LockTrip BlockChain Manifest v0.9

29 Sept 2018

Introduction

Most of the users who read this, will already know by now, that we are an enthusiastic team dedicated towards building a blockchain-based travel company that aims to change the economics of the retail travel industry, without forcing any changes regarding the current behavior of travelers. The concept of our project is straightforward and seeks to enable a shared economy model around a native (LOC) token that utilizes smart contracts for bookings in order to switch to a “0% commission on retail bookings” model and to protect all involved parties from the multiple traveler/host transactional risk scenarios. In contrast, sites such as Booking.com,

Agoda.com and AirBNB.com have commissions that range from 15% to 30%, depending on the type of property, which in the end inflates the retail cost for the travelers.

Hotels hate that, since it erases a great deal of their profits. Travelers, **who are aware** of the scale of those commissions also hate it, simply because from their perspective it just means paying excessive fees to a middleman who adds little value to their actual travel stay. In the end you still stay in that same hotel, regardless of whether you book it through site A, B, C or through the hotel itself, right? So why pay 20% on top, just for a server that connects you with the hotel?

LockTrip has been launched in September 2017, and we now have a live product with 100,000+ hotels and 1500+ vacation rentals. Those can all be booked through https://beta.locktrip.com, in addition to which, there is an Android App and an iOS App, both available for download.

While some projects try to revolutionize from scratch, we tend to lean towards the strategy to continuously evolve based on the present opportunities, challenges and technical specifics of the environment in which we are growing. Evolving as a strategy, technically means to be resourceful in using everything that is existing and validated as being of value, while at the same time to embrace opportunities to upgrade the design and overall technical and business related model of the project, without compromising much of what has previously been achieved.

Being a blockchain based company naturally means that the technology having the biggest impact on our business design is the underlying blockchain infrastructure. LockTrip at present, is an Ethereum based project with an ERC20 token. This manifest describes in detail, why and how we are initiating the steps of launching a proprietary blockchain that could make a strong positive impact.

The Current BlockChain Problems

Without any doubts, current leading blockchain developers such as the ones of Ethereum, have achieved astonishing progress over a short period of time in terms of both - mass adoption and adding economic value to the blockchain ecosystem. Nevertheless, few of the developers involved, have actually been blockchain **application/business developers** prior to the moment they designed their blockchain architecture, specifically due to the overall infant stage of the whole cryptocurrency industry. This essentially means that the people who designed first generation blockchains, have not had the chance to first handedly face some of the challenges that impede the process of building a real-life application/business based on a blockchain.

As a result of this, we see most blockchain developers focused on achieving hard metrics such as transactions per second (TPS), while at the same time continuously working on architecture that was drafted as early as 2016 and 2017, without paying attention to painful problems that actually are hindering mass adoption of the technology.

This is why we took the time to analyze all challenges, which we have identified over the last 12 months of work with Ethereum and managed to identify the problems that became **blockers** for the development of our decentralized application.

Based on the gathered data, we have drafted a new-generation blockchain for the purpose of solving these specific problems for ourselves, as well as for any other potential decentralized application, that wishes to be part of a more sustainable blockchain economy.

The problems..

1. The “TPS Above all” race of most blockchain developers

Before we begin it is important to clarify, that we consider true blockchains, ones which have significant censorship resistance and have a truly decentralized block producing and consensus mechanism. Or in other words, a blockchain is as valuable as the number of inter-changeable nodes that sustain its consensus. The more nodes there are, the more robust the blockchain is as an infrastructure and the safer your funds are from entities who have authority to shut down businesses. The reason why Bitcoin has endured the test of time, lies specifically in its strong censorship resistance.

Although TPS capacity is definitely an important metric, some companies seem to have sacrificed the number of nodes and their consensus architecture in their strive to reach higher output, which by no means poses any **revolution** in technology.

EOS, having a Delegated-Proof-Of-Stake consensus for example, has 21 block producing nodes, which have supposedly been delegated their rights to produce all blocks by a democratic voting from all network participants. These 21 block producers are located in enterprise level data-centers. As a comparison, Ethereum has 16,000+ nodes which are scattered across the planet in various environments and jurisdictions. Naturally it is much easier to synchronize data among 21 nodes than it is with 16,000 nodes, because one of the biggest challenges of a

blockchain is to effectively self-manage all errors that arise during the block producing and synchronizing process (self-forks, block collisions and stale/orphan blocks).

A simple illustration of why censorship resistance matters above all:
For the people who have the right authority, it is much easier to shut down 21 enterprise class nodes with a single phone call, than 16,000 nodes which are scattered across the planet. The latter would be nearly impossible and it would be safe to assume that as long as there is internet, computers, electricity and an economic incentive for those nodes to continue to operate, the existence of the Ethereum blockchain is secured.

This is why “TPS above all” oriented blockchains practically compromise decentralization and add little value to the advancement of the blockchain technology in general. There is a similar case for the project NEO, which has a limited amount of enterprise level nodes, of which all of the validator nodes are being owned and operated by NEO itself. In March 2018, the whole NEO blockchain went offline after a single one of its nodes went offline temporarily.

In order to give a better explanation of what it means from an engineering standpoint to reach a higher transaction per second throughput on a “21 block producing nodes infrastructure” vsus a “16,000 hierarchically equal nodes infrastructure”: This is similar to a human running a track which is 50 meters long vs one which is 5 km long. Naturally you can make more laps on the 50 meters track, which wouldn’t make those laps equal to the ones of the 5 km track. This is why transactions-per-second(TPS) alone doesn’t matter unless it is combined with censorship resistance and overall decentralization of the nodes that propagate those transactions.

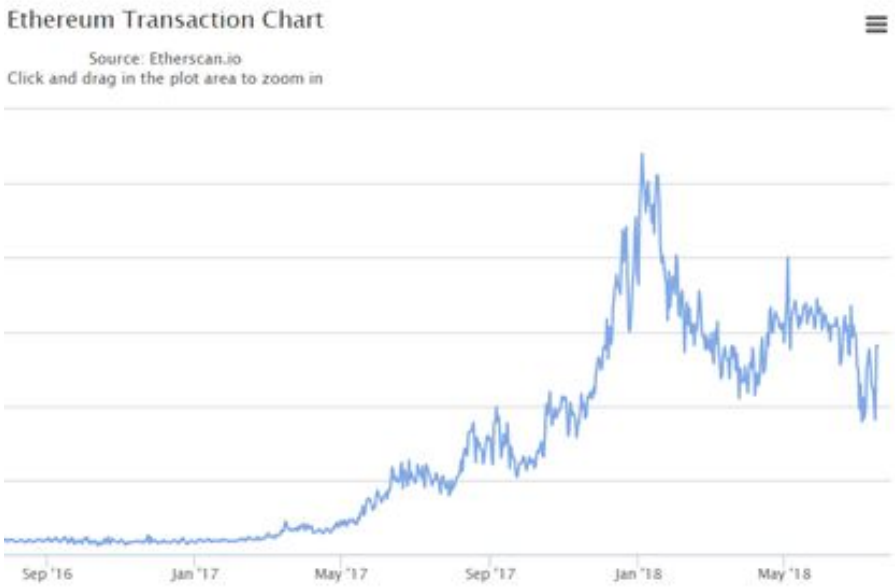
LockTrip BlockChain Solution:
To base any advancement on proven and 100% decentralized blockchain infrastructure, while focusing on improving the overall capacity to approximately 120-200+ TPS without sacrificing decentralization (our initial target is approximately 11 - 15 Million transactions per day, which is approximately 10 times the current capacity of the Ethereum network).

The LockTrip blockchain in its core is based on the open-source production level Qtum blockchain, which on its own is a fork of Bitcoin Core with an Account Abstraction Layer that enables support for the Ethereum Virtual Machine (EVM). This hybrid blockchain utilizes the well-established UTXO transaction model and employs a true Proof-of-Stake consensus, which has been evolved from the BlackCoin project. We are undertaking the evolutionary strategy of combining the best of Bitcoin and Ethereum and building on top of it a proprietary blockchain that is capable of preserving decentralization, supporting Ethereum applications and at the same time reaching notable TPS performance.

2. Unpredictable costs regardless of network load

As a business developer, you need to know the **exact costs** associated with the building parts of your business. Since blockchain is essentially a transaction based technology, not knowing how much a transaction will cost you practically means not knowing if your business will be viable or not.

Ethereum's current consensus is Proof-of-Work based (POW) and as such, the costs associated with the validation of each transaction are defined by the miners that process the underlying layer through an auction mechanism. This essentially means that the blockchain businesses, investors and users of Ethereum have no idea or whatsoever on how much the miners will require at any moment in future to support the network and validate the transactions. Although some might argue that this should be based on the market economy that stands behind the investments in hardware supporting the mining, we experienced a recent example where the Gas price had spiked from 5 GWEI to 150 GWEI in a matter of few weeks, while no such notable spike in transaction numbers was recorded for the same period of time and Ethereum was well under the maximum transactions capacity per day.



Such an anomaly validates that the Ethereum transaction costs are **wildly unpredictable**.
A real life example that displays how much of a problem this unpredictability can cause for an actual business, is a recent analysis on one of our Locktrip bookings smart contracts that we had designed for our travel application. Here are just 2 examples of the exact same operation happening over a short period of time.
Please note, that these are actual bookings for actual hotels from actual customers.

The transactions are taken from :
https://etherscan.io/token/0x5e3346444010135322268a4630d2ed5f8d09446c?a=0xdfe24baa082ff5f3f4cb24e7fe1e6ba7487cd909

July 16 2018
https://etherscan.io/tx/0x6dd24031fa97cdaeebb3bc7bc48146be201f098f8a638463a2bd90f8acecd2d0 - Standard GWEI settings across the network is **10** and the cost for booking is **$2.84**

July 03 2018
–https://etherscan.io/tx/0xfa28e0513cd89199675cf8d5068d4e8fb198d49ce3c2d12edbcaf9caa15657d7 - Standard GWEI settings across the network is **93** and cost for booking is **$23.86**

These two transactions happened in a span of just 2-weeks and the cost had varied by a multiple of almost **1000%** even though the maximum transactions per day supported by Ethereum were all well under the current maximum cap of **1.296M**. Furthermore, having a transaction cost of $23.86 for an average travel booking that costs e.g. $150, would mean that there would be a network fee of 16% which would eliminate the effect from the 0% commission and make our service unviable.

Considering the above, we have of course already undertaken a plan to optimize and simplify the smart contracts, in order to ensure that costs would remain less than $5 even in extreme circumstances. However, that doesn't necessarily mean that in the future the cost could not rise above that level, as that's completely in the miners control. In addition, by optimizing for gas efficiency, we eliminate some features in the smart contracts which is a compromise in the blockchain element of our travel service.

On top of the unpredictable GAS price, the Ethereum network fees are currently bound to the underlying Ethereum cryptocurrency price without any reference to fiat values, which practically means that even if GAS price (measured in GWEI) remains unchanged, in case of an extreme rise of ETH price, the network fee will again significantly increase. This flaw in design pretty much limits the upward potential of Ethereum, since the more the ETH price increases, the more expensive it becomes to use the network for all Ethereum network participants.

No mainstream blockchain developer has addressed the possibility to relate the network fee to a fiat value. The current combination of unpredictable variables, makes it near impossible for a real world business to operate effectively on a high transaction scale.

In contrast, in the conventional business world, the majority of transactions are subjected to fixed fees (e.g. Visa, Mastercard etc). If blockchain aims for mass adoption, the underlying fees need to be bound to fiat equivalent regardless of the underlying cryptocurrency value in order to eliminate the burden of price volatility on market participants that engage in transactions. This could also significantly increase the upside potential of the underlying coin.

LockTrip BlockChain solution:
To achieve transactional gas cost predictability through a governed and stable gas price protocol. The gas price will be governed by the nodes through a voting mechanism and will be bound in fiat equivalent. The fiat rate will be governed by an Oracle that will monitor exchanges where the underlying LOC cryptocurrency will be traded on. The end result will be a blockchain that has a fixed price per transactions in USD irrespective of LOC rate and thus an unlimited upside potential.

3. High Network costs

We are putting this in the third spot, since the solutions to the previous two problems can offset it to a certain extent. POW consensus eventually runs into a situation where it takes too much resources to utilize hardware for little marginal improvement in terms or hash power. It leads to a spending race that has a self-purpose rather than a purpose to contribute to the ecosystem in a balanced way.

LockTrip BlockChain solution:
To operate under a true Proof-of-Stake consensus with fixed gas cost in fiat equivalent through an Oracle. This will result in stable and predictable network costs.

4. Long term dependence on artificial rewards and lack of sustainability

All current blockchains are fueled by artificial block rewards that pose long term systemic risk to the whole ecosystem. This is so, because eventually these rewards will be depleted and in case there are not enough transactions to incentivize the underlying nodes to continue operating at their current pace, this could trigger a potential collapse in node infrastructure/blockchain security followed by a potential collapse in value similar to a building collapsing under its own weight.

What would happen to the Bitcoin network if adoption declines (or remains steady at the current approximate 250,000 transactions per day) and eventually runs out of rewards? The economic incentive for miners would be significantly lower since there would be little actual economy behind the fees that these 250,000 transactions generate as compensation to the underlying infrastructure of nodes. The miners would have to either exponentially increase the network

fees, so that the lower number of transactions could compensate for the eliminated rewards, or they would have to sell their mining equipment.

To give a rough illustration, if we assume an average Bitcoin transaction cost (average fee) being equivalent to e.g. $0.1, then the current 250,000 transactions per day would equate to a total of $25,000 per day. In contrast, the current block reward is 12.5 BTC which is rewarded once in every 10 minutes. With current Bitcoin price being in the $6,500 range, that practically means every 10 minutes, a value equivalent of $81,250 is rewarded, translating into roughly $11.7M per day only from block rewards. The discrepancy between the value of the transactional economy and the value of the artificial block rewards is colossal.

Ironically, one can argue that the artificial rewards are somewhat similar to the quantitative easing that most governments apply in current centralized financial systems. The analogy comes from the fact that in both cases there is a non-market driven entity that generates artificial value in order to incentivize/boost the development of the underlying system. In centralized governments, that value comes from printed money originating from central banks which is then used to purchase securities from the financial markets. With cryptocurrencies, that value comes from the block rewards, that are generated by the blockchain itself.

Whether the technology for creating this value is centralized or decentralized, in both scenarios, eventually it will have to stop and market participants will have to adjust to it (and pay the corresponding price for this adjustment).

One can assume that a centralized economy is somewhat reliant on a theoretically (and rather flawed) infinite supply of this artificial value, whereas with the finite supply of Bitcoin for example, this artificial value is programmed to halve over certain periods of time and eventually is set to completely seize.

So far, block reward halving has been associated with spikes in Bitcoin value, which is linked to adjustment of market participants to this halving of the reward (and the **assumed** correlation between block rewards and mining yield), rather than linked to a fundamental increase in adoption. Without a doubt this has proven itself as an effective way to kickstart a blockchain, but unfortunately the actual adoption lags significantly out of proportion to this pace of growth.

LockTrip BlockChain Solution:
To utilize a true Proof-of-Stake based deflationary blockchain with an actual transaction driven economy and minimized block rewarding that would deplete over a period of 5 years.

This implies that we will minimize the artificial rewards and focus on attracting DAPPS, tokens and/or centralized apps that would generate real transactions from real businesses and real customers.

Growing the number of transactions and the total amount of generated fees from those transactions would be the main focus of the long term sustainable economy of the LockTrip blockchain. This eliminates the "what if" situation when artificial block rewards run out.

The growth of the LockTrip blockchain and the underlying LOC cryptocurrency, will be the result of a self-sustained transaction driven economy and not by a self-purposed race fueled by non-market rewards.

5. Current Blockchains are not shared economies

Without any doubt, blockchains derive their value from the applications that build on top of them (DAPPS and Tokens), which also means that blockchains as crypto assets, are similar to the derivative assets in centralized financial regulated systems. Derivatives are assets that rely on another asset for their economic value.

This is why a blockchain without any adoption has little actual economy behind it. As already discussed in the previous point, the most important economic factor that forms the blockchain economy is the transactional economy that is generated by real people. Current blockchain developers face a significant challenge arising from the fact that evaluations supersede adoption. We see a number of blockchain developers that already have valuations in the hundreds of millions and even billions of dollars without actually having a running main net (and therefore safely assuming that their production adoption is 0).

More people making transactions essentially means more people actually buying and selling services, products and/or executing smart contracts that relate to services and products that supposedly affect consumer's lives and result in some form of transfer of economic value.

With the above kept in mind, we can assume that the DAPPS and tokens that contribute to a growing number of transactions, are the key players that build the value of any given blockchain.

Right now, there is no essential way for an application to get a piece of the economy that it generates on a protocol/transactional level, which implies that at some stage in the future, powerful DAPPs and Tokens will eventually consider switching to their own blockchain, in order to capture the contribution they make.

In current Proof-of-Work design (POW), this economy is given to the miners, who seem to be relatively agnostic of the economic sustainability of the ecosystem and more focused towards

further engaging in competing for block rewards. This creates a situation where current blockchains take value from the applications that build and grow its adoption, and distribute it to players who do not increase the adoption of the blockchain. Furthermore, influential miners are the ones who generally have the control to fork a blockchain, since their authority is associated with the blockchain security, whereas DAPPS do not.

A quick illustration of the above: If Ethereum has 700,000 transactions on average per day, which cost $0.1 each, that means there's a real economy worth $70,000 per day which unlike the mining rewards, is generated from actual network fees and actual people. This economy is not going to disappear if crypto markets crash, whereas the hash power of miners (although needed for security) has no direct economical implication in terms of market fundamentals. If there is a total market crash, the hash power on its own is not going to prevent the price of Ethereum from going down to 0, if we assume that there are no transactions on that same Blockchain simply because hashing power does not yield any form of return to investors. We can therefore state that value is distributed disproportionately between the participants in current POW blockchain systems.

A recent example with the Ethereum based Cryptokitties project has shown, how a game project that generates real economy and adoption to a blockchain, gets no reward or whatsoever on the transactional protocol level. That particular project has generated 2,464,243 transactions as of the moment of writing of this document:
https://etherscan.io/address/0x06012c8cf97bead5deae237070f9587f8e7a266d
If we assume that each transaction generated $0.1 on average, then the transactional economy that Cryptokitties had generated is $246,423. That project didn't get a single cent from that economy. Instead, its transactional economy has been given to miners, who are rather agnostic to the actual adoption of the Ethereum network.

LockTrip BlockChain Solution:
We will integrate the first true shared economy blockchain, where 50% of the transaction fees that are generated by tokens, will be reimbursed back to the wallet of the ERC20 smart contracts of those same tokens. To further illustrate what this means, if CryptoKitties generate 10,000 transactions per day, yielding $0.1 per transaction, this means that they create a transactional economy worth $1,000 per day for the Ethereum miners. The LockTrip blockchain will instead distribute back 50% of the generated economy to the wallet of the ERC20 smart contract that is associated with those transactions (in our example the wallet of CryptoKitties). The remaining 50% will be distributed to the stakers/investors of the LockTrip blockchain. This practically means that the blockchain will be sharing the transactional economy with the key players – on one side the applications that grow the transactions and adoption, and on the other side, the investors and stakers who are supporting the node infrastructure and providing the consensus.

This feature will be a unique and powerful marketing tool for the acquisition of established DAPPS to migrate to the LockTrip blockchain from other existing blockchains, as they could increase their returns without affecting their model of work. This unique feature plays an important part in our strategy to attract projects with actual transactional economy.

LockTrip will be running the Ethereum Virtual Machine, and will support seamless migration, a working blockchain explorer and a robust nodes infrastructure with true censorship resistance. Not to mention all remaining design improvements which should make such a migration a win-win scenario.

Tokens can migrate and use the extra income to effectively boost their token economy, or to reap as profits.

6. Transactions Total Capacity / TPS (while preserving the value of consensus and nodes)

TPS is perhaps one of the most popular topics in blockchain right now. As mentioned already in problem #1, the TPS is important as a metric as long as it is accompanied by a truly decentralized network of interchangeable nodes. Current Ethereum capacity being capped at 1.3M is capable of servicing the DAPPS that run on it in the short term. However, this capacity might be insufficient in the mid-term to long-term.

Ethereum is the most adopted blockchain at the moment with the highest number of transactions ranging between 600,000 and 750,000 per day. A large number of those transactions are generated from within the crypto industry by and between crypto users (e.g. trading, exchange transactions, wallet transfers etc.) which fall into the leveraged transactions type. The ones, that are generated by people who use the network for actual economic purposes that fall outside of the crypto industry, is impossible to be calculated, but is certainly on a much smaller scale.

The Bitcoin network has approximately 250,000 transactions per day at the moment of writing and like Ethereum, has a large % of its transactions generated by and between crypto users.

If we assume that Ethereum and Bitcoin yield 50% of the total blockchain transactions (which is a rather optimistic estimate for alternative blockchains, because not all of them even have running main nets), then this would mean that total transactions around the world would be in the 2M range per day.

On a side note, EOS reported that they have reached 3M transactions per day, just 1 month after their launch, but considering the low level of real world adoption and the fact that there are no transaction fees, we can assume that the nature of those transactions are again highly leveraged.

A transaction is valuable only when it brings in a transaction fee, otherwise it is just a random digit.

Some blockchain developers are aiming towards achieving 200M and even as much as 500M transactions per day capacity while compromising their decentralization architecture. Having a 500M capacity per day with a generally speaking bad decentralization, while at the same time, market demand for true decentralization is at around 2M-3M transactions per day, is somewhat of a misinterpretation of the current state of the blockchain industry.

We believe that the next step in Blockchain development should be based on evolving around what has been proven to work with a realistic increase in capacity to be able to support growth over the next 5 years.

LockTrip BlockChain Solution:
We have have managed to build a working prototype, which is able to achieve 120-200+ TPS (approximately 11M – 15M transactions per day) without sacrificing decentralization. We also believe that it is essentially important for our blockchain to support the Ethereum Virtual Machine, so that the project would evolve based on the current industry proven technology. The LockTrip blockchain will have an average block time of 32 seconds with a 2 MB block size and a 16 second granularity.

7. Lack of a plug-and-play solution for a distributed database capable of high bandwidth

Businesses do not need to process all of their data on blockchains in order for them to effectively be decentralized. On the contrary, only important transactions are to be stored on-chain, while auxiliary transactions which are data and bandwidth intense should be executed and stored off-chain. This data however should be supported by the nodes that are the effective infrastructure on the blockchain.

There is no blockchain, that offers you a secondary distributed layer as a turnkey database that you can use for the storage of off-chain information and standardized means of communication

between DAPPs. As a result of this, DAPPs are usually looking for solutions from third party developers such as IPFS.

LockTrip BlockChain Solution:
We plan to create 2 types of nodes for the blockchain infrastructure. Both types will be supported by a one-click installer. Level 1 would be the standard node/wallet which contains all the blocks, performs the staking and processes all on-chain information.

Level 2 would be nodes that contain an additional append-only database and a distributed message layer. Level 2 nodes will form a narrower circle of DAPPs, which interconnect and support this infrastructure for the purpose of faster information exchange.

Simple use case scenarios are travel applications. The travel DAPPs that are interconnected can share inventory data, so that when a traveler performs a search on one DAPP, that specific DAPP can query all other DAPPs and get their offers in an effective manner.

8. Size and greed supersede function and real-world adoption

As already outlined in one of the previous points, current blockchains face the challenge where their size greatly supersedes their real-world adoption. When this is combined with a strategy for raising as much money as possible, this creates a disproportionate downward risk for their investors.

EOS for example has a market cap of approximately $5 Billion without a clear understanding of how much of an economic value they create through their transactional economy. The number of reported transactions is rather irrelevant, because those transactions do not relate to any measurable fees/economy for the investors (rewarding comes entirely from the minted block rewards).

LockTrip BlockChain Solution:
LockTrip has a relatively low market cap at the time of writing and aims at launching its mainnet together with strategically selected quality projects that will utilize their own tokens on the LockTrip Blockchain.

At the time of writing, we have already received Letter of intents from these 6 projects.

Evedo (Estonia)
Conor Acquisitions (USA)
Garanti Koza (Turkey)
Softuni (Bulgaria)
FFQuest (Bulgaria)
Horsepitality (Singapore)

For more details, please check out the "Partners" section at the bottom of the document.

LockTrip will strive to attract as many quality projects and as much adoption as possible through a number of means. Developing technology tools and distributing them to startup projects that have reputation and feasible businesses (but lack technical solutions) is one of our key strategies.

9. The need for retail users to have a wallet with both the token and the underlying cryptocurrency to pay for GAS

Naturally, any blockchain requires a token to pay for gas in the underlying cryptocurrency and this is the core of the transactional economy.

For us as a DAPP developer and an Ethereum based ERC20 token, this has proven to be a serious problem, because travelers that use our marketplace need to create a wallet and have to additionally buy ETH in order to be able to pay for the transaction. This is a challenging task for non-crypto users and acts as a blockage to mass adoption.

LockTrip BlockChain Solution:
We plan to offer a range of smart contracts and turnkey technology to compensate for this requirement. Essentially, application developers will be able to use these smart contracts as a way to send a micro amount of LOC in advance of the ERC20 payment. When the ERC20 payment occurs, it will contain a little extra amount that will cover the LOC amount that was sent in advance. The end result will be 2 transactions instead of one, but a much more user friendly experience.
In addition to those smart contracts, we will be offering technology for API connectivity with exchanges so that DAPPs could initiate business operations that involve automatic conversions ad-hoc through their website and mobile applications.

LockTrip BlockChain Project Key Characteristics

Considering all of the above problems, we have spent the last 6 months working on designing and building a blockchain that would evolve around current technology and would solve key problems that could unlock significant economic potential, while offering maximum investor protection :

- **A true Proof-of-Stake consensus that will enable every single user to stake without any requirement for a minimum amount of LOC**
- **Total output of 120 - 200+ TPS / 11M - 15M transactions per day (approximately 10 times the capacity of the current Ethereum network, with functioning prototype being in the 200+ TPS, but we leave some room for adjustment)**
- **One-click installers for running a node on an average household computer (after you install the node, you will be able to stake your coins)**
- **Ethereum VM support in order to have full compatibility and easy migration of Ethereum DAPPS and Ethereum smart contracts**
- **Seamless migration of our current ERC20 LOC contract and a complete preservation of the LOC balances of all users post migration – users will be able to move their tokens in between the LockTrip blockchain and the Ethereum network through a swap contract**
- **Received letter of intent from 5 high quality companies to build on top of LockTrip**
- **In communication with multiple other companies to engage and build on our blockchain**
- **LOC owners will be able to stake their LOC to get a piece of the transactional economy from the LockTrip booking app as well as from all other DAPPS and tokens**
- **Revenue from the transactional economy shared with the ERC20, ERC223, ERC721 smart contracts – they will be accredited on a protocol level with 50% of the fees they are able to generate through their transactions. This will technically mean that we will build the first blockchain, which utilizes a true shared economy. The people who contribute to its adoption will benefit from the transactions they generate, regardless of their business model. This would also serve as a tool to attract existing Ethereum DAPPs to our blockchain, as it would give a strong and sustainable boost to their long-term economy.**
- **Easy installation of nodes for average users – the goal is to get as many people on-board as possible. That would ensure a viable network and a strong POS consensus that would have high censorship resistance. Desktop wallet will be a node.**
- **Easy staking of LOC for average users - the “mining” (minting) process will be democratized and available to everyone.**

- **2 Level Nodes system - Full nodes and standard nodes – The standard nodes will process all on-chain data. The full nodes will additionally support the secondary layer containing a distributed database and a message bridge. These two will enable businesses to launch e.g. a web based application completely in the distributed storage without the need to look for third party providers. It will also enable communication at a new scale between DAPPS.**
- **Fixed and predictable Gas price and dynamic calculation according to fiat equivalent, which allows businesses to calculate the price of network fees**
- **Ability to change the GAS price through a democratic voting system in a transparent manner. (This might serve as a network regulator in case max capacity is reached)**
- **32 seconds average block time, 2 MB block size, 16 seconds granularity and full interchangeability of nodes**
- **1500 blocks lockdown period for stakes that win the block reward**

What does this mean to current LockTrip investors

Migrating to a proprietary blockchain essentially means that the currently existing LockTrip project will be upgraded with one additional underlying infrastructure layer, which previously was non-existent from an economical and business development aspect.

This does not affect in absolutely any way the functionality, goals, pace of development, liquidity and/or any of the already existing components of the original LockTrip booking project. The roadmap for the booking service development, together with all related tasks, are still of high priority and their development will be invariable in the context of the blockchain migration.

On the contrary, by switching to a proprietary network, the LOC token will become an underlying coin which can support tokens that build on top of it. This opens a world of opportunities that come as an added value to existing investors, since their LOC ownership will automatically grant them access to this upside potential without the need of any additional investment or whatsoever.

The deployment of a proprietary blockchain will significantly boost the LOC economy:

- **New potential DAPPS and tokens will grow awareness and adoption of the LOC blockchain**
- **Proof-of-Stake unlocks a powerful incentive for LOC owners to buy, hold and stake their tokens, which on its end results in significantly lowered financial velocity and circulating supply**
- **Gas cost generated by travel bookings will no longer be paid to Ethereum miners, but will be redistributed back to the LOC stakers. With relatively complex smart contracts that can cost between $1 and $3 per booking, this network fee can result in significant economic boost on its own even if we completely disregard any other potential economy from third party DAPPS and tokens.**
- **With its unique shared economic model and full support for the Ethereum VM, LOC poses a strong marketing incentive for DAPPS to migrate to the LOC blockchain**
- **LOC can position itself as an advanced ecosystem that welcomes travel projects as well as just about any application in any other vertical**
- **Travel projects can be further incentivized to migrate by offering them access to technology**
- **Possibility to provide "Locktrip as a service" to new potential travel businesses, which are interested to tokenize their travel services.**

Deployment & Migration Road-Map

The LOC Blockchain launch will take place in the following 6 stages:

- **Q3 2018 - Prototype & Research Phase** - This stage has nearly been completed. At the time of writing of this document, we have already come to a point where we have a validated prototype that includes all core features outlined in this document. We have also developed a node/wallet application as well as a blockchain explorer and a faucet.

- **Q4 2018 - Testnet launch** - During this stage we will deploy our alpha testnet with all of the peripheral components (wallets, explorer, faucet etc) and will engage our existing community to participate in the node testing under a limited bounty program. Our target is to reach a state of minimum 150 nodes to support the network and to perform a wide range of security and performance stress tests. We will also migrate a copy of the existing LockTrip travel application and stringent tests on all of its features. In addition,

we will go through a thorough assessment of the functionality of all economic aspects of the shared blockchain economy, wallets and all peripheral components of the blockchain. This process will be completely independent from the ongoing LockTrip Travel project development.

- **Q2 2019 - Mainnet launch** - After all stress tests have been completed, we will deploy our main net and will present a limited total reward of 262,500 LOC for the mined blocks without affecting LOC's current limited supply. This block reward incentive is to grow the number of supporting nodes during the early stage of the blockchain until the transactional economy reaches a point where it can sustainably take over. The 262,500 LOC will be at the expense of the company pool (meaning the total supply of LOC will remain unchanged from the current one). Our target is to reach a minimum of 500+ nodes. During the early stage of the network, LockTrip will be taking part of the staking process in order to increase the total network weight and to protect it from 51% attacks. To make it economically fair and to prove that protecting is the sole reason we will be participating in the staking, any reward or transactional income, which is generated through the staking for the company, will be **burned**. We will lower our staking weight gradually and leave the staking completely to the community, as the blockchain matures and more stakers join and increase the network weight.

Additionally the following critical processes will go in parallel with the above...

- **Launch of Ethereum/LockTrip cross-blockchain Transfer Smart Contract** - Every token owner will be able to transfer his ERC20 LOC tokens to a smart contract hosted on the Ethereum network, which on its end will communicate with a parallel smart contract hosted on the LockTrip blockchain. The LockTrip blockchain smart contract will have a total fixed supply equivalent to the total fixed supply of the Ethereum based ERC20 LOC. Token transfer will be possible in both directions.

- **Existing exchange listings transitioning from the ERC20 LOC Token to the new proprietary LOC coin** - This process will take some time and is subject to unpredictable delays due to third party reliance. This is why we intend to keep cross blockchain transfers possible in both ways until all exchange listings are successfully migrated to the new LOC coin. Upon reaching this moment, the cross blockchain transfer smart contract will be changed to a state where it will facilitate transfers only in the direction of the LockTrip blockchain. This is to ensure all tokens are transferred to the LockTrip blockchain and to stimulate maximum transactional economy of the new LockTrip blockchain.

The above plan ensures a smooth and painless migration, which will not interfere with existing token liquidity. Ideally, our goal is to transfer the highly economically efficient LockTrip Travel application to the new blockchain and start to capture additional economy from the generated bookings. In order for this to be possible, we will need to synchronize the migration of the travel

application together with at least 1 exchange pair - preferably a high liquidity pair such as the current LOC/BTC pair on HitBTC.

The LockTrip BlockChain Partnering Dapps and Tokens

As already outlined, LockTrip as a blockchain will aim in growing both sides of its ecosystem - on one side are the stakers and the underlying infrastructure of nodes that facilitate the POS consensus, and on the other side, the applications that build on top of the LockTrip blockchain and thus help it grow in popularity and adoption.

As of this moment, we have already given significant attention to attract high quality applications, that have expressed strong intentions of building their tokens/ICOs and decentralized economies on top of the LockTrip blockchain.

You will find more information about those projects below:

Evedo
https://www.evedo.co/

Evedo.co is a platform dedicated to all artists (performers), event organizers and companies in the field, night clubs, party and exhibition venues, global sponsors, attendees and event software providers. The platform is creating the missing link between those parties, allowing them to work on a bigger scale together.

The project is designed to replace the traditional business models in the industry by providing an easier, more sufficient, quick and organized solution to everyday issues and cases when it comes to event organizing, planning, software usage, booking performers, venues, legalizing sponsorships, buying tickets etc.
Our goal is to disrupt both the online and offline events landscape and address the significant problems it currently faces such as: time consumption, poor planning and sale distribution, consumer confusion and dissatisfaction.

Conor Capital

http://www.conorcapital.io/

Conor Capital is the first private equity based real estate holding company implementing blockchain technologies into hotels at the property level. Conor Capital is able to create an ecosystem of hotels that can implement blockchain technology to adopt cheaper and more efficient business practices. Conor Coins (CC) are ERC-20 utility coins on the Ethereum blockchain. The Conor Coin protocols are open Ethereum protocols that can be used as a reward coin across the world with hotels or real estate owned by Conor Capital. These coins can provide the following uses and rewards:

Conor Coins provides a secure payment system that allows customers to send coins directly to hotels, eliminating the need for cross currency transactions, credit card fees, and/or any other various third-party expenses.

Conor Coins can provide security to hotel guests by allowing them to pay without revealing personal financial information such as credit card numbers, home addresses, social security numbers, etc. Instead, Conor Coins provide a seamless and secure form of payment.

Conor Coins and efficient blockchain technology implementation directly provide departmental operational efficiencies and costs savings

Conor Coins are redeemable for current and future room nights, food and beverage, meeting and banquet facilities, and other amenities within hotels under the Conor Capital umbrellas. Brands under Conor Capital include Hilton, Marriott, and IHG. Conor Capital proposes an implementation of blockchain technology across all sectors of the hotel industry in efforts to lower costly overhead expenses of hotels. Conor Capital will then translate the cost savings to the consumers, the individual holders of Conor Coins, and other crypto currencies. As Conor Capital continues to grow, the blockchain technology adoption rates will steadily incline. Summary Headquartered in Fort Myers, Florida, Conor Capital is a real estate development company primarily focused on the hospitality industry. Conor Capital concentrates on all facets of the hotel industry, including acquisition, development, construction, renovation, asset management and property analysis. Their experience ranges from urban high-rise branded hotels to boutique properties. They formed great relationships with many hotel brands within the industry, including Hilton, Marriott, IHG, Starwood, Hyatt, Choice, Wyndham, and Best Western. Conor Capital aims for growth through their vision, integrity, and values. They are dedicated to ensure that their hotels far exceed the expectations of their guests, employees, investors, and their partners within the community. They persistently strive to achieve superior value by providing exceptional guest services, maintaining an environmentally conscious operation, and utilizing advanced technologies resulting in a wide array of efficiencies. The results directly correlate with their objectives of allowing seamless operations and creating value-added improvements that translate to the guest experience.

Garanti Koza

http://www.garantikoza.com/

Garanti İnşaat, founded in 1948 as one of the pioneering companies in the forefront of the Turkish construction sector; and having 66 years of experience in construction contracting and 33 years of experience in property development, exposing the presence of a powerful establishment active in a vast range of operations, and bearing a highly respected status both at home and abroad, is now serving under the name of GARANTİ KOZA, an identity to launch a new mission, as of mid 2004.

GARANTİ KOZA , one of the oldest and most experienced contractors in Turkey, during its long and deep rooted past, and following the trends of the sector and the economy, have served through various partnership structures hosting the expectations and inclinations of its times.

Setting out with Garanti Bank in 1948, and during the shareholdership of Koç Holding in 1976, German Hochtief in 1987 and English Balfour Beatty in 2000, GARANTİ KOZA İnşaat, started to function under the name of GARANTİ KOZA, continued as Garanti Balfour Beatty; GARANTİ

KOZA now aims to structure a more dynamic and high competitive edge, as of 2004.

In this respect, making use of its experience and potential, in dams, tunnels, infrastructure works, industrial plants, high rise buildings, land development issues, and projects of significance, together with the contribution of its capable and highly experienced staff, in GARANTİ KOZA's success and continuity achieved over the years, a new and more dynamic corporate structure has been formed. Thus, a more contemporary, result oriented, efficient identity is aimed at, in order to meet the needs of the era.

GARANTİ KOZA, owing to reliability and strength accumulated over the 62 years, highly specialized nature of a pioneering past, deep rooted experience and precious contacts acquired from miscellaneous projects accomplished during its existence, endeavors to achieve utmost excellence and quality. GARANTİ KOZA is determined to enhance the experience gained in its operations in Russia, Middle East and Turkic Republics and by the investments in the Middle East and the Balkans.

GARANTİ KOZA targets to prove that it is one of the leaders of the construction contracting and property development sectors in Turkey and the neighboring countries, by implementing a dynamic and a more enthusiastic marketing strategy.

Softuni

https://softuni.bg/

SoftUni was founded in Sofia, Bulgaria with an ideal mission to make quality and professional education widely available and has proudly proven successful in a small country of 7m population, educating more than 150,000 people in just 5 years. Without utilizing a single governmental grant, this private innovative school is offering a wide range of professional education programs in areas such as blockchain, software development, digital marketing and computer graphics and is an active community advocate for reforms in modern education, providing free programming courses and free books to teachers in all Bulgarian schools.

Last fall SoftUni has started its international expansion by focusing on providing the best education in one of the most disruptive industries lately - blockchain. The curriculum includes courses for both executives and software developers and have already been proven effective after 4 performed courses, led by SoftUni trainers in Bulgaria, Singapore and the Philippines. The education programs for digital skills, designed for kids starting 6-years of age, have also proven to be widely accepted and effective, as well as that kids are enjoying new innovative approaches to education.

SoftUni will continue its international development, spreading its innovative educational model, supporting thousands of people with a successful career as software engineers and digital experts of the new century.

FFQuest
https://ffquest.com/

FFQuest is the first of its kind ecosystem designed to unite the car and parking space rental business lines by adopting the cutting-edge technology of blockchain and revolutionize the industry of online mobility rentals. By building a Decentralized, open source digital environment based on the freemium model, FFQuest will enable automobile owners, space owners and end-customers to enter into direct commercial transactions and to exchange value free of additional charges and middlemen. Without fees, commissions or other traditionally incurred costs the supply and demand of the mobility services will use the potential of the robust blockchain automation model in order all participants to benefit from the better price formation. The Decentralized system will hold the FFQ Rental Ledger (Distributed FFQ Ledger). This is the primary tool that will govern all details of the transactions between car companies (both independent providers and large franchises), car drivers, space owners and customers. It will function by using the utility token called FFQ.

For automobile and parking space owners the seamless integration between the FFQuest.com marketplace and the Distributed FFQ Ledger creates an entirely independent and extremely potent ecosystem capable of challenging and outperforming the top service providers in the $276 billion global mobility market 1 .
They will have at their disposal a convenient and easy-to-use interface to operate their listings on the Distributed FFQ Ledger, built on the Ethereum Virtual Machine (Ethereum VM). By employing blockchain FFQuest will eliminate the disadvantages of traditional car rental portals and dependencies on OTAs like and many more. Thus owners will have the means to access new markets and explore enhanced business opportunities.

Horsepitality Pte Ltd

horsepitality.com.sg

Horsepitality Pte Ltd is a full-service Real Asset Managing Consultant and one of a leading Brokerage firm in Asia that specializes in hospitality properties.
Horsepitality Pte Ltd offers General Management & Consultancy for pre-opening and operational running hotels. The five core business units are Asset Management, Brokerage, Investments, Projects, and F&B Consulting, and the synergising of these functions offers end-to-end solutions to hotel owners and developers. The core management team of the company have a combined of over 100 years of work experiences in the Consultation, Marketing and General Management in the hospitality industry.

Horsepitality Pte Ltd's brokerage division work very closely with the industry players to provide real time market analysis, for an informed decision in asset acquisition and disposal considerations. We have our in-house valuers to assess properties' valuations and our professional marketers are very experienced brokers with at least 10 years in the business, to help our clients to list their properties, to find them the right buyer/lessee, and assist in their development requirement, through working with our partner-network which have presence in the Asian region.

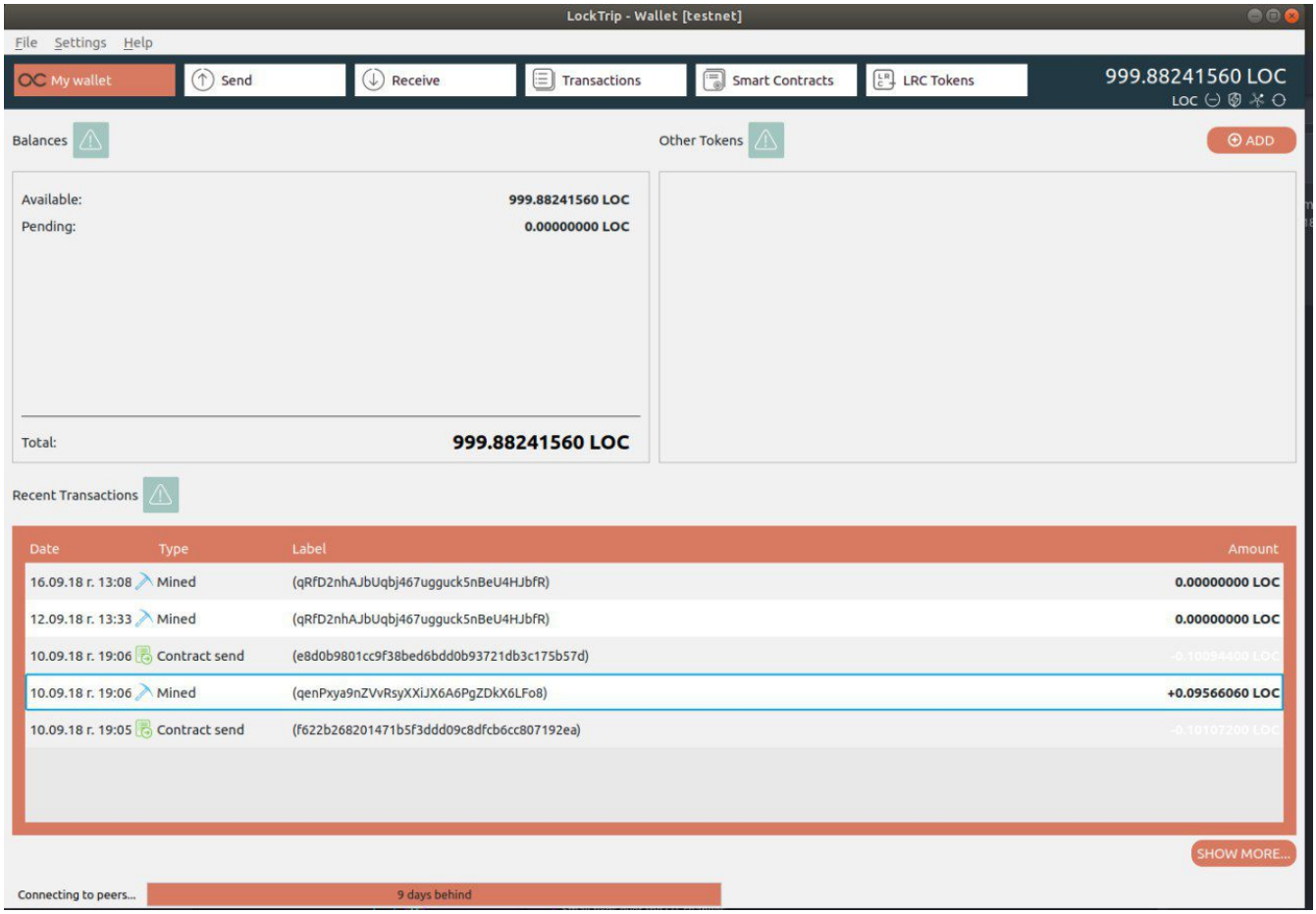
Wallets, Staking, Rewarding, Smart contracts and transactions function?

(more details to be added as well as a WIKI and a FAQ)

Wallets - We are building on top of a heavily upgraded Qtum/Bitcoin desktop wallet. This means the wallet is as secure as a standard Bitcoin desktop wallet.

It has an embedded staking feature. This essentially means that users will be able to perform transactions from their desktop wallet, as well as stake and support the network with minimal CPU consumption.

We have a fully functional wallet for Windows and Mac available for download and one-click installation.



The public addresses of the wallets will be Bitcoin standard and will have a “L” prefix in front of them.

Blockchain Explorer - We will have a live and running blockchain explorer available at ***https://explorer.locktrip.com*** *(please note that the explorer might be offline the first 1-3 days due to planned re-deployment of the prototype network)*

Faucet - Designed for testing purposes so users can create wallets, generate tokens and take part of the staking process on our testnet

Block Rewards - The block reward strategy is to incentivize the network only during the very early stages of its development
The reward schedule is as follow:

100,000 LOC during the first year after launch (0.1 LOC per block reward /32 sec on average)
75,000 LOC - second year (approx 0.075 LOC per block/ 32 sec on average)
50,000 LOC - third year (approx 0.05 LOC per block/ 32 sec on average)
25,000 LOC - fourth year (approx 0.025 LOC per block/ 32 sec on average)
12,500 LOC - fifth year (approx 0.0125 per block/ 32 sec on average)

Ethereum Virtual Machine and Smart Contracts - Full support of ERC20 as well as all other Ethereum compatible smart contracts. Full migration compatibility from Ethereum (or any other EVM supporting blockchain) to LockTrip.

Staking Mechanism

LockTrip will be utilizing the open source "**POS v3.0"** mechanism as pioneered by project BlackCoin (also successfully adopted by project Qtum). This is the most secured, technologically advanced, decentralized and proven Proof-of-Stake consensus algorithm which is production ready as of today.

The Staking process itself will be enabled by the installed desktop wallets/nodes. One simply need to have a certain amount of LOC available in his/her individual wallet for a period of minimum 1500 blocks. All combined stakes represent the network weight. Upon winning the staking lottery, the winner gets the right to be the block producer and earns the block reward + transactions fees which are included in that block. Upon winning, his stake is locked down for a period of 1500 blocks.

The wallets will need to constantly be online in order for them to be able to participate in the staking, thus resulting in a potent design for infrastructure growth (every desktop wallet automatically becomes a network node).

We will be adding an entire section dedicated towards it very soon as we expand this manifest, in the meantime if you are eager to find more about the technical details of the staking, we recommend you to read these materials, which although related with other projects, still refer to the same open source technology:

https://forum.bitbay.market/uploads/default/original/1X/a82b35edf21dee2cded2624d82fad28e6c1f4682.pdf

https://medium.com/@jb395official/qtum-proof-of-stake-mining-439d2b82802d