract that decides what to do next, whom to send their tokens to based on what actually happened and how smooth the deal was.

Basically, you as a rider only have to make a request where you want to go and accept the offer with the price you like best, and the platform automatically makes it real, so you never have to do anything else, of course, except being in the pickup location. And as a driver you just need to offer your price for a request and if it is accepted go to the pickup location.

Invulnerability

And the last but not least is invulnerability. The platform must be protected from all incidents that can arise during the time. We have previously described technical features used in it, they are protecting privacy and implementing full autonomy. But what about an ability to stop it entirely? Is there any way of stopping Cryder if any person, government or regulation by any means is willing to do so? The answer is no, it is not possible, after we publish the platform, it shall live its own decentralized life.

It is accomplished by several technical key points:

- *First*, smart contracts can not be stopped or removed as they live in Ethereum decentralized p2p network.
- *Second*, application source code has embedded framework utilizing web3.js library to provide frontend user interface, as well as the connection to the node that is running from the same source code.

- *Third*, as application is using pure Ethereum node without any intermediate services, there is no way of interrupting it to join Ethereum p2p network. After it has connected to Ethereum network it can start using Whisper and the system starts to process drivers and riders deals and by the need sends the data to smart contract.

Anyone can compile this source code and use the application or publish it somewhere if he wills to. At the beginning, we will publish it on Google Play and Apple Store for your convenience.

Token offering

Common foundation of Cryder tokens.

Cryder is issuing tokens, not only for the use inside the network, but also adds a real-life value to them. Fundamentally, Cryder Tokens ($CDT) have a long-term perspective, with the possibility of their use in Cryder application and just for speculation in the market.

In total 450'000'000 CDT will be minted, for the sale purposes. 50'000'000 will be minted during the presale and the rest will be minted during the sale. Additionally, 8% above all minted tokens will be locked for the core-team, for the period of 1 year, and additionally 5'000'000 CDT will be issued during Bounty campaign.

Future Cryder token pricing and overall token liquidity.

As a payment instrument used for paying for the real goods, its price will be correlated to the number of transactions -rides. In other words, as more people are interested in using Cryder as a mean of transport or form of employment, demand for the token will be increasing and taking into account overall supply of more than 400 million tokens, there is almost no limit for growth of market capitalization. The growth of price of the Cryder token will raise concerns of overall supply, liquidity and possibility of making small payments for short rides. To resolve this issues Cryder token will have 8 decimal digits, so You will be always able to cover any possible riding costs.

Roadmap

What were the major steps done and that will be done in the nearest future in terms of improving and creating our product.

The idea, whose destiny was to revolutionize current on-demand ride market, based on the analysis of all previous problems and drawdowns. In addition, analysis has shown that there are regions that do not have such option at all, or even are banned by the government. Our team has concluded deep analysis of the market, to highlight the most sensitive areas:

A.   Lack of confidentiality, due to constant Geo survey during and after the trip.
B.   Processing of sensitive data, such as payment information and personal information.

Totality of the points mentioned above, shows unreasonable complexity of the use of the services. We are aimed to consider this point and to correct them, bringing transparency and confidentiality to this simple everyday service. Adding on top of that Cryder is leaving all your financial operations undisclosed and all your movements will be only held in your memory, not on the servers of the Company or any 3rd party. All financial operations are linked to blockchain and are guaranteed to be complete, secure and private.

Development

Our team has already begun to develop MVP, for general use and to make service complete. Based on the MVP, we have reviewed main features of Cryder Dapp, introduction of blockchain into Dapp, to retain maximum decentralization of the system.
In the month of October, directly after end of presale, we will begin full-scale development and test of Cryder Alpha application, due to be released March 2018 - With all bugs, weak points and advices taken in mind. 35% of all collected funds during the crowd sale, will be used for development purposes, it's further improvement, maintenance and introduction of new features. Before each new feature introduced, we will conclude market and technology study that could be added into Cryder DApp.
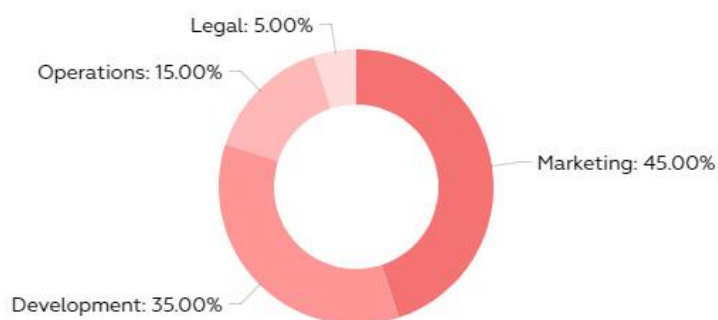
Marketing

We strongly believe, that for successful introduction of our product, strong marketing campaign is required, that in a years' time, will cover majority of regions of interest. Marketing campaign and introduction of our product will be completed simultaneously, thus it will require massive expenditure of Marketing department. 45% of all collected funds will be directed to public relations, marketing and advertising in the regions of interest and future expansion.

Legal

As we see, that there may be possible attempts to put Cryder company, not the network itself, under regulation and somehow to try to limit its expansion in different regions, by speculation with legal norms. That will require additional expenses on the Legal department, that will be able to assist us with local regulations in the regions we are introducing our product, thus allowing us to be ready for any possible limitations or requirements, that will guaranty higher success rate in entering new regions.

Operations

Part of the funds will be used, to cover companies running costs, that are crucial for meeting our goals and development of qualitative, working product. For the development of fully functional product, it will be necessary to improve the headquarters and to establish local offices, that will work to maintain and improve the product, and to better understand local requirements. Local offices will be also responsible for research of the local markets and providing feedback to the main teams. They will be acting as independent, fully functional Cryder branches. The chart below, reflects planned collected funds distribution after the crowd funding is completed:

Legal: 5.00%
Operations: 15.00%
Marketing: 45.00%
Development: 35.00%

Conclusion

Taken together, all of the problems and possible solutions mentioned before, Cryder is the most transparent and competitive platform on the market, if competitiveness, fairness, privacy and service availability is taken into account. All off the Cryder innovations and product as a whole is directed for the market improvement and bringing new life into rusty on-demand market.

As a platform for extra or necessary income is the most beneficial for the driver and the most simple and transparent from the riders perspective. The main idea of Cryder is to bring privacy to the new level in your life.

Cryder team truly believe, that nobody has to know where and when you were and what places you visited, if You don't want them to.