

PlayDapp

From dApp to Blockchain-Powered Gaming Entertainment Ecosystem

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PlayDapp

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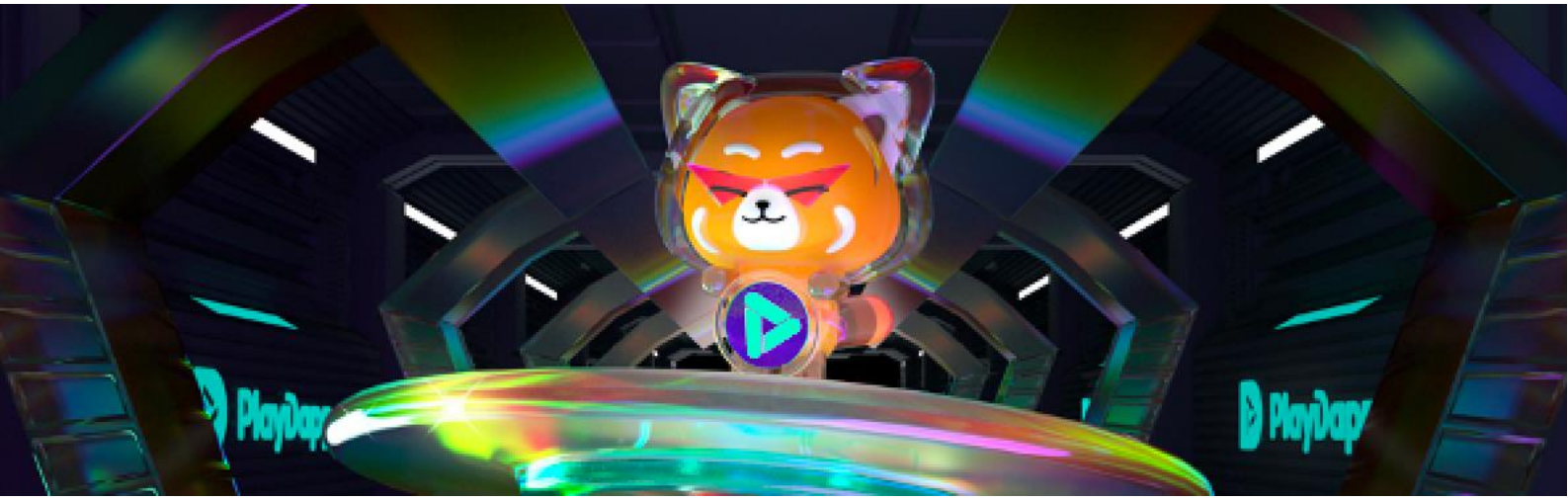
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Abstract

Gaming dApps as Catalyst for Blockchain Mass Adoption

The global blockchain market is expected to rapidly grow to USD$ 23.3 billion by 2023, even though the digital asset market went through a long winter in 2018 and early 2019. Today, a problem facing the blockchain industry lies in user engagement; that is, it has a desperate need for a successful mass-adoption use case to prove that the blockchain industry can be sustainable and that it can provide an economically healthy token model for the long run. Therefore there is a huge urge from platform players as well as institutional investors and blockchain service players in the value chain, for killer decentalized applications ("**dApps**").[1]

The Company believes that gaming dApps will act as a catalyst for blockchain mass adoption through its integration of blockchains and the ever-rising PC online/mobile gaming industry. As industry experts with decades of game development experience, our team is writing a new playbook for games on blockchain, combining our online/mobile games standards with new technical advances.

The benefits of blockchain for games and e-Sports are clear:

1) true ownership of in-game assets and decentralized digital asset exchanges for gamers;
2) verifiable scarcity of virtual items or collectibles;
3) secure payment networks for digital assets;
4) optimized solutions to raise new revenue streams for developers;
5) user-hosted micro tournaments, competitions, and viewership for decentralized e-Sports; and
6) direct creator-to-customer communications and interactions.

PlayDapp: from Killer DApp Maker to Blockchain-Powered Entertainment Ecosystem Builder

PlayDapp aims to provide the next generation blockchain-powered entertainment experience for gamers and developers. It is our intention to journey step-by-step from a game dApp developer, to a killer dApp maker and eventually to #1 blockchain entertainment ecosystem builder. In particular, our great vision includes the following:

1. To secure 100% ownership of game assets and data and financial compensation model for game enthusiasts.

2. To open the decentralized e-Sports dervice enabling user-centric competitions & rewarding users for activities on the ecosystem and performance on dApp games.

3. To innovate user acquisition channel + easy blockchain integration tools for game dApp developers.

[1] The phrase "killer dApps" is a term used in technology to refer to a computer application that is virtually indispensable.

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1. Market Overview & Background

1-1. Blockchain Industry Overview

The Urge for Killer dApps in the Blockchain Space

Even though the digital asset universe endured a difficult year in 2018, the global blockchain market is forecasted to continuously grow from USD$ 1.2 billion in 2018 to USD$ 23.3 billion by 2023, at a CAGR of 80.2%.[2]

The blockchain ecosystem can be classified into three categories:

A. Blockchain platforms: blockchain mainnets as platforms like Ethereum, BNB and SOL.

B. Middleware protocols: protocols as middleware to help applications communicate - read, write, store, and manage data - with blockchains at an infrastructure level, like IPFS and HyperLedger.

C. DApps: decentralized applications interacting with blockchains instead of traditional centralized databases, like Crypto Kitties and decentralized exchanges.

Blockchain platforms are core platforms where other things can be built and middleware protocols are blockchain protocols which govern the execution of program code - common transactions required from various applications or enterprises. The two are often referred to as infrastructure protocols in contrast to dApps, which are high-level services operating autonomously with their smart-contract-based systems. DApps are one of the main features of Ethereum along with smart contracts: a combination of different technologies to provide their users specific functionalities.

To allow the new technology of blockchain to be adopted, the first step needed was infrastructure support and now the next step is user engagement. We are of the view that the key to adoption lies in dApps which engage directly with end users. That is why we are presently seeing a huge urge from platform players as well as institutional investors on the scene for killer dApps.[3]



[Diagram 1. Evolution map of blockchain industry]

Far to Go for Mainstream Adoption

[2] Blockchain Market by Provider, Application, Organization Size, Industry Vertical And Region - Global Forecast to 2023 by Report Linker.

[3] Q1 2019 Dapp market report – Dapp.com (https://hackernoon.com/q1-2019-dapp-market-report-7aca7cbbccad).

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According to State of the dApps,[4] although there are currently over 2,000 dApps on the market, they only have a daily active use ("**DAU**") of 55K, with the most active dApps being decentralized exchanges like IDEX, 0x, and Bancor, followed by game dApps. Although blockchain games are the second largest dApps category, they are still far from competing against the traditional online/mobile games with a million concurrent users. The most well-known blockchain game, "CryptoKitties", for example, after its DAU peaked at about 14,000 in the initial period, experienced a rapidly declining DAU to its current average of 300.[5] For a quick comparison, Facebook has about 1.4 billion DAU,[6] and Twitter 157 million.[7]

Considering token sales and venture capital have raised over USD$38 billion which has been invested in blockchain projects over the past 3.5 years, the real-use adoption in the sector is extremely low - at a higher level, almost nothing has happened yet. Compared to the recently buzzing Pokemon Go case - a single mobile game title, with only a 1.2% of capital input, the startup reported that their monthly active users ("**MAU**") broke the 140 million level in 2018:[8] a much higher record than the total digital asset wallet adoptions. Further, PUBG mobile, just from a single channel, recently recorded over 30 million DAU with over 200 million downloads[9] and the capital investment raised was below the USD$1 billion level. That is why many in the traditional gaming industry are seeking new opportunities and implementing blockchain technology rather than current blockchain-originated games.



[Diagram 2. Capital Investment and Outputs in the Blockchain Industry / source: varied][10]

4 One of the top-tier dApp ranking services: https://www.stateofthedapps.com/stats.

5 CryptoKitties daily active users declines 98.5% http://www.cointime.com/blockchain/10753.html.

6 https://zephoria.com/top-15-valuable-facebook-statistics/.

7 https://www.statista.com/statistics/282087/number-of-monthly-active-twitter-users/.

8 https://www.businessofapps.com/data/pokemon-go-statistics/#1.

9 https://www.tweaktown.com/news/64220/pubg-mobile-200m-downloads-30m-daily-active-users/index.html.

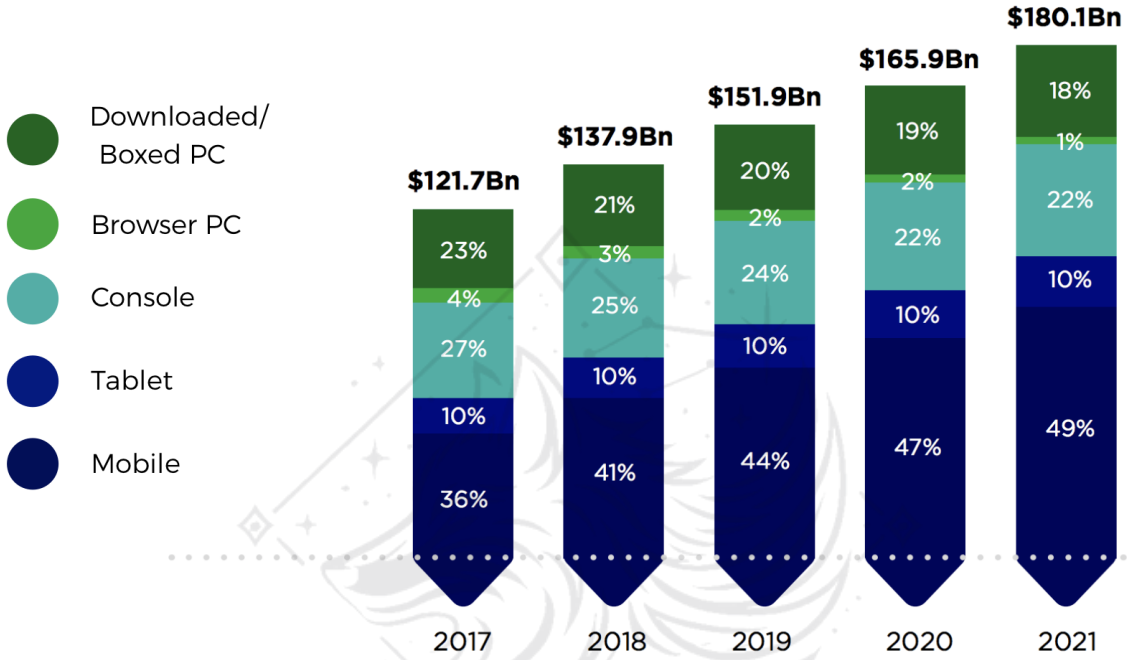
10 Source: Crunchbase / EY International / PwC & Swiss Crypto Valley Association.

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1-2. Blockchain for Games

The convergence of blockchain and games

The future convergence of fungible tokens and blockchain in the video game industry is considered by us to be as inevitable as the marriage of the internet and gaming. It was not long ago that most video games were played offline, with online support only sometimes being unintentionally added on. These days, online gaming is dominant, more specifically, in 2018, mobile gaming alone accounted for 41% as the top revenue generating channel.



[Chart 1. Segment Breakdown of Global Games Revenues Toward 2021 / source: Newzoo]

Integration of blockchain technology with traditional online gaming would be a huge milestone for the growth of both industries, offering the gaming industry the most significant step forward since the channel switch from web or console to mobile. We expect the tokenization of In-game items will bring strong economic value to gaming players. Innovations in the blockchain gaming industry have pushed the limits of non-fungible tokens ("**NFTs**") and we expect to see continued novel developments in other areas like scalability.

Gamers were early adopters of fungible tokens as many games use fungible token models to purchase items (ie in the format of earning gems or coins to purchase items). As mobile gaming flourishes, a freemium[11] business model has proven its power with micro transactions: mobile developers like Rovio, Supercell, generate bigger revenues than the legacy console developers. For example, Candy Crush Saga and Clash of Clans (the two highest-grossing mobile games of all time) are pulling in approximately $1 million a day.[12]

[11] Free-to-play with in-app/in-game purchases.

[12] Source: https://businesscomputingworld.co.uk/15-of-the-highest-grossing-mobile-games/.

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The Benefits of Blockchain for Games

Blockchain technology provides good solutions for gamers including 1) decentralized asset exchanges, 2) verifiable scarcity of virtual items or collectibles, and 3) secure payment networks for digital assets, and for developers to optimize the monetization of their creations. Smart Contracts allow users to prove that the items given are authentic, and the in-game item/asset exchanges are secured by being tethered to the blockchain through decentralized exchanges in a peer-to-peer ("**P2P**") manner.

Moreover, as blockchain industry players seek new opportunities in the gaming context, we expect that more innovations in blockchain technology will emerge (ie increased scalability to support mass service operations are coming up). As a new standard for NFTs, the ERC-1155 reference implementation is an important step, which was created by a gaming platform for legacy gaming engines, called Enjin. As a solution for scalability, The Loom Network offers a Layer2 scaling for Ethereum, enabling developers to use DPoS sidechains to build scalable and sustainable game dApps.

While the marriage of gaming and blockchain poses great potential, there are still various hurdles to overcome from the development side to reach mainstream adoption. We expect however, that this will be only a matter of time since continued innovative and ambitious projects keep sprouting in the blockchain space. Also as more major game titles go live on blockchains, the technical limitations will be resolved faster and better. Where there is a customer, the market moves forwards.

1-3. Blockchain for e-Sports

The Rising e-Sports Market

In addition to the gaming industry, the e-Sports market also needs serious consideration: both the gaming and e-Sports industries have showed no signs of slowing down. Gaming revenue hit an all-time high in 2018, and the rising e-Sports market reached USD$0.9 billion in 2018 and is expected to break USD$1 billion in 2019, and USD$2.1 billion by 2023, a CAGR of 18.61% between 2018 and 2023.[13]

E-Sports have been continuously growing beyond expectations. Dominated by major gaming players like Valve Corporation, Riot Games, and Activision Blizzard, the market is valued at more than USD$138 billion[14] with global viewers of more than 385 million people watching[15] over 48 billion minutes of Twitch streams monthly.[16] As the market grows, the prize pools in e-Sports also are now outstripping other sports. For example, the DOTA 2 2018 Tournament prize pool was just under USD$25 million,[17] more than double the 2018 Masters PGA Tour purse of USD$11 million.[18]

[13] Source: ResearchAndMarkets, Esports Market Global Forecast to 2023 & Newzoo, 2018 Global Games Market Report.

[14] https://www.investopedia.com/news/booming-esports-industry-hit-138b-2018/.

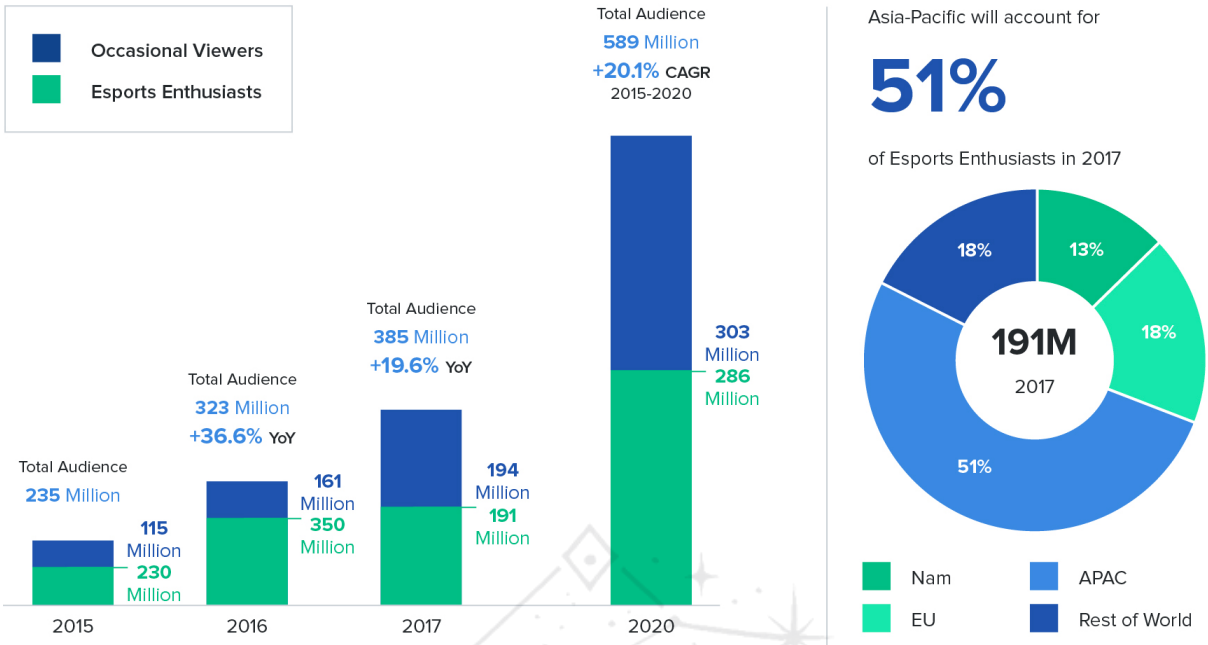
[15] https://www.statista.com/topics/3121/esports-market/.

[16] https://twitchtracker.com/statistics.

[17] http://www.dota2.com/international/overview.

[18] https://www.golfdigest.com/story/masters-2018-here-are-the-payouts-for-the-2018-masters-including-a-whopping-prize-for-the-champion.

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[Chart 2. e-Sports Audience Growth 2015-2020 / source: Newzoo]

However, out of 2.2 billion gamers and 385 million viewers, generating about USD$1 billion revenue in e-Sports, only the top 3% of e-Sports players receive rewards for their playing activity. The players prefer to play actively and compete against each other rather than to watch others playing games. Indeed, there is a huge need of a self-sustaining ecosystem for gamers: a new system with the integration of fungible tokens and smart contacts.

When Blockchain Meets e-Sports, We Believe A New Market Will Open.

As mentioned earlier, the current e-Sports market based on centralized channels is highly commercialized as a one-way street for corporations to take financial advantage over the billions of global gamers. Decentralized e-Sports gaming dApps will allow everyday gamers to test their skill and compete against matches with rewards for their performance as an individual, or as team or group for popular online games.

The answer for blockchain technologies to become a milestone of the e-Sports industry lies in the new business model meaningfully coupled with fungible token payment systems and decentralized asset/data management:

1) everyday gamers to get paid to play or compete from user-hosting micro tournaments;

2) game developers to reach their gamers directly and understand who the gamers are, closely linked to sponsorships and monetization; and

3) publishers or developers without centralized, cost-heavy 3rd parties, to support e-Sports features in their game service in a trusted, secured manner, driving a new revenue stream.

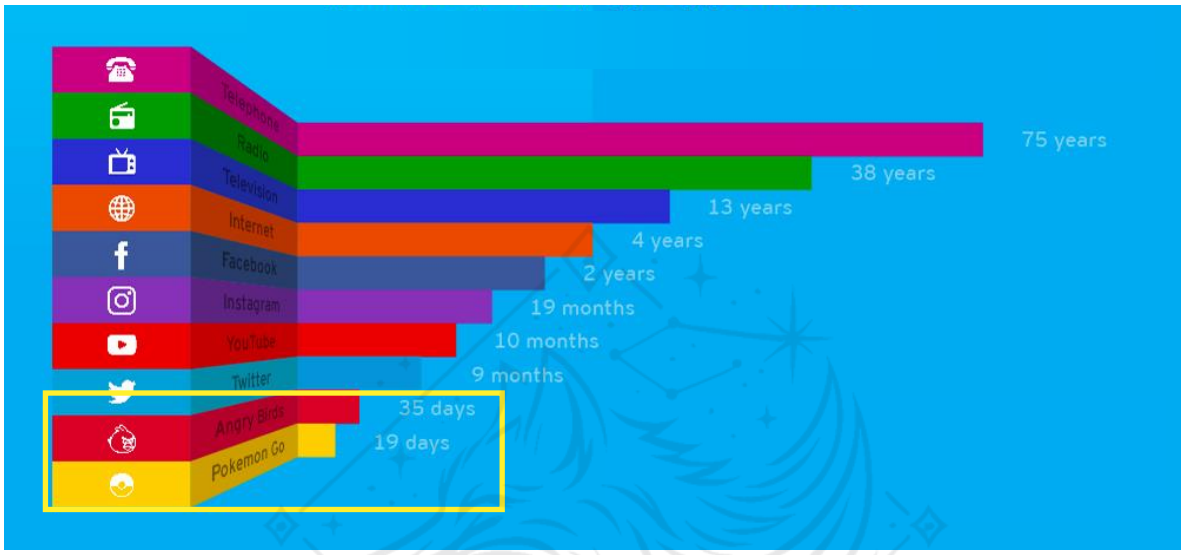
Surely, the e-Sports industry without the help of blockchain technology will keep growing, but the intersection of blockchain and e-Sports will facilitate a new landscape to embrace the widely neglected market of today - those 97% of e-Sports participants who keep paying to watch others play their favorite titles but are not eligible for any rewards or active play, and

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those small to medium developers to enter the new e-Sports market adopting a direct-to-consumer approach.

1-4. Gaming dApps as the Catalyst for Mass Adoption of Blockchain Technology

Games play a key role in new technical innovations.



[Chart 3. The duration to reach 50 million user adoption / source: interactiveschools.com]

The world has already witnessed paradigm shifts in both technology and consumer market industries and as a result, the gaming industry has adopted new technologies and reacted to changes in the market very early on. A new technology innovation like the internet, the web 2.0, and the mobile - especially smartphones, have further expanded games to a mass market. AngryBirds[19] led the mobile app market surge, having its debut on iOS first to warrant the term “mobile-first”. The iPhone’s most popular app enjoyed its 10 year anniversary in 2019, having already reached a historical record of 3.7 billion downloads with 80 million MAU and 11 million DAU from all devices and variations of the house in 2017.[20] Likewise, PokemonGo, the most famous mobile AR game, hit 50 million users in just 19 days from its official launch - confirming its position as the best case of AR technology adoption.[21]

Blockchain is not an exception: game dApps will act as a catalyst for mass adoption.

We believe that games will drive mass adoption of blockchain technology as it was for many technological paradigm shifts. Gamers are the early adopters of digital assets including fungible tokens and have already built strong, autonomous communities for a long time. These natures are perfectly matched to the core philosophy of blockchain innovations: tokens and autonomous governance.

Blockchain-based games, for instance EOS Knights and CryptoKitties, are already available in the market, and many are making their debut on some blockchains. According to multiple dApp ranking services, games are the second most active category in terms of the number of

19 A casual puzzle video game developed by Rovio Entertainment with its first launch on iOS in December 2009.

20 By June 30, 2017, according to Rovio’s IR disclosure.

21 https://sensortower.com/blog/pokemon-go-50-million-downloads.

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transactions and active users, following decentralized exchanges. This shows that gamers understand and are overcoming current blockchain dApps' intrinsic pain point of wallet management slowly.

Most importantly however, to drive massive users into blockchain games faster, game dApps should be fun and playable to meet the expectations of online gamers over blockchain enthusiasts. While the blockchain sector has tested its technical potential with purely blockchain-rooted game dApps so far, it is time to focus on offering attractive titles from the gamers' perspective by integrating blockchain with the learnings from the PC-online to mobile game playbook. Games are universal and bring people from different corners and different backgrounds together, overcoming their language and cultural limitations. We expect well-designed game dApps to lead the acme of the blockchain industry, making themselves killer dApps while pushing further innovation.

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2. PlayDapp : from dApps to a Blockchain-Powered Entertainment Ecosystem

2-1. Overview: Our Journey

From Crypto-Gamers to Massive New Comers

PlayDapp intends to attract casual gamers into the blockchain space seamlessly through multiple-genre game dApps. To achieve our intention, we intend to initially market to a very focused target audience of more established gamers and eventually hope to expand the target audience to include a wider class of casual and online gamer groups. In terms of numbers, we will initially target 10K daily active users among existing game dApp users, with the intention of expanding to 1M monthly active users and 32M wallet holders.[22] Further, we intend to incentivize causal gamers to add and create new wallets from web/mobile casual gamers. Our game dApps and PlayDapp aims to attract over 50M Registered Users, and we intend for it to rank number #1 in the dApp space.



[Diagram 3. Target Market and Goals of PlayDapp][23]

Like many game houses that started their businesses focusing on building “mobile first” designs in the late 2000’s, as part of our new strategy, we intend PlayDapp to move on to a “dApp first” strategy, eventually building a new blockchain powered entertainment ecosystem. Our dApp-first strategy is to secure users first from game dApps pursuant to which users will learn how to integrate the current gaming entertainment business with blockchain technologies step-by-step. The game dApps we develop and operate are the main user acquisition channels accessed through major blockchain networks. As all of our dApps are intended to exclusively use PDA and PlayDapp market features, the users will be seamlessly directed to the PlayDapp Marketplace & Exchange where they will be able to trade their digital assets. All digital assets made available on the Marketplace will be subject to the satisfaction of due diligence requirements to ensure that they comply with applicable regulatory requirements, as explained further below.

[22] Active users are regular users of dApp, wallet holders are people who have created wallets and connected to the game.

[23] All figures provided are “target” figures only and in no way shall they be regarded as guaranteed performance figures.

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Our 3-Step Journey to the PlayDapp Blockchain Entertainment Ecosystem

PlayDapp intends to take the following 3-step journey to the ultimate goal of our ecosystem building.

Phase 1. CrytoDozer, the beginning.
- Single dApp on multiple blockchain networks.
- PlayDapp will aim to acquire vertical expertise on different blockchain infrastructures.
- Gathering unique user group from different channels allows PlayDapp to have an extensive crypto gamer base across blockchains.

Phase 2. Multiple Gaming dApps to Drive Killer dApp & PlayDapp Marketplace/Exchange
- Multi-dApps in different genres on multiple blockchain networks to expand the user reach to diverse tastes, eventually to achieve massive user adoption.
- PlayDapp will aim to achieve a Killer dApp playbook from the dApp service operations.
- PlayDapp will also aim to open its marketplace/exchange to guarantee better in-game asset management, to share a common user group across the dApps, and to create a loyal user group.

Phase 3. PlayDapp Entertainment Ecosystem
- PlayDapp intends to build a multi-blockchain inter-operable entertainment service platform.
- PlayDapp users as a unified crypto gamer group to share and enjoy better gaming experiences and challenges!



[Diagram 4. PlayDapp's 3-Step Intended Journey to the Blockchain Entertainment Ecosystem]

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2-2. dApp First: CryptoDozer

A successful launch of CryptoDozer is our intended first step on the roadmap to the next generation entertainment service platform, PlayDapp 2.0. After CryptoDozer, we intend to add more to our dApp portfolio across the full spectrum of gaming verticals on multiple blockchain networks through both in-house and 3rd studio developed titles. With this dApp first strategy, the intention is that PlayDapp will obtain the title of 'killer-dApp maker', driving consistent new users and generating stable revenue. That would be the foundation stone of our ambitious vision to create a truly decentralized entertainment ecosystem.

A primary goal of CryptoDozer includes to first initially launch on the Ethereum blockchain, as a way to target the largest dApp user group in the current blockchain industry and to lower wallet creation barriers for non-digital asset based new users. The Ethereum blockchain has the benefit of supporting both the ERC20 and ERC721 token standards, which CryptoDozer intends to utilize. – A unique feature of CryptoDozer are the 3D Crypto Dolls which users can win and exchange.

CryptoDozer, the 1st Game dApp by PlayDapp

CryptoDozer is a blockchain version of a coin-earning, collectible game, inspired by a long-time loved arcade game. After obtaining adorable CryptoDolls on CryptoDozer, users can use them to create NFT fancy Dolls that alter gameplay and create new content. They also unlock other gameplay in interconnected games, such as DozerBird. These NFT dolls can also be sold to other players via a C2C marketplace.

A Perfect Title to Cater to Blockchain Users and Online Gamers

Unlike other collectible games easily found in the blockchain sector, CryptoDozer provides various features and actions with its easy gameplay and is the first blockchain game to have a progression system. When users level up in CryptoDozer, they will have the opportunity to win higher-value types of Crypto Dolls. As players increase in level rarer Crypto Dolls drop and the ability to create more impactful NFTS is unlocked. This adds to the value of the creatable Dolls.

Because CryptoDozer lets its users utilize virtual game coins - which are able to be purchased with PDA, PlayDapp's native token - to earn other special items, it is easy to understand for blockchain users. The game actions of dropping coins, earning special items and opening treasure boxes with a special key are very simple but with varied reactions and/or game effects. We suggest this will help give users a more interactive experience than many other game dApps of the just-collect-and-trade kind.



[Diagram 5. How we intend CryptoDozer to Work]

Moreover, as these types of coin dozer mobile games have been long loved with top grossing downloads by many casual gamers, CryptoDozer easily appeals to non-blockchain gamers. To lower the barrier to entry and give a pre-play opportunity to spark a user's interest,

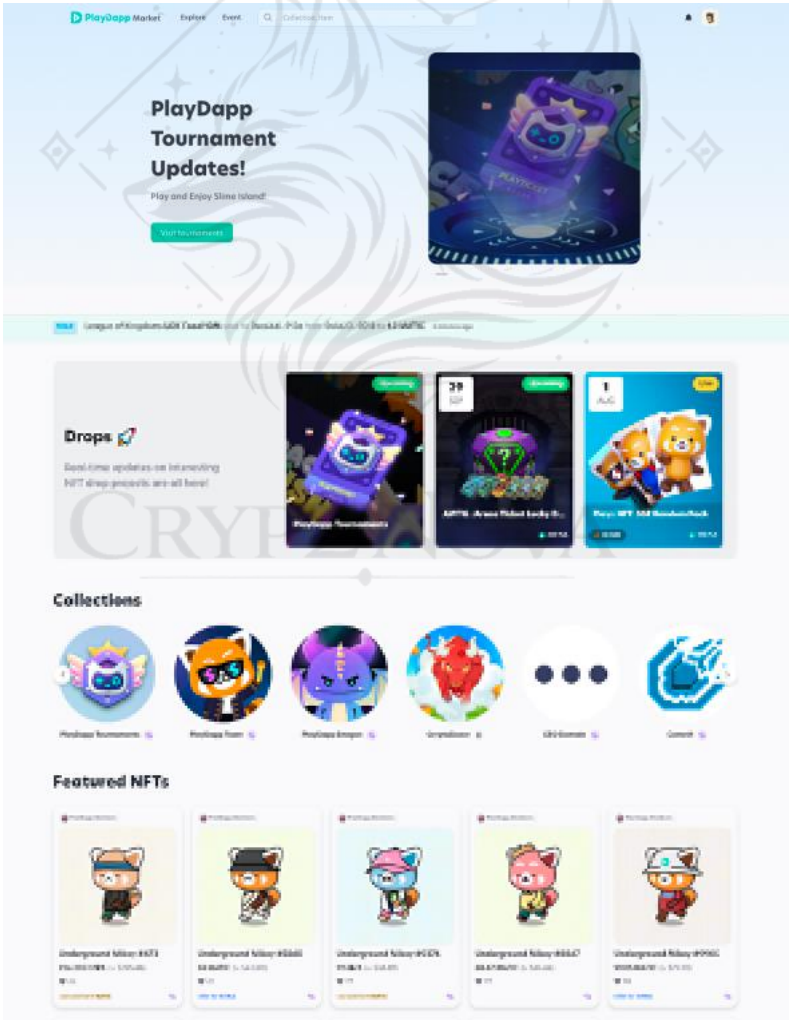
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CryptoDozer supports guest play without wallet integration, and users can later create or connect their MetaMask account. They can learn how to exchange and manage their digital assets through instinctive in-game features of doll inventory management and of doll exchange market where they can sell dolls.

DozerDolls which users collect by playing CryptoDozer are NFTs with the ERC721 standard.[24] Each ERC721 doll has different gameplay benefits and can be leveled up to increase them. If players no longer want that Doll's gameplay effects, they can sell them on the PlayDapp Marketplace. Where players are free to trade game NFTS. Every Doll collected in game is accessible and sellable via the Marketplace. For even better use, all NFTS can be both used in game and listed for sale at the same time.

This whole process is intended to be very smoothly designed so that any user, even without actual digital asset exchange/trading experience, can have the opportunity to learn and participate. Those users will get to know how wallets and assets interact in the blockchain space step-by-step with the thorough guidance of CryptoDozer tutorials. As a result, we hope to see CryptoDozer record a steady growth in daily transactions and the number of paid users as well as digital asset wallet creations.

[Picture 1. A Screenshot of PlayDapp Marketplace]



[24] An NFT (Non-Fungible Token) is a unique digital token associated to an asset or good - both for tangible assets or virtual. Through smart contract, it is verifiable to prove its ownership and authenticity of the asset which the token tied with.

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CryptoDozer: An Online/Mobile Game Integrating Blockchain

We expect that blockchain integration in the gaming industry will move in two different directions of progress:

- Integration with traditional PC-online or mobile games.
- Development of new, purely-blockchain-rooted games.

	CryptoDozer	Crypto Kitties	Blockchain Cuties	Gods Unchained	My Crypto Heroes
Category	Blockchain Integrated Game	Blockchain Game	Blockchain Game	Blockchain Game	Blockchain Game
Genre	Arcade	Collecting	Collecting	Card Simulation	Card Simulation
ERC721 Token availability[25]	O	O	O	O	O
ERC20 Token availability[26]	O	X	O	X	X
Availability of Blockchain(s)	Ethereum & PlayDapp (Meta Blockchain)	Ethereum only	Ethereum, EOS, and TRON	Ethereum only	Ethereum only
In-Game Features	Arcade board play, Doll collecting, In-Game paid boosters, Ranking & Marketplace	Kitty Purchase (Collecting), Breeding, Siring & Marketplace	Cutie Purchase (Collecting), Breeding, Accessorizing, Battling, Siring & Marketplace	Card Purchase (Collecting), Decking (Strategy Simulating), Battling	Hero & Item Purchase (Collecting), Training (Quest), Battling
Play Type	Single Play + PvP to be added	Single Play	Single Play & PvP	Single Play & PvP, Championship Tournament	Single Play & PvP
Test Play Without Wallet	O	X	X	X	O
Business Model	In-Game Item Sales Transaction Fee + Battling Fee (updated)	Gen 0 Kitty Sales Trading Fee Siring Fee	Cutie Sales Accessorizing Item Sales Trading Fee Siring Fee	Card Pack Sales	Hero Sales Item Sales

[Table 1. Blockchain Games in Comparison to CryptoDozer]

[25] ERC721 tokens are non-fungible and each token is unique.

[26] ERC20 Tokens are non-unique assets that are interchangeable.

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Today, integration with the mature, traditional gaming sector has been limited due to on-chain token issuance, token-based asset management and limited game logic operation available through a smart contract system. Most blockchain games at present operate in simple and primitive game design. These games are completely blockchain-rooted rather than reflecting blockchain integration with the existing gaming market, and is limited to certain genres like card simulation, simple strategies and lotteries, led by collection games.

According to State of the dApps, the top 5 Ethereum game dApps in terms of DAU and weekly transaction volume in the 1st week of February 2019 were MyCryptoHeroes, CryptoKitties, HyperDragons, Gods Unchained and Axie Infinity.[27] Regardless of each game's claim, those 5 all fall within the collectible genre in general. Most collectible games allow users to buy NFT collectibles and breed or decorate them with other items, and to trade or sell them. Some also provide battle-like competitions between users or against NPCs. For example, Gods Unchained has created a world championship prize pool from game card sales transactions and claims that it is the first blockchain e-Sports.

CryptoDozer's approach is different as it is inspired by a long loved mobile arcade game, and the desire to integrate blockchain technology with the online/mobile gaming experience. The unity-built dApp has high quality 3D graphics and interactive gameplay. Rather than competing with those collectible dApps, we intend for CryptoDozer to collaborate with some of the so called crypto-celebrity-like kitties or heroes to appear as special dolls or other types of items which users can collect or purchase in the game. PlayDapp is also intended to focus on adapting internationally well-known online/mobile gaming IPs coming into the blockchain world, thus, a far larger audience can explore blockchain-powered games to enjoy the benefits they bring.

2-3. Beyond CryptoDozer: Multi-dApps & PlayDapp

Expansion to Multiple dApps to be a Killer-dApp Maker

After the intended successful operation of our first dApp, and leveraging the market knowledge acquired from CryptoDozer Ethereum, PlayDapp's next steps are intended to be two-fold:

1. Horizontal Expansion : CryptoDozer to Various Blockchain Networks

   By adapting proven game logic and revenue models to different blockchain networks, CryptoDozer intends to reach all the major digital asset audiences and acquire a strong market share. This approach of adopting proven game logic and revenue models will be the foundation of later steps as well. As an example, we will apply these methods: 1) when other first and third party game dApps expand the blockchain platforms and 2) when building our meta-blockchain ecosystem.

2. Vertical Expansion : More Ethereum Game dApps in Different Genres

   With the full experience of secured smart contract building and a stable gaming service operating on the Ethereum blockchain, the Company intends to launch on PlayDapp more game titles across different genres. The genres are intended to be selected from the top grossing downloads of current mobile games to appeal to unreached ETH wallet holders from the CryptoDozer site. We hope to drive almost a full range of Ethereum gamers to

[27] This ranking is obtained from the site "State of the dApps", as of the date of this Whitepaper (available here: https://www.stateofthedapps.com/).

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our user base, securing stronger platform power as well as diverse gamer insights, drawing from operating various game genres.



[Diagram 6. Intended Multiple dApp Expansion Strategy]

With our extensive coverage of gaming dApps both vertically and horizontally, PlayDapp expects to have killer dApps among our in-house developed titles. The team, also plans to build an open-source network for blockchain gaming entertainment, actively contributing to the growth of the blockchain gaming industry.



PlayDapp1.0, the Marketplace & Exchange, to Better Support Inter-Operability

[Diagram 7. The Intended 3-way Leverage Model for the PlayDapp Ecosystem. In this diagram, ETH, BNB, SOL are Major Tokens supported by the PlayDapp Ecosystem.]

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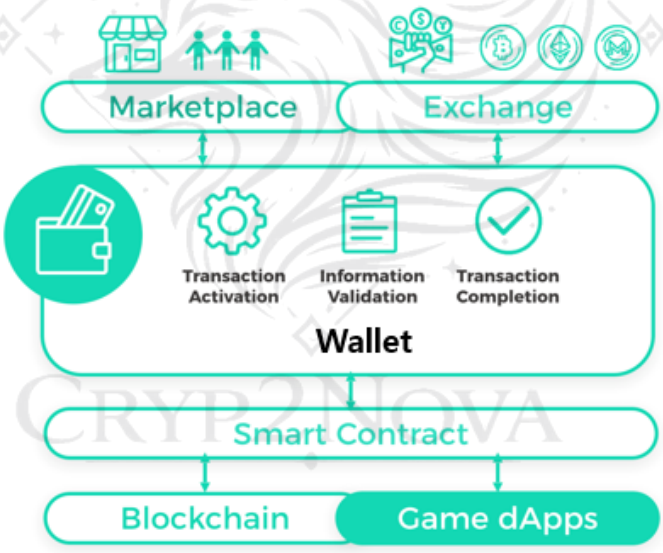
As we deploy more and more game dApps on Ethereum and other blockchains, infrastructure level support will be required especially in the handling of in-game assets and achievements as well as digital asset transfers and user identification. To provide a better gaming experience on multiple network game dApps, inter-operability should be the first consideration. Thus, it is important to expand the PlayDapp NFT Marketplace to fully support multiple dApps and NFT trading.

PlayDapp's 3-Way Strategy, Marketplace-Content-Platform Leverage, opens an initial form of the PlayDapp Gaming Eco System called PlayDapp 1.0. PlayDapp 1.0, a unified trading platform for our in-house developed game dApps, is intended to support the following features:

1) An easy exchange between fungible tokens - PDA and other coins like ETH, BTC, SOL and so on.

2) A secured, decentralized marketplace to trade NFTs (subject to the satisfaction of due diligence requirements) achieved from gameplay with other users - both of the same and different type.

We hope to enable all users of our game dApps to connect on our market, allowing it to grow as a service platform.



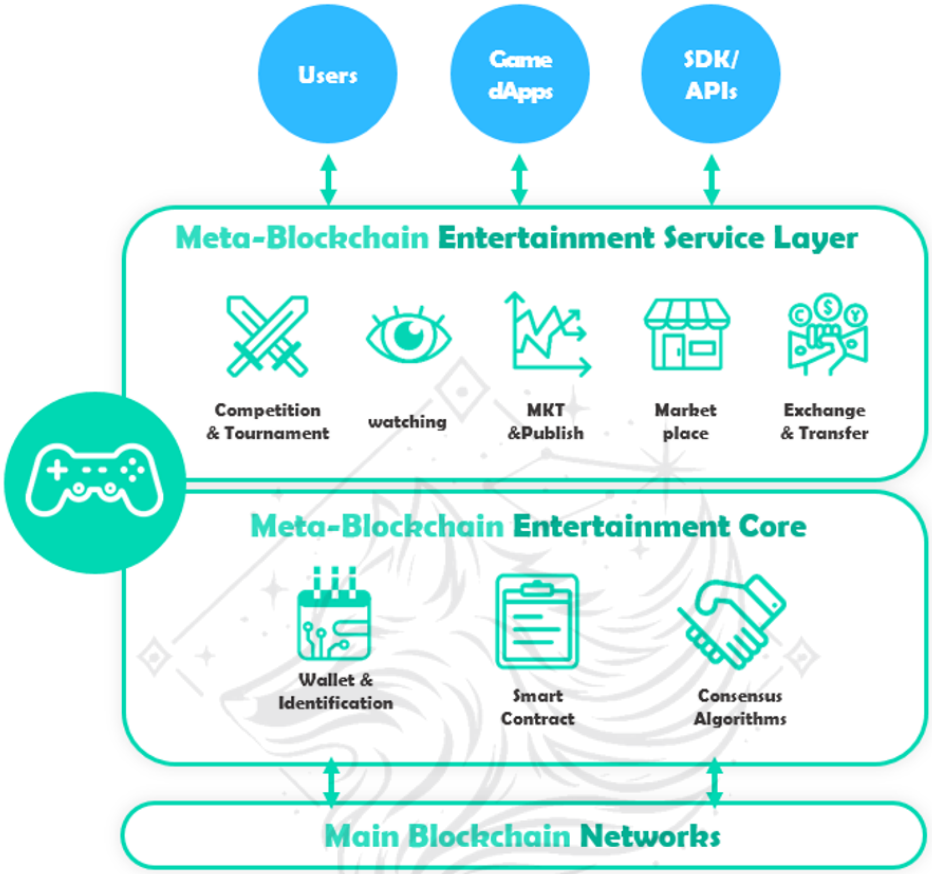
[Diagram 8. Intended Service Layers of PlayDapp 1.0]

2-4. To the Ultimate Blockchain Entertainment Experience: PlayDapp 2.0

PlayDapp's ultimate goal is to build a multi-blockchain, inter-operable entertainment service platform, the Meta-Blockchain Entertainment Network. To achieve this vision, we plan to leverage our expertise in blockchain and gaming, gained from our journey building single dApp through to killer dApps, and creating asset infrastructure for exchange and transfers (PlayDapp 1.0).

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PlayDapp 2.0 is intended to operate as a blockchain-powered gaming entertainment ecosystem supporting meta-blockchain activity which allows better interoperability, connecting different blockchains on a single PlayDapp network. It is our hope that PlayDapp users, as a unified digital asset gamer group, could share and enjoy better gaming experiences and challenges, without necessarily having specialized blockchain knowledge.



[Diagram 9. Intended Service Layers of PlayDapp 2.0]

In becoming a truly decentralized entertainment service platform, we hope that PlayDapp 2.0 will provide a rich gaming experience for both game players and developers through the following measures:

1) As a means of rewarding one another (with such rewards being attributable to the completion of certain tasks).

2) Enabling users to watch and learn other enthusiasts' gameplay.

3) Facilitating the transfer and exchange of in-game assets or fungible tokens easily.

4) Enabling developers to publish a new game dApp to target users directly without intermediaries.

5) Enabling developers who are planning to reach new user groups more effectively and to communicate directly with current audiences.

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6) As a way to tokenize gameplay with fungible and NFTs.

Furthermore, any dApps or non-blockchain games could be supported and operated with simple add-ons of PlayDapp Opensource APIs or SDK, to enjoy all or certain features of PlayDapp 2.0.

The Key Features of PlayDapp 2.0, the Entertainment Ecosystem

PlayDapp 2.0 is intended to provide the following key features as a next generation entertainment ecosystem:

1) Multi-Blockchain Supported Entertainment Asset Trading & Management

PlayDapp 2.0 plans to inherit its key features from PlayDapp 1.0, marketplace & exchange with full support from PlayDapp SDK. At this stage, PlayDapp SDK is planned to be compatible with every single dApp connected on PlayDapp 2.0. PlayDapp SDK will also act as a wallet sign-in and decentralized data node beyond payment verification method.

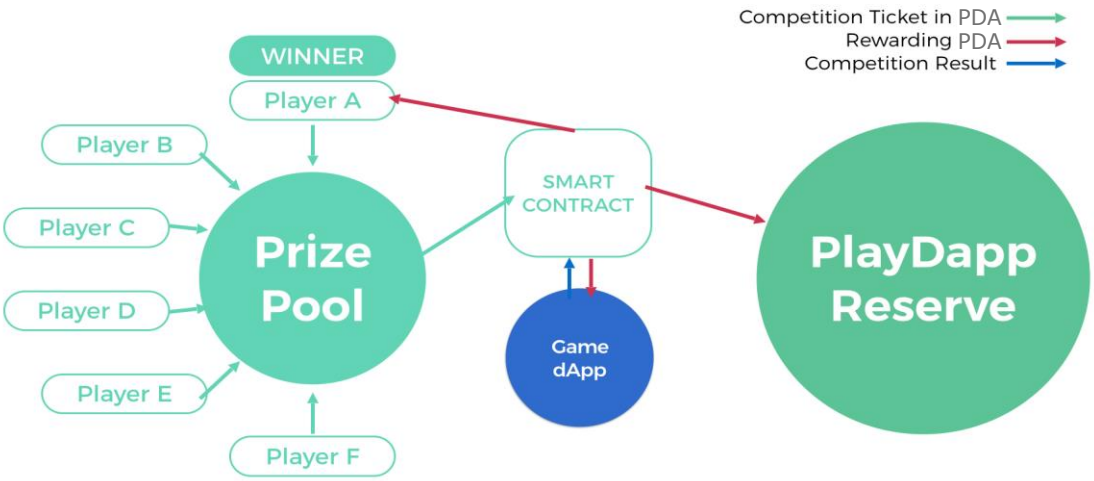
2) User-Centric e-Sports Services on Blockchain

We intend for gamers to be able to compete with each other or participate in an open micro tournament creating a group anytime while playing their favorite game dApp supported by PlayDapp 2.0. By paying an admission fee for e-Sports mode, the player could host either a 1:1 competition or a group tournament (ie a “micro tournament”) with auto-matched rivals or designated friends. Any eligible gamers - either recommended by the system or invited by the host - can participate in peer-hosted competitions by paying a pre-set amount of PDA and, once the prize pool under a smart contract is activated, the competition will start. After receiving the validated game result from each game service, the prize is given to the winner of the game automatically by the smart contract (deducting all applicable operation and transaction fees). The host could design the tournament for a single winner or multiple winners in different grades and for 1:1 competition, the prize goes to the winner only.

Beside tournaments, individual PlayDapp users could watch other players’ gameplay to learn better strategies or skills by asking direct permission from the desired player. Peer-to-peer learning is a great way to improve skill and help gamers prepare for tournaments and gaming generally with no assets at stake.

These user-hosting decentralized e-Sports features could generate new revenue opportunities for game developers or publishers, for example, if they were granted a reward from prize pools as a direct result of their operational contribution.

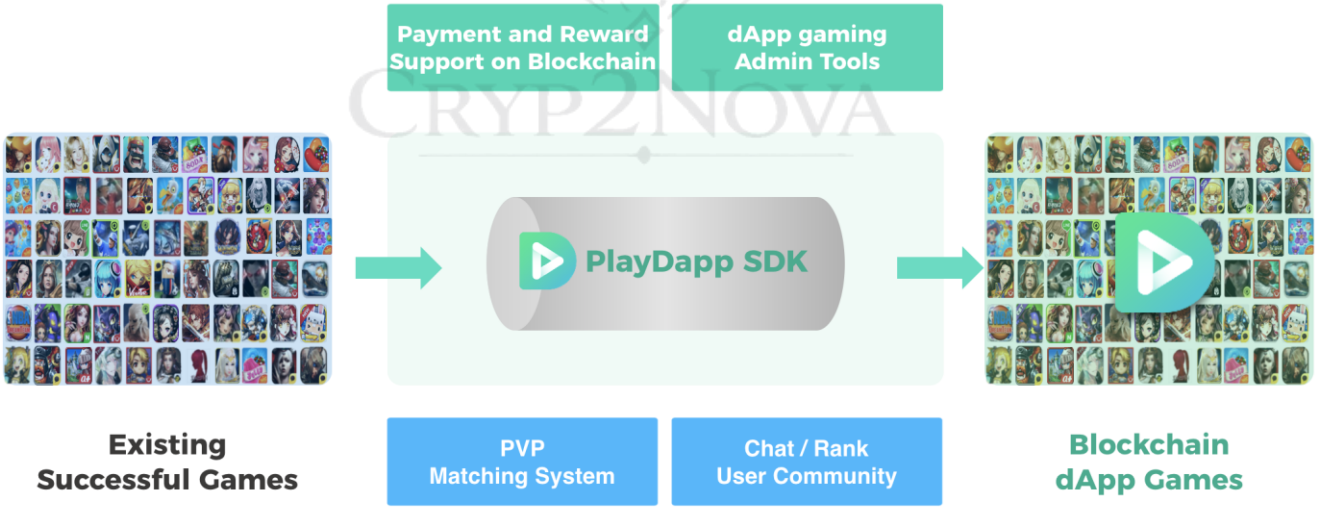
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[Diagram 10. Potential Token flow for a PlayDapp 2.0 decentralized e-Sports tournament. The PDA Ecosystem Reserve represents a small percentage of player's entry fees into tournaments (the majority of it goes towards the prize pool). The purpose of the PDA Ecosystem Reserve is re-invest the funds back into PlayDapp (that it, to help maintain, develop and meet the operational needs of PlayDapp).]

3) Developers' Tools to Flourish Gaming dApps

PlayDapp 2.0, as an open-source public tool for game developers, that will provide useful libraries and APIs for developers to easily integrate into their game development regardless of their knowledge level of blockchain technology. PlayDapp SDK will be open to the public to encourage more quality game dApps to be on board in the PlayDapp network. The PlayDapp SDK will allow for developers to take pre-existing games and apply modifications to create a blockchain dApp game, by using the pre-made software development tools.



[Diagram 11. Intended PlayDapp SDK for 3rd Party Game Developers]

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In addition, from a developer perspective, PlayDapp 2.0 intends to introduce a new way to monetize games without relying on a micro transaction payment system through token payment support. Meanwhile, the developer can lower their user acquisition costs by gaining direct access to target gamer community on our marketplace and/or highly engaged user-hosted e-Sports channels. This direct communication will also increase conversion rates and players lifetime value compared to massive auto generated ads at high cost.

We believe that happy developers bring more fun and quality games to the world and in return, gamers benefit from great content. By sharing PlayDapp's user base from multiple titles on different legacy platforms, we aim to encourage talented yet small sized game developers to secure a market to share gaming dApps on our network in return.

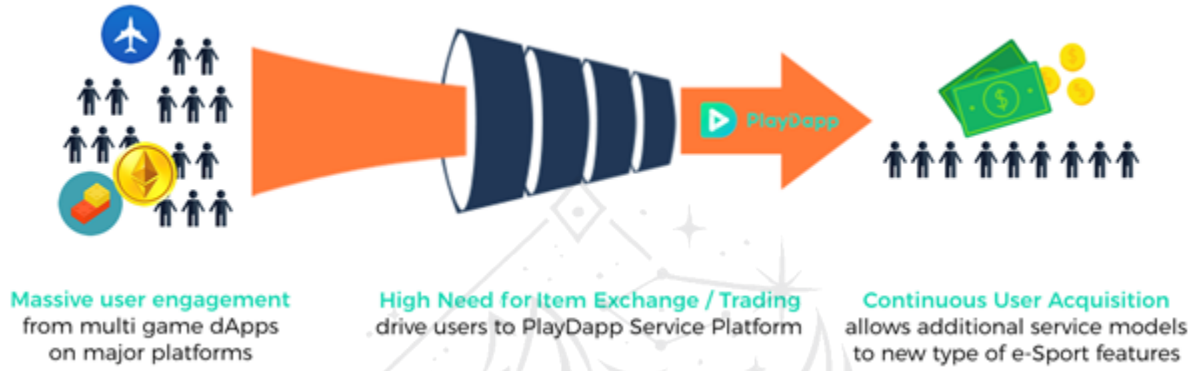
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3. User Adoption Strategy

PlayDapp aims to leverage a large user base including users of game dApps on legacy blockchain platforms like Ethereum, SOL, and international messenger-based blockchain, to drive adoption and growth to our PlayDapp ecosystem.

With our dApp first strategy, we expect that killer game dApps of PlayDapp will drive continuous user engagement item trading and exchanges. We expect this will direct users into the PlayDapp marketplace naturally. A newly acquired marketplace of users would form a good foundation for supporting the PlayDapp blockchain entertainment ecosystem.



[Diagram 12. Intended User adoption flow from dApps to PlayDapp marketplace]

3-1. Before Launch: Continuous Usability Check

Arguably, current blockchain games and blockchain dApps have failed to attract a large volume of online users due to the complexity of the first activity - here, in the blockchain world, it is the first transaction. For a zero-digital-asset-experienced user, it is hard enough to open a new digital asset wallet and that is just the beginning of all the activities on blockchain dApps. This is why we conduct multiple focus group tests ("**FGTs**") and computer based tests ("**CBTs**") before launching a game dApp.

We cannot avoid the difficulties of wallet creation and MetaMask sign-in for our first Ethereum game dApp, CryptoDozer. However, we can put in extra effort to make such steps / details clear and easy to follow through clearly drafted guides, resulting in lower drop rates and more successful connections to MetaMask.

3-2. On Launching: Record Number of New Users On-Boarding from Day 1

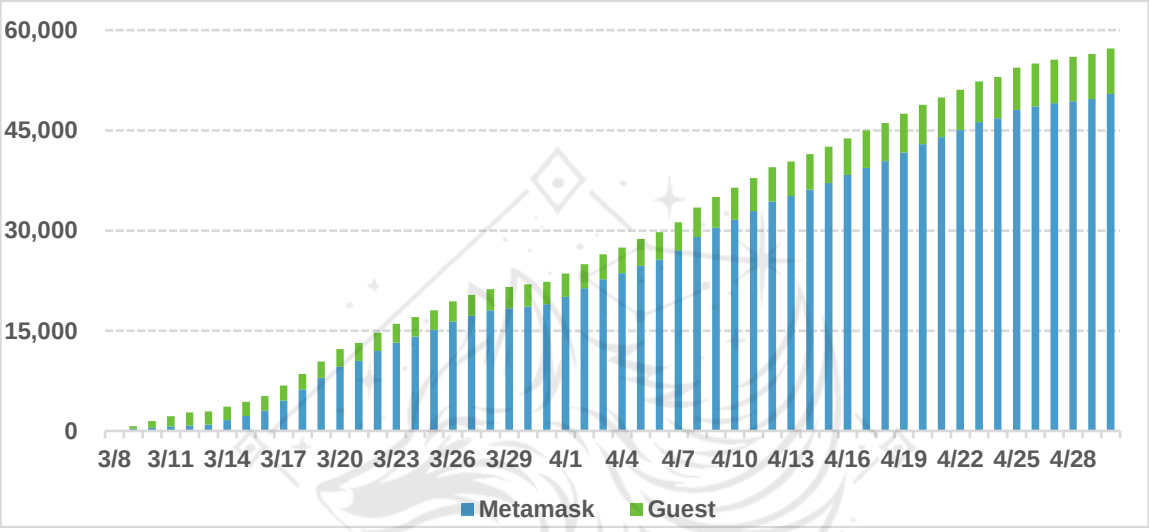
Lowering Entry Barriers with Quick Play and Easy Wallet Creation

CryptoDozer and other game dApps support guest play, meaning that the user will not be required to obtain a digital asset wallet connection in order to enjoy the game. This play-first and account-second approach allows users quick access to the game, and as our game aesthetics and play environment are of a high standard, we expect that the audience will easily convert into wallet integration after the initial play.

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Through our FGT involving less or non-blockchain-experienced gamers, we recognize that even MetaMask connection is a challenging step for first-time users. Thus, we have improved in-game guides and added more detailed content to help users start the game with MetaMask. As an effort to help gamers create and integrate their newly-created digital asset wallets, our operations team developed easy video tutorials and in-game encouragement for new users to securely play the dApp game.

At 4 weeks from its launch, CryptoDozer hit an 87% wallet integration rate and the number of new accounts has kept growing. This is remarkable since our initial CBT data showed under 30% wallet integration with out-dated and hard-to-follow wallet creation guides which many dApp services often utilize. For further convenience, PlayDapp will continue to integrate mobile app based wallets to provide a better connection environment.



[Chart 4. The MetaMask User Account Conversion of CryptoDozer]

Marketing Tactics from Our Playbook in Online/Mobile Gaming Standard

As we do not wish to compete with current blockchain games, PlayDapp prepares for any game dApps according to our 10-year playbook in the PC-online and mobile gaming industry: including in-game aesthetics, pre-registration, viral content, target rating/curation channel ads, and creating a first loyal user group of 1,000. We are testing what the right channels may be to focus on. We have a veteran marketing team of gaming and blockchain industry stalwarts who are dedicated to perform at very high levels. CryptoDozer's pre-registration Telegram utilizing bot and group is gaining attention from various digital asset groups and international gamers.[28]

[28] https://toshitimes.com/rising-star-cryptodozer-overtakes-cryptokitties/, https://dgaming.com/media/cryptodozer-an-addictive-game-on-the-ethereum-blockchain/.

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3-3. Preparation for Multiple dApps: Structuring Cross-dApp User Community

Multi-Publishing on Acknowledged Legacy Networks

To help reach major blockchain users, PlayDapp intends to launch various game dApps on selected widely-acknowledged blockchain networks including Ethereum, SOL, and emergent networks which meet internal SWOT analysis. Furthermore, new blockchain network lineups would be added, which are backed by legacy international services of massive user engagement in Asia and other regions. As initial gaming dApps of those blockchains, both PlayDapp and the blockchain networks will collaborate on the marketing of the dApps to better access to the active users of each platform.

PlayDapp Marketplace as a Cross-dApp User Community

We will aim to serve users across different dApps. As part of this, PlayDapp is intended to include a marketplace to exchange and transfer NFTs from PlayDapp's various game dApps. This will act as Cross-dApp user community along with our social media channels like Medium, Telegram, and Twitter. As the PlayDapp Marketplace develops into PlayDapp 1.0 and 2.0 and an entertainment back-bone, more community-supporting features and functionalities are planned to be added accordingly. Eventually we expect that it will grow as an international blockchain gamer community with strong publishing power.

Exchanges and 3rd Party Collaborations to Support Users

We are working on securing blockchain industry partners for decentralized exchange API collaborations and for mobile-based wallet services to help ensure user needs can be met. Also, we are having discussions with gaming industry partners to tokenize or collaborate their well-known online/mobile/console game IPs either as one of our gaming dApp or as a new lineup on our PlayDapp ecosystem.

Better On-Boarding Ecosystem to Support

PlayDapp 2.0 are intended to provide a much simpler and convenient on-boarding ecosystem that enables a broadgamer group to be involved, even if they do not have strong blockchain experience. For example, mobile sign-in support and the secured-yet-easier management of private and public key of the wallet, and the meta-blockchain supported wallet system to avoid multiple wallet creation to enjoy different game dApps on PlayDapp channel.

PlayDapp cannot take full responsibility for this better UX movement in the blockchain sector, because it is an industry-level problem requiring a large effort from a significant number of developer groups. However, as we all recognize that this is a critical pain point, we expect to find a solution in the near future. Meanwhile, we will focus on creating a better gaming experience that encourages users to happily and willingly overcome this hurdle.

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4. Technical Support for Better Blockchain Game Service

4-1. System Overview

Technology Stack

PlayDapp 1.0 and PlayDapp 2.0 are expected to involve the following technical support.

The PlayDapp Marketplace and Exchange:
- to exchange NFT items (in-game items), PDA, and other fungible tokens,
- supported by the PlayDapp APIs and SDK,
- in the form of web app compatible with mobile devices.

A NFT Designer that:
- helps developers create, issue, and integrate NFTs in their game dApp.

A Token Transfer System that:
- users use PDA to make a purchase of certain in-game items,
- users use PDA to enter competitions with another player or a group, and
- developers integrate PDA capability into their game dApp.

Decentralized e-Sports Services that:
- allow user-hosted battle tournaments directly between users in the style of a one-on-one battle. Users will be able to enter into one-one-one competitive matches or multi-user matches where players will either be defeated (or could be removed for failing to meet gameplay conditions), until a winner emerges, and,
- offer a paid peer-watching mode with video streaming.

A Public SDK and APIs that:
- enables developers to integrate the PlayDapp ecosystem on their game dApps,
- create and manage user wallets, PDA, and NFT game items,
- create and manage prize pools and player matching mechanisms, and
- process and validate PDA payment transactions and in-game transactions.

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System Goals

Our primary technical goals for PlayDapp to create true decentralized blockchain entertainment ecosystem are:

1) Progressive approach to full decentralization
   PlayDapp does not intend to rush into full decentralization of every technical point as blockchains at present have to go further to support stable and scalable gaming services. We do apply the blockchain technology where it can solve current problems the best. However, we strive to achieve the goal of true decentralization of all key features as part of PlayDapp 2.0.

2) Secure Transactions (both financial and data wise)
   Transactions under smart contract or under digital asset transfer solutions, or under any circumstances regardless of amount, critical level or financial value, are committed and processed safely with excellent robustness in security.

3) Low latency
   PlayDapp provides low latency for transaction confirmations.

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4) High performance
PlayDapp provides a high performance system to support stability and scalability for gaming dApps processing large numbers of user transactions.

5) Ease of use
PlayDapp aims to provide an easy and accessible platform for any level of users, from individual gamers to game dApp developers.

Security Assurance

As any transactions in the PlayDapp ecosystem and game dApps are associated with both asset values, security always matters. All interactions with both token and fiat payment systems (to the extent that fiat currency is used to purchase in-game assets on PlayDapp only) will be processed securely with multi-level access controls with thorough transaction auditing. Furthermore, any transactions will be handled by encryption technologies. Additional filtering and security technologies will be applied as up-to-date of status. After multi-phase smart contract audit and review, we intend to open our smart contract on GitHub Repository in public.

4-2. Technology for Games on Blockchain

NFT Designer by PlayDapp

The NFT designer by PlayDapp will provide developers with an easy plug-in solution for NFT issuance. Any publisher and/or developer who wishes to convert their existing game titles into game dApps or wishes to integrate NFTs in their non-blockchain games, can design the rarity of in-game items utilizing smart contracts and blockchain technologies. This allows the developers to fully understand the trading history, in-game item usage, and secondary market activities. This system provides the verifiable scarcity of in-game items so that the gamers can make purchases confidently.

NFTs are unique and cannot be replaced by another item, nor exchanged and traded partially like other fungible tokens are. NFTs are now one of the basic features of blockchain games since the concept of NFTs became mainstream with CryptoKitties toward the end of 2017. Various in-game items from cosmetics to achievements and tools as well as collectibles, can benefit from tokenization, as they are core assets for game players to protect.

As the ERC721 standard among other NFT mechanisms has been the most widely adopted until now, PlayDapp's NFT Designer will support the ERC721 standard at first, and, if necessary, additional mechanisms will be added upon the developer communities' requests.

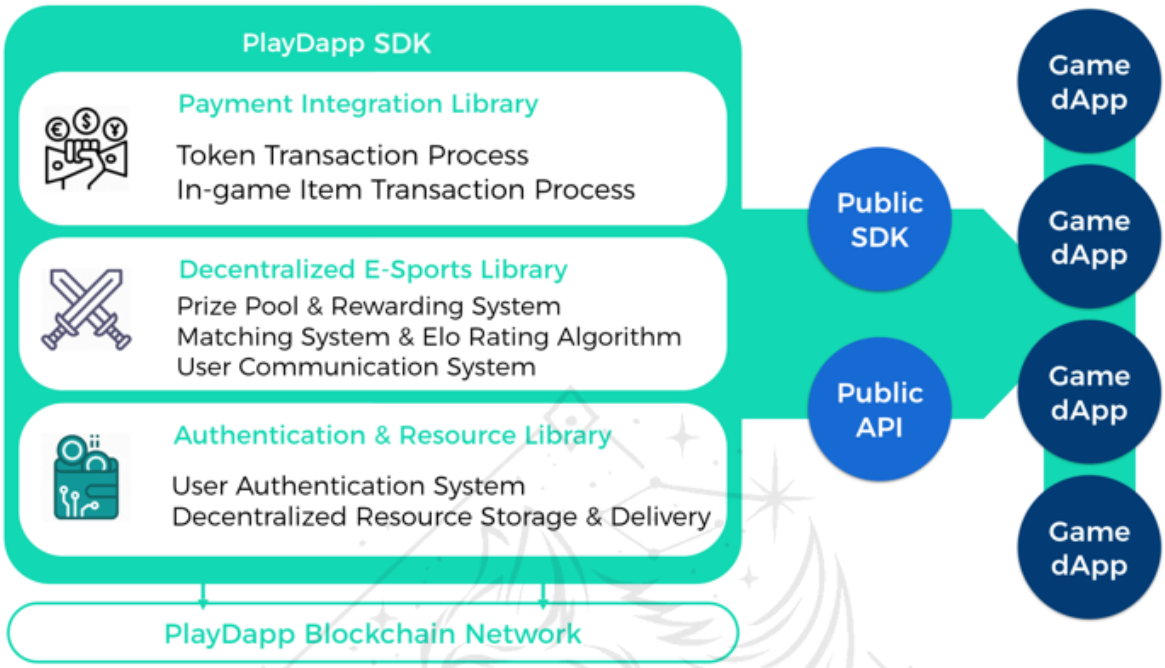
4-3. Toward Open-Source Public Tools for Game Developers

PlayDapp SDK

PlayDapp SDK is a set of libraries to provide an easier environment for developers to develop blockchain game dApps. Any developers wishing to publish their games on the PlayDapp

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ecosystem could develop and/or publish a game dApp using PlayDapp SDK. The developers are already familair enough with multi-functional SDK since the format is similar to those of legacy application platforms, enhancing the productivity with fast switch and easy integration to fully utilize all the aspects of PlayDapp's features.



[Diagram 13. Intended PlayDapp SDK for developers][29]

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[29] ELO rating is a player skill determination system that applies a player rating based on win & loss. Wins improve rating and loses decrease rating, with the aim to determine a true player skill level. As used by the world chess federation. https://dotesports.com/general/news/elo-ratings-explained-20565.

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	PlayDapp	Loom Network	Enjin	GAEX	UniKoin Gold
Service Definition	Blockchain-Powered Entertainment Service Platform for Gamers & Gaming dApps	Layer 2 Scaling Solution for High-Frequency Gaming dApps	Distribution Solution for Gaming dApps	Game Asset Distribution & Exchange Solution for Gaming dApps	Blockchain-Integrated e-Sports Gaming Platform
Features	- SDK ToolKit - dApp Distribution Solution - Marketplace & Exchange - e-Sports battling service	- Blockchain game SDK - DPoS Ethereum Sidechain	- Enjin SDK Toolkit - Enjin Wallet - Marketplace	- Game Asset Exchange - Game dApp fungible Token Exchange - Mining SDK - Developer Support - Distribution Service	- Uninkrnn Wallet - Uninkrn Connekt
Core Beneficiary	Gamers Focused	Developers Focused	Developers Focused	Developers Focused	Gamers Focused
Decentralized e-Sports Supports	O	X	X	X	O
Game Titles Relation	In-House Titles & 3rd Party Gaming dApps	In-House Titles & 3rd Party Gaming dApps	3rd Party Gaming dApps	3rd Party Gaming dApps	3rd Party International Video Games
Service Token	PDA	LOOM	ENJ	BGX	UKG
NFT Support	O	X	O	O	X
Note	Meta-Blockchain Various blockchain dApps can be connected and operated.	Ethereum only	Gaming dApp Acceleration Program Launch	Pure Asset Trading/Distribution Focused	Major Games onboard (LoL, Dota2, Fortnite, etc.) No game dApp supports

[Table 2. Blockchain Game Infra/Service Platforms]

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5. PlayDapp Economy

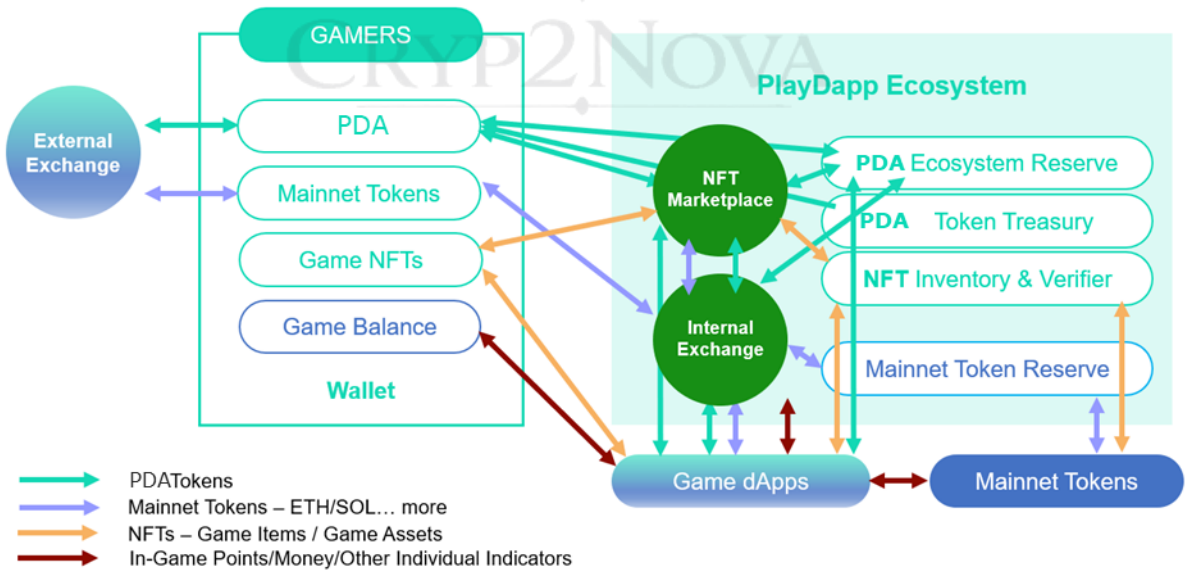
5-1. Dual Token Supports

Including CryptoDozer, the first game dApp of PlayDapp, the PlayDapp wallet and service platform supports two different token types: transactional fungible tokens - first utilizing the ERC20 standard and then potentially others;and NFTs like the ERC721 standard. Since what makes blockchain games unique from centralized game services is the utilization of the NFT system for in-game items or cosmetics, we include NFTs as important assets. By supporting both fungible tokens and NFTs, users are allowed to manage assets interoperably in various games connected by the PlayDapp ecosystem.

For example, in CryptoDozer, PDA is an ERC20 compatible fungible token to be used to buy in-game coins - transactional - and each Crypto Doll a gamer earns is a NFT using the ERC721 standard, which is not interchangeable partially but as a whole, because half or a fifth of a Doll is not worth anything and every single Doll has its history and unique value. As more game dApps developed by PlayDapp and other game dApp developers might use different blockchains, PlayDapp should prepare for meta-blockchain support to deal with multiple different fungible token types, and, perhaps, different NFT types as well.

		Token Type	Token Details
PlayDapp Tokens	**PDA**	PDA (ERC-20)	For all in-game and PlayDapp service transactions
			(Reward for activity completed by gamers)
	NFT	ERC721, etc	Game Assets, items to trade and play across dApps
			(DozerDolls, DozerKeys, etc.)
Other Major Tokens		ETH, BNB, SOL, etc.	Internal Exchange or other major Transaction
			between PDA and other major tokens

[Table 3. PlayDapp Token Types]



[Diagram 14. PlayDapp Token Flow Overview]

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Diagram 14 shows the connected nature of the various systems in use for a player. The diagram shows the direction in which PDA, Major Tokens, and NFT from within the game can move. The wallet linked to the PlayDapp contains three types of information: PDA, Mainnet Token, NFT. The key NFT Market and intra-game token purchases are made with the use of PDA.

To use another Mainnet Token, the token will need to be exchanged via an external exchange system (PDA and Mainnet Token can be used at the beginning of the service).

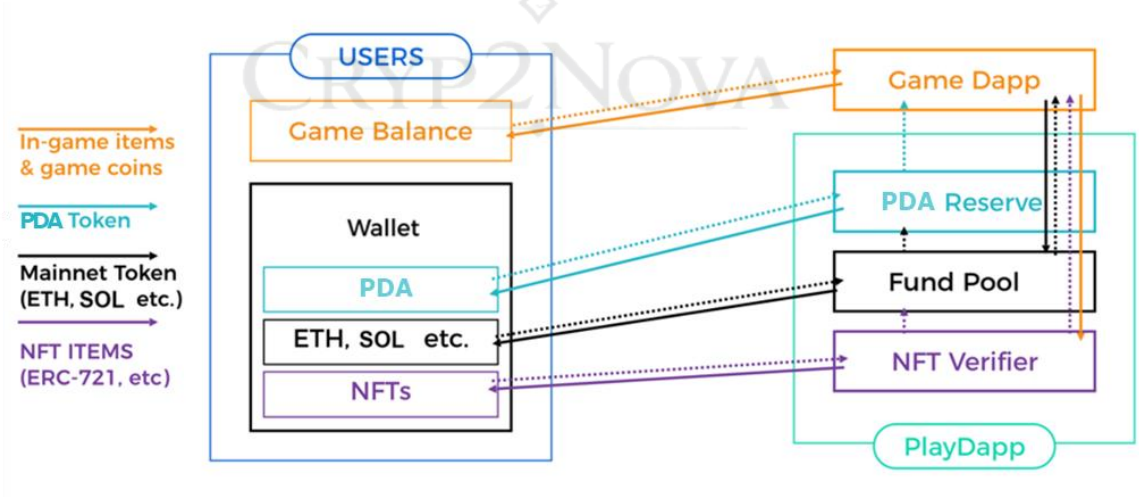
The PDA Ecosystem Reserve is used to store revenue from PlayDapp and to be re-invested back into PlayDapp (stored as PDA), the PDA Token Treasury (stored as PDA), and the Mainnet Token Reserve (stored as each Mainnet token, such as ETH and isos).

5-2. PDA: the Gaming Utility Token

PDA, the native token of PlayDapp, is a core utility token utilizing the ERC20 standard. PDA acts as the primary fungible token for the processing of transactions from users. Game dApp operators or developers receive PDA upon each in-game purchase or trade, after a reasonably small amount of transaction fee is deducted by PlayDapp. Deductions and transactions fees will be notified before they are incurred and deducted.

PDA has three intended functions:

- In-game and Marketplace Payment to game operators who opt to use it,
- PlayDapp ecosystem payment to game developers and advertisers who use paid functionalities or technical support requiring a token deposit payment,
- Digital asset rewards to game players who spend their time and assets in game dApps connected to the PlayDapp ecosystem.



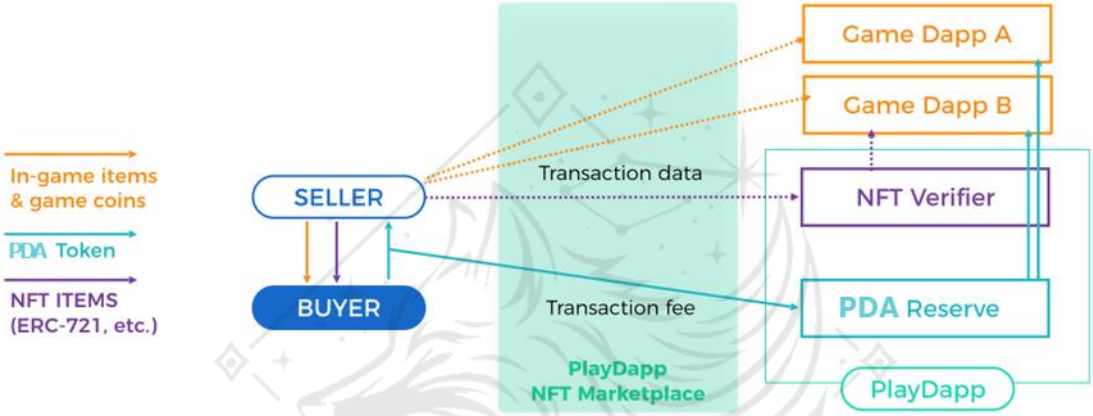
[Diagram 15. Intended Token Flow between Gamers-Game Dapps-PlayDapp]

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PDA for in-game payment & exchange

The main functionality of PDA as a fungible token is to support in-game payment. Gamers purchase in-game items integrated and supported by the PDA payment API. Gamers can benefit from a token payment system to help ensure that their transactions are safely processed. So do developers; they also benefit from secure, low-cost transactions as well as the ability to track NFTs in the secondary market.

It is intended that in the PlayDapp marketplace, PDA will be the main fungible token to trade. Exchanges between fungible tokens and NFT are expected to be easily carried out in the PlayDapp marketplace. Since PDA are compatible with game dApps connected on the PlayDapp ecosystem, cross-dApp item purchase and trading is available on the PlayDapp NFT marketplace. Also, we anticipate that PDA will be easily convertible into different game coins - if issued in token form, enhancing the transaction efficiency for multi-title users.



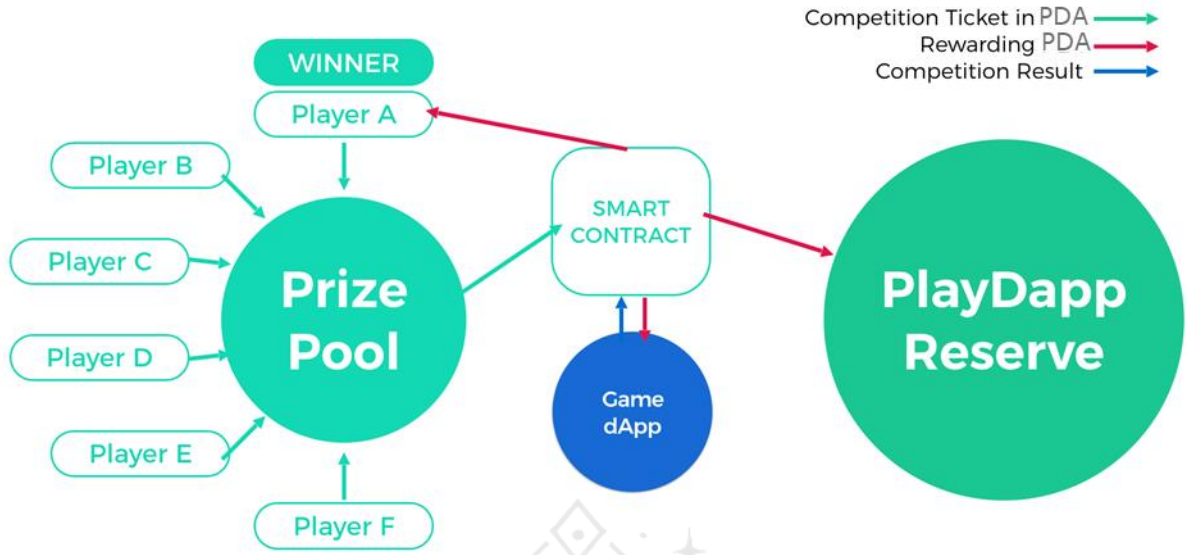
[Diagram 16. Intended Token Flow of Marketplace Transaction. NFT Verifier in the diagram refers to the process whereby PlayDapp itself can verify each NFT.]

PDA for ecosystem payment

PDA is intended to also be able to be used as part of the PlayDapp 2.0 if game developers or publishers are willing to use paid features of the service platform to conduct marketing campaigns or place ads or custom technical support needed, and more. A part of PDA collected from ecosystem payments will be stored in the PDA eco reserve and rewarded to emerging game developers for providing relevant services and contributing new games.

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PDA as Gamers' Reward from User-Hosted Competitions



[Diagram 17. Potential PDA flow for PlayDapp 2.0 decentralized e-Sports tournament]

Gamers may also be able to earn PDA as a reward for their skilled actions, achievements, milestones, and any kind of activities that the game developer or publisher pre-sets as prize rewarding. Illegal activities can be punishable by removal of service in serious cases. In some cases, removal will be dApp specific. Game developers will be able to set out punishment measures for illegal activities related to their specific games. In PlayDapp 2.0, gamers will be able to compete with each other in user-hosted e-Sports sessions. The players who wish to open or participate in the battle must pay for an admission in PDA and once a prize pool is activated and the game result is verified by the game dApp operator, a winner takes all the prize pool (ie PDA) as reward after PlayDapp's transaction fee and the game's operation fee is deducted. All the competition history including the game result are stored on the blockchain through the smart contract. Gamers will be the key beneficiaries of PDA as their compensation for gameplay and efforts and as the universal purchase means to purchase different game dApps.

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5-3. Collectibles and In-Game Assets, the NFTs

NFTs for Verifiable Immutability and Authenticity

The most popular implementation of blockchain technology for gaming is with NFTs. Unique items, like Dozer Dolls in CryptoDozer, and rare skins worn by a professional e-Sports player, are non-fungible: utilizing the ERC721 standard. Those items are designed to be released, with their own unique digital signature and ownership history. Supported by the NFT standard under a smart contract, gamers will securely verify that they are buying, selling or interacting with the exact item and that the virtual item is authentic, with a verifiable history.

PlayDapp supports NFTs utilizing the ERC721 standard and plans to extend NFT support for other types of blockchain mainnet networks in the near future, to tokenize collectibles and other valuable in-game assets.

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Scale out of PlayDapp by Cross-dApp NFT trading

To help developers issue in-game items in NFT format, PlayDapp supports NFT creation with an easy-to-use token generating solution. Once the NFT is issued using the PlayDapp system, or if the NFT in ERC721 or other standards that PlayDapp supports, NFT items from different dApps connected on the PlayDapp can be traded among PlayDapp users and at the PlayDapp marketplace, subject to applicable terms and market demand.

This may open up a new creative collaboration allowing those associated NFTs from different game dApps to be interoperable within their gameplay. For example, the Dozer Dolls from CryptoDozer are planned to be integrated as a main character in our next game dApp, titled DozerBird, subject to local laws. This full interoperability is possible through the PlayDapp NFT Marketplace.

5-4. A Sustainable Revenue Structure Behind: Freemium & Marketplace

Unlike the majority of blockchain gaming projects, PlayDapp has not conducted a public token sale to raise funds to fund the development of PlayDapp (although a private token sale is intended). Instead, the Company commenced the operation of PlayDapp by launching the CryptoDozer dApp on the Ethereum blockchain with fully working micro transaction support and incorporating fiat payment as a purchase mechanism for the PDA. The freemium model of the current gaming industry and transparent, decentralized marketplace activities create a stable revenue stream to allow PlayDapp to carry out its activities sufficiently for the long-term without requesting a token sale at this stage.

We may consider proceeding to a token sale at a later date to continue raising funds when our game titles and PlayDapp marketplace have tangible results in order to secure financial support to expedite research and development and business expansion towards the blockchain gaming entertainment ecosystem. However, any such sale would not relate to any shares or other securities of the Company.

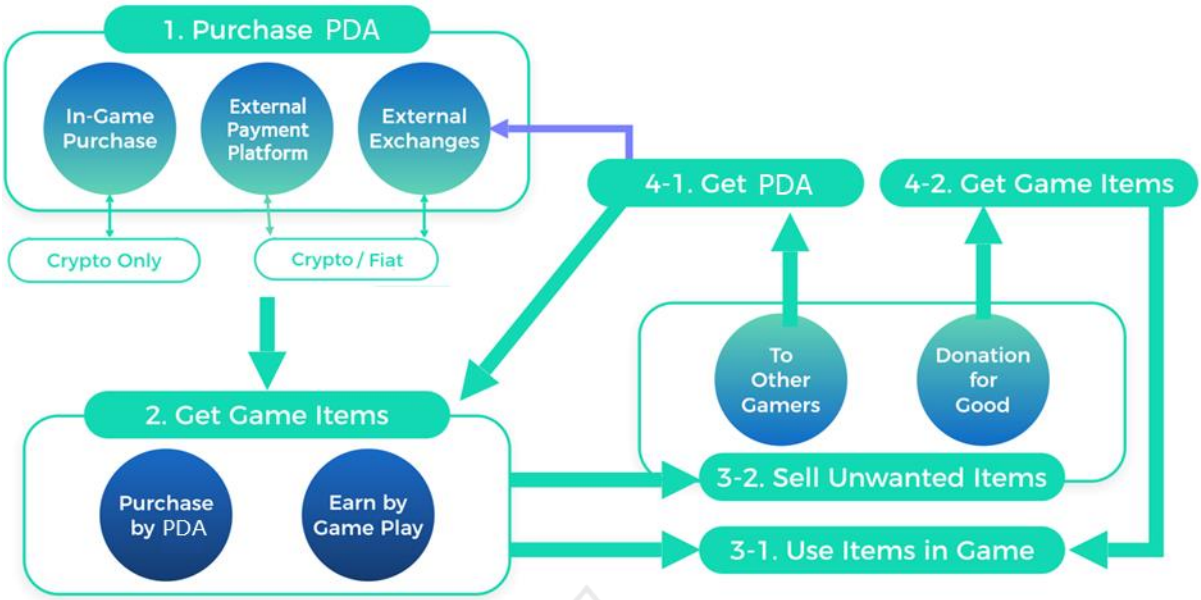
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A Token-based NFT Marketplace and Cross-game Exchange

As PlayDapp hosts a marketplace and exchange, a small transaction fee will be charged. When game items are sold on the marketplace, a portion of the proceeds go to the developer or publisher: 1) – specifically, when users trade their in-game items directly to other users, a small portion of PDA is given to the developer or publisher to reward them for their contribution as an original source; and 2) when the developer or publisher sell their in-game items directly to a user on the marketplace, the majority of the PDA revenue goes to the seller. Through token-based item sales, developers can secure a trailing revenue stream of PDA, while also increasing the engagement and transparency of the game's economy.

Also, PlayDapp facilitates cross-game exchanges of in-game items and digital assets thanks to blockchain interoperability. Like the marketplace, a small transaction fee for exchanges will be charged in PDA by the operator for maintenance.

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[Diagram 18. User Scenario of NFT Marketplace and Cross-Game Exchange]

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5-5. PDA Allocation & Token Sale

Token Issuance and Allocation
PlayDapp issued 700 million (700,000,000) PDA to support its first game dApp, CryptoDozer, mainly as a gaming utility and transactional token for in-game purchases. PDA is expected to be used further on the PlayDapp Network between gamers, gamers to game developers, gamers to the PlayDapp ecosystem, game developers to the PlayDapp ecosystem and the PlayDapp ecosystem to relevant participants including individual gamers. In addition, PDA can be used to support and expand the PlayDapp ecosystem as well as to operate the network in a stable and functional manner. The anticipated token allocation breakdowns are detailed below, although these may change at our discretion.

	Token Amount
Investor & Partner	455,000,000 PDA
PlayDapp Eco-System	100,000,000 PDA
Team	95,000,000 PDA
Advisors	25,000,000 PDA
Marketing	25,000,000 PDA
Total	**700,000,000 PDA**

[Chart 5. PDA Amount & Allocation]

The tokens allocated to the team and advisors will be under strict monitoring to avoid any malicious usage with a 1year lock-up for advisors, a 6month lock-up for team and even longer months lock-up applied under contract. Ecosystem Tokens are in full liquidity to be distributed or used for the game operations on the PlayDapp Network as well as for the development and maintenance of the network. All such distributions/use will be for contributions made.

6. Conclusion: PlayDapp Moves Forward to the Future of Entertainment Industry

Starting from CryptoDozer, a mobile arcade game turned blockchain game, PlayDapp intends to develop various game dApps that are attractive to all kinds of users, without necessarily requiring sufficient blockchain expertise. We plan to eventually build the decentralized entertainment open-network with cross-dApp user communities actively engaging in digital asset/non-digital asset transactions.

Integrating blockchain technology with the gaming & e-Sports industry, we aim to bring value to gamers and game developers, including:

- true ownership of in-game items which gamers can freely trade and utilize;
- the provable and auditable ownership chain;
- individual gamer-driven decentralized e-Sports games allowing for fairer and wider rewards to be distributed to everyday gamers for their activities and performance in games; and
- an arguably better secured monetization for developers.

PlayDapp is a team of dedicated experts who believe that a true entertainment experience is possible when everyday gamers have full control over their gameplay and when they are the

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center of business to contribute to the core ecosystem. We have already witnessed a paradigm shift in the entertainment industry from PC/console to online/mobile and to cloud — and now to blockchain, where the users themselves exercise control. Thus, PlayDapp aims to compete with multi-national entertainment giants, by opening the future of the gaming entertainment ecosystem powered by blockchain. One step at a time, we are moving forward to the future.

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The team PlayDapp is a group of 100 veteran developers, operators, marketers, and designers with leader groups of 10 to 20 years' experience in the PC online & mobile content platform industry.

Brian Choi CEO

Brian is an excellent in service operations,
project managing, business planning & strategy, and also has a professional experience as an investor in gaming industry.

Donald Kim COO

Donald has over 15 years of experience in Business Development, Sales, Operational Management, and Angel Investing. He has over 10 years of experience in the Crypto space as an early BTC miner,investor, and evangelist.

Kai Jung CTO

Kai has worked in the game industry for 20 years, has experience in server development of various board games, and previously served as the head of board game platform development

David Lee CSO

David is a highly experienced attorney licensed to practice in the state of New York, United States, with a proven track record of providing expert counsel to corporations on issues pertaining to blockchain technology, cross-border transactions, and intellectual property.

Peter Song CMO

Peter is an exceptional online marketer with a track record of success spanning over 15 years in the digital marketing industry. He has won multiple industry awards with his expertise in creating effective marketing campaigns.

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Playdapp operates an organization that is divided into a Management & Finance Team, Blockchain Game Service Team, Game Developing Team, Global Business Team, Marketing Team & Blockchain Research Lab to aid project development.



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