

WHITE PAPER

THE BGX PLATFORM  
A DECENTRALIZED MULTIFUNCTIONAL PROCESSING  
PLATFORM FOR MOBILE GAMES POWERED BY  
ARTIFICIAL INTELLIGENCE

YOUR WORLD! YOUR GAMES! YOUR MONEY!

Version 1.1 (ALPHA Release)

February 2018



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## ABSTRACT

BGX is a multifunctional processing platform in the field of mobile games, powered by artificial intelligence. Possessing significant functionality and modern architecture, BGX provides financial support and brings the power of the crypto economy into the world of mobile games.

Game developers and app markets can easily enter the crypto-economy with BGX. By using the internal token, they can monetize their games and access a large market, while paying only 10% commissions on their revenue. The commission structure is one third of what Play Market and App Store often charge. In exchange, the developers and marketers can access a variety of game-related revenue channels that these larger platforms lack and can use many financial capabilities formerly only possible in the crypto-economy.

Players have access to a virtual wallet system that allows them to benefit from a universal currency used across all games, to earn by viewing ads, to receive compensation for playing, and to participate in tournaments.

The BGX token issue is limited to a one-time release of 1 BLN tokens on the Ethereum platform in the ERC20 standard. The sale of BGX tokens will take place in the period of Apr 24, 2018 - May 14, 2018 and offers a system of discounts and bonuses.

**The BGX platform has several key advantages.**

**(1)** It uses advanced self-learning artificial intelligence fuzzy network that eliminates fraud.

**(2)** The off-chain hybrid approach to processing transactions enables the BGX platform to process more than 4,000 transactions per second, at a speed and capacity far superior to the Ethereum blockchain.

**(3)** The double-token system separates the interests of the investors and the users, so that the investors can benefit from significant rise in token price, while the economy remains stable through a stable coin.

**(4)** The revenue sharing club enables BGX token holders to share in the revenue of the platform, while the tiered system incentivizes holding of the token, raising its price.

**(5)** BGX is an open-sourced, truly decentralized project. At the same time, it is a technology — not a protocol.

BGX offers one of the most advanced technological infrastructures with powerful processing capabilities, a set of financial and game features, all for one of the most technologically-adaptive and profitable industries — mobile games. Join us and "Be in BGX".

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## 1 INTRODUCTION

Technology significantly changes people's perception of the surrounding world. Since the XIX century, the industrial revolution has shrunk the world with the help of steam engines and made trips to a neighboring city or country not just possible, but quick. In the twentieth century, electrification brought light to every home and facilitated access to knowledge for millions. Flying into space, the discovery of antibiotics, the emergence of the Internet - all innovations start unexpectedly, and at first seem to be pleasant additions to the existing world. After a short while people can no longer live without them. These creations exist objectively and outside of us; humanity simply unexpectedly discovers them in surprise, like lost islands in a vast ocean.

The digital revolution, beginning with the ubiquitous spread of the Internet and cellular communications, encompasses the real world and continues beyond the forms in which it originated. New economic models are emerging everywhere, changing the relations between traditional participants: the most significant transformation is unfolding right before our eyes. It is decentralization.

Decentralization leads to a more even distribution of costs and revenues, towards a more transparent decision-making mechanism. The most important technology that provides distributed mechanisms for storing information and making decisions is the blockchain. This simple and effective mechanism allows placement of confidential data in an open environment, solving cryptographic tasks to verify anonymous transactions. More importantly than the functions of information storage and management, the block creates social trust mechanisms that unite people outside of borders, countries and languages.

Like other basic paradigms formed in the process of the technological revolution, blockchain creates winners and losers; those who adapt to the new environment and those who are pushed to the periphery. Old idols and centers of gravity are unlikely to rule the information world of tomorrow; the technological revolution is merciless in this regard. We can be grateful for what we use today browsers, email, distributed games. Let's look forward, however, to when absolutely new platforms and exciting solutions come to exist.

In this new reality, monetization models, content delivery methods, promotional tools and much more will be subject to revision. Various industries are at different levels of preparedness for a transition, but one of the most mobilized ones is the industry of mobile games. Both children and adults play games: while waiting for in a lobby, sitting on a bus or relaxing in the evening. Competitions take place in the mobile world and a thousand new games appear every day. There are more than a billion users in this segment, and they contribute the most to mobile application revenue. A significant part of that revenue settles in the central application stores.

The ecosystem of mobile games needs to reduce the threshold of entry to the mar-

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ket for developers, to ease the formation of local and specialized application stores, to lower commissions for players, and to introduce a transparent mechanism for the distribution of income. Today, the fulfillment of these needs is impossible because of the rules imposed by large companies.

Such a situation cannot remain unchanged in a decentralized economy.

Mobile games is the most powerful and fastest growing segment of the entertainment industry. Millions of daily transactions related to in-game purchases, advertising, participation in tournaments and promotion of mobile games need their own, specialized infrastructure that takes into account the specifics of this market. BGX offers game developers, local and niche application stores, sponsors and players integrated ecosystem support in which the distribution of profits is managed in a transparent, decentralized way, and individual participants do not monopolize access to information.

The proposed solution is the synergy of efforts between three groups of developers who have united in BGX and have been developing their own technology solutions for several years. These include the developers of financial processing systems, developers of research projects in the field of artificial intelligence, and mobile content delivery systems developers. The result of this alliance is a decision to publish all of the developed solutions in an open access space and to bring the unified processing platform to the decentralized mobile games market.

**The functionalities of BGX include:** (1) a distribution system for gaming applications on Android and iOS; (2) independent processing of fiat and crypto transaction, including support for overdraft; (3) a virtual player payment wallet; (4) a subsystem for token emission by developers; (5) support for common monetization models; and (6) a power-ful engine of artificial intelligence that controls the ongoing transactions and scoring of the players.

The BGX Token is the fuel of the system, fully integrating it into the crypto-economy. It allows the members of the mobile game ecosystem to access the platform services, to exchange various game tokens among themselves, and also to become a member of a powerful gaming community. The use of the crypto-economy to solve these tasks opens great prospects for business development and additional acquisition advantages.

In practice, BGX transitions the mobile gaming industry from the “Internet of Information” to the age of the “Internet of Value”. Be in BGX. Invest in yourself.

YOUR WORLD! YOUR GAMES! YOUR MONEY!

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## 2 MARKET STATUS AND CURRENT TRENDS

### >> 2.1

#### THE RISE OF DIGITAL ECONOMY AND DECENTRALIZATION OF MARKETS

The full potential of the proposed solution cannot be estimated without an understanding of the global shifts in the economy. According to the FROST & SUVILLIAN report<sup>1</sup>, and the no less thorough research of EY<sup>2</sup>, there are several mega-trends that form the agenda for today and tomorrow. The most important ones directly influence the solution that is being developed:

- TECHNOLOGICAL DIVERGENCE (connecting all and everything, big data, gaming, virtual currency);
- MOBILIZATION (the rise of e-commerce, micro-mobility, integrated mobility);
- NEW SOCIAL TRENDS (Y generation, the role of women She-Economy, life expectancy growth — Gray Aging, fight against obesity, geo-socialization);
- NEW REALITY OF TRADE (Virtual shops, OMNI-CHANNELS, new business model of sales);
- URBANIZATION (urban population growth and suburbs, megacities, slum growth).

The Generation Y / Millennials (born after 1980 and until 1995-2000) is not only the most numerous generation<sup>3</sup> but also the most active in terms of mobile games. Together with Gen Z (Native Digital), they view digital life as a natural continuation of real life, easily making purchases, switching from one account to another and spending considerable time on smartphones.

Along with the expansion of the mobile applications market, consumers create a new set of alternatives to traditional payment methods due to the prevalence of mobile applications and mobile wallets, such as Apple Pay, Android Pay, PayPal, Visa Checkout, WeChat Pay and Alipay. According to NewZoo<sup>4</sup>, the two most active groups in relation to the innovations used are gamers and Millennials (i.e. consumers aged 18 to 35).

Not only do these consumers use mobile digital methods for payment on a regular basis, but they also show a marked preference for this method compared with traditional payment behavior.

For example, in North America, 57% of older Millennials (i.e. aged 26-35) prefer to use mobile digital payment instead of more traditional methods such as debit / credit and bank transfers. In Europe and the Asia-Pacific, these consumers show similar behavior; in fact, adoption and preference for new payment technologies are higher for gamers and Millennials in the Asia-Pacific area than in the rest of the world.

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<sup>1</sup> Top 20 Global Mega Trends and Their Impact on Business, Cultures and Society. FROST & SUVILLIAN, 2016

<sup>2</sup> The upside of disruption. Megatrends shaping 2016 and beyond. EY, 2016

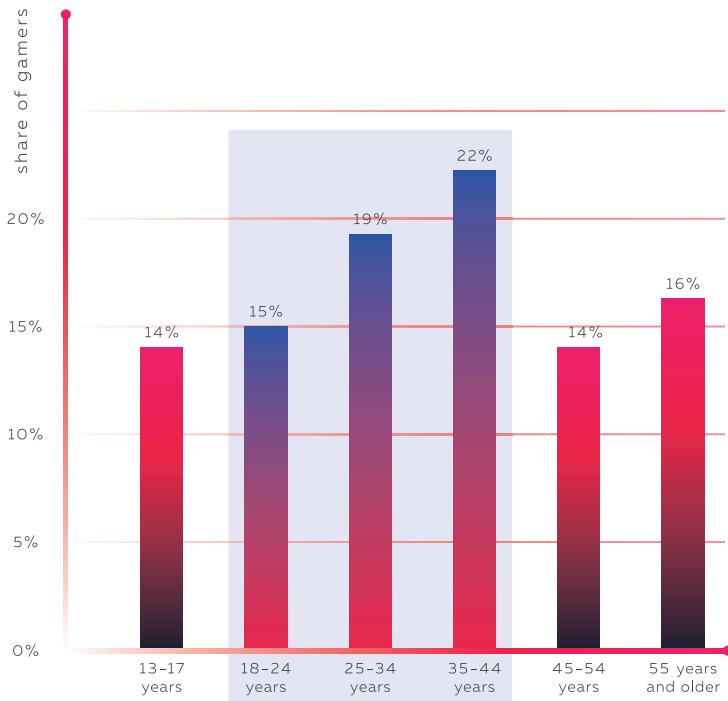
<sup>3</sup> MILLENNIALS. Coming of Age, Goldman Sachs

<sup>4</sup> INSIGHTS INTO GAMERS & MILLENNIALS & THE FUTURE OF DIGITAL COMMERCE, NewZoo, 2017

**Figure 1 >> >**

Gamers by age Group

Distribution of gamers in the United States as of April 2015, by age Group<sup>5</sup>



One of the most significant trends in recent years is the general decentralization of the solutions being developed. Over the past few years, a platform economy<sup>6</sup> has been formed, which includes such important models as the following:

- Cloud solutions (Dropbox, AWS, Spotify);
- Sharing an economy where linear value chains give way to non-linear models with brokers-platforms (Airbnb, Uber, etc.);
- Crowdsourcing investment collection models (Kickstarter, Indiegogo).

At the same time, this decentralized technology offered by the blockchain solutions gradually took possession of the market. Blockchain brought the P2P infrastructure to payment applications, but more importantly, it opened a new paradigm of value creation and distribution. Together with such new technologies as Artificial Intelligence, Internet of Things, and Augmented Reality, among others, decentralized solutions have changed the expectations of the consumer market.<sup>7</sup>

<sup>5</sup> USA Gamers Distribution, Statista 2015

<sup>6</sup> Platform Economy, Accenture, 2016

<sup>7</sup> 10 HOT CONSUMERS TRENDS 2017, ERICSSON CONSUMER LAB

New expectations were born:

- Fast unlimited calculations in a convenient currency;
- Information collection in many ways, from different sources, in an easy to assimilate format;
- Elimination of intermediaries that create an obstacle to decision-making;
- Transference of labor-intensive or technically complex solutions to the computer environment (AI);
- Reduction time to enter the market through the use of public and distributed computing;
- The shift of consumer goals from the final process of obtaining goods to obtaining experience and transforming the life style.

## >> 2.2

### A NEW GENERATION OF FINTECH SOLUTIONS AND BLOCKCHAIN

Fintech is a rapidly developing area in which technological start-ups use new technologies to solve the tasks of traditional banking and other financial organizations quicker and with less commissions. Following PayPal, other technical solutions change the traditional mechanism of payment for goods, money transfers, microcredit, insurance, etc. Such initiatives as UPI<sup>8</sup>, e-Wallets, E-MandatesPeer-To-Peer (P2P) Lending, MDR (MerchantDiscountRate) payments change the expectations users have about financial applications.

At present, fintech is exposed to the following increasing trends<sup>9</sup>:

- **Explosion and diversification** of cryptocurrencies. While there is a huge number of new cryptocurrencies and their markets attract an increasing number of participants, the problem of volatility pushes the consumers to diversify the means of payment and the demand for integration solutions;
- **Widespread blockchain technology** and its application outside of purely-payment operations: real estate, identification, gaming market;
- As fintech startups succeed, their **competition** with traditional institutions becomes more intense, and they begin to adapt to the new reality. The very number of start-ups is decreasing and investments are shifting towards the ICO<sup>10</sup>;
- **Regulation of the new economy** intensifies, and several governments are working on their own ICO regulatory frameworks and blockchain solutions. An increasing number of participants enter the KYC procedure as mandatory.

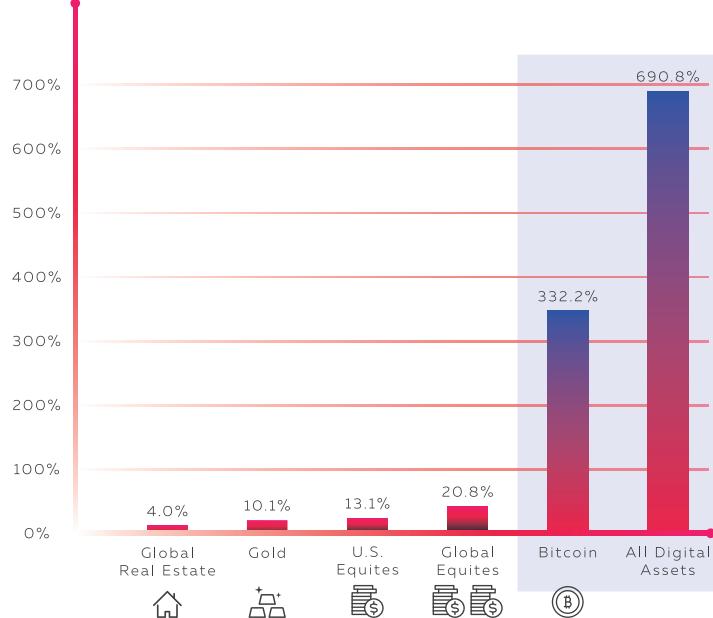
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<sup>8</sup> Unified Payment Interface

<sup>9</sup> Global Fintech Report 2017, PWC

<sup>10</sup> State of Blockchain – Q3'17, Coindesk

**Figure 2 >> >**  
 Digital Assets Out  
 performed Traditional  
 Assets, Coindesk  
 2017 YTD Returns



Besides additional opportunities for the technology users, these technologies present a reduction in the commission of financial institutions. According to Goldman Sachs<sup>11</sup>, blockchain and related technologies may lead to the restructuring of the economy of the entire traditional financial chain.

- The banking sector can achieve a 10% reduction in the number of personnel only through the introduction of KYC<sup>12</sup> blockchain procedures. That is about \$160 million per year;
- Blockchain can reduce the amount of budget resources allocated to staff training — a 30% reduction of \$420 million;
- Due to the use of technological innovations there is a saving in processing, with savings of about \$ 2.5 billion. In addition, due to strict technological regulations, the amount of penalties will be significantly reduced — an estimate ranging from \$0.5 to \$2 billion.

The change in the nature of investment, provided by solutions based on blockchain, has led to the ICO boom.

- The total investment in the blockchain solutions through the ICO by the end

<sup>11</sup> PROFILES IN INNOVATION BLOCKCHAIN. Putting Theory into Practice, Goldman Sachs, 2016

<sup>12</sup> Know Your Customer, user verification procedure

of 2017 exceeded the VC investment by 9 times (\$ 1,246 M vs. \$ 156 M<sup>13</sup>);

- ICO offers a more structured and transparent investment model than VC with the distribution of collected funds through the mechanism of smart contracts;
- The reduction in the entry threshold for collecting investments and the high growth of output tokens attracted a large number of participants in the sale of tokens. A number of such projects are waiting for failure; some of them are created with fraudulent goals. At the same time, winning winners makes these investments more attractive than traditional ones.

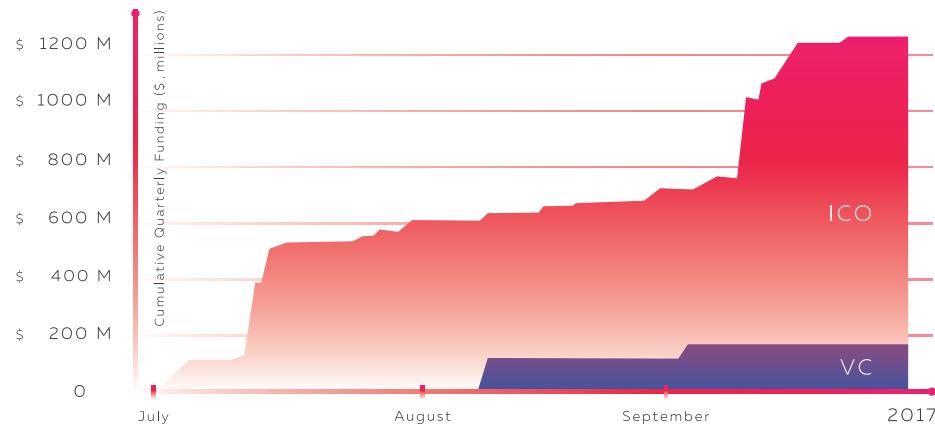
**Figure 3 >> >>**

ICO Funding Raised

\$1.2bn in Q3'2017

Q3 2017 Blockchain

Funding



### >> 2.3

#### MOBILE GAMES – GENERATOR OF GAMING MARKET GROWTH

There are over 2 billion gamers in the world<sup>14</sup>, a significant part of them are users of mobile games. Only in the USA there are more than 100 million mobile players (almost one third of the population of the country), and the entire mobile games industry will reach \$60B by 2020. This figure is commensurate with entire national economies.

People spend a great deal of their time on games. They play at home, on the train, while waiting for something; just to calm down or to have fun. Not only children and teenagers play but also adults do too. In addition to the time spent, there is a consumption of money.

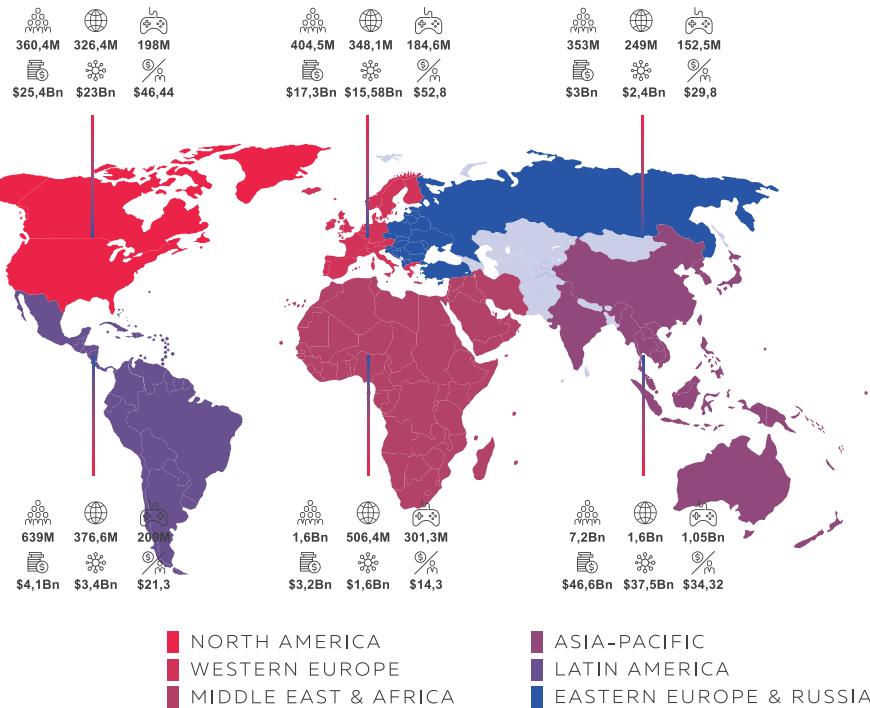
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<sup>13</sup> State of Blockchain – Q3'17, Coindesk

<sup>14</sup> GLOBAL GAMES MARKET REPORT, NewZoo, 2017

**Figure 4 >> >**

The Global Games Market 2017  
Per Region, NewZoo



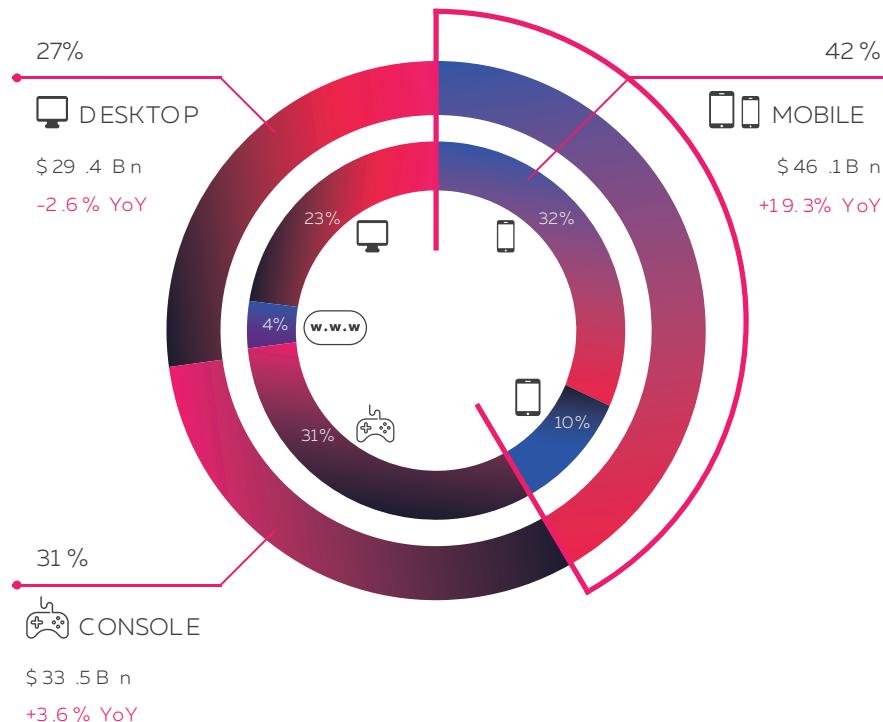
Mobile games are not only the most popular category of applications, but also the fastest growing (for 2017 + 19.3% YoY). 70-80% of all mobile downloads are games; 93% of users who purchased within an application, paid for a gaming app. According to NewZoo, by 2020 mobile games will exceed half of the entire gaming market.

Smartphone games are the most profitable segment. Together with tablet games, they grow by 19% (year on year to \$ 46,100 M) and account for 42% of the game market. One feature of mobile games is the easy implementation of micro-transactions and a wide range of monetization models.

Mobile games are thus one of the most attractive industries for transition to the blockchain economy for these reasons:

- A large number of micro-transactions and flexible monetization models (IAP, ads, tournaments, subscription, etc.);
- The presence of limited and mostly centralized distribution channels;
- A large and distributed audience, ready to perceive new technologies.

**Figure 5 >> >>**  
 The Global Games  
 Market 2017 Per Device  
 Type and Sector, NewZoo



>> **2.4**  
**MOBILE APP  
 DISTRIBUTION**

A quick look at the mobile app ecosystem uncovers the main pathways by which mobile games spread:

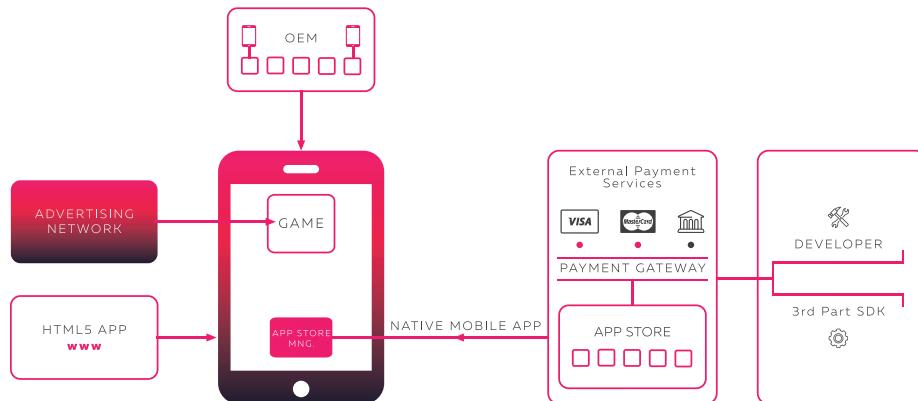
- Through user search (recommendations, advertising, etc.) in a specialized appstore, depending on the platform<sup>15</sup>;
- By default, through the supply of smartphones or tablets (OEM channels);
- Through Internet search (especially HTML5 or hybrid applications, little represented in games).

Application stores occupy the central place in ecosystems, represented in a centralized architecture by a remote server and application manager on the user's device. The latter provides access to the server, downloading installation files and installing them.

<sup>15</sup> It means native apps - a group to which most games belong

**Figure 6 >> >>**

Mobile App Eco system Structure



The tasks of the application store are based on the following basic functions:

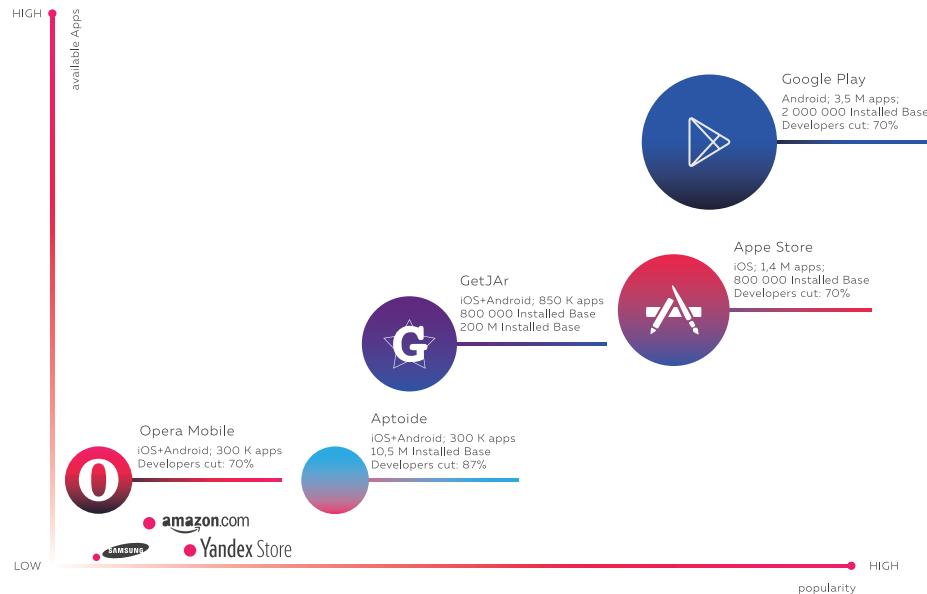
- File storage of installation applications;
- Verify that the application content matches local legislation and the selected policy;
- Function of payment from the application through the payment gateways of the store;
- Delivery and updating of applications to the user;
- Centralized application scanning for security;
- Search for related applications and recommendations (directory functions).

When analyzing the monetization of app stores, it appears that due to high commission and control of payments, app stores are more like processing platforms, rather than just file storages.

App stores are most commonly attached to their corresponding platform. Windows is equipped with Microsoft Store, Android applications have Google Play, iOS is equipped with the App Store. These stores are official and included in the default operating system. In some regions, it is widely believed that there are no alternative distribution channels (at least for native applications); however, even for Android and iOS, the number of alternatives is more than 40.

The most popular store is Google Play with 3.5 mil applications. However, its popularity reveals uneven distribution. In North America and Western Europe, the popularity of

Figure 7 &gt;&gt; &gt;&gt;

Android+iOS<sup>16</sup>

iOS applications and AppStore is commensurate. Android platform is the most popular in developing countries. However, in Asia, and especially in China, alternative platforms have great popularity<sup>17</sup>:

Table 1 &gt;&gt; &gt;&gt;

Asia App Stores

Ranking	English Name	Market Share
1	MyApp (Tencent)	25.1%
2	360 Mobile Assistant	16.1%
3	Xiaomi App Store	12.5%
4	Xiaomi Game Center	11.9%
5	Huawei App Market	10.1%
6	Baidu Mobile Assistant	9.9%
7	Oppo App Store	7.9%
8	Sogou Mobile Assistant	4.4%
9	Vivo App Stor	3.6%
10	Vivo Game Center	3.6%

<sup>16</sup> Wikipedia<sup>17</sup> TOP 10 ANDROID APP STORES IN CHINA, NewZoo

**Google Play is not even in the top ten of Chinese application stores. Despite the global popularity of the two official stores, they are not without fault.**

- A large number of applications in conjunction with a poor search function do not allow developers, especially beginners, to promote their applications effectively;
- Official stores have a fairly high commission (up to 30%). Together with the first problem, this makes it difficult for starting studios to make a profit;
- Apple's App Store adheres to a closed policy regarding its operating system and the implementation of a full-fledged application store for iOS is difficult. In fact, third-party shops can only be used by the owners of unlocked smart phones, which are a minority;
- Google Play is an open ecosystem; any business can try to implement its own store. However, in its repository, Google conducts a complex and often incoherent policy regarding the availability of applications.
- Alternative markets are divided into several groups:
  - Manufacturers of equipment (OEM), who make the store according to their brand. For example, Samsung, Amazon or Xiaomi. Typically, the market volume of these participants is limited by the percentage that falls on their equipment by pre-installing their applications by default;
  - Regional markets: mainly Chinese, to some extent Yandex (Russia). These participants compete due to specialized content and better adaptation to local legislation.

The Aptoide store occupies a special place. First, it's a fairly old store established in 2010. Second, the store is positioned as an independent, not associated with any of the equipment manufacturers. Third, the store was the first to initiate an entry to the crypto space, preparing for the ICO with its AppCoins token. The problem with the current store is that many of its applications are placed by users (in a decentralized manner), not by developers. This situation reduces the revenue of those developers who have not authorized the use of their apps.

Comparing the dynamics of application stores, the relevant data on the market for blockchain solutions and the growth rates of mobile applications, we can draw the following conclusions:

- The mobile gaming market needs its own decentralized content distribution system;
- Mobile games must have their own financial processing platform that allows them to pay for the purchased values by both fiat means and cryptocurrency, commissions from transactions must be radically reduced;
- Such a system should be initially integrated, supporting both the dissemination of information about applications and other participants in the ecosystem (OEM manufacturers, advertisers).

## &gt;&gt; 2.5

AI AND FRAUD  
PREVENTION

The technology of artificial intelligence is one of the currently trending topics and is at the forefront of progress. The total economic benefits from the introduction of AI are estimated to be \$36.8 billion by 2025<sup>18</sup>. Technological giants such as Google, Amazon, and Microsoft spend up to \$40 billion per year on AI-related technology, especially in five main areas: robotics, autonomous transport, computer vision, virtual agents and machine learning.

The technologies listed above have various practical use adaptations already. The most adapted use scenarios<sup>19</sup> are the following:

- Trading & Investments;
- Card linked Marketing;
- Consumer Behavior Analytics;
- Fraud & Risk Management.

Machine learning can significantly reduce the risks of processing in payment systems. According to the PWC report<sup>20</sup>, more than 30% of banks already use AI to detect fraud and violation of payment gateways. AI is also able to identify atypical behavior of counterparties and block this activity. New fintech startups also use Machine Learning to detect various types of fraud.

- Chinese companies Baidu, Alipay, WeChat actively implement AI in their payment systems;
- US-based start-up Kensho distributes specialized AI financial modules in partnership with S & P Global;
- A successful start-up investment company from Germany Fraugster<sup>21</sup>, Simility<sup>22</sup> and many other initiatives set the vector in fintech solutions.

The arrival of new digital technologies, such as blockchain system, has changed the approach to the security of financial transactions. Blockchain preserves the full and anonymous history of transactions; protects the unchanged data with reliable encryption methods; and the specific Proof-Of-Work (Proof-Of-Stake)<sup>23</sup> mechanisms allow for the avoidance of mass attacks. However, the access system itself (secret keys) remains vulnerable, as do the algorithms embedded in the system of smart contracts.

Any financial system faces similar types of abuse. In 2016, criminals secured money from the Central Bank of the USA using the SWIFT system. The sent messages were properly formed and certified, but the authorization system itself was attacked<sup>24</sup>.

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<sup>18</sup> Artificial Intelligence for Enterprise Applications, Tractica, 2016

<sup>19</sup> Fintech Outlook for 2018, OPUS

<sup>20</sup> Financial Services Technology 2020 and Beyond: Embracing disruption, PWC

<sup>21</sup> TechCrunch, 2017

<sup>22</sup> Venturebeat, 2017

<sup>23</sup> Known principles protecting from the abuse associated with mining

<sup>24</sup> Cyberthefts In Banks Highlight, American Express,

Similarly, the crypto economy has also suffered a significant number of security incidents. In August 2016, the Bitfinex exchange was hacked, and \$65 million worth of crypto funds were stolen. Even larger losses were suffered by the MT.GOX exchange for a total of \$460 million<sup>25</sup>. The well-known events with The DAO<sup>26</sup>, numerous thefts from users' wallets — all speak of the need to implement an integrated system for protecting users, most of whom will not keep their funds in "cold" wallets. Additional emphasis is placed on specific problems associated with mobile applications.

Mobile applications have reached unprecedented distribution. According to the Nielson report<sup>27</sup>, 98% of US Millennials do not part with their mobile phones, referring to them when searching for information and for shopping, entertainment and games. The average smartphone has more than 26 downloaded applications and at least 1-2 games. According to eMarketer<sup>28</sup>, the average adult in USA spends 23 minutes a day playing mobile games. Most of the mobile applications are free to download. But all of them are developed using real money and require monetization to support the business. The main monetization models are subscription, advertising, and for gaming solutions also the sale of domestic goods (In-App Purchases), and recently, tournaments. According to eMarketer, just the advertising market will be accountable for \$200 billion spent by 2019.

However, where there is money, there are fraudulent attempts to redistribute these flows. According to the research of LexisNexis<sup>29</sup>, annual losses from fraud on the mobile advertising market are \$350M. For every dollar in mobile transactions, the losses reach \$2.83. The good news is that anti-fraud tools also developed. The most effective solutions are based on Machine Learning: the user who downloaded the application already has a history of interaction, geography and some profile. An analysis of its behavior and identification of atypical scenarios can be used to identify fraudulent intentions using different models of monetization.

An essential circumstance is the combination of a large amount of data (Big Data) with adaptive analysis algorithms. For example, using such data, it is possible to identify geographic regions with high risks<sup>30</sup>, certain categories of transactions requiring increased attention, as well as user patterns based on characteristics such as the following:

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<sup>25</sup> THE INSIDE STORY OF MT. GOX, Wired.com

<sup>26</sup> The DAO Attacked, Coindesk

<sup>27</sup> Mobile Money, Nielson, 2016

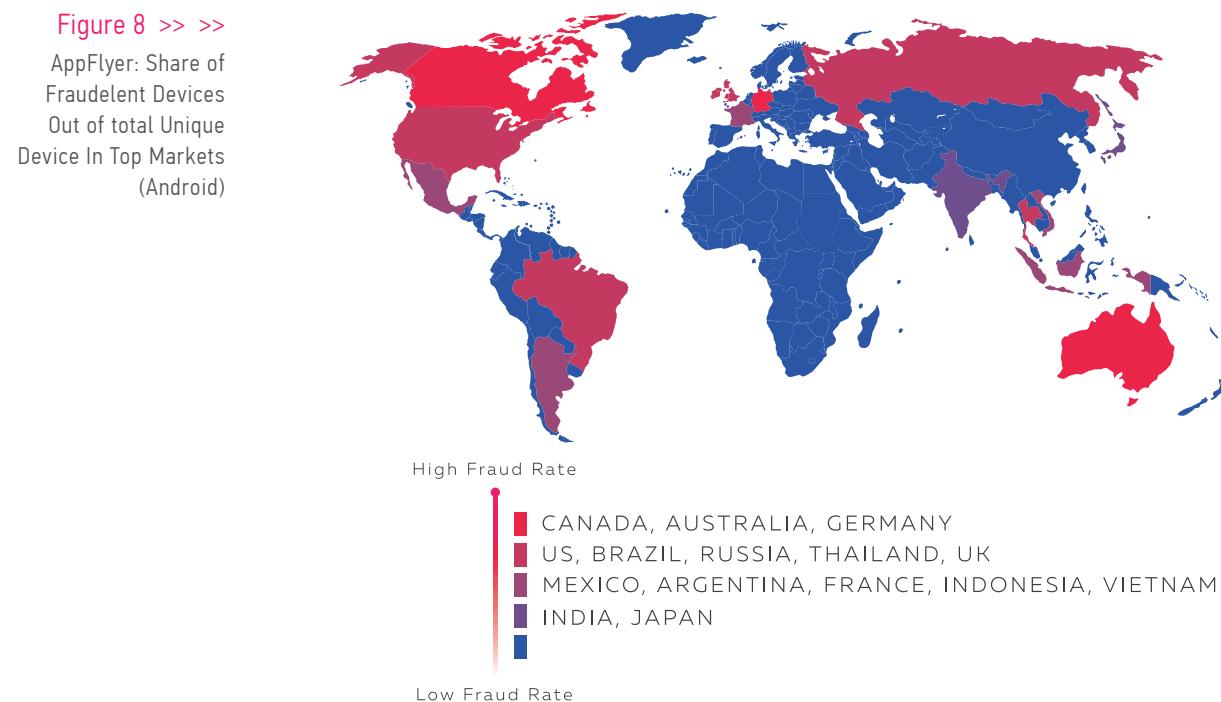
<sup>28</sup> US Time Spent with Mobile, eMarketer, 2017

<sup>29</sup> True Cost of Fraudsm Study, LexisNexis, 2016

<sup>30</sup> MOBILE AD FRAUD, AppsFlyer, 201

- IP-related — sharp peaks of activity from one IP or range;
- Consistency patterns: uniformity of requests, switching between installations, non-human invalid traffic;
- Device-ID related: for example, multiple IDFAs for a single IDFA;
- Performance-related: ultra-high response, unjustified traffic, etc.
- Mismatches: mismatch of the application version with the current one, bias in the geographical range, unusual amounts of transactions, etc.

A feature of the mobile gaming market is a large number of non-professional ecosystem participants, whose behavior is ascertain to determine by a deterministic description. In this case, algorithms with fuzzy logic or algorithms based on neural networks come to the rescue.



According to the available marketing estimates<sup>31</sup>, in 2018, an entire pool of products is expected to appear, focused on transaction security using machine learning algorithms. Startups FeedZai, Socure, Appthority, Darktrace develop new solutions for existing financial systems, facing an open task to implement AI in the analysis of systems related to crypto economy.

A large number of companies that tokenize gaming applications<sup>32</sup> and payment forms need to strengthen the transactional part, introducing an integrating solution with AI capability that would include but not be limited to fighting fraud.

Other special AI tasks include the following:

- Provide tournament games;
- Score in the overdraft functions;
- Cluster mobile applications according to user preferences;
- Build a compliance model and monitoring applications from the point of view of local legislation (adult content, gambling, etc.);
- Control the exchange rate of game currencies.

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<sup>31</sup> Cybersecurity's Next Frontier, CBINSIGHTS, 2017

<sup>32</sup> Game Protocol, Game Machine, PlayKey, ENJIINE, ESPORTS.COM и т.п.

### 3 THE BGX PLATFORM

#### >> 3.1 PRE-HISTORY

One of the platform's founders formulated the concept of BGX in early 2017, after which he invited three distinct technology groups that were developing independent solutions to participate in the project:

- The XELOPES Project (St-Petersburg) on the study of the possibilities of artificial intelligence in the field of controlling financial flows under the leadership of Dr. Barseghyan and professor of State Voronezh University A.P. Parkhomenko. The XELOPES project has been developing since the early 2000s and has numerous implementations in the projects of BASF AG, Deutsche Post AG, GlaxoSmithKline and other customers;
- The QUICKLINK Project (Toronto, St-Petersburg) by an innovative Canadian company DigitalXpert Inc. implements a processing core for micro-transactions;
- The TITAN Project (Vietnam) — building a mobile messaging client with the capabilities of a crypto-wallet (Extensible Messaging and Presence Protocol — XMPP, Multi-End Message & Object Encryption — OMEMO, Off the Record Messaging Protocol — OTR).

The main idea was to use the available technical components to build a fully functional financial platform. The BGX Company was formed and delegated with the task to develop a system focusing on mobile games. The founders of the new company decided to make its project open-source under the LGPL license (with the exception of several proprietary protocols). Any external developer can join the team and receive a reward in BGX tokens, while the holders of the technology modules have the right to vote in the technology board of the platform.

#### >> 3.2 MARKET OPPORTUNITIES

BGX is the first integration platform in the field of mobile games equipped with artificial intelligence and with an emphasis on processing. This approach not only brings the technological solution to the market but also creates a democratic economic model for the participants in the ecosystem of mobile games.

Currently, mobile games are experiencing significant growth. This market segment is also the one most ready for a practical transition into the blockchain, since it is already actively engaged in the virtual economy through internal game tokens and traded virtual goods. However, like any living ecosystem, mobile games are not without certain problems.

#### OPPORTUNITY 1: Integration in the process of decentralization

In late 2017 - early 2018, a large number of game projects entered the market of cryptocurrency and announced the release of their tokens. Marketing research

shows<sup>33</sup> that the average player uses several gaming applications at the same time and switching between them is a common phenomenon. According to Icorium<sup>34</sup>, by the end of 2017 the gaming industry occupies an honorable third place among all ICO's — more than 96 issues of tokens have taken place. Most of the solutions are related to bets and tournaments, purchases of skins and domestic goods in games. A separate direction is the rapidly developing e-sports.

Future users face a large number of highly specialized tokens that require reliable financial services to work with the storage of tokens, the exchange of tokens, microcredit, and interfacing with fiat systems.

It should also be noted that implementing a simple exchange of game tokens and other tokens would be difficult because of the high volatility of cyber assets. **A separate integrated processing platform is required.**

Figure 9 >> >>

## The growth of ICO in the gaming sector



## OPPORTUNITY 2: App stores

Mobile games are not only the most popular category of applications, but also the fastest growing (for 2017 + 19.3% YoY). Seventy to eighty (70-80%) percent of all mobile downloads are games, 93% of users who paid for an application paid for a gaming one. At the same time, the standard two application markets are dominating: Google Play and the App Store take up to 30% of the game's profits. According to iMore<sup>35</sup>, 80% of developers do not earn enough money to upkeep their business.

<sup>33</sup> App Annie 2017 Retrospective App Annie 2017 Retrospective

<sup>34</sup> <http://icorium.io/>

<sup>35</sup> Game Statistics, iMore, 2017.

Moreover, official app stores (Google Play and the App Store) often contain millions of apps. For a starter-developing studio, it is difficult to stand out. It is nigh impossible to create their own means of distribution, as these two stores actively discourage the creation of alternative shops<sup>36</sup>.

In a decentralized economy, an open **specialized payment platform** is required to deliver games to the user, to **process game transactions**, and to provide a **fair profit distribution system**.

#### OPPORTUNITY 3: The absence of a specialized AI engine

In a distributed mobile game environment, millions of games are simultaneously participating. Different models of monetization are used, and the probability of dangerous and dishonest actions on the part of intruders is high. To provide a flexible and adaptive solution, a decentralized artificial intelligence system that solves specific game tasks is needed.

Smart contracts of the Ethereum network allow for a distribution of profits in a determinate and open manner. At the same time, fuzzy tasks, a multivariate analysis of the environment to exclude the unfair holding of tournaments, require the application of A.I. In addition to the problem with fraud in the delivery of advertising that is described above, there are problems with tracking transactions when a user loses private keys. Moreover, there are specific user-interaction tasks, such as developing recommendations for games, matching in tournaments, etc.

A successful processing platform must be equipped with **Artificial Intelligence**.

#### OPPORTUNITY 4: Lack of support for monetization game models

Currently, 90% of in game spending in the US falls on the Free-to-Play model<sup>37</sup>. Three (\$3) dollars is the average price that the players consider acceptable for in-game purchases, or paid amplification in the game. The gaming industry is looking for new monetization models that would allow distributing revenues evenly between top producers and talented young talent studios.

In 2017, the growth of e-sports revenue was 41.3%, and by 2020 the revenue will be up 1 500 000 000 USD. The main model is tournaments and attraction of professional teams through the mechanisms of the prize fund. Other income items are broadcasting organization (streaming) and betting (betting).

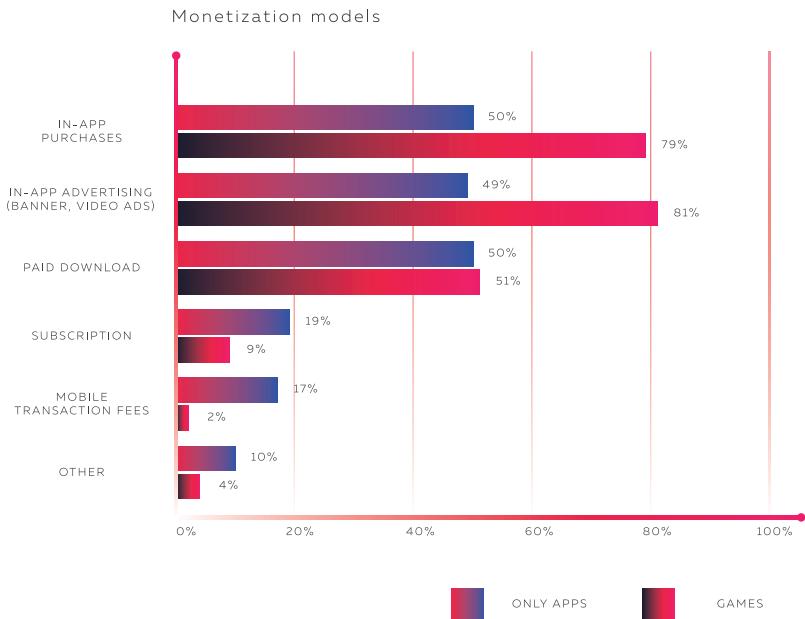
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<sup>36</sup> Google Facing Complaint in EU from Aptoide over App Store Practices

<sup>37</sup> FactBrowser – “Mobile Game Fact Feed”

**Figure 10 >> >**

Game Monetization Model by Statista



Game solutions support various models of monetization (often several), while support for such models is more efficiently performed when there is embedded processing. Thus, the processing of mobile games should support specialized models of monetization.

## SOLUTION

BGX solves these problems by building a multifunctional processing platform, implemented over an artificial intelligence system (Artificial Intelligence) with a set of built-in tools for a wide range of mobile games.

### These are the basic principles of building a platform:

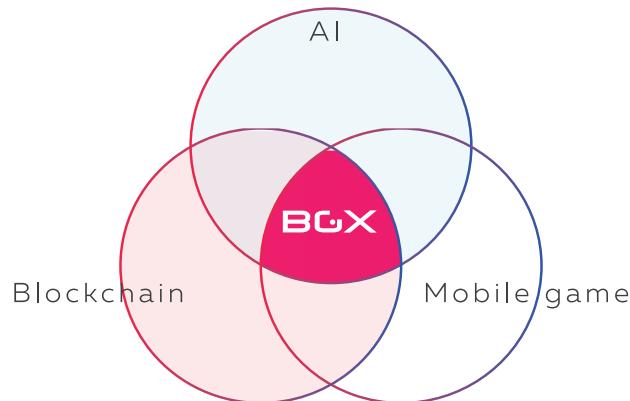
- Iterative development and creation of the community from the moment of the active phase — Agile / DSDM Atern; alignment of working methodology to DevSecOS for security;
- Modular functional architecture, allowing separate development of the main components and the use of common protocols and frameworks;
- Open source code stored in the GitHub repository;
- The implementation of the CCSS<sup>38</sup> standard and PA-DSS<sup>39</sup> is the basis for security on the client side;
- A special focus on interoperability of the platform, its integration with existing solutions.

<sup>38</sup> CryptoCurrency Security Standard

<sup>39</sup> Payment Application Data Security Standard

Figure 11 &gt;&gt;

BGX Focus



### >> 3.3 BGX ECOSYSTEM

BGX unites players in the gaming industry, providing functionality depending on the role:

- Node holder: An organization that installed BGX platform site software on its servers and makes the platform available for use by other participants. The first node is set up by the BGX organization, passing all the code to its partners. The playing user perceives the node as an app store for games and as the server component of the virtual wallet. In return for supporting the node, the holder receives a part of the commission for processing.
- Gamedeveloper: A studio or single developer uploads SDK — library, allowing him to connect BGX functions to their game. The developer does not need to adapt his game but uses ready-made templates for connecting to BGX functions. With each transaction, the developer receives 90% of the revenue, while 10% is provided to the platform;
- Player: The consumer of game products that have the BGX SDK enabled. The Player interacts indirectly with BGX through the game itself, but also has a virtual wallet that allows him to have an account, pay for virtual goods / tournaments with BGX tokens (or compatible gaming tokens), take out overdraft, buy tokens in store in exchange for crypto- or fiat currency, to receive offers based on loyalty and game participation;
- 3<sup>rd</sup>PartyAppStore: A regional or functionally dedicated gaming application store that implements content delivery functions, but leases payment functions from the BGX platform. The store receives 90% of generated revenues it then shares with game developers according to their own policies;
- Advertiser: Distributes advertising through API platforms, pays the cost of ads in accordance with the established CPA / CPI;
- Blockchainagents: Facilitate the exchange of BGT Coins and BGX tokens with another currency and execute BGX's smart contracts;
- Exchanges: Participate in the exchange of the BGX token at the market rate.

## &gt;&gt; 3.4

DISTINCTIVE  
FEATURES OF BGX

BGX has a full-featured model that supports all ecosystem participants:

- Implementation on top of the Ethereum Blockchain, as a hybrid solution — with a system of dedicated nodes and the ERC-20 BGX token. Supports hot and cold user wallets, currency exchange, virtual player wallet and overdraft function;
- The platform focuses primarily on mobile gaming applications and supports all of the necessary functionality that forms a single ecosystem of developers, users-players, advertisers and partners;
- Ability to distribute games outside the stores of Google Play and App Store applications: search, rating, feedback, reliability check and infrastructure functions;
- Built-in (Native) system of advertising support and its monetization based on the system of “smart” contracts without intermediaries equipped with adaptive filters and automated conversion accounting subsystem;
- Support for modern gaming capabilities and monetization models, including tournaments in various modes, functions of augmented reality and the market of in-game products;
- Built-in AI-system based on neural networks that supports the main processes of the platform: smart registration of users, holding tournaments with the control of fairness (anti-cheating) and game promotion.

## &gt;&gt; 3.5

BGX  
COMPONENTS

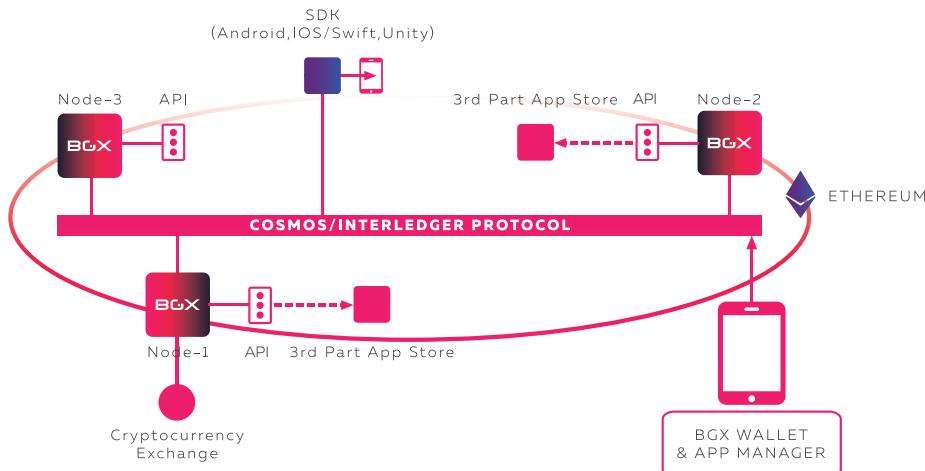
BGX is implemented as a full, decentralized platform, consisting of several components that interact with each other over the Internet using a specialized protocol for data synchronization.

The main components of the system:

- Node — One or more support nodes that facilitate the main functionality of the platform:
  - Filestorage of installed game applications;
  - Processing user accounts, issuing a virtual wallet and processing user debts;
  - AI — a fuzzy neural network that monitors transaction parameters and other platform processes;
  - Advertising function support;
  - Interaction with exchanges in attached / detached mode.
- BGXWallet — A virtual wallet with built-in support for BGX and BGT currencies. Works as a client of a platform node, as well as a client of fiat systems when buying tokens for fiat money;
- SDK — A specialized component included in the games that produces seamless interaction with the functionality of BGX nodes without resorting to a wallet.

**Figure 12 >> >>**

BGX Infrastructure

>> **3.6****BGX ADVANTAGES**

BGX is a promising solution that provides a number of advantages for system participants. When buying BGX tokens, investors become participants of an innovative club and receive the following:

- The ability to participate in the growing project; access to participation in the economy of the platform with the use of exchanges and other financial instruments;
- Access to the rapidly growing mobile games market;
- The ability to exchange BGX tokens for low volatility BGT game tokens and pay for compatible game services.

**3.6.2 ADVANTAGES FOR DEVELOPERS AND PARTNERS**

BGX brings these gaming solutions to developers:

- Ability to connect their games to the core features of the crypto economy, including payment by cryptocurrency;
- Low commission when purchasing through BGX payment mechanisms (no more than 10%);
- Game promotion on the crypto platform and independent store / stores;
- Reliability and security of payment mechanisms provided by the combination of blockchain and A.I.;
- Support of tournament functions (for competitive games);
- Built-in relevant advertising;
- Developers release their own tokens.

### 3.6.3 ADVANTAGES FOR GAMERS

Players experience these advantages:

- The ability to buy game tokens for both fiat and for cryptocurrency;
- Support for the overdraft function;
- Ability to use low-volatile BGT Coins to pay for game functionality;
- Ability to exchange BGT Coins for perspective BGX tokens and to take out their earnings in cryptocurrency;
- Ability to output BGT Coins into fiat tools;
- A virtual wallet representing a player's account and a loyalty platform;
- Transaction protection and referral system supported by AI.

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## 4 TECHNOLOGY

### >> 4.1

#### DECENTRALIZED PAYMENTS PROCESSING

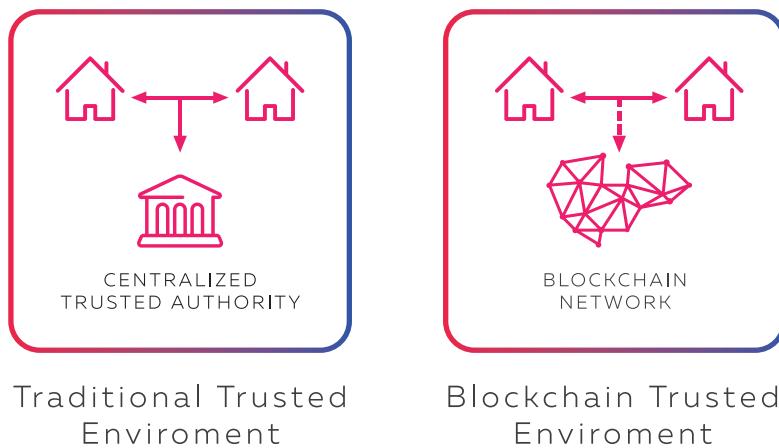
##### 4.1.1 BLOCKCHAIN IMPACT

The Blockchain is one of the most revolutionary technologies in IT. The essence of this technology consists of the decentralized storage of information in an environment without trust. Blockchain consists of nodes supported by the miners, each node contains a chain of blocks, which are a set of transactions signed by cryptographic functions.

The advantage of a decentralized approach is in democratization of the decision-making profit distribution and a corresponding decrease in the share of business spending operations.

**Figure 11 >> >>**

Traditional and Blockchain Approach



After Ethereum appeared in 2014, it became possible to perform additional functions with the nodes: the calculation of smart contracts. One of the most important achievements of this technology is the formation of a completely new economic paradigm.

Cryptocurrency transactions on the blockchain between one storage address and another are verified in the network nodes using one of the verification mechanisms: Proof-of-Work or Proof-of-Stake. Such mechanisms enable a consensus among the participants in determining if the records in the distributed database are written correctly or not. The records of transactions are stored in an open, but not changeable form. The addresses participating in the cryptocurrency transfer maintain anonymity and do not disclose their owners. This makes public audits of records possible, prevents malicious acts, censorship and excessive regulation. The appearance of some value in cryptocurrency makes it possible to exchange it for real (fiat) money, allows cross-border transfers and independent storage of funds outside centralized banks.

This phenomenon intensified with the introduction of secondary cryptocurrencies to the market, allowing one to tokenize the functions of applied systems, create one's own payment systems, trade them on stock exchanges, and create new models of monetization.

Currently, there are dozens of popular blockchain networks that have generated a whole set of tasks for their exchange and payments in these currencies.

BGX is built as an information system that is a part of the crypto economy with a focus on mobile games. BGX interacts with several blockchain networks through special drivers (listeners), allowing one to make payments in various cryptocurrencies and writing data to the Ethereum blockchain.

#### 4.1.2 ETHEREUM, SMART CONTRACTS AND ERC20

Ethereum is a decentralized platform for creating blockchain based services. The basis of this platform is smart contracts: small programs that are run by Ethereum nodes under specific conditions. Such smart contracts are written in a special interpreted programming language (for example, on Solidity).

In fact, Ethereum is a distributed virtual machine, the nodes of which are supported by the miners receiving gas - payment for the computing power provided.

Inside Ethereum, decentralized applications (DApps), similar to sites on the Internet, implement their own functions. Just as tokens in an amusement park represent the right to access a carousel, DApps have their own tokens, allowing users access to these functions dependent on the number of tokens.

The ERC20 standard is a technical specification for a token making it compatible with external systems, allowing the exchange of these tokens on markets, and ensuring their use in creation of other products.

ERC20 provides four main actions:

- Obtaining the total number of tokens;
- Getting a balance on the account;
- Transferring tokens from one group to another;
- Confirming the use of the token as an asset.

BGX uses two types of token:

- PLATFORM TOKEN (BGX) — a token compatible with the ERC20 standard that provides access to platform capabilities and supports its economy;

- APP TOKEN (BGT) is a fixed application-level token (game token) that has a standardized cost and protects gaming applications from the volatility inherent in crypto platforms. BGT is not compatible with ERC20.

For more information on tokens, see the Platform Currency Section.

#### 4.1.3 BLOCKCHAIN LIMITATION

The capabilities of blockchain systems are impressive for many applications, especially in terms of storing immutable information. However, when it comes to creating a payment system, there are a number of limitations. A dedicated node of Ethereum has a theoretical transaction limit of 1,000 per second determined by the available gas consumed for each unit it generates. However, even this limit is not achievable<sup>40</sup>. The real speed is currently 7 Tx/s. In this sense, direct blockchain transactions (on-chain) are expensive and slow, making their use in the gaming industry inapplicable.

The situation with storing large pieces of information directly in the blockchain is much worse. According to BITINFOCHARTS estimates<sup>41</sup>, the average transaction cost for Ethereum (average tax costs) is approximately \$0.038. A record of 1kb costs \$0.25-0.32, which is quite noticeable (\$76,000 USD per GB of storage).

Given the data of the mobile gaming market, the following necessary requirements can be approximated for the BGX system:

- The number of users (the whole market) is 1.5B. If the system takes 20% of the market in 5 years, it will be 300 million users;
- Considering that the average user makes 1 transaction per day, the required throughput is met: 3,472 transactions per second;
- Assuming an average transaction for 200B, we get traffic of 694Kb per second or 6Gb per day. That would cost \$456,000 on Ethereum — just per day.

Thus, the dynamic recording in the Ethereum blockchain is impossible under the current conditions.

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<sup>40</sup> <https://etherscan.io/>

<sup>41</sup> <https://bitinfocharts.com/ethereum/>

#### 4.1.4 ON-CHAIN AND OFF-CHAIN APPROACH

A natural way to improve the situation is to perform operations outside the blockchain, using blockchain only for operations that require external connections (for example, withdrawal of funds in Ethereum). This approach is called off-chain and is now being developed for popular blockchain systems:

- Lightning Network (Bitcoin);
- Raiden (Ethereum, compatible with ERC20);
- Plasma (autonomous smart contracts);
- OmiseGO (based on Plasma).

On-chain and off-chain transactions coexist and allow a balance between the required speed and load. Since the current off-chain solutions are under development, the following hybrid solution will be used in BGX until a stable solution is obtained:

- Within one node, it is planned to have developers deposit BGX, which would allow them to perform transactions with the BGX tokens within the set limits
- To exchange data between nodes, the Hashgraph<sup>42</sup> blockchain will be used, since it has the acceptable parameters to conduct the necessary traffic through a node.

#### 4.1.5 LOCKCHAIN INTERACTION

BGX is implemented on top of the Ethereum blockchain system, and despite the mechanisms of off-chain transactions, needs to interact with the large blockchain.

To do this, each BGX node has a special BLOCKCHAIN LAYER. This layer manages the written and extracted data.

In addition to Ethereum, the project needs a connection with partner networks. A Listener is implemented for each of them:

**Wanchain** — implements cross-chain smart contracts;

**Dash** — digital Internet currency for instant transfers;

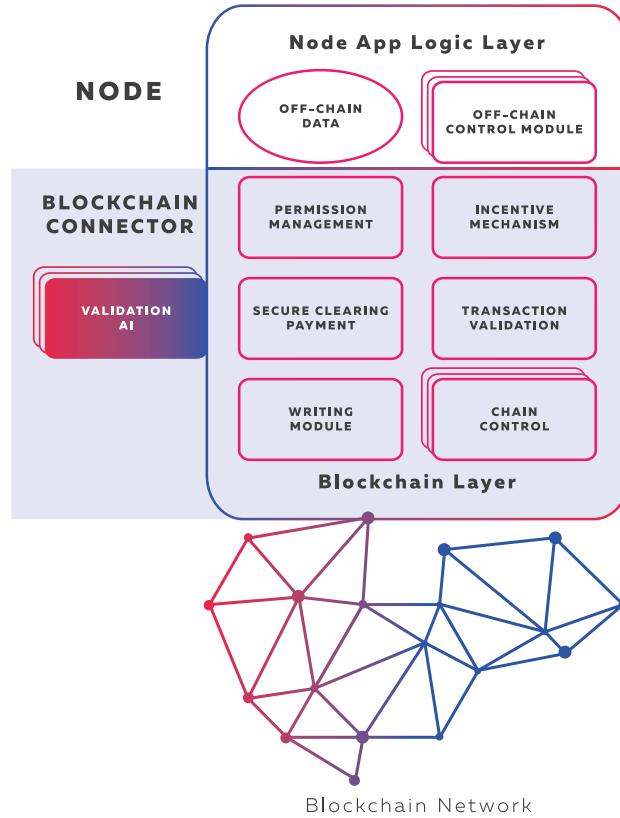
**Ripple** — cryptocurrency platform for payment systems, focused on transactions with the exchange of currencies without return of payments.

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<sup>42</sup> <https://hashgraph.com/>

Figure 14 &gt;&gt; &gt;&gt;

Node Structure



## &gt;&gt; 4.2

## PLATFORM ARCHITECTURE

The basic requirements for architecture are formed through the following attributes<sup>43</sup>: scalability, performance, security, reliability, and so on.

The ideal architecture of the processing system should be the following:

- Highly scalable (support up to 1000 nodes, at least 2 million applications);
- Productive (no less than 3000 transactions per second);
- Secure (corresponding to security standards in the field of payments, trained with AI);
- Reliable (no less than 99.999% availability);
- Flexible in use (expandable in connection with new models of monetization);
- Interoperable (interacting with various payment gateways and blockchain eco-systems).

Responding to these requirements, BGX has a service architecture that includes several interacting components:

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<sup>43</sup> Attribute Driven Design, Software Engineering Institute

- Node — The main part of the platform, represents the server functionality. The system can contain up to 1000 nodes interacting with each other using a protocol implemented on the Hashgraph. All nodes are equal and can perform distributed processing. With Nodes through the API, external clients — the wallet application (BGX Wallet) and the installation manager (App Manager) interact;
- User wallet (BGX Wallet) — External application (web, Android, iOS), maintains the user's game wallet, buys and sells tokens and their exchange;
- The installation manager (App Manager) downloads and installs games, deletes and updates them;
- SDK implemented in the game, realizes the payment functions within the game.

BGX is built on a modular basis; each module implements its own set of functions. This approach allows separate data packets, is developed by several groups and minimizes technological risks. The table below shows the main modules of the system.

**Table 2 >> >>**  
Main System Modules

1	Ledger	The current blockchain channel and the connections support the data status
2	Smart Contract	The software launched in the Ledger determines the execution of logic for translating and modifying digital data
3	Smart Order Routing & Gaming revenue	Monitoring transaction flows and data changes, reading of data from formed blocks, distribution of prize funds
4	Universal ID System	Support user authentication, authorization and related processes
5	Event Processor	Work with notifications for transactions, tracking events in smart contracts and AI, logging operations
6	Instant Reporting	The module allows generation of analytical reports on the processing work
7	System Management	Ability to create, modify and monitor the components of blockchain
8	AI Network	Creates, modifies and monitors the components of artificial intelligence system; tracks the correctness of information processing, as well as a set of tools
9	Tokenization Genesis Module	Module that generates BGT Coins or releases tokens for the developer
10	Virtual Game Wallets	Supports the user's personal cabinet, account management
11	System Integration	Integrates the blockchain solution with external solutions
12	Virtual File System	Stores installation files and related components
13	APP LIFT	Supports the flow of game delivery to the user

14	Ad Engine	Supports advertising and its statistics
15	In-App Purchases	Supports the internal store in the game
16	Streaming Engine	TWITCH service support
17	Tournament Engine	Supports the processes of reserving and distributing the prize fund
18	BIFROST Module	Funds and exchanges gaming tokens

The system modules are distributed through the logical layers of the architecture:

- **Factory Tier** — Components of Blockchain (both Ethereum and guest systems). In addition, this layer manages access parameters and roles, opens and closes payment channels;
- **Integration Tier** — Binds off-chain and on-chain transactions; also connects AI to processing;
- **Shared services** — Data exchange and common components for all modules;
- **Utility Services** — File storage, logging, error handling, data availability control;
- **Analytics and Operational Insights** — Generates reports on the activities of various components, prepares training data for downloading to AI.

#### >> 4.3

#### ARTIFICIAL INTELLIGENCE

Artificial Intelligence is a BGX subsystem that performs three functions:

- Blocking suspicious transactions (fighting fraud);
- Controlling of the tournaments held in competitive games;
- Clustering applications and development of recommendations to the user, taking into account the developer rating (generally determined by the number of transactions and the time of work with the platform).

The implementation of the AI subsystem in BGX is based on a neural-fuzzy Ade-line-type network (Adaptive Linear Neuron). Neural-fuzzy or hybrid solutions include fuzzy logic algorithms and neural networks, taking advantage of the hybrid approaches. Fuzzy logic systems are successfully used to explain their decisions, but they cannot automatically replenish the system of rules necessary for making decisions.

The neural systems, conversely, are successfully used in the recognition of models, but they cannot easily explain the way of solving and correcting the algorithms. These constraints have served as the impetus for the formation of hybrid systems that take advantage of both approaches and level the shortcomings of each.

With the increase in the number of violators and the increase in the number of thefts of financial resources from users' personal accounts in processing systems, the

introduction of specialized fraud detection systems for additional verification based on a number of input parameters has become popular.

The typical transaction attributes include:

- User ID;
- Transaction identifier;
- Description of the transaction;
- The amount of the transaction;
- Place of transaction;
- A Boolean variable that defines a transaction as a fraudulent (true) or legal (false).

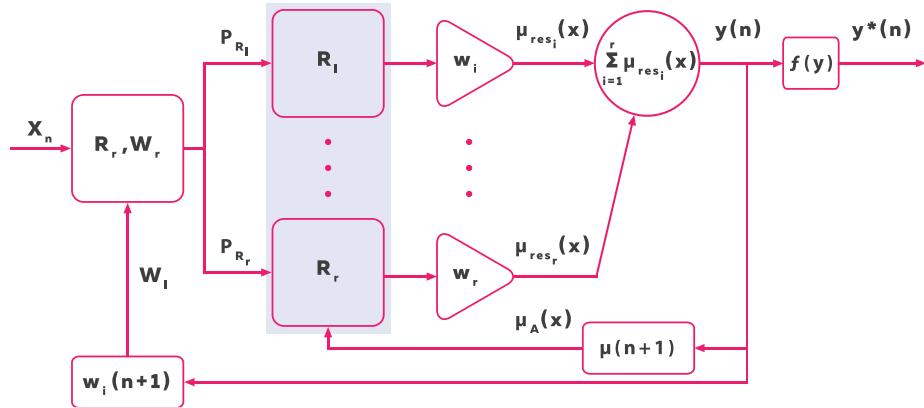
There is a set of descriptions of permissible transactions, as well as a set of data considered a description of fraudulent transactions. A typical user has a unique behavior profile in terms of payments. Since the habits related to spending money vary depending on many factors: a transaction worth \$5,000 may look like a fraudulent one for a particular account but may be entirely acceptable for another.

The Adeline network used in the project represents an adaptive linear weighing adder with a delta at the output. There are six main stages in the process of preparation:

- Normalization of fuzzy set of input parameters;
- Fuzzification, assessment of the degree of compliance with the rules;
- Calculation of the contribution of the rule set;
- Summation of contributions of fuzzy rules, decision making;
- Training of the neural network;
- Self-organization and adjustment of the fuzzy model.

The use of two approaches (neural network and fuzzy logic) bridges the learning and computing power of neural networks with fuzzy logic and enhances the intellectual capabilities of neural networks typical for the human way of thinking by making the decision-making rules unclear.

**Figure 15 >>>**  
Adaptive linear weighing adder with delta output



## &gt;&gt; 4.4

## FILE STORAGE

The blockchain technology aims to store small transactions. Therefore, a separate service is required to store applications. Such projects as Storj, SIA, FileCoin work to solve this problem, but technologically they are still at the conceptual stage. On the other hand, the file storage application service for BGX nodes must solve several overlapping tasks:

- Store both individual copies on one bridle (if the site's purpose is storing exclusive content) and synchronize content between nodes;
- Apply security filters to stored content;
- Autonomous mechanism displays content and updates current versions.

DHT technology proposes to solve the problem of distributed content storage.

DHT (distributed hash table) is a class of decentralized distributed systems of a search service that works like a hash table, characterized by the following properties:

- Decentralization: the form of a system of collective nodes without coordination;
- Scalability: the system will function equally effectively for thousands or millions of nodes;
- Failover: the system will be equally reliable with nodes permanently connected, disconnected and protecting from single-node errors.

## &gt;&gt; 4.5

CYBER SECURITY &  
DATA PROTECTION

BGX designs and proposes to maintain its security architecture (logical and physical), policies and procedures in accordance with the most widely-adopted international security standards, regulations, and controls frameworks such as the ISO 27001/27002, ISACA COBIT, PCI, NIST & the CSA. BGX presents this architecture in line with ISO 27000's (2013) documentation and organizes them into a high-level taxonomy consisting of 114 individual security controls across 35 categories consisting of the following 14 domains:

- 1. Information security policies** — BGX has established, reviews and regularly updates its information security policies. These policies provide the basis for all management decisions that could, in any way, affect the BGX value chain that includes, but is not limited to BGX itself, its employees, consultants, contractors, investors and suppliers.
- 2. Organization of information security** — BGX clearly defines all security-related roles and responsibilities and, where appropriate, mandates strict segregation of duties.
- 3. Human resource security** — BGX applies appropriate levels of scrutiny to personnel prior to, and where necessary, during engagement/association with BGX.
- 4. Asset management** — As a consequence of its distributed nature, BGX has necessarily adopted a three layer 'Responsibility' model for assets that operate as part of the BGX network. All identified assets are identified, inventoried, classified, assigned (responsibility) and risk-assessed according to their category. The three categories are:
  - **Assets directly under BGX control in a BGX owned/controlled environment:** BGX assumes full responsibility for devices directly under its control. This includes network devices, storage devices, servers, computers, laptops, tablets and mobile phones;
  - **Assets directly under BGX control in a 3rd party environment:** BGX adheres to the 'shared responsibility' model with clearly-defined responsibility demarcations drawn between those services for which the service provider is liable (e.g. SaaS, IaaS, PaaS models), and those for which BGX is liable. For Cloud-based services BGX has adopted the Cloud Security Alliance's Cloud Control Matrix (CSA-CCM);
  - **Assets indirectly under BGX control in 3rd party environment:** BGX adheres to the 'shared responsibility' model with clearly-defined responsibility demarcations drawn between those services for which the service provider is liable (e.g. software assets performing cryptographic operations as part of a 3rd party distributed data base, distributed ledger/blockchain service) and those for which BGX is liable.

**5. Access control** — BGX's Identity and Access Management (IDAM) model operates a layered series of interoperable ingress and egress access controls to and from its network and network-based services. This model establishes pre-requisite role- and attribute-based user & end-user device criteria to granting access, authorizing specific actions, and applies appropriate levels of activity monitoring/logging for audit/ accounting purposes. Enhanced controls (multi-factor authentication) are used for all privileged accounts, roles and actions.

**6. Cryptography** — BGX (CCSS and PA-DSS) | Policy on use of cryptographic controls/Key management.

**7. Physical and environmental security** — Secure areas, equipment, physical equipment security, physical access controls.

**8. Operations security** — Change management, capacity management, back-up & archive, control of operational software, technical vulnerability management, Information systems audits, Logging & Monitoring.

**9. Communications security** — Network security management, information transfer.

**10. System acquisition, development and maintenance** — Security requirements in information systems, security in development and support services, Test data.

**11. Supplier relationships** — ICT Supply Chain mapping/policies, service delivery management.

**12. Information security incident management** — Responsibilities & procedures, reporting, response planning, learning environment, audit trails/collection of evidence.

**13. Information security aspects of business continuity management** — BCM planning, implementation, testing, review, ISO 22301:2012.

**14. Compliance (internal & external)** — Legal & contractual requirements, Information security reviews, Data Protection Laws (e.g. GDPR).

BGX is a censorship-free platform. At the same time, there are a number of threats that should be managed by the nodes that store applications:

- The location of potentially dangerous software modules (viruses, adware, etc.);
- Incorrect content from the point of view of the age or social groups (adult programs, gambling, etc.);
- Pirated software, the use of which is illegal;

With respect to these threats, it is proposed to create a reference mechanism, reinforced by a preliminary check:

- All deployed applications are automated for viruses;
- Application developers receive a general rating, based on the popularity of applications (the number of downloads), the volume of transactions, the number of comments<sup>44</sup>;
- When publishing a game application, developers choose a genre and keywords that facilitate the rubricating of games;
- Users have the opportunity to report an application. If the number of complaints is large and the application developer's rating is low, then the application is quarantined and checked more carefully.

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<sup>44</sup> Comments are also monitored by the AI. According to AppTentive, the amount of fake reviews can reach hundreds of thousands and continues to grow.

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● ● ● **5 PLATFORM CURRENCY AND TOKEN SALE**
**>> 5.1****TOKENS AND TOKEN ALLOCATION**

The BGX Platform will have a dual token system. This system avoids the destructive impact of token volatility on the platform's everyday economy and aligns the incentives of those holding the coin waiting for it to appreciate in value with those of the users, planning to interact with the platform.

The first token — the BGX Token — will be launched during the Token Generation Event and represent the right to participate on the platform. The nodes of the platform will be required to have a certain balance of BGX Tokens to maintain their "Node" status. Since the BGX Token can be exchanged into a second token — the BGT Coin — at any time on the platform, holding the BGX Token is considered to imply an expectation of future spending and thus enters the BGX Token holders into a Loyalty Club. All participants holding the BGX Token will participate in the Loyalty Club, the main perk of which is the revenue sharing program. Sixty percent (60%) of the platform's revenue is distributed among the BGX Token holders in tiers designated by the number of tokens held.

The second token — the BGT Coin — is a utility coin exchanged on the platform as method of payment. The BGT Coin is a white label token, meaning it can be used on its own or a different name by the game or app market developers to use as currency for in-app and app purchases, hosting tournaments, or any other game incentives that allow players to earn from their playing time. Below is a simple table, describing the two coins:

**Table 3 >> >>**  
BGX Tokens and  
BGT Coins

	BGX Token	BGT Coin
Type	Utility	Utility
Marker	BGX	BGT
Standard	ERC20	
Max Emission	1,000,000,000	Unlimited — Tied to of Active Users
Price	\$0.10 USD / Token at ICO. Then varies	\$0.10 USD / Coin. Unchanging price
Where to Buy	TGE; BGX BIFROST Exchange; other exchanges	BGX BIFROST Exchange
Utility	Node Participation; Loyalty Club	Platform Method of Payment
Exchange	Exchanged between each other at the market rate of the BGX token against the \$0.10 USD / BGT Coin	

The emission of BGT Coins is unlimited and will be tied to the transactions on the platform. Each time a user spends an equivalent of \$0.10USD to buy a BGT Coin, a new BGT Coin is minted. Each time a user sells a BGT Coin to take his earnings out of the BGX ecosystem, that BGT Coin is burned.

The value of BGT Coins will be subject to the same level of inflation as the US Dollar. That feature makes it one of the most stable cryptocurrencies on the market.

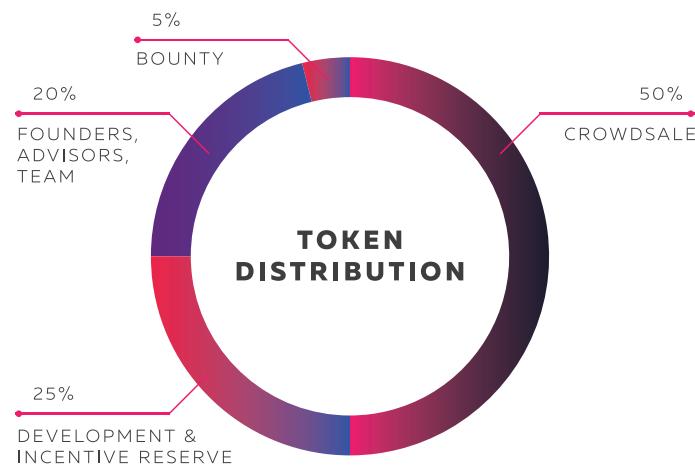
The emission of BGX's own utility tokens is justified when given the option of using standard and pre-existing cryptocurrency. The BGX Tokens represent unique rights to participate in the BGX Loyalty Club and thus cannot be tied to external cryptocurrency. The BGT Coins are developed specifically to avoid the volatility of most major cryptocurrencies; moreover, using it as a white label token by the BGX game developing community also requires its separation from existing systems.

The emission of BGX Tokens is limited and is capped at 1,000,000,000 for the entire lifetime of the platform. The allocation of the BGX Tokens is shown below:

- 50% or 500,000,000 BGX Tokens will be sold during the Crowdsale.
- 25% or 250,000,000 BGX Tokens will be retained in the Bootstrap Fund. This Fund is allocated to engaging with the gaming ecosystem to motivate the platform's quickest adoption. The release of these tokens will be tied to the project roadmap and will be allocated to incentivizing strategic partners and motivating new users.
- 20% or 200,000,000 BGX Tokens will be allocated towards Founders, Advisors, and Team and be subject to a 24-month holding period to ensure their vested interest.
- 5% or 50,000,000 BGX Tokens will be used for the Long-Term Bounty Campaign, which will start before the Crowdsale, but continue for two years after to attract users.

**Figure 16 >>**

Token  
Distribution



## &gt;&gt; 5.2

In order to finance the development and marketing of the BGX Platform, a Crowd-sale event will be conducted with the following characteristics:

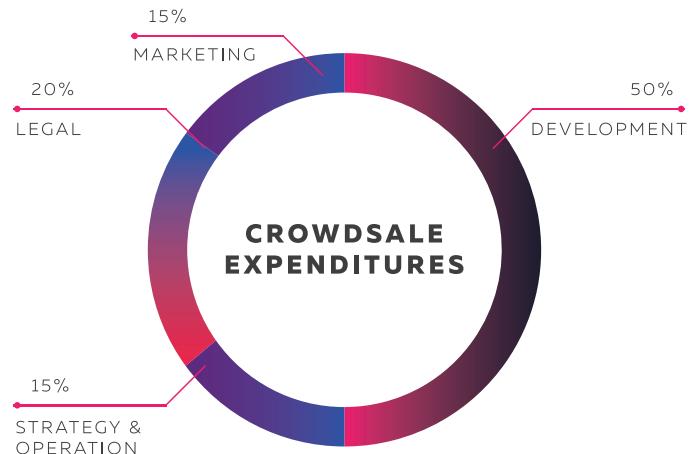
CROWDSALE EVENT  
AND FUND  
DISTRIBUTION

Table 4 >> >>  
Crowdsale Structure

<b>Pre-Sale Dates</b>	Apr 24 – May 14, 2018
<b>Sale Dates</b>	May 15 – June 12, 2018
<b>Extensions</b>	No
<b>Total number of tokens</b>	1,000,000,000
<b>Tokens available</b>	500,000,000 (50%)
<b>Nominal price</b>	\$0.10 USD
<b>Bonus systems</b>	Pre-Sale = 17% Discount Crowdsale Week 1 = 15% Discount Crowdsale Week 2 = 10% Discount Crowdsale Week 3 = 5% Discount Crowdsale Week 4 = 0% Discount
<b>Emission rate</b>	No further BGX Tokens created
<b>Token Pre-Sale</b>	30,000,000 of all tokens (3%)
<b>Token Sale</b>	Unsold during Pre-Sale + 470,000,000
<b>Hard Cap</b>	\$50,000,000 USD
<b>Token format</b>	ERC-20 Standard
<b>Accepted currency</b>	ETH, LTC, BTC
<b>Whitelist</b>	Yes
<b>KYC</b>	Yes
<b>Unsold tokens (if any)</b>	Reserve
<b>Regional limitations</b>	Please read Disclaimer
<b>TGE platform</b>	Ethereum

The funds raised from the Crowdsale will be used for developing, marketing, and supporting the platform:

**Figure 17 >> >**  
Crowdsale Expenditures



### DEVELOPMENT (65%)

The BGX Platform design accommodates the 200 million user target base. Such a large ecosystem of economic participants is akin to those maintained by Amazon, VISA, and other large financial providers. As such, even before earning revenue, developing the processing capabilities of such an infrastructural and commercially ambitious project is expected to consume the majority of the funds raised. In the event of a fully successful Crowdsale reaching the hard cap, \$32.5 million of the funds will be used towards development. If the hard cap isn't reached, the following will apply:

- Raised **\$3,000,000 USD or Less. BGX CRYPTO-CURRENCY WALLET:** Development and launch of the BGX app marketplace. Ability of users to create a virtual wallet and exchange crypto-currency into BGT Coins, BGX Tokens and back. Use of the Ethereum blockchain to conduct transactions.
- Raised **\$10,000,000 USD or Less. BGX ECOSYSTEM MODULES:** Smart Order Routing & Game Revenue. Event Processor. Ad Engine. Universal ID System. Virtual File System.
- Raised **\$15,000,000 USD or Less. BGX GAMING WORLD:** Off-chain instantaneous processing capabilities. Streaming engine. Tournament engine. External node integration
- Raised **\$25,000,000 USD or Less. BGX SMART ECONOMY:** More powerful off-chain processing. Basic Artificial Intelligence Network Module. Financial overdraft capabilities. Fully functional BGX Exchange Module.

- **Raised \$50,000,000 USD. THE BGX REVOLUTION:** Highly advanced self-learning neural network for fraud detection, financial transactions, game matching and services. Global sub-ecosystems for games. Powerful multi-revenue channels for developers

### STRATEGY & OPERATIONS (15%)

The strategy and operations include the costs for different teams aimed at maintaining and expanding the platform. Teams responsible for seeking out and signing on new partners (business development), those responsible for the economy of the platform (financial team) and the whole cost of the project's operation (operations — events, additional processing nodes and more) will depend on this team. In accordance with how much we raised, the project's scale and needs will require different levels of support; therefore, a percentage method of calculating this budget is used.

### MARKETING (15%)

Just as with Strategy & Operations, the Marketing costs and activities will vary with the scale of the platform and the amounts raised. Marketers will incur costs through platform promotion to more participants: developers, users, app stores; all to drive the usability and value of the platform, decentralizing and democratizing the game industry, and providing BGX Token holders with additional sources of revenue.

### LEGAL (5%)

The Legal costs will be incurred when ensuring compliance with international markets in the areas of banking and financial laws, technical regulations, corporate and tax structuring, as well as any other policy compliance.

## >> 5.3

### THE ECONOMY OF THE BGX PLATFORM

The BGX Platform aims to support the entire economy of the mobile games ecosystem. BGX identified the MAIN types of participants of the platform who interact with each other. These include the following:

1. The BGX PLATFORM
  - a. BGX DEVS — The founding developers that built the infrastructure;
  - b. The NODES — Off-chain transaction validation, app market data storage;
  - c. The HOLDERS — People or groups holding the BGX tokens;
2. The AD PROVIDERS — Internal and external ads;
3. The GAME DISTRIBUTORS
  - a. The APP MARKETS — App placement clusters;

- b. The GAME DEVELOPERS — Platform content developers;
- 4. The PLAYERS — End user, playing and streaming for fun and to earn.

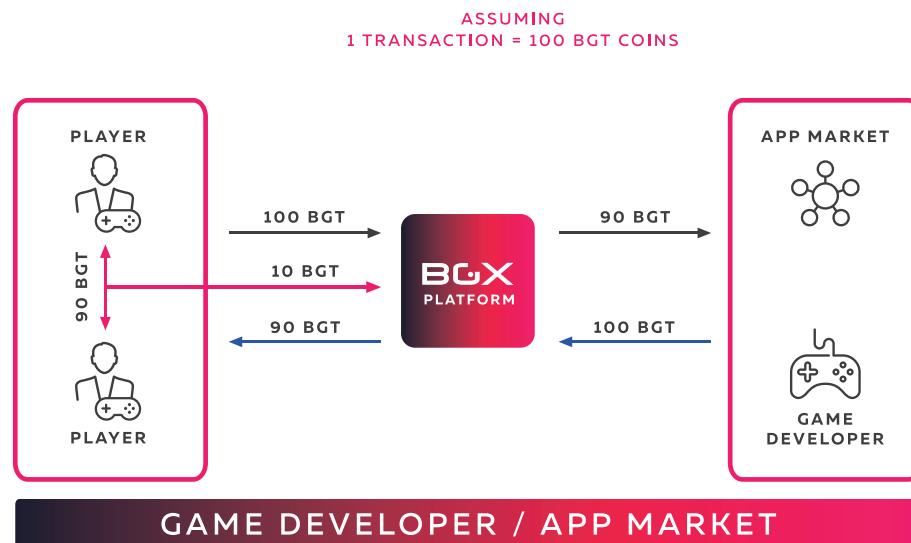
All transactions within the platform use BGT Coins, which can be bought at the BGX Exchange using crypto and fiat currency at a rate of \$0.10 USD / BGT Coin. Each BGT Coin is generated at the time of purchase. BGT Coins can also be sold back to the Exchange at the same rate. Each BGT Coin is burned at the time of sale.

### 5.3.1 PLAYER TRANSACTIONS — APP MARKETS & GAME DEVELOPERS

These transactions revolve around the PLAYER and the game distributors — APP MARKETS and GAME DEVELOPERS (summarily: GAME DISTRIBUTORS).

**Figure 19 >> >>**

Player Transactions



GAME DISTRIBUTORS sell their games to the PLAYERS using the BGX PLATFORM to place the game and to process payment. They monetize their activity through in-app purchase, freemium account, and paid app download mechanisms. From each transaction, they get 90% of the revenue, while the BGX PLATFORM receives 10% revenue. Moreover, GAME DISTRIBUTORS can organize tournaments and attract players who will pay an entry fee. The GAME DISTRIBUTORS get to keep 90% of those raised fees. This is in contrast to the current systems that take up to thirty percent of the revenue.

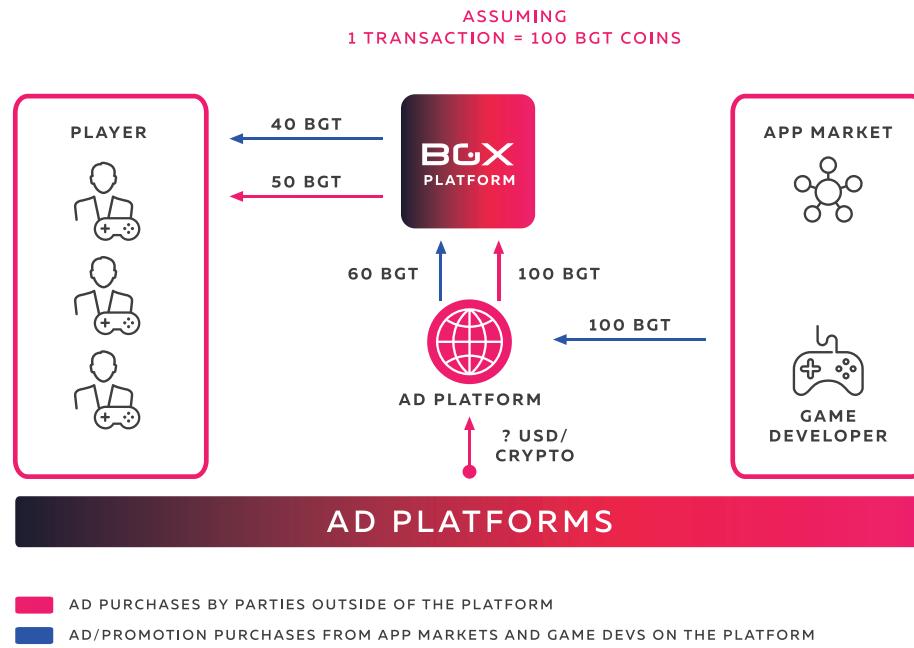
PLAYERS can earn money for playing as well. The PLAYERS can sponsor other players by donating BGT coins; they can become STREAMERS and earn from ad views on their videos; and they can participate in tournaments where they earn prizes. They can participate in airdrops and gain BGT Coins from completing challenges and tasks set forth by GAME DISTRIBUTORS. In all cases, they keep 90% of what they earn and 10% goes to the BGX PLATFORM for developing and processing the transaction.

### 5.3.2 AD TRANSACTIONS

Ads can be purchased by internal parties and by parties external to the platform. These economic flows are treated differently. In both cases, the PLAYERS earn from viewing ads.

**Figure 20 >> >>**

Ad Transactions



GAME DISTRIBUTORS can buy ads from AD PROVIDERS to promote their content to PLAYERS and increase their user base, engagement, or other metrics. For every transaction, the AD PROVIDERS keep 40% of the revenue, the PLAYERS earn an equal 40% of the revenue, and the BGX PLATFORM takes a 20% commission for facilitating the transaction.

External parties can also advertise on our platforms. Assuming that these deals are made outside of the platform, the first inflow appears when AD PROVIDERS pay the

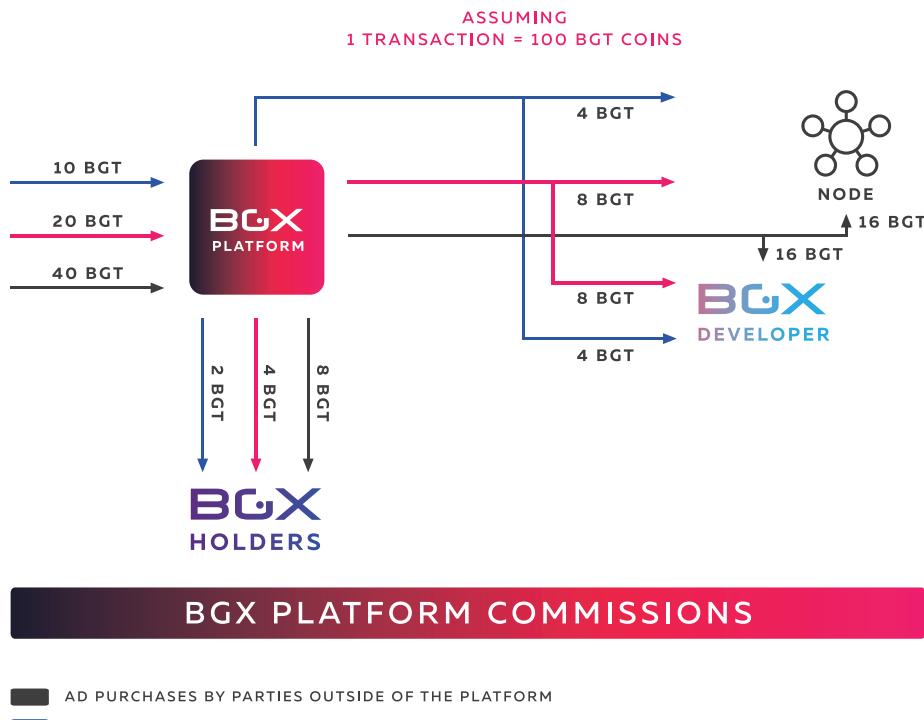
platform to show external ads. Ad prices vary by type of ads, targeted number of views and by how relevant they are for their viewers. In the case of external ads, 60% of the payment by AD PROVIDERS is given to the players and the BGX PLATFORM keeps 40%.

### 5.3.3 BGX PLATFORM — NODES, BGX TOKEN HOLDERS, DEVELOPERS

The BGX PLATFORM takes a 10% commission on all transactions except ads, 20% on internal ads and 40% on external ads. These earnings are split among NODES, BGX TOKEN HOLDERS and BGX DEVELOPERS.

Figure 21 >> >>

Platform Transactions



The BGX DEVELOPERS are the team that created the platform and maintain it throughout the entire operation, adding and improving modules, scaling up the platform. The BGX DEVELOPERS earn 40% of all revenue, giving 60% to other participants: NODES and BGX TOKEN HOLDERS.

This means that BGX DEVELOPERS earn 4% from all non-ad transactions, 8% of internal ad transactions, and 16% of external ad transactions.

The NODES have two primary functions: they validate and process off-chain transactions and facilitate app delivery. NODES earn 40% of all revenue. That is equivalent to 4% of all non-ad transactions, 8% of internal ad transactions, and 16% of external ad transactions.

#### 5.3.4 TOTAL VIEW

App Stores and Game Developers keep 90% of what they make on our platform, a significantly higher percentage than with Google Play and App Store offer. They monetize through traditional in-app purchases, freemium and paid downloads. They can also monetize through additional features, such as tournaments, and provide tokens as incentives for players.

Players get a chance to earn from their games. Not only can they earn BGT Tokens on their streaming activity, but they can also participate in tournaments and incentives by game distributors. Players keep 90% of what they earn. Unlike the current world, the BGT Tokens are interchangeable between different games and do not become useless once the player is done with a particular game. Players also earn from viewing ads. They are awarded 40 – 60% of the cost per view, depending on whether the ad is internal or external.

Ad providers have access to both internal and external customers. Ad providers keep 100% of what they make externally but pay a fee for presenting internal ads. For internal ads, ad providers keep 40%.

Nodes are the nervous system of the platform, facilitating financial exchanges and content delivery from one participant to another. Nodes earn 40% of all revenues generated by the platform.

BGX Token Holders are members of a Loyalty Club with revenue sharing privileges. In addition to the ability to sell their tokens at an open market and realize capital gains, BGX Token Holders also share in the revenues of the platform: 20% of all revenues go to BGX Token Holders split in tiers that are dependent on the number of tokens held.

The BGX Platform keeps the remaining 40% of the revenues. These revenues come from levying a 10% commission on all non-ad transactions, a 20% commission on internal ads and a 40% commission on external ads.

#### >> 5.4

#### OVERDRAFT FEATURE

As one of the functions of a player's wallet, overdraft can become a powerful tool for enhancing player loyalty to the games on BGX Platform.

During the implementation of overdraft mechanisms, BGX took into account the

various peculiarities regarding this scope of activities from the regional regulative perspective. For this reason, the overdraft functions on the BGX platform are similar to purchase installment plans (hire purchases), and in addition, provide reliable protection against withdrawal of loaned funds from the platform. This leaves viable lending within the game mechanics and loyalty programs implemented by game developers, while not diving into consumer credit processes.

The most important principles in the implementation of BGX overdrafts are these:

- Establishment of maximum similarity between BGX overdrafts and installment mechanisms;
- Availability of reliable mechanisms for protecting against the withdrawal and cashing out of overdraft credit funds;
- Determination of the overdraft limit for each player;
- Dynamic determination of a player's individual overdraft capacity based on his behavior using AI;
- Convenient overdraft parameter settings for game developers;
- Possibility of implementing both paid and free overdrafts for players at the discretion of game developers.

As already mentioned above, the overdraft limit is determined by the BGX platform individually for each player. The most important factor in determining the limit is its purpose. When providing overdrafts, the BGX Platform takes into account the risk of losing funds associated with the intention to withdraw and cash out loaned funds, protecting against this kind of fraud.

It should be emphasized that the BGX Platform has two types of internal currency: the BGX Tokens in the player's virtual wallet and the in-game currency – BGT Coins. Overdrafts are provided only in the BGT currency, and the BGT Coins collected this way cannot be exchanged for BGX Tokens or another cryptocurrency and taken out of the platform. This policy prevents fraudulent and illegal credit practices with the goal of cashing out.

#### **The following are Overdraft use cases:**

**1.** Content that cannot be resold without selling one's account on the BGX platform:

- The sale of add-ons, editions, premium content. A strategy of some game developers is to constantly feed the interests of players with various additions to the game (missions, quests, etc.).
- Crowdfunding of in-app purchases. Players pool their funds, for example, to improve the town of their clan: changing horse carriages to trains can significantly increase the clan's ability to trade. Assets cannot be traded across games, so overdraft may be used.

- Subscription fee. Frequently, the player wants to continue being connected to the game here, and now and paying an extra coin for the urgency would not be a waste.
- Selling in-game items and equipment, customization, etc. The use of overdraft is only possible in games where the sale of such assets back onto the in-game market is impossible or where developers place a temporary block on selling equipment for accounts with outstanding overdrafts.
- Gifts. The overdraft is limited for this article and is determined by the possibility of monetizing the gift by selling it within the game and by the loyalty of the player making the gift.

**2.** Paid activity within the game. The overdraft limit is dynamically determined by the player's loyalty:

- Bets
- Additional lives / moves
- Disabling ads
- Pre-ordering or crowdfunding new games
- Contests and tournaments

In addition to game-specific overdraft factors, the following platform-wide factors may affect the limits provided:

- The amount of mobile games using the BGX platform. Paid and free games are weighted differently;
- The overall time spent by the player in mobile apps using the BGX platform. The analysis covers data within the last 24 hours, week, month or year;
- The amount of funds that the player has contributed into the BGX platform, a tranche (portioned) structure across time;
- One of the most important criteria for determining the overdraft size is the credit history of the player on the BGX platform. This credit history is limited to the behavior on the platform.

Using the settings provided by the BGX platform, any given developer can determine the basic limits and terms behind overdrafts to set a grace period and to structure the installments (some installments are free, some are paid).

The platform allows developers to have their own overdraft accessibility strategies with different risks, covering the costs of defaults using funds from their own commission.

## &gt;&gt; 5.5

LOYALTY CLUB  
REVENUE SHARING

BGX Tokens can be exchanged for BGT Coins and spent on the platform. . No matter how long players hold their BGX Tokens, it is assumed that eventually either they themselves or one of the next parties who bought the Token from them will exchange it for a BGT Coin. That is why each BGX Token is considered to be just an unspent Coin, and thus represents the belief in the platform's future and eventual participation. This is why all holders are entered into the Loyalty Club.

Within the Loyalty Club there is the revenue sharing program as a way to give back to our token holders. A total of 60% of all transaction commissions are allocated to these token holders, with the BGX Platform retaining the other 40%. Of these 60%, 20% are given to the operators of Nodes (20% of transaction commissions are equal to 2% of the total transaction value).

The remaining 40% are distributed once per year according to the following model:

- **Bronze Level:** 100 – 999 Tokens held; **6%** of all commissions equally shared between holders
- **Silver Level:** 1,000 – 9,999 Tokens held; **8%** of all commissions equally shared between holders
- **Gold Level:** 10,000 – 99,999 Tokens held; **12%** of all commissions equally shared between holders
- **Platinum Level:** 100,000+ Tokens held; **14%** of all commissions equally shared between holders

The structure of the Loyalty Club encourages holding and purchasing BGX Tokens, enabling Tokens to rise in value quickly due to supply scarcity. At the same time, the Holders incentives and the rising prices do not interfere with regular platform operations, since BGT Coins can be purchased by any cryptocurrency and their price is fixed.

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## 6. PRODUCT ROADMAP

BGX development will occur according to the DSDM Atern Agile framework and will be completed in iterations with a focus on business-goals. Within the framework of the adopted methodology, all results are provided gradually, according to a pre-set schedule:

<b>pre-2017</b>	Development of Xelopes Core and processing platform	Building distinct technological module sand testing the mincommercial projects
<b>July, 2017</b>	Product concept	Forming an overall vision of the product, marketing studies, team formation
<b>October, 2017</b>	Creation of the architecture and prototype	Creating an abstract architecture and making the main technological decisions, building a model for neural networ learning
<b>April, 2018</b>	Creation of the MVP	Forming the product prototype to provide the user with the main funtions, developing specifications, confirming the product's features
<b>May, 2018</b>	Token Generation Event	BGX token crowdsale
<b>September, 2018</b>	Single-Node Alpha version User Wallet	Forming the first version of a processing node with the possibilities of buying and selling BGX tokens and developing the main modules. Placing the user wallet as an independent app on the main app markets
<b>December, 2018</b>	Multi-node Alpha Version	Forming a multi-node system with the ability to conduct decentralized processing and facilitating data exchange
<b>April, 2019</b>	Beta version with AI module	Integration of external blockchain solutions, inclusion of AI functions in monitoring tranactions, providing functions for app dissemination
<b>September, 2019</b>	Including external nodes into file exchange	Forming automated data exchange with external systems, signing up external app markets
<b>March, 2020</b>	Automat ed token launch for game applications	Expanding partnerships with development organizations, forming a full SDK, including the module for sub-token emissions
<b>July, 2020</b>	Unfolding of independent nodes	Un folding the number of nodesan forming astable BGX ecosystem



## 7 TEAM

### >> 7.1

#### MISSION

The BGX mission is to use the AI-powered processing platform amplified by game capabilities to democratize the multi-billion mobile games industry.

We believe that in the era of decentralization, the application market cannot remain under the control of only a few vendors. To create solutions, the ecosystem must be united. For this purpose, the entire platform (with the exception of the investment module BIFROST Funding Module) will be available as an open source. Any developer can join the platform and develop it as a part of the game community.

### >> 7.2

#### TEAM OVERVIEW

We have assembled a powerful team of highly motivated professionals. Our competences include deep technological knowledge, a good understanding of business and finance, and significant opportunities for building scalable, world-class solutions.



**COSTA  
ZAKHAROV**

Co-founder,  
Operational Director



**IGOR  
MISHNEV**

Co-founder, Business  
Development Director

We call Costa the heart of the project. His incredible energy and constant team encouragement leads his team to creative energies that circulate the blood in our BGX organism. With Costa, you cannot relax or succumb to gloom. He instinctively feels any rising soft spots and directs himself towards full support. Costa has enormous experience in entrepreneurship, organization leadership, and implementation of successful projects in not only software development, but also in tens of other industries. It seems that he possesses the foresight to bring the most daring ideas into reality.

If we continue the analogy between BGX and a living organism, Igor functions as the lungs of the project. It is his unending effort in finding like-minded supporters and partners who bring us the development and confidence aligned with our business goals. BGX is not Igor's first project. He is the co-founder of several large software companies that both develop projects for others and release their own products, including mobile games.



VALERY  
KHZATOV

Co-founder,  
Technology Director



ALLA  
WIELICZKER

Product  
Development

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Valery is the brain of BGX. In fact, he is the brain that astonishes with the depth and breadth of business and development knowledge. It is not surprising, Valery's portfolio includes more than 200 projects developed under his direction. These are massive educational, financial, and social projects with teams up to 100 people. Valery's experience is unique — it is hard to find an area in modern technologies that Valery wouldn't know in-depth and where he hasn't already developed a product.

Alla is the company's nervous system. All the strings from smaller sub-projects go through her; she manages the development teams, manages the schedules, distributes module development, and performs quality management. Alla's multitasking and incredible productivity solved what seemed to be unsolvable tasks many times in the past.



THANH  
NGUYEN

Mobile  
Development Leader



PHONG  
NGUYEN

Delivery  
Director

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Thanh is a leader of the Vietnamese development company Titan Technology. With 150+ people on his team, he can manage any mobile based project. Happy to have such a skilled team join our BGX project.

Phong is an outstanding manager and delivery director. He is absolutely dedicated to getting the best result at the right time. With 20 years of experience, Phong's contribution to the project cannot be overestimated.



ALEX  
KHZVATOV

Crypto-Finance  
Officer



TOAN  
TRIEU

Product  
Manager

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Alexander is a Toronto-based crypto-finance specialist and an avid ICO investor. With a distinguished track record in finance, Alexander worked to develop financial instruments for several Fortune 500 companies and governments, prior to specializing in ICOs in their early days.

Toan possesses over thirteen years of mobile device management and enterprise mobility management. He co-founded several reputable software development companies. Toan is a highly educated motivated person.



NICK  
ZAKHAROV

Brand  
Manager



DIMITRY  
YAKIMCHUK

Web-development  
Leader

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Nick began his path in professional sports, earning many wins on the mat in judo. His experience of frequent victories and rare losses gave birth to confidence and determination. These qualities distinguish Nick. He chose brand management as his calling and already brought the LFitExpress brand to the big world. We believe that the BGX brand will shine in new colors in his strong hands.

Dimitry is energetic and the bravest member of the BGX team. The moment Dimitry graduated university with a masters degree, he founded his own web and mobile development company Software Canter. He is not afraid to tackle new projects; he seeks challenges and successfully overcomes them. We are happy that Dimitry and his team became a part of our BGX collective.

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●
**8 LEAD ADVISORS**

**ROBERTO MEDRANO**

ICO Advisor. CEO Beach View, Former GM HP Software, CEO Polivec, President Finjan, Advisor, EVP Akana, Board Member, Sun Microsyste

Roberto is an executive in the information technology fields of cybersecurity, AI, Blockchain, IoT, middleware, governance, API security, microservices, DevOps, software, SaaS, cloud, SOA/API management & enterprise architecture. He has experience with major Fortune 100 companies on transformation initiatives for the Digital Business using cloud, mobile or web technologies with SaaS, on-premises or cloud hybrid products.


**FOREST BARBIERI**

Business Advisor. International Investor and entrepreneur

Forest has a long history of industry success beginning with Educational Resources. He grew ER into the largest supplier of educational technology within the education market. He merged the company with Davidson & Associates, a leading software publisher, and helped lead the combined company to a successful IPO. During his tenure, they purchased several development companies including Blizzard Entertainment. The combined company was sold in 1996 for 1.3 Billion dollars to CUC. Following that, Forest has been active in creating multiple companies and strategic partnerships both within the USA and overseas ranging from boutique technology development to travel, real estate and leisure.


**ALEXANDER BOGDANOV**

Scientific Advisor. D.Sc., Professor of Department of Computer Modelling and Multiprocessor Systems

Professor Alexander Bogdanov has over 40 years of lecturing experience at the esteemed Mathematical-mechanical faculty of St-Petersburg State Technical University, Polytechnical University, Institute for Precise Mechanics and Optics. At present, he is a visiting Professor at the University of Amsterdam and a Professor at Electrotechnical University. Over 200 of his scientific works were published.

**BEN WOODS**

Cybersecurity & Data Protection Advisor, CISSP, CCSP, GDPR-P, Microsoft Security Professional, Cisco Security Professional, and five year President of the international 'Crypto Community'

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Ben is a specialist Cyber Security & Data Protection Consultant with over five years' specific experience in crypto currencies and Blockchain-related technologies. His clients included SWIFT (Society for Worldwide Interbank Financial Telecommunication), NYSE-Euronext, The European Bioinformatics Institute at the European Molecular Laboratory, and NTT Communications. Currently he is Strategic Cybersecurity & Data Protection Advisor to the Cloud Constellation Corporation's multi-satellite SpaceBelt™ program.

**ROMAN TROUCHINE**

Fintech Advisor. Microtransactions and Overdraft development

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Roman has impressive experience in the fintech industry and is one of the world-renowned experts on microcredits. More than 18 years of direct working experience with financial applications in the leading financial organizations has allowed Roman to develop his own independent and deep expertise on the methods and models applied in each situation. Roman participated in the development of complicated scoring model projects with the use of artificial intelligence and brings his expertise and dynamic background to the BGX team.

**DANIEL SHAPIRO**

AI Advisor. Co-Founder & CTO at Lemay Solutions Consulting Inc.

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Daniel is a driven CTO with a broad background in high tech research, development, commercialization, and value creation. Daniel has established proficiency in building startups with software and hardware products, people management, project planning, and government grants. With 27 publications, 16 awards, and four certifications, Daniel's knowledge in technology is extensive.