TIME COIN PROTOCOL
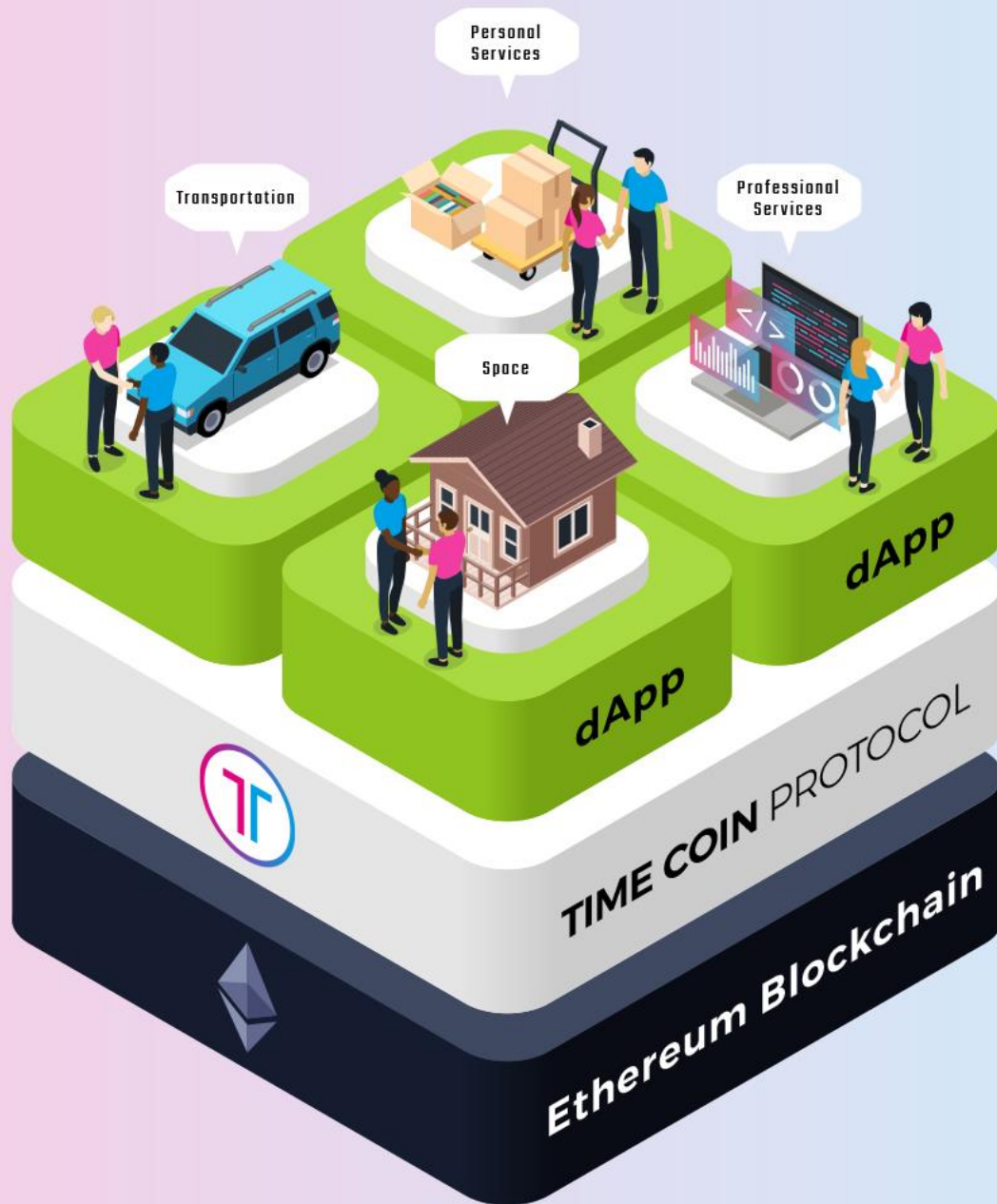
Decentralized Sharing Economy Protocol
Using the Ethereum Blockchain

Whitepaper

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1.0 Executive summary

The sharing and gig economies are changing the face of human interaction, work, community, and wealth. These industries hold huge financial value and are set to grow exponentially in the coming years. The sharing economy is predicted to reach a value of $335 billion USD by 2025, while the gig economy is set to reach a colossal $2.7 trillion.

Beyond their economic potential, these sectors possess great social value, providing a framework for individuals to profit from their skills, property, and time. The promise of freedom and flexibility has resulted in growing numbers of people embracing this model as individual service providers. In the US alone, 35% of the workforce is now freelancing.

For all the promise shown by the sharing economy, there are significant impediments to its full potential being realized and, crucially, to its participants gaining their financial and professional freedom. The intermediaries that dominate the sharing economy, providing marketplace and escrow services, siphon away a significant portion of revenues generated through exorbitant fees and charges.

The stranglehold these platforms exert over the industry risks stalling growth and deterring new entrants from joining the sharing economy. The dominance of the leading freelancer marketplaces is reinforced by rigid internal reputation systems that reward continued use and deter migration to alternative services, where users must rebuild their reputation from the ground up. Freelancers are the backbone of the sharing economy, but their labor has been exploited by the sort of practices that drove many of them away from the conventional workforce in the first place.

It is evident that the solution to these problems is not another centralized intermediary whose business model, fee structure, and reputational system mirrors that of the incumbent solutions. Rather, the logical evolution of the sharing economy is for control to be retained by the professionals whose time and talent the industry is built upon.

TimeCoinProtocol (TCP) is a decentralized protocol that allows developers to build and operate decentralized applications (dApps) while also facilitating peer-to-peer trade without the need for intermediaries. It is designed to incentivize cooperation and healthy competition between participants. TCP enables users to carry their reputation with them between services and provides correlative tools that allow operators to actively seek out users who are likely to be interested in their services.

We launched our first dApp "eSportStars" targeting the esports market in October 2020. eSportStars enables esports fans and players around the world to find suitable players to compete against, trade game-related items and services, and even find sponsors. In addition, esports players, teams, and creators (video streamers, game item sellers, service providers etc.) can earn money by streaming videos and selling products and services. We are also planning to develop a dApp for TimeTicket, a well-established skill sharing service that has approximately 400,000 users.

Freelancers can use dApps built upon TimeCoinProtocol to trade skills, talents, financial assets, products and services, physical and intellectual properties, and transportation. Users seeking these services and assets can easily search for them and purchase directly from the provider via trustless transactions that are facilitated by the underlying blockchain.

TimeCoinProtocol has been developed by TimeTicket, Inc., a wholly owned subsidiary of Globalway Inc.[1] Parent company Globalway Inc is an established and trusted market leader in social media with a proven track record in building and operating sharing economy services. TCP is characterized by low transaction fees, efficient utilization of reputational data and activity records which can be shared across dApps, rewards for protocol participants proportionate to their contribution, and minimal development and operational costs.

TimeCoinProtocol supports a future in which millions of people have greater opportunities to pursue the work that they enjoy and to retain the fruits of their labor. It will empower motivated, self-sufficient individuals to gain financial sovereignty and professional independence through monetizing their unique skills and knowledge.

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[1] TimeTicket, Inc. (Japan entity) is a subsidiary of Globalway, Inc., created in April 2019. TimeTicket GmbH is 100% owned by TimeTicket, Inc.

2.0 Market overview

The sharing economy is an economic model in which underutilized assets or services are shared between private individuals. Such a flexible economic network allows people to exchange resources such as equipment, goods, services, skills, and talents directly with one another for profit.

In the case of services and skills, this economic model is regularly referred to as the gig economy, "a way of working that is based on people having temporary jobs or doing separate pieces of work, each paid separately, rather than working for an employer." In the gig economy, anyone can offer their expertise independently of a fixed employer. This system empowers creatives to profit from their talents and aligns incentives, ensuring that professionals are fairly remunerated for the amount of work they put in.

The service and gig economies are interlinked and the terms are often used interchangeably. Since TimeCoinProtocol facilitates the sharing and trade of various assets, skills, and services, this whitepaper will use the phrase "sharing economy" as an overarching term for both economies.

Sharing economy services have the potential to generate great value. Juniper Research forecasts that the sharing economy will reach platform provider revenues of $40.2 billion by 2022, up from an already impressive $18.6 billion in 2017. PricewaterhouseCoopers projects that five key sharing sectors—travel, car sharing, finance, staffing, and music and video streaming—have the potential to increase global revenues from roughly $15 billion in 2015 to around $335 billion by 2025. Beyond these impressive numbers are the significant positive implications of the sharing economy for community values and interpersonal connections in an increasingly impersonal digital age.

The realization of a fair sharing economy-based world could transform the concept of work. As David Perell envisions, "Short term, project-based work will replace long-term, open-ended jobs. A job will be a task that you do, not a position that you have." People will be empowered to act as individual agents and to generate income by performing tasks peer-to-peer rather than acting as pawns in hierarchical corporate structures.

The sharing economy can provide people with the freedom to pursue the lives they wish to lead, working when, where, and how they prefer. The flexibility this grants will help to create a happier workforce and a more productive society while funneling wealth to its creators rather than the corporations.

2.1 Problems in the sharing economy

The centralized sharing economy is dominated by a handful of key players such as Uber, Airbnb, WeWork, Upwork, and Fiverr. This trend is inherent to most industries, but in the sharing economy, its effects are particularly insidious.

As matchmakers and trusted intermediaries, these companies serve as the gatekeepers of the sharing economy. While naturally driven to seek profit, the severity of the charges they levy in the form of transaction fees and hidden costs take their toll on freelancers and clients alike. Platform fees can reach 30% of the total transaction value, with some outliers, such as the dog walking service Wag, charging 40% and over. Others, such as freelancing marketplace PeoplePerHour, levy cumulative fees that take a significant bite out of the take-home pay professionals are left with upon completion of a job. All told, the sort of system popularized by PeoplePerHour extracts over 20% from freelancers, before additional charges are incurred upon withdrawing funds.

A second major issue is the fact that users cannot carry the creditworthiness they accrue with one service to another, obliging them to start afresh with each new platform they join. This stifles healthy competition and results in disaffected users staying with platforms out of necessity rather than desire.

Granting users the ability to share their history and evaluation data with service providers, including feedback from counterparties, scores, and client ratings, would give them the freedom to ply their trade on the platform that best served their interests. Service providers would be able to identify users who match their target demographics and save significant costs that would otherwise be spent on untargeted, blanket customer acquisition-based advertising.

A tertiary issue that besets the sharing economy concerns data storage and censorship. Like all centralized companies, freelancer marketplaces collect, store, and share sensitive user data. Users are required to register personal information to access these services, which is then stored in centralized servers. Centralized data storage is liable to hacking, data corruption, being resold to third parties, or being misused.

Censorship is also a constant threat. Whenever a sharing economy service is controlled by a centralized entity, subject to the laws of its domiciled country, as well as the whims and ideology of its team, there is the threat of users being excluded. Major platforms such as Facebook, YouTube, and Twitter, as well as payment processors such as Visa, MasterCard, and Stripe frequently censor individuals on account of their political views, profession or social values. Wherever a company has the capacity to grant or deny access, participants in the sharing economy face a risk that is synonymous with the traditional workplace, in which employees could be fired or suspended for the slightest perceived infraction. Professionals who have spent years building up their reputation and client base can find themselves deplatformed without warning.

The network effects exerted by established service providers make it difficult for small or niche players to enter the market and compete. Once a company like Uber or Airbnb has established dominance, it can profit through high volume sales of low-priced services while smaller competitors with lower numbers of users must charge higher fees to profit. In such cases, prospective are financially bound to seek the cheaper deal.

A final, significant problem synonymous with sharing economy marketplaces concerns dispute resolution and the behavior of unscrupulous clients. As freelancers who utilize these services will attest, it is commonplace to lose money through clients who either refuse to pay or who file spurious disputes that enable them to get away with paying a fraction of their dues.

Mediation, executed by the service provider, creams off a significant portion of the sum under dispute, further disadvantaging the counterparties involved in the dispute. Gig workers bear the risk of not being paid on time, in full or at all.

While there are still clear benefits to participating in the sharing economy, including the flexibility it grants in terms of scheduling and pricing, it is clear that it is a system which falls short of its potential. For it to work to the benefit of all parties, it is evident that a more egalitarian model is required in which participants have clear incentives to ply their trade, with the risk of censorship, deplatforming, unwarranted arbitration, non-payment, data loss, and other hazards are eliminated.

3.0 TimeCoinProtocol

TimeCoinProtocol engenders a more interconnected world in which people are free to work how and when they like; where value accrues to the worker rather than to third parties; and where creatives can cheaply and easily develop sharing economy services and deploy them without being stifled by established industry giants. TimeCoinProtocol enables service providers to target users who match their criteria; empower users to own and profit from their reputation and creditworthiness and inspire community-derived products and services that can compete with those of big corporations.

Compared to traditional sharing economy systems, TimeCoinProtocol does:
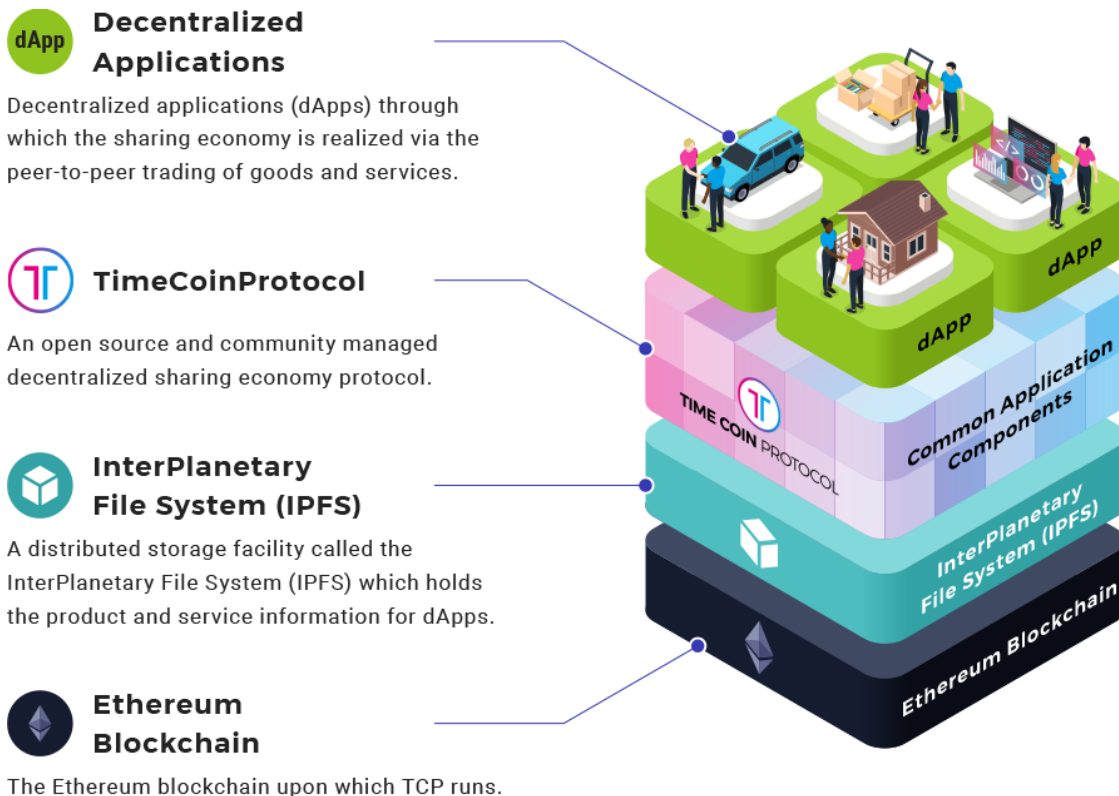
- Redistribute a greater proportion of value generated to users having created the value.
- Significantly reduce transaction fees.
- Efficiently utilize user metrics and other data across dApps.
- Minimize development and operation costs for service providers.

TimeCoinProtocol is designed to overcome the bottlenecks that currently prevent the sharing economy from realizing its full economic and social value. Particular attention has been given to the development of a sophisticated and robust reward system to ensure that value accrues to active contributors. Every user who contributes to the ecosystem will receive token rewards proportionate to the work that they have performed.

3.1 TimeCoinProtocol infrastructure

TimeCoinProtocol comprises the following key components:

- An open source, community managed decentralized sharing economy protocol as basis for decentralized applications (dApps) through which the sharing economy is realized via the peer-to-peer trading of goods and services.
- A distributed storage facility called the InterPlanetary File System (IPFS) which holds the product and service information for dApps.
- The Ethereum blockchain upon which TCP runs.

Decentralized Applications

Decentralized applications (dApps) through which the sharing economy is realized via the peer-to-peer trading of goods and services.

TimeCoinProtocol

An open source and community managed decentralized sharing economy protocol.

InterPlanetary File System (IPFS)

A distributed storage facility called the InterPlanetary File System (IPFS) which holds the product and service information for dApps.

Ethereum Blockchain

The Ethereum blockchain upon which TCP runs.

Anyone can create a dApp within the TCP ecosystem, aided by the developer framework provided, and integrate the TimeCoin token. In doing so, developers will benefit from TimeCoin's incentivized rewards algorithm and will have the ability to tap into TimeCoinProtocol's network and to attract new users to their dApp. As the number of participants in the TCP ecosystem grows, a range of dApps geared around the service economy will take root, with full cross-dApp functionality making it easy for users to navigate between services and applications.

TCP's smart contract-based system negates the need for intermediaries in day-to-day operations, but benefits from the ability to utilize human resources where necessary, such as the provision of third-party arbitrators for dispute resolution. TimeCoinProtocol's autonomous design enables access fees to be kept to a minimum, leaving more revenue for service providers.

Traditional centralized platforms do not facilitate the export of user reputational data, discouraging cross-platform use, effectively siloing freelancers. TCP actively encourages cross-sectional service use, with dApp users able to share their reputational data to prove their creditworthiness and benefit accordingly. dApp providers may offer incentives to entice users to join such as zero fees, an enhanced profile, and complimentary business promotion.

Significant user-acquisition costs often prevent new and niche players from entering the market. Without a significant budget at their disposal, it is simply impossible to generate the network effects required to scale their business to the point of profitability. With TimeCoinProtocol, dApp providers can search and analyze user data (where individuals have consented to this) to identify users who their service would appeal to. This open access system

allows service providers to undertake focused marketing campaigns and target their desired demographic. The average user acquisition cost of this focused marketing method will be significantly lower than traditional techniques.

Open competition will incentivize dApp providers to offer the highest quality of service possible at competitive rates to retain existing users and grow their network. Users will be motivated to act in the interests of the protocol to enhance their trust score, and maximize their prospects of being rewarded by dApp providers seeking highly engaged and accomplished users. TimeCoinProtocol also provides a platform for professionals who service niche markets.

To help new dApp developers enter the sharing economy, TCP features an application development kit (ADK) catalogue known as Application Common Libraries (see appendix I) which contains a range of functionalities and tools. This will help onboard developers and streamline the process while providing support for troubleshooting technical matters.

3.2 Use cases

TimeCoinProtocol facilitates open development of virtually any form of sharing economy service. Developers are free to innovate and create a vast array of sharing economy dApps and services. The following are just a few examples of the many applications possible to be built on top of TCP:

- A professional photographer is looking to expand its business and to acquire new clients. Using TCP, it advertises its portraiture services for professional business images, dating profiles and other occasions, and successfully land a string of new clients.
- A business owner is looking to submit its tax returns but wants to ensure it has fully complied with all legislative procedures. Using TCP, it seeks out a tax specialist who helps to file its returns correctly.
- A busy city worker is traveling to visit his family in the countryside for the holidays. Since it will be a long journey to make alone, he decides to advertise his itinerary including the time, date and start and end points of the trip. This way he can not only find a travel companion but also split the fuel costs for the journey.
- A woman makes a resolution to get into better shape and start living a healthier lifestyle. She seeks out a personal trainer she can meet in person and also arranges to connect with a nutritionist online. The advice provided by these experts helps her reach her personal fitness goals and stay motivated.
- A prolific freelancer is looking to make some extra money by renting out a spare room in his property. Utilizing the positive reputation he has already established from his work within the TCP ecosystem, he promotes the space and quickly secures a tenant who also holds a positive reputation through the trust he has accrued while using TCP.
- A student is having difficulty in one of its subjects at college. It seeks out a tutor on TCP who can help to fill these knowledge gaps and accommodate its busy schedule which leaves only a narrow window to squeeze in study time.

- An entrepreneur has an idea for a new startup but is lacking in expertize in key areas. Using TCP, it seeks out a business advisor and establish an ongoing relationship that enables it to consult its mentor as and when required.
- A young professional is unhappy in her current job and seeks career guidance. Using TCP, she connects with an employment consultant who helps her polishing her resumé. Later, that same professional lands a job interview. Using TCP, she reconnects with the advisor to solicit tips on interview preparation.

3.3 Example of a Use Case: TimeTicket

TimeTicket, Inc. is currently developing its first dApp to be made available on TimeCoinProtocol, which will be a decentralized version of TimeTicket, TimeTicket, Inc.'s existing premier sharing economy service. The existing TimeTicket platform is a popular platform that connects people who wish to buy and sell skills and exchange knowledge. The decentralized TimeTicket dApp expands these services and offers direct peer-to-peer interactions without intermediaries. Also, the users will be rewarded with TimeCoins by purchasing services on TimeTicket. As a separate business unit TimeTicket Inc, will have a greater degree of flexibility when raising funds.

**How the current TimeTicket works**
Sellers, known as *hosts,* can post listings to sell their knowledge and/or skills. Prospective buyers, known as *guests,* can search for hosts by both geographic locations and by their knowledge and skills. Once a guest identifies a suitable host, they purchase a 'ticket' — a token which entitles the bearer to a set portion of time in which the host should perform the pre-agreed service — and a meeting is scheduled. The time and location of the meeting are determined by the user and can take place face-to-face, online, over the phone, or via message.
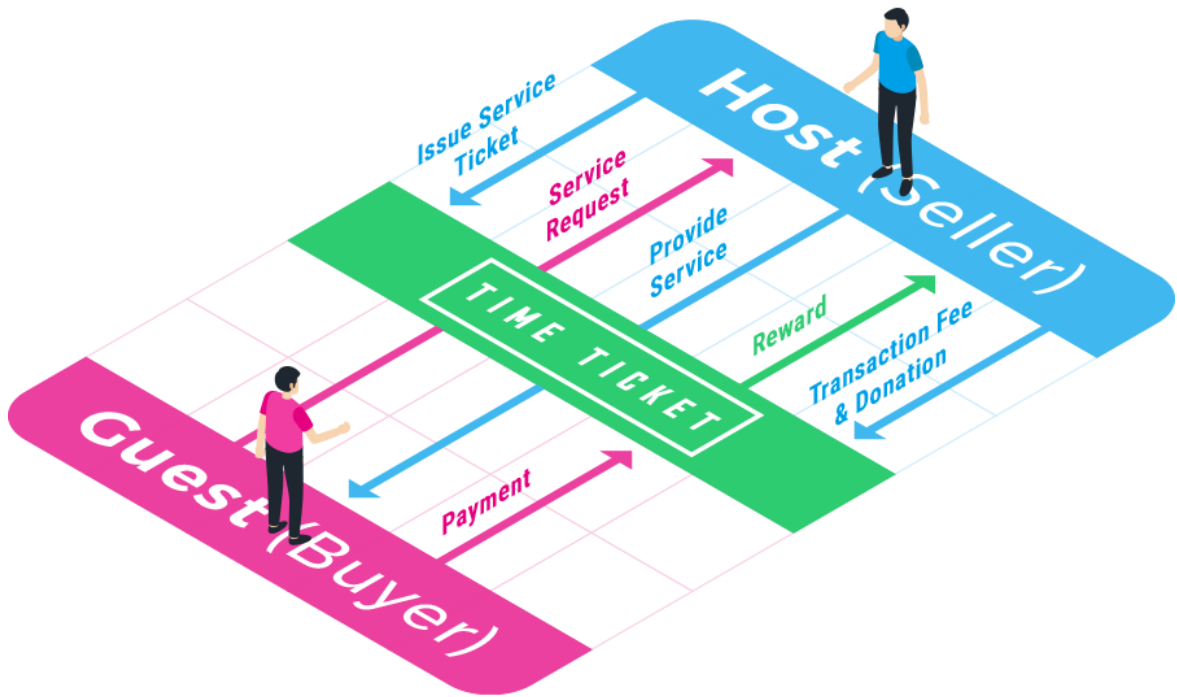
Growth and value

TimeTicket's GMV have increased more than fortyfold in the past four years. The platform has now reached approximately 400,000 active users and annual transactions in excess of 12,000. This makes TimeTicket one of the fastest growing sharing economy platforms currently operating. TimeTicket is currently only available in Japanese, but as TimeTicket expands to new markets

Growth in the value of monthly transactions (Million Yen)

40-fold increase in 4years
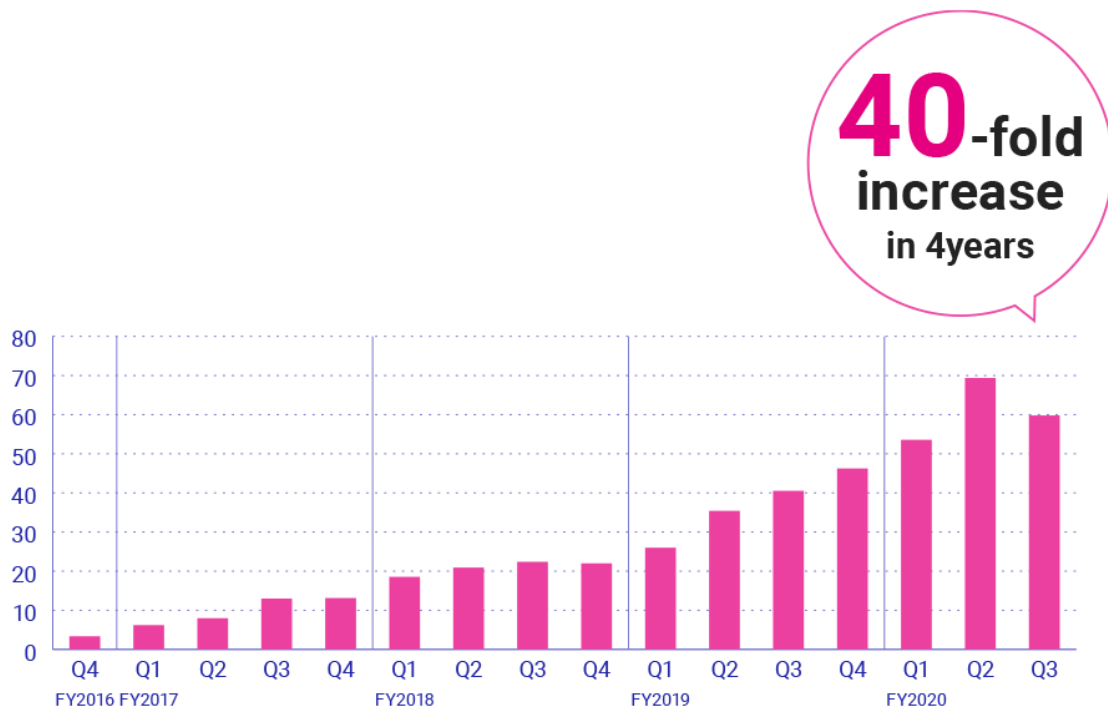
TimeTicket's conversion rate, repeat user rate, and the average lifetime of active users is comparable to some of the world's most successful online companies. During 2018, 6% of users continued to trade three months after their first use of a TimeTicket service. This is on par with the activity of repeat purchasers on successful e-commerce websites such as Amazon, Flipkart, and eBay.

Number of Tickets Posted	Monthly Number of Transactions	Average Acquisition Cost per User
33,000	**1,000**	**$4**

Annual Average Purchase Rate	Annual Average Repeat Purchase	Average Transaction Value
7%	**1.96 Times**	**$100**

3.4 Example of a Use Case: eSportStars

The esports market is estimated to have 500 million game players worldwide. eSportStars (aka eposta), the first distributed application from TimeTicket GmbH, has been released.

"eSportStars" is for everyone including professional esports players, fans and players aiming to become professionals around the world. It is a distributed application that offers all players the opportunity to find suitable opponents to play against as well as hosting tournaments, which professional players and fans can entry, and competing in popular esports games beyond geographical boundaries. (eSportStars is already available in Japanese, English, Chinese, Portuguese, and Hindi and plans to add other major languages as well as 4,000 titles of esports games around the world.)
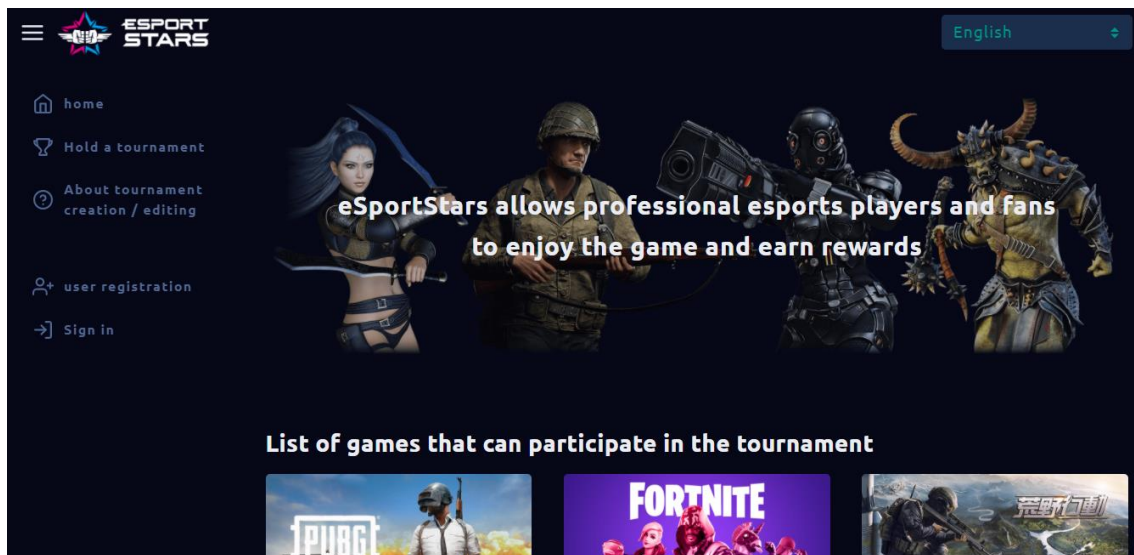
Fans can support their favorite players by competing against them and players can earn money while training to improve gaming skills.

As well as game competition opportunities, there are other types of service that the sellers can offer. For instance, the ideas can be based on what they are good at or what they like to do, such as "teaching how to improve gaming skills", "having a passionate chat about favorite games", "teaching how to become a professional esports player", etc. The sellers can offer their service either with a fee or for free.

In addition, eSportStars will provide a unique mechanism "esports mining", where the users can be rewarded with TimeCoin by using the services, such as competing in games, hosting/participating in tournaments, posting videos, trading game related items, trading services, and supporting creators. The more eSportStars services the users use, the more TimeCoin they will get.

Also, TimeTicket GmbH will donate 5% of the first year's revenue from "eSportStars" to the children who have been affected by COVID 19, such as UNICEF (The United Nations Children's

Fund, https://www.unicef.org/), UNHCR (The United Nations High Commissioner for Refugees, https://www.unhcr.org/), orphanages etc.

In addition, professional players and teams participating in eSportStars can also donate proceeds obtained from eSportStars.

3.5 TimeCoinProtocol overview

TimeCoinProtocol is an open source platform that is designed to facilitate the creation and operation of sharing economy dApps. The protocol offers access to Application Common Libraries, an open source catalog of software development kits (see appendix I). The libraries' tools and functionalities allow developers to build, deploy, and operate TCP dApps quickly and easily.

TCP's implementation of the underlying blockchain framework means that once developed, new dApps can easily thrive on the protocol. Since data stored on the blockchain is transparent and openly accessible for all participants, dApp providers and in-dApp vendors can easily identify TCP users who match their marketing demographics. These providers and vendors can thereby undertake focused marketing to gain initial traction for their services.

The architecture of TCP is designed to create a productive ecosystem in which cooperation and healthy competition drive development. The connective protocol layer encourages users to engage in cross-dApp usage by allowing them to carry their transaction history, evaluations, and reputation between dApps. This will motivate dApp providers and in-dApp vendors to constantly strive to improve their products and services.

TimeCoinProtocol transactions are simple, fast, cheap and secure due to their autonomous operation via smart contracts. TCP's smart contracts allow flexible configuration of transactions in accordance with the specific requirements of each dApp and the type of services that it provides.

A basic transaction process works as follows:

- A buyer applies to purchase a product or service and places a small deposit of TimeCoin.
- A smart contract is created for the transaction.
- This smart contract creates the object (e.g. transaction parties, transaction amounts, wallet addresses, service information) of the transaction application.
- If the seller rejects or leaves the buyer's transaction application unanswered, the transaction is voided and all deposited tokens are returned to the buyer.
- If the seller accepts the application, a transaction chat room is created.
- In this chat room, the parties to the transaction confirm the reservation date, contents of the product or service, contract terms, and policies and procedures.
- All dialog in the chatroom is stored by TCP and, in the event of a dispute, may be presented as evidence.
- All communication relating to the transaction will, therefore, take place in the chat room.

- When terms are agreed, the buyer credits the designated transaction account with the appropriate amount of TimeCoin, the seller confirms the credit entry and the transaction is confirmed.
- Contract agreements and other relevant documents are encrypted and stored by TCP.
- The seller delivers the product or provides the service in accordance with the terms agreed upon with the buyer.
- When the product is delivered, or the service is provided, the buyer will verify that they delivered or provided as agreed.
- Finally, the TimeCoin tokens are credited to the seller.

Following the completion of the transaction, both parties may evaluate the other party and the transaction experience. This evaluation data will be stored on the blockchain.
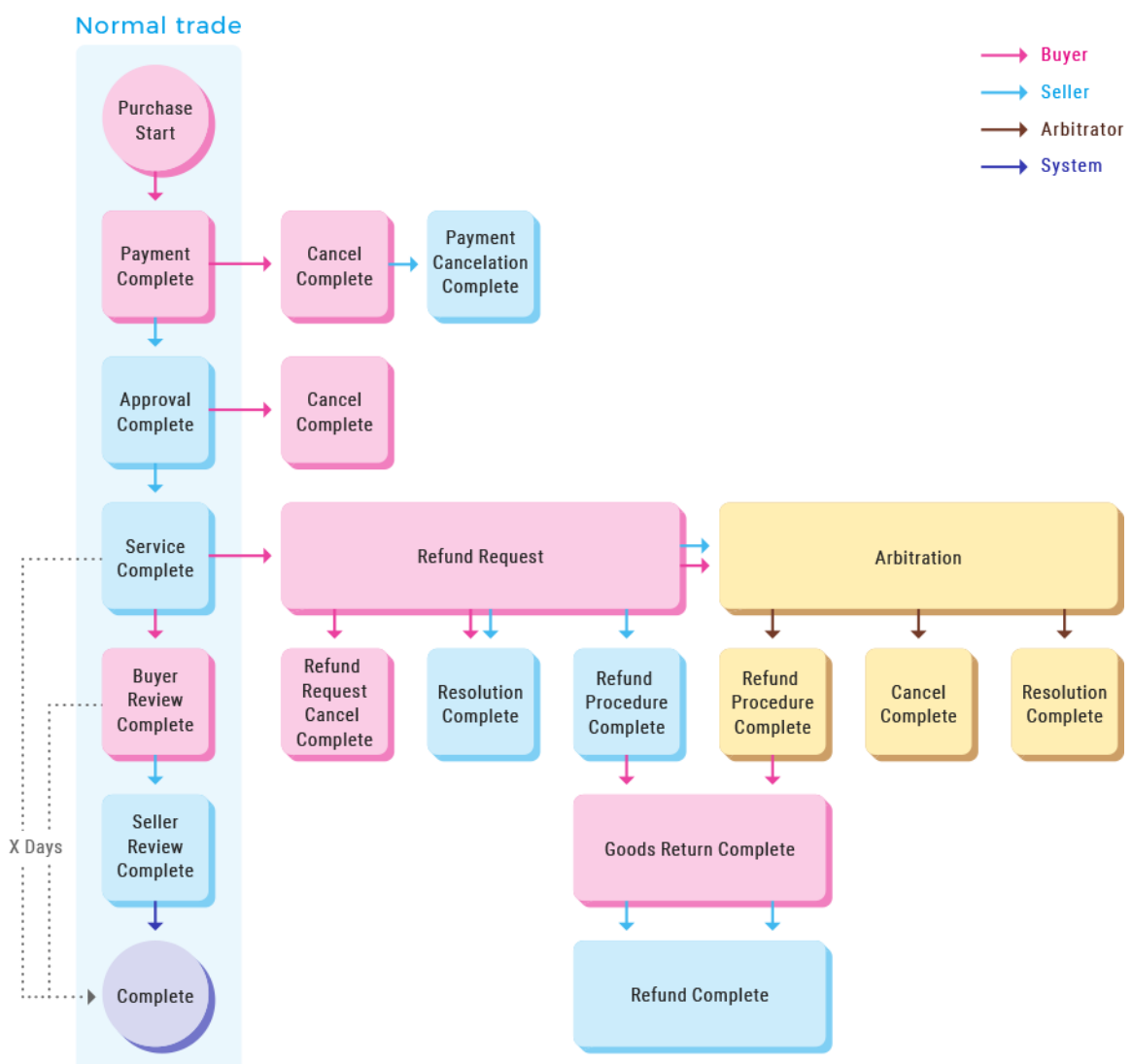
3.6 Business development

The TCP team has spent significant time on strategic planning and business development. The TimeTicket dApp is the first application running on TimeCoinProtocol, leveraging the existing TimeTicket platform to maximum effect. In its centralized form, the company has attracted over 400,000 users and expects to considerably broaden its appeal with the addition of a decentralized protocol.

The original TimeTicket platform will continue operations following the launch of the dApp. It is expected that a significant number of existing TimeTicket users will eventually use the dApp, but the TCP team recognizes that mass general adoption of decentralized technologies will take time. Immediately closing the centralized platform to demand that users migrate to a new version of the service would be discourteous and counter-productive. For this reason, the existing centralized and dApp versions of TimeTicket will run in parallel.

3.6.1 Costs

Operating costs

The operating costs for the TimeCoinProtocol will be covered by token sales, revenues from the eSportStars and TimeTicket Businesses and transaction fees from third party dApp operators.

Transaction fees that are levied from TCP dApps will be pooled and reinvested into customer acquisition initiatives to build the protocol and extend its network. Transactions will, however, be exempted from all fees until activity on the protocol reaches a significant level. Until such a level is reached, transaction fees from the current, centralized version of TimeTicket will provide the organization's income.

Marketing costs

TimeTicket's marketing is assisted by the Career Connection team. Career Connection is a review site of companies for workers. It was developed and is run by Globalway. It is one of the most successful employment information and reviews sites of its kind with over 47 million page visits annually.

TimeTicket leverages Career Connection's extensive user network by directing traffic to the TimeTicket dApp through strategic advertising on Career Connection platforms. This is expected to provide TimeTicket with the opportunity to significantly increase its user numbers with very low advertising costs.

Career Connection is also highly experienced in structuring media for effective search engine optimization (SEO) and customer acquisition. The Career Connection team will assist in the construction of TimeTicket's media marketing. Such valuable advisory services would typically cost an early-stage project such as TimeTicket a large part of its capital. The Career Connection

team helps TimeTicket to generate media which is highly-effective in acquiring users without massive initial costs.

3.6.2 Roadmap

The roadmap schedule will be released later.

3.6.3 Marketing and advertising

As outlined in section 3.6.1, the Career Connection team will assist marketing activities. The team at TCP recognize that having the valuable resources of Career Connection and generating effective marketing will not itself produce the user acquisition scenarios which are desired. Success in marketing is ultimately dictated by deployment strategies.

A concentrated, strategic marketing investment plan is required to properly establish TCP in specific business fields in specific regions. In any fundraising scenario, a significant portion of the funds raised from token sales will be invested in the marketing budget to increase platform awareness and to drive adoption.

User acquisition

The team at TCP will leverage the existing user base of the centralized TimeTicket. Users will be incentivized to adopt the dApp by a range of benefits including low transaction fees, accessibility, and ease-of-use. Since existing users are already familiar with the brand, concept, and benefits of the TimeTicket service, it is expected that many can be persuaded to use the dApp. This extensive pre-existing user base is a significant asset that can greatly reduce the costs of customer acquisition.

TCP will reinvest a significant portion of its revenue to expanding its user base. Reinvestment will contribute to the structuring of the user network within the protocol on a continual basis. A referrals system will see existing users rewarded for introducing new customers to the protocol growing users of the dApp at low cost.

Artificial Intelligence

TCP uses AI algorithms to:

- Improve customer and buyer matching decisions.
- Enhance matching precision across dApps.
- Evolve credit scoring mechanisms.
- Identify instances of fraudulent use.

By implementing user reputation data stored on the blockchain, the AI will accelerate partnering and cross-marketing opportunities for both users and marketers as data becomes available. Value-generating insights from observed data will allow advertisers to fine-tune their

marketing, ensuring that users are only ever offered products and services of interest to them. The result will be a consumer base who are far more likely to act on the advertising they encounter, which will maximize returns.

TimeCoin will partner with a specialist in decentralized AI systems to help develop the AI algorithms used on TCP.

3.6.4 Competitors

The sharing economy is currently dominated by a small number of well-established, centralized platforms. Uber reports over 40m monthly riders across the globe while Airbnb boasts 5m unique places to stay in 81,000 cities and 15,000+ activities in 1,000+ markets across the globe. The network effects of such dominant entities make it extremely difficult to capture market share with the same centralized platform model.

As a decentralized protocol, TCP provides dApp developers and in-dApp vendors with the tools to compete. TCP offers occupational and vocational freedom to users, removes intermediaries, and improves efficiency, security, fairness and value. Despite the size and influence of existing sharing economy platforms, the advantages of a decentralized protocol can drive user adoption as it levels the playing field.

There are already a few major decentralized sharing economy service protocols. Origin protocol, UChain, and Odyssey are all projects attempting to develop functional decentralized sharing economy networks.

Origin creates peer-to-peer marketplaces using the Ethereum blockchain and IPFS. Like TCP, Origin aims to decentralize the sharing economy by providing a platform upon which developers can deploy dApps, service providers can sell services, and users can purchase services easily and cheaply. Origin has already had significant successes with a profitable token sale, funding from a number of respected investors including OmiseGo and Pantera Capital, and a number of innovative dApps.
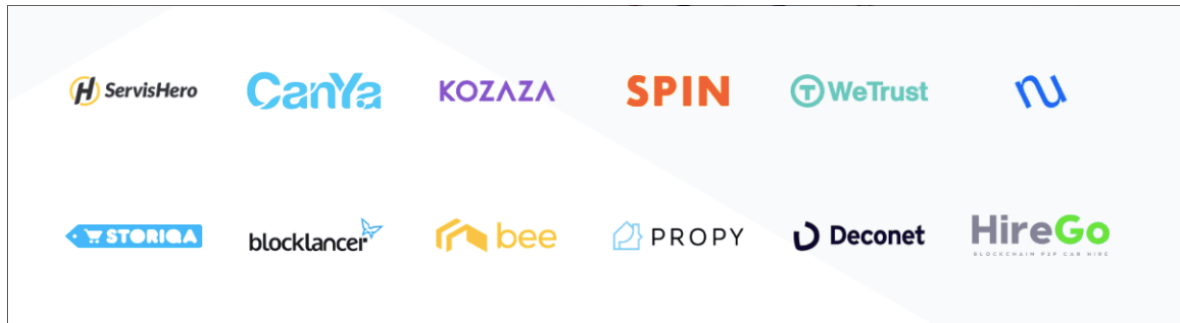
Some of Origin's current clients.

Origin runs on Ethereum. Though Ethereum is the best-known and largest of the smart contract enabled blockchains, it has low transaction throughput speeds, high transaction costs, and various scalability issues. Although the Origin whitepaper states, "We anticipate several intended major advances in both Ethereum (e.g. Plasma and sharding) and IPFS (e.g. use of Filecoin as incentive to increase network speeds and reliability) that will improve our Platform's scalability and usability over time", these advances currently have no confirmed action dates.

The Origin team is relatively new to sharing economy services, with a team formed of, "distributed entrepreneurs, engineers, and blockchain experts." By comparison, the TCP team is formed from a core body of experts with complementary skills, who have built an efficient and productive working relationship. It is a stress-tested team with a strong track record in the sector (see section 4).

Origin have focused on building their platform with an incentivized referrals and promotion plan. The TCP rewards system, though also incentivizing referral and promotion, is focused on fairly rewarding all contributors in proportion to the work that they do to support the protocol.

The Odyssey protocol is another decentralized protocol which features its own digital asset mobile payment solution. Odyssey is currently developing OCNEX, a digital asset trading platform and intends to run the project on their own OCN blockchain. The OCN chain is, at the time of writing, in an ongoing state of development. Since the complex Odyssey project is in the early stages, it is difficult to offer detailed structural comparisons.

UChain is a public infrastructure blockchain designed for the sharing economy. UChain "aims to establish a peer-to-peer low-level blockchain intelligent network to solve the problem of excessive transaction costs, credit insecurity, and user data abuse in the sharing economy."

Like Origin, UChain runs on the Ethereum blockchain and uses the Ripple Protocol Consensus Algorithm (RPCA). There are serious concerns regarding scalability, UNL selection, and censorship around the RPCA. Although it has so far proven fairly robust in the context of the Ripple network, it is difficult to determine the efficacy of this mechanism when applied to a sharing economy protocol.

Competitive advantage

The TCP team possesses great knowledge of sharing economy dynamics. The existing TimeTicket is one of the fastest-growing sharing economy services active today. The team will draw on their expertise and their long-established professional collaborative experience to implement and scale a successful decentralized sharing economy platform, and the TimeTicket dApp far faster than any competitor could. With the backing of Career Connection in the domain of marketing and the overall strategic insights of Globalway, TCP holds great business development advantages over its competitors.

TCP's comprehensive and elegant design makes it by far the best choice for dApp developers, in-dApp vendors, and sharing economy buyers. The TCP application common libraries provide developers with the tools that they need to build robust and useful dApps without excessive "ground-up" development costs. The TCP rewards system ensures that value always accrues to those who deserve compensation for their contributions.

Market focus

The TCP marketing team has dedicated a great deal of their work to market research to produce strategic regional deployment initiatives that will target locales with high adoption potential and under-exposure to sharing economy services.

Initially, Asia will be the primary geographical focus of TCP's marketing and product deployment. Although Asia lags significantly behind the US and Europe in terms of the adoption and creation of sharing economy services, partially due to relatively low levels of internet penetration, the sharing economy concept has huge potential in this region. A Nielsen survey found that a greater percentage of consumers in the Asia-Pacific region were willing to participate in sharing economy actions than in any other region surveyed.

The TCP team targets this potentially-rich but largely untapped market before expanding operations globally. A large share in the Asian market will be acquired through focused investments in China and the communities of the greater China region, as well as in India and Indonesia.

3.6.5 Revenues

Capital raised in the token sale will provide the organization's initial income until a sufficient number of dApps are operating on TCP and enough transactions are being made to support the protocol entirely through TCP transaction fees. This initial revenue will be continuously reinvested into initiatives to increase the user base of TCP, ensuring the protocol reaches a state of financial self-sufficiency.
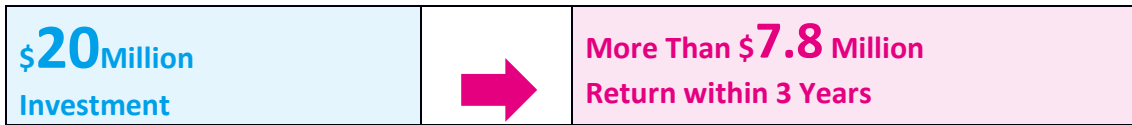
Revenue calculation

TCP is expected to generate significant capital which can be directly reinvested into protocol maintenance and improvements. The following revenue calculation model offers a guide to approximately measure the financial viability of TCP:

- Advertising Cost of New User Acquisition ÷ $4 (Average Acquisition Cost per User) ＝ Number of Newly Acquired Users
- Number of Newly Acquired Users * 7% (Annual Average Purchase Rate) = Number of Annual Purchasers
- Number of Annual Purchasers ＊ 1.96 Times (Annual Average Repeat Purchase) ＝ Annual Number of Purchases
- Annual Number of Purchases ＊ $100 (Average Transaction Value) ＝ Total Annual Transaction Value
- Total Annual Transaction Amount ＊ 15% (Service Charge) = Annual Sales

Following this revenue calculation model, and assuming annual operational costs (excluding marketing costs) of $1m, an investment of $20m in user-acquisition focused marketing could be recovered within three years. This investment would also return over $7.8m in revenue.

Cost		CPA		Users
$20,000,000	÷	$4	=	**5,000,000**
Users		CVR		Purchasers
5,000,000	×	7.0%	=	**350,000**
Purchasers		Repeat		Purchases
350,000	×	1.96	=	**686,000**
Purchases		Average Value		Transaction Amount
686,000	×	$100	=	**$68,600,000**
Transaction Amount		Fee		Sales
$68,600,000	×	15.0%	=	**$10,290,000**
Sales				3 Years Sales
$10,290,000	×	3 Years	=	**$30,870,000**
3 Years Sales		3 Years Cost		3 Years Profit
$30,870,000	-	$3,000,000	=	**$27,870,000**
3 Years Profit		3 Years Ad Cost		Return
$27,870,000	-	$20,000,000	=	**$7,870,000**

$20 Million Investment	➡️	More Than $7.8 Million Return within 3 Years

It is likely that network effects caused by the adoption of TCP dApps will result in rapid increases in the numbers of users of TCP. Such scaling would continuously improve the average user acquisition cost, annual average purchase rate, annual average purchase frequency, and average transaction cost. This being the case, revenues derived from dApps are expected rise significantly in parallel with the growth of the TCP ecosystem.
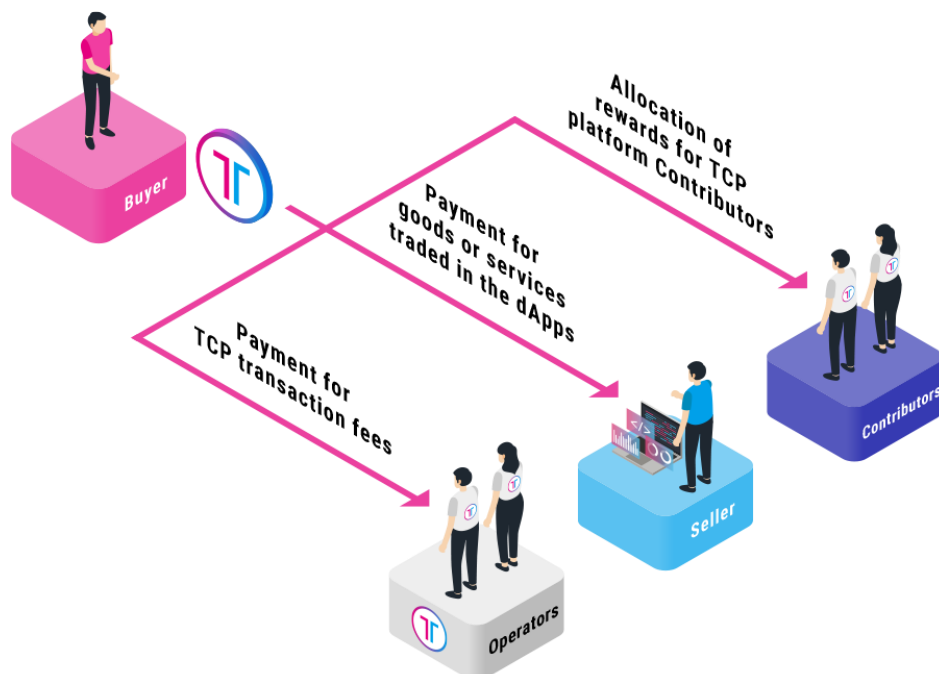
4.0 TimeCoin token

4.1 TimeCoin

The TimeCoin token (symbol: TMCN) is an Ethereum-based, native token created to support the functions of the TimeCoin Protocol. TimeCoin tokens will be the fuel that drive the gig and sharing economy as well as eports powered by the TCP. Their use, as explained below, will be to function as a means of payment for transactions performed in the network, the payment of transactions fees, and the allocation of rewards for network supporters.

4.1.1. TimeCoin token use case

As mentioned in previous sections, at the core of TimeCoin Protocol's value proposition is the reduction of transaction costs for freelancers and users in the gig and sharing economies. The TimeCoin token is a key element of this value proposition, and will constitute, so to speak, the "fuel" of the TCP platform.

The TimeCoin token will function as the mean of payment for the goods and services offered from freelancers to users through the dApps built upon TCP; the mean of payment for transaction fees that support the functioning of the TCP platform; and the allocation of rewards for platform supporters. TimeCoin tokens can be used on TCP, in the dApp, and on the current centralized TimeTicket platform in order to pay for goods or services.

The individual that buys TimeCoin tokens in token sales, does it so they can exchange the token for goods and services traded through the dApps, or pay corresponding transaction fees.

It is very important to observe that TimeCoin tokens do not grant any right to receive dividends or the right to receive a distribution of profits from TimeTicket GmbH, the company that develops TCP. Besides that, TimeCoin token holders have no right or title to claim repayment of the funds transferred in connection with the private or public TimeCoin token offering.

4.1.2. Rewards allocation

A portion of the TimeCoin tokens earned as transaction fees by TCP is paid to contributors in proportion to the work conducted to support the platform. The amount of TimeCoin tokens paid to each contributor is determined by a sophisticated rewards calculation that takes a broad range of user contribution metrics into account. This complex calculation ensures that rewards are always proportional to contributions, regardless of the contribution type (i.e. loyalty, number of transactions, size of transactions, growing the network, supporting the operation of the network).

The TCP reward will be sourced by the allocation of transaction fees earned by TCP and TCP's reward pool. The TCP rewards allocation system is designed to support TCP's core value of proportionate contribution rewards. While this system may, at first glance, seem excessively complex, its robust and elegant design functions ensure that users receive rewards which are commensurate with the contributions that they perform to support the system. It also comprehensively guards against bad actors attempting to cheat the system and gain undue rewards.

The daily allocation of TimeCoin token rewards is divided into three groups:
- TCP dApp users who use services.
- Contributors who build and run dApps and support the decentralized autonomous operation of TCP.
- Operators who support the management of TCP.
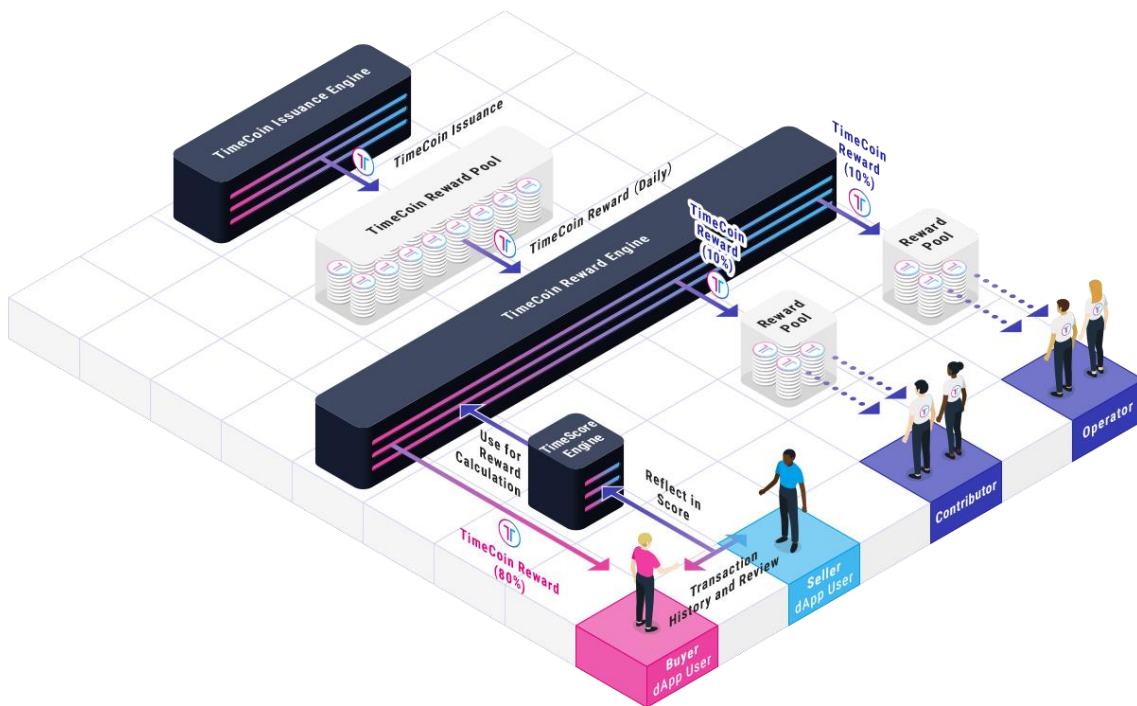
User rewards

80% of TimeCoin token rewards will be distributed amongst users who buy via dApps on the protocol. The amount of TimeCoin tokens rewarded to each buyer will be determined by their use data.

Contributor rewards

10% of the rewards pool will be split between those who build and operate dApps, those who support processes such as in-transaction arbitration, and those who support various consensuses that are required for decentralized autonomous operations. These consensuses include the approval of account openings and changes and the confirmation of the appropriateness of product and service postings.

4.2 TimeCoin and Token Sale

4.2.1 TimeCoin's specifications

The total number of TimeCoins to be issued will be 100 million and sold on crypto asset exchanges and off-market. The timecoin sales plan will be announced on the TimeCoinProtocol website.

The table below shows the allocation of TimeCoins.

	Number of TimeCoin	TimeCoin Ratio
TimeTicket Inc. & TimeTicket GmbH Management Team, employees, contractors	10,000,000	10%
Globalway Inc.	10,000,000	10%
Globalway Inc. Management Team, employees, contractors	5,000,000	5%
Reward Pool	50,000,000	50%
Advisors & Proof of Care	5,000,000	5%
Token Sale including IEO	20,000,000	20%
Total Number of TimeCoin(TMCN)	**100,000,000**	**100%**

4.2.2. Token Sale schedule

The details will be published on the TimeCoinProtocol website.

4.2.3. Token distribution

The distribution of tokens issued in the token sales will be as follows:
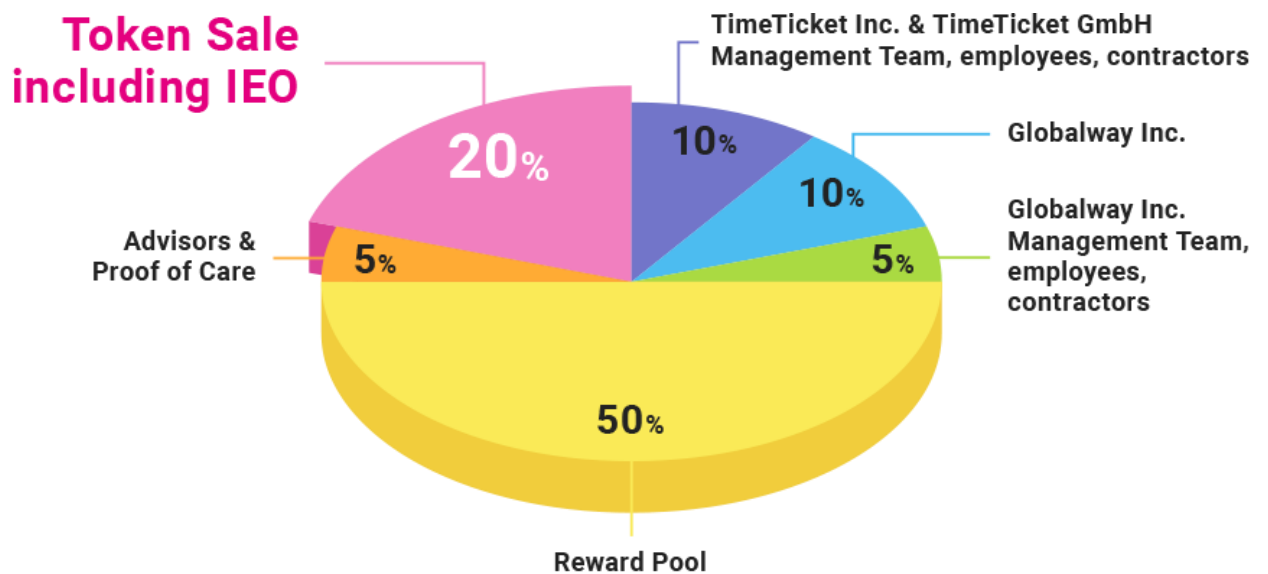
4.2.4. Use of funds

Funds raised through the token sales in all its phases will be used for the following areas:

- Marketing to increase users, the promotion of TCP and dApp promotion.
- The improvement and management of TCP.
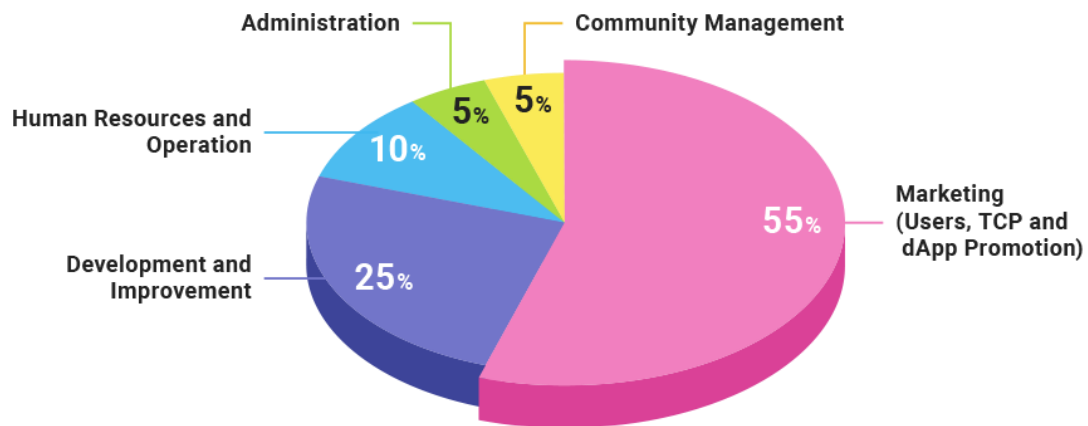- Human resources, recruiting costs and staffing costs associated with the expansion of TCP operations teams.
- Administration.
- Community management.

The estimation of the percentages that will be allocated to each of these areas is as follows:

Note that these are simple estimations of capital allocation and are not confirmed figures. Actual allocation of raised funds shall be subject to internal and external dynamics and circumstances during the project execution, and the management team shall decide always taking into consideration what is best for the success of the project.

Geographic expansion

Investments aimed at expansion into different regional markets will also be strategically calculated in response to the amount of capital raised in the sales. The TCP team has plans to expand business operations into the global market, particularly the Southeast and South Asian markets, which are driving global economic growth. Japan, India, China, and Indonesia will be the primary markets targeted.
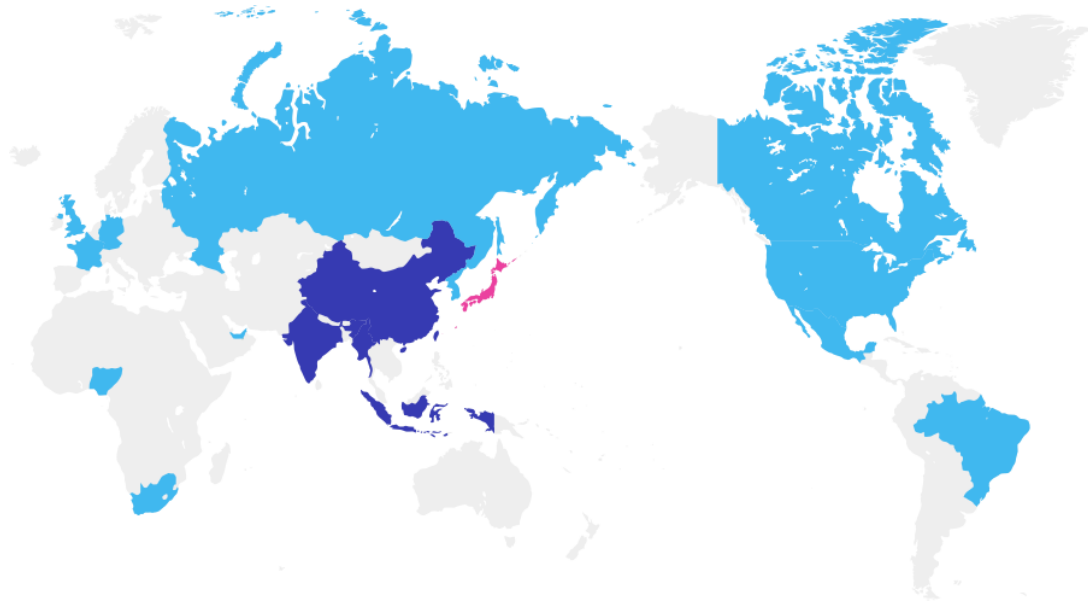
Additional markets where the TCP team will consider developing services are the USA, Canada, Mexico, Germany, France, the UK, Brazil, South Africa, Nigeria, Russia, and the UAE.

4.3 Governance, transparency and compliance

Globalway, TimeTicket, Inc. the TCP team, and TimeTicket GmbH, as well as all associated parties, will:

- Act on proposals and resolutions in response to community opinions.
- Act with absolute transparency.
- Work to ensure and maintain the highest levels of security at all times.
- Advise users of safety best practices.
- Comply with all relevant laws and regulations.
- Attempt to prevent fraud along with the sale and purchase of illegal services using TCP.

Treasury

The TCP treasury will be managed in compliance with the most stringent security procedures. The team will be transparent on custody, management, and uses of the treasury.

Governance

TCP features a voting system where TimeCoin token holders will be represented on important proposals. The fundamental purpose of TCP is to empower the community and so it is important to the team that the voice of the community is heard and can guide decision making. Bills that are proposed by members of the TCP committee will be voted upon by all TimeCoin token holders. The board of directors will consider the results of voting and decide

on how to proceed in light of the opinions expressed through this vote. Decisions on important resolutions concerning tokens will ultimately be made by TimeTicket GmbH's board of directors. Nothing in these special voting rights for TimeCoin token holders should be interpreted as shareholding voting rights, as these votes will have only an orientation functionality. The actual company decisions shall be adopted by TimeTicket GmbH's shareholders and/or board of directors, according to their by-laws, incorporation articles and any other applicable statue.

To separate the interests of TimeTicket's shareholders and TCP collaborators, TimeTicket, Inc. (Japan entity) was created in April 2019 as a wholly owned subsidiary of Globalway, Inc.

TimeTicket GmbH is a subsidiary of TimeTicket, and has been established to oversee the token sales, to develop TCP and the TimeTicket dApp, and to promote the protocol's decentralized services. TimeTicket GmbH is 100% owned by TimeTicket, Inc.

Compliance

TimeTicket GmbH will observe and abide by the laws and regulations of the countries in which it operates. Following the token sales, preparations will be made to receive approval by the Japanese Financial Services Agency as a virtual currency exchange service provider.

TimeTicket GmbH is a Swiss corporate entity subject to Swiss financial laws and regulations. However, not only Swiss laws apply to the token sale but also all laws and regulations that apply to the issuing corporate entities in all countries and regions that are targeted for sales. TimeTicket GmbH shall comply with the tax systems that apply to corporate entities in the countries and regions targeted for sales.

Furthermore, TimeTicket GmbH is a TimeTicket, Inc. subsidiary, but since it is a Swiss corporate entity and the token sale is not targeted at Japanese residents, Japanese laws such as the Payment Services Act and the Financial Instruments and Exchange Act do not apply.

TCP token sales are not available for participation by residents of countries or regions for which token transactions are or possibly would be in violation of laws, regulations, and other guidelines, and this whitepaper is not intended as a solicitation for such persons.

4.3.1 Security

Fraud prevention

To eliminate fraudulent postings of products or services and to exclude fraudulent sellers, a screening mechanism is provided within the posting procedure. TCP uses AI fraud detection technologies to identify fraudulent use by analyzing past patterns. Such measures ensure the highest standards of security. TCP also features a facility which allows users to directly report fraudulent sellers to a member of the team.

Prevention of the advertisement and sale of illegal services

The TCP team within TimeTicket GmbH will actively monitor postings to ensure that no illegal activity of any kind is conducted on the protocol. This monitoring will be achieved using similar AI analytics and user reporting systems to those outlined in the previous paragraph.

Know Your Customer procedures

TimeTicket GmbH and/or its advisors and the exchange conducting the token sales will deploy stringent know your customer (KYC) procedures to ensure legal compliance and user safety. To participate in the token sale, eligible persons (non-criminal residents of accepted territories) must provide prescribed basic information. Basic information types include country of domicile, full name(s), date of birth, postal code, address, contact telephone number, and email address(es) and all other details required to comply with Swiss AML regulations. These persons must also supply legally compliant identification documents.

The TCP security team will investigate all prospective buyers' qualifications for participation based on the information provided and any relevant identifying documents. This information will be registered and stored securely within the IPFS system together with the purchase date and the number of tokens purchased. Failure to successfully pass the KYC examination will result in the relevant token purchaser not being admitted to receive TimeCoin tokens and payments will not be accepted.

5.0 Team

TimeCoinProtocol is supported by a team of industry leading professionals, each of whom has accrued a wealth of experience in their respective field.

5.1 Core Team

Masato Kakamu
CEO, TimeTicket, Inc.
CEO, TimeTicket GmbH
CEO, Globalway, Inc.
Co-head of TimeTicket business
https://www.linkedin.com/in/mkakamu/

In 2004 Masato Kakamu founded Globalway, which he successfully led to a listing on the Tokyo Stock Exchange in 2016. Prior to running his own business, Masato was involved in algorithm trading and risk management systems for UBS and Deutsche Bank. He helped to launch the Japanese subsidiary of webMethods (now Software AG), a US enterprise software company for large corporations.
Masato has already made significant accomplishments in sharing economy services, leading the TimeTicket business to grow further.

Masahiko Akahori
Director, Globalway, Inc.
https://www.linkedin.com/in/masahiko-akahori-a2202a34/

Masahiko Akahori started off his career path in corporate investments and business partnerships at CA MOBILE, LTD. (now CAM, Inc.).
In 2010, he joined Serendip Consulting Co., Ltd. helping business reconstruction through corporate investment and active management participation in investee companies. Later on, he was appointed a director of the company leading the Corporate Department of the entire group operations. In 2019, he became the head of the Corporate Planning Department at Management Solutions Co., Ltd. being involved in mid-term business plan/budget formulation, capital and business alliance, and in-house project management.
In June 2020, Masahiko was appointed a director of Globalway, Inc., providing expertise in a wide range of corporate areas.

Yukihide Yana
Director, Globalway, Inc.
https://www.linkedin.com/in/yana3/

After working for NTT Software Corporation (now NTT TechnoCross Corporation), Yukihide joined Globalway, Inc. in 2015. As a manager, he was engaged in building the API integration platform and IoT platform as well as helping Salesforce implementation. Later on, he joined Deloitte Tohmatsu Consulting LLC, being involved in the global business

expansion of connected cars and the development of API guidelines for finance.

In 2020, Yukihide returned to Globalway, Inc. as the head of the Business Application Department and became a director. His specialty areas are IT architecture formulation and digital transformation support utilizing API and IoT.

Takuto Kondo
CTO, TimeTicket Inc.

Takuto Kondo was engaged in system projects and the launch of new projects for major financial institutions at a system integration company. In 2012, Takuto joined mulodo Inc. where he played major roles in the set-up of an offshore development base and in management. He was in charge of managing, training and recruitment for all in-house projects and successfully scaled up the base operation from 25 to 100 staff members after he had initially been transferred.

In 2017, Takuto became the Vice President of Engineering and was an Executive Officer at nana music, Inc. He was appointed the CTO at TimeTicket, Inc. in September 2020.

Yuichiro Hayashi
CRO, TimeTicket Inc.

Yuichiro Hayashi was involved in the management of large-scale projects for core systems at a system integration company that provides solutions mainly for its parent and associated companies. In 2000, Yuichiro joined BayCurrent Consulting, Inc. as a founding partner where he took up various roles such as finding new corporate clients (large companies and major IT system integration companies) as well as recruiting, training, and project management. Yuichiro was also engaged in scaling up the IT consulting and development business as well as sales management for large-scale projects involving hundreds of man hours.

Yuichiro became the CRO at TimeTicket, Inc. in November 2020.

Ayako Moritomo
CDO, TimeTicket Inc.
https://www.linkedin.com/in/ayako-moritomo-b0809a170/

Ayako Moritomo started her web design journey after graduating from Musashino Art University where she specialised in visual communication design. Her talent has won some prestigious awards including the Grand Prix and the Accessibility Award at the Web Grand Prix.

Before joining TimeTicket Inc., she successfully secured jobs for multiple competitions at a digital marketing agency and worked as a product manager at an IT venture company specialising in the food industry.

Ayako holds the first grade of the Sikisai Kentei (test on knowledge about colour) and learnt typography at Robundo, which illustrate her conscientious approach to mastering basic skills from analog to digital.

Shinichiro Takata
Engineering Manager, TimeTicket Inc.

Shinichiro Takata specialises in system design, system development and system operation centred around infrastructure and backend. He has development experience in a wide range of fields such as 3D projection systems, simulation programs for industry-academia collaboration projects, and large-scale advertisement distribution systems for traffic in the tens of billions per month.

Tomohiro Arai
Engineering Manager, TimeTicket Inc.

Tomohiro Arai has extensive experience as a business systems integrator from upstream to downstream. With his work know-how, he has been building systems in various jobs. He has also been involved in the production of smartphone apps such as games and e-books and has experience in a wide range of fields from server-side to application engineer.

Kaori Nakayama
Manager of the Customer Success Department, TimeTicket Inc.

Kaori Nakayama was involved in the establishment of a new inbound call centre and oversaw the operation in the psychological counselling industry.
Later on, she was engaged in the establishment of a new call centre in the Sales Department specializing in outbound calls in the cosmetics industry as well as recruiting and being responsible for business targets through formulating plans to boost sales and the training of operators. Kaori Joined TimeTicket Inc. in November 2019.

Ikumi Chiba
TimeTicket Life, TimeTicket Inc.

As a freelance writer and editor, Ikumi was writing, proofreading, and editing in multiple media such as curation media run by major real estate rental sites and publishers. She was also involved in the management and training of writers.
Ikumi joined TimeTicket Life since its launch in August 2019 and works as an editor in the TimeTicket Life Editorial Department. She is mainly involved in planning, writing, proofreading, and editing of articles in web media.
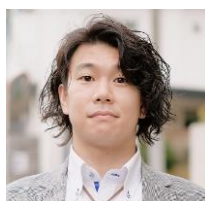
Kenta Yamazaki
Manager of the Sales Department, TimeTicket Inc.

After working as a career adviser in a company that specializes in temporary staffing/recruiting for the IT industry, he worked in human resources and sales at a development company.
Throughout his career, he has worked in the IT industry for a long time and has contributed to business expansion while maintaining contact with many people from a variety of industries and jobs such as developers and designers. He was also involved in the start-up of a new online programming-school business.
Kenta joined TimeTicket Inc. in May 2019.

Yoshihiko Inoue
Sales Department, TimeTicket Inc.

Yoshihiko Inoue landed his first job at a sales agency and was mainly engaged in new customer acquisition and providing consulting for its existing customers.
After changing his job, he was involved in service sales based on crowdsourcing and sales proposals of freelancers at an IT company.
Yoshihiko joined TimeTicket Inc. in November 2019.

Keisuke Ito
Sales Department, TimeTicket Inc.

Keisuke Ito got his first job at a management consulting company for dental clinics and was engaged in web marketing, mainly customer acquisition and analysing websites.
He joined Globalway, Inc. and worked as a career consultant as well as working in sales finding new corporate customers.
Keisuke was transferred to TimeTicket Inc. in January 2020.

Shota Nishijima
Inside Sales Manager, TimeTicket Inc.

Shota Nishijima has experience in mid-career recruitment support for more than 200 companies and in job-changing support for more than 800 people for the IT and Internet industries.
He also helped to launch inside sales in the IT industry and contributed to boosting sales by implementing various measures including getting young employees trained quickly, increasing the number of business negotiations and improving the quality of business negotiations.

Yuya Nemoto
Director, Globalway, Inc.
https://www.linkedin.com/in/nemoto-yuya-652ab714a

Since 2017 Yuya Nemoto has spearheaded business growth for Globalway. He began his professional career at Recruit Holdings where he was involved in promoting each project for planning RikuNabi NEXT and defining its development specifications. He transitioned to SUUMO group company Homepro in 2009, managing a large-scale upgrade of the end-to-end user, client, and back-office systems. He also implemented automatic matching using big data as part of the improvement to business-side profitability.
Yuya received numerous awards during his tenure in both organizations including MVP, the best practice award, and the innovation award.

Yumiko Ibe
Service Planning Manager, CEO room, Globalway, Inc.
https://in.linkedin.com/in/yibe

Yumiko Ibe was a key player in the establishment of Career Connection and served as the product manager. Her experience in strategic planning and design is invaluable in maintaining service links between Career Connection and TimeTicket. Ibe has won several promotions in her time at Globalway and was previously employed as a business app engineer. She holds an MBA from the Open University Business School (UK).

Kazuki Sakurai
Editor-in-chief of Career Connection News, Social Web Media Department, Globalway, Inc.

Kazuki Sakurai is the editor-in-chief of Career Connection News, a wholly-owned media service of Career Connection. As a former journalist Sakurai crafts articles on the topics of professional advice and career progression. By March 2018, he had grown Career Connection News to 12 million page views per month. He is also involved in monetization, advertising, and the planning of tie-up articles.

Hiroshi Sato
Senior Web Designer, Social Web Media Department, Globalway, Inc.

Hiroshi Sato is an experienced designer who has created many Globalway sites including Career Connection and Career Connection Tenshoku. He has been involved in the production of many websites at multiple production companies.

TimeTicket business auditing team

Masayuki Kuroda
Director, Globalway, Inc.

Masayuki Kuroda has been involved in the planning and development of job hunting services and mid-career recruitment services since 1988. From 2006-2014, he worked as the editor-in-chief of Rikunabi Next during the period in which recruitment media began to shift to online platforms. Since 2011 he has been involved in the reorganization of the media and employee placement businesses, promoting the development of a database and platform for the job search market. In June 2014 he established Lucent Doors Corporation, the primary focus of which is the theme of "suitable matching for middle generations (in their 30s and 40s)," which had been a long-standing issue in the Japanese recruitment market. Kuroda assumed the position of Globalway Outside Director in 2015.

Takanori Naoi
Auditor, Globalway, Inc.

Takanori Naoi was senior manager in charge of the intellectual property department at Oki Electric Industry Co., Ltd. He assumed the position of Globalway Auditor in 2014.

5.2 Advisors

Tetsuro Takemoto

Tetsuro Takemoto has been building robots since the age of 15, learning robot design through self-study. Tetsuro has twelve years of experience in software/hardware development, UI/UX design, and planning. He has worked on a large-scale ad server, mobile games, O2O mobile application platform, and various other projects. Currently, he is supporting the TCP IEO and building dApps, and is highly motivated is to create ecosystems for all blockchain projects.

Nobuaki Watanabe
Managing Director, Contentserv Japan
https://www.linkedin.com/in/nobuwatanabe/

Nobuaki Watanabe is among the initial team who helped launch Globalway. He supervised cloud application development for large-scale corporations. Nobuaki is an expert in blockchain, fintech, and cloud-based systems and supports the technological aspects of TimeTicket and TCP.

Before Globalway, Watanabe was engaged as an IT consultant at NTT Software and webMethods (now Software AG). He is particularly skilled in the consultation, development, and management of system mission critical infrastructure, and will take a lead role in the development of the blockchain for TCP.

Emma Ikawa
https://jp.linkedin.com/in/emmaikawa

Emma Ikawa has experience in developing trading systems and financial systems, project management, developing algorithms, sales and marketing, and client management in financial institutions including Morgan Stanley, Credit Suisse, KBC Securities, and Barclays Capital across the globe for over 16years. Emma also has experience in accounting, trading equities, and working with derivatives and quants team to offer financial products and services to international clients.

Leona Amemiya

After graduating from the Faculty of Economics of Hosei University, Leona Amemiya joined HIKARI TSUSHIN, Inc. where he held key positions including the head of Sales and the head of Human Resources.

In 2003, Leona joined the company now known as Recruit Career. At the age of 30, he became the youngest CEO of one of the subsidiaries of Recruit Holdings Co., Ltd. and held key senior positions including the CEO and an Executive Officer for several companies under Recruit Holdings. In 2013, he became a partner of Recruit Holdings and resigned in the same year. In January 2014, Leona became the CEO at I am & Interworks (now Interworks, Inc.) and led the company to a listing on the Tokyo Stock Exchange Mothers Market and the First Section.

Leona established the Smart Agency company in 2017. He has been actively supporting over 30 venture companies with sales and marketing strategies while being an adviser to other companies.

Andre Sudo

Andre Sudo specializes in investment bank underwriting and in management. He started his career in the investment banking division, underwriting Samurai bonds and underwriting of real estate securitization. Later on, he held a management position in the business strategy team for overseas investment projects at a general trading company.

Currently, Andre is a consultant for business strategy and financing for technology start-ups and security token projects.

5.3 Partners

● BitForex
https://www.bitforex.com/

BitForex is Asia's leading crypto asset exchange operated globally with the world's sixth largest trading volume. It has operating teams in Germany, Estonia, Hong Kong, Malaysia and the Philippines with users in more than 86 countries.

● Code2Lab
http://code2lab.co/

Code2Lab, an Internet company in Singapore, takes care of selling and marketing TimeCoin tokens.

● Shenzhen Heleyi Internet Information Consultant Co., Ltd.

Shenzhen Heleyi Internet Information Consultant Co., Ltd., a company in Shenzhen, takes care of selling and marketing TimeCoin tokens.

5.4 Globalway

Globalway Inc. is an experienced leader in web and IT enterprises with a track record for pioneering forward-thinking solutions for the sharing economy. In TimeCoinProtocol it is undertaking its most ambitious project to date: a decentralized sharing economy protocol that returns value to those who harness it to innovate create and contribute. Globalway's service group has over 47 million users annually, on platforms including:

Career Connection, a career and workplace-oriented community service that allows users to find and anonymously share salary details about specific jobs for specific employers as well as company and interview reviews.

TimeTicket, a sharing economy service platform which functions as an intermediary between people who want to provide services by selling their own time and people who want to purchase services. TimeTicket allows users to buy and sell personal time in 30-minute increments.

The TCP team is built-up of technicians, developers, designers, marketers, operators, and other specialists sourced from Globalway's expert network. Considering Globalway's record of building successful businesses from the ground up, their extensive experience and expertise in the development and operation of sharing economy services, team unity, and diversity and comprehensiveness of skills, there is no better pool of experts from which to construct a team to effectively develop a decentralized sharing economy protocol.

6.0 Closing statement

TimeCoinProtocol provides the foundation upon which the future of work, community, and cooperation will be built. Through creating a fairer system for individuals to interact and transact, TCP lowers the barriers for entry to the sharing economy, opening it up to a wider audience from all walks of life.

In capitalizing on the tools provided by blockchain technology, including fast and low-cost value transfer and the removal of intermediaries, TimeCoinProtocol provides the next logical step in the evolution of a multi-billion dollar industry that is set to grow exponentially over the next five years. The ecosystem of dApps that TCP will nurture will provide personal autonomy, freeing individuals from the yoke of laboring within rigid hierarchical structures.

Globalway's track record of developing successful social platforms, including TimeTicket, gives it a significant advantage in bringing TCP to market. With an experienced team, a vast network of contacts and existing user base, TimeCoinProtocol launches with the makings of a strong community already beginning to form. Marketing efforts, both within the crypto space and further afield, will help to grow the network and introduce the next generation of professionals to the benefits of cryptocurrencies, censorship-resistant networks, and the service economy.

The way in which the world connects is changing. Digital currencies and the blockchain technology that powers them will prove instrumental in hastening this transformation. TimeCoinProtocol will spur adoption of these tools for the benefit of dApp developers, service providers, freelancers, and clients. Through the rewards mechanism built into the TimeCoin token, dApp users will be fairly rewarded for their time and skills and incentivized to interact with the components that make up TimeCoinProtocol. With the full support of Globalway, TimeCoin, and key Ethereum stakeholders, TimeCoinProtocol will shape the sharing economy and empower its participants to claim their financial and professional freedom.

7.0 Glossary

TimeCoinProtocol
TimeCoinProtocol is a protocol for the development and operation of decentralized applications. It is built on top of the Ethereum blockchain and the InterPlanetary File System. It was developed and is operated by TimeTicket GmbH, a subsidiary of Globalway, Inc.

TimeCoin
TimeCoin is the native token of TimeCoinProtocol.

TimeTicket (centralized service)
TimeTicket is a popular sharing economy platform that connects people who want to buy and sell skills and knowledge. It is run by Globalway.

TimeTicket (decentralized application)
The TimeTicket dApp is a dApp to be deployed on TimeCoinProtocol and hence one example of a use case what TCP may be used for. It will perform the same functions as the centralized TimeTicket platform but will do so via direct peer-to-peer interactions without intermediaries.

TimeTicket GmbH
A Globalway subsidiary that has been set up to oversee the development of TimeCoinProtocol. Having TimeTicket GmbH assume this role rather than Globalway itself, separates the interests of Globalway's shareholders and TimeCoinProtocol collaborators.

Globalway, Inc.
Globalway, Inc. is a web and IT enterprises market leader with over 47 million users across a diverse range of platforms. Globalway initiated the TimeCoinProtocol project but have relinquished all involvement in development and operations to TimeTicket GmbH. It has developped and still operates the existing TimeTicket platform.

Career Connection
A successful career and workplace-oriented community service. The Career Connection team will assist in the development of marketing materials for TimeCoinProtocol.

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9.0 Risk disclaimer

Risk that TCP service does not meet the expectations of TimeCoin holders

There is no guarantee that the TCP functions will meet the expectations of TimeCoin holders.

In addition, as orders or procedures issued by regulatory authorities or other official bodies relating to new functions could be received, it may not be possible to receive the registration or approval required by applicable laws and regulations, or other unforeseen events may occur. This could mean a change in the service relating to the installation or execution of new functions or other processes.

Price fluctuation risk and risk concerning the nature of TimeCoin

The value of TimeCoin is not guaranteed and could fluctuate greatly depending on restrictions under applicable laws and regulations, token market trends, political and geographical factors, technological factors, natural disasters, wars, and various other factors. Furthermore, TimeCoin holders do not retain the right to receive dividends or the right to receive a distribution of profits. Besides that, TimeCoin holders have no right or title to claim repayment of the funds transferred in connection with the private or public TimeCoin offering.

Liquidity risk

It may become impossible or difficult to trade TimeCoin or trading may need to occur at an extremely adverse price due to token market trends or trading volumes.

Risk due to the increase in the number of transactions

TimeCoinProtocol uses the Ethereum blockchain. The number of transactions on the Ethereum network is growing daily, and TimeTicket GmbH expects a sustained increase in the number of transactions. Therefore, an increase in the number of TimeCoin transactions beyond Ethereum's processing capacity could cause delays in the network and possible disadvantages for TCP and dApp users.

Risk because the whitepaper is not a contract

The description in this whitepaper merely records Globalway's and TimeTicket GmbH's achieved developments. Where the whitepaper refers to current plans, it is noteworthy that all or part thereof may be changed at Globalway's and TimeTicket GmbH's discretion. The description in this whitepaper does not represent a promise from TimeTicket GmbH or Globalway, or from any executives of the company or related persons. These persons are under no obligation whatsoever.

Risk relating to changes in laws and regulations, and changes in the tax system

Restrictions on TCP, restrictions on TimeCoin ownership or trading, or increased taxation due to any changes in restrictions under each country's laws and regulations, tax system, or other policies could cause TimeCoin purchasers unforeseen losses.

10.0 Legal disclaimer

TimeTicket GmbH and Globalway, as well as any executives of the company or related persons, shall not be liable for any damages caused by or related to:

- Fluctuations in the price or value of TimeCoin. The value of TimeCoin is not guaranteed and could fluctuate greatly depending on restrictions under laws and regulations, token market trends, political and geographical factors, technological factors, natural disasters, wars, and various other factors.
- A purchaser of TimeCoin's reliance on this whitepaper. The whitepaper presents the facts and plans recognized by Globalway and TimeTicket GmbH at the current point in time. This whitepaper is simply a record of what has been developed and is now available as well as plans and perspectives. This whitepaper does not present all possible outcomes and viewpoints. In addition, the details of the whitepaper do not represent promises from TimeTicket GmbH and Globalway, or any executives of the company or related persons, and does not signify a contract.
- A violation by a purchaser of TimeCoin of laws and regulations in their country or region of residence. TimeCoin purchasers should confirm that they are not in violation of any restrictions under the laws and regulations of the country and region in which they reside. Each TimeCoin purchaser is responsible to assess its personal legal situation and whether it is permitted to participate in the token sales or the activities on the TCP.
- Changes such as in the service and function of TCP. TimeCoin purchasers should confirm the possibility of changes or corrections to the service and function of TCP due to restrictions under the laws and regulations of each country, political and geographical factors, and various other events.
- The suspension or change to all or part of TimeCoinProtocol's overseas development. TimeCoinProtocol's overseas development could be suspended or amended due to regulations, circumstances, and economic conditions in each country or region, and the level of market penetration by similar and competing services, among various other events.

This whitepaper does not include information that could form the basis for an investment decision and is not a solicitation for investment. Furthermore, this whitepaper does not provide advice on laws, taxes, finances, accounting, or other related investment matters. When considering the purchase of TimeCoin tokens, please seek advice from respective experts as necessary before making such a purchase. The details in the whitepaper are subject to change.

Residents of Japan are excluded from participating in the TimeCoinProtocol token sales. Organized crime groups, members of organized crime groups, associate members of organized crime groups, any company related to an organized crime group, any corporate extortionist, political racketeering organization, crime groups specialized in intellectual crimes, or individuals corresponding to such organizations may not participate in the token sale. Each purchaser of TimeCoin tokens will be required to undergo an identification and verification of the source of funds process pursuant to Swiss AML regulations before being allocated TimeCoin tokens. TimeTicket GmbH reserves the right not to allocate TimeCoin tokens to purchasers in case of an unsatisfactory AML check.

Appendix I: architecture
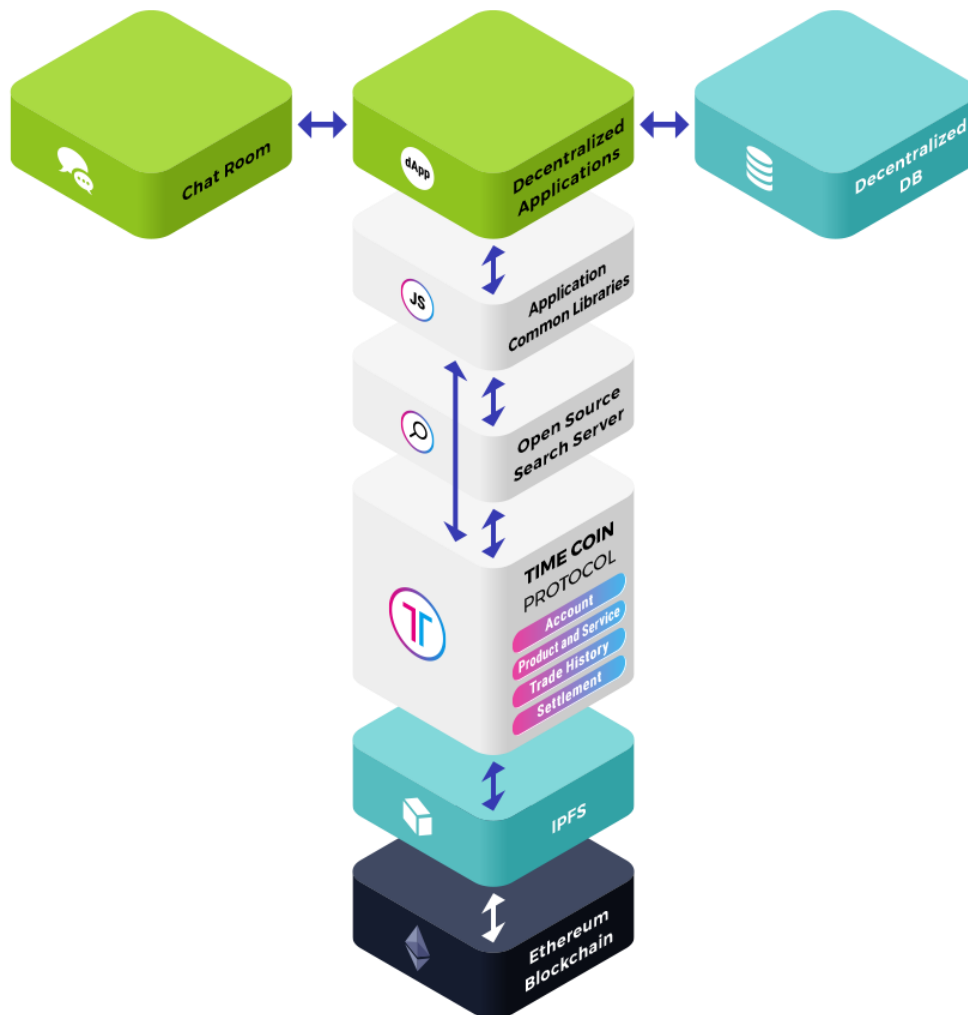
Application Common Libraries

The TCP Application Common Libraries are a JavaScript-based catalog of developer tools which are openly accessible to all TCP developers. The library contains general-purpose components for dApp development and management. Developers will be able to build dApps for TCP with JavaScript or C++. These developers can also use Application Common Libraries tools to engage in instance management of IPFS. The catalog of programs in the library will be expanded with the cooperation of the open source community and dApp providers.

The Open Source Search Server

The Open Source Search Server provides a search function will allow users to search for products and services in TCP dApps.

TimeCoinProtocol

The protocol offers a number of functions including account management, dApp browsing, product or service transactions, settlement, scoring, and token reward allocation. The protocol acts as an intermediary system which facilitates interactions between dApps, IPFS and the Ethereum blockchain as well as external arbitrators and oracles where necessary.

Storage

On-chain storage:
- Mission critical data and logic like reservations, transaction history, and sales disbursements. Hash-value pointers to information stored off-chain in IPFS.

Off-chain storage:
- Product or service information (e.g., images, texts, etc.) is stored in IPFS.

Smart contract functions

TCP smart contracts underpin the autonomous management of the protocol. These smart contracts have five key functions:

- **Directing transactions between individuals**
  TCP smart contracts provide a framework through which the seller and the buyer can transact directly between wallets. Service providers will collect transaction fees through a smart contract.
- **Payments**
  Payments may be automatically processed, whether they are lump-sum payments, installments, or periodic payments.
- **Screening and fraud prevention**
  A screening mechanism is provided within the posting procedure of products or services to eliminate fraudulent posting of products or services and to identify and exclude fraudulent sellers.
- **Rewards allocation**
  The reward allocation of TimeCoin will be made to the contributors assisting the decentralized, autonomous operations of the protocol, as well as its operators, based on logic defined by a smart contract.

Appendix II: data flows

A seller posting a product or service

- The seller inputs information necessary for posting a product or service - i.e. an accurate description of the product or service, the requested price, their wallet address, and so on - in the client application offered by the dApp, and submits a request to the dApp server side.
- When the dApp calls up the smart contract for posting the product or service kept in the library, an object with the product or service's information that the dApp user has entered is created, and it will be delivered to the node of IPFS.
- IPFS then stores the product or service information and returns the hash value to the smart contract.
- The smart contract sends the information, containing the price of the product or service, available time for the reservation (in case of a service-type transaction), number of products and delivery schedule (in case of a product-type transaction), and all other relevant information, to the smart contract to screen the product or service's posting.
- The screening group for a product or service posting that supports decentralized autonomous operation will be subject to a group vote; upon passing the posting screening, the product or service will be posted.

A buyer searching for a product or service

- The buyer uses the search function in the client application provided by a dApp and submits the search request for a product or service.
- The search server is equipped with a search engine. This server calls up the smart contract for product or service searches, and the smart contract returns the IPFS hash value(s) associated with the search result(s).
- The search server obtains the product or service information from the IPFS that corresponds to the hash value received and sends the search result to the dApp.
- The buyer may then review the search results for the product or service sought.

Applying to purchase a product or service

- The buyer makes their purchase request for a product or service via the client application provided by dApp and submits it to the dApp's server side.
- When the dApp calls up the smart contract for the transaction application prepared in the library, an object of the transaction application is created.
- The smart contract notifies the seller of the application.
- When the seller accepts this application, the buyer is notified of the receipt of the acceptance via the smart contract, and a transaction object is created by the smart contract for the deal.