

An aerial night photograph of a city, likely New York City, with a large baseball stadium in the foreground. The stadium is brightly lit, showing the green field and the orange infield. The surrounding city is dark, with lights from buildings and streets visible. The sky is a deep blue with a hint of orange from the setting or rising sun.

SPORTSPLEX

White Paper
Blockchain Based Sports Platform Protocol
Ver. 1.01

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1. Fantasy Sports

1.1 Definition of Fantasy Sports

Fantasy sport is a simulation game where users assemble their own virtual teams by choosing real players and competing for total scores or winning by the scoring records of individual players based on certain game criteria.

The 'Rotisserie' rules, which became the most common style of gameplay in fantasy sports and created by the magazine editor 'Daniel Okrent' and his friends at the New York City restaurant 'La Rotisserie Francaise' in 1979, are as follows.

- 1) Decide the number of participants in a league.
- 2) The participants in a league draft the agreed number of players without duplication.
- 3) The participants are ranked from first to last by accumulating actual records of players in each of the designated categories. For example, in the case of baseball categories include statistics such as runs, home runs, RBIs (runs battled in), stolen bases, batting average, wins, save points, strikeouts, ERA (earned run average), WHIP (walks plus hits per inning pitched), etc.
- 4) Each category is scored according to the number of participants in one league: in case of 15 participants, the first ranking in the team score gets 15 points, while the last gets 1 point based on the scores of each category.
- 5) The participant gaining the highest sum by adding up scores in each category is determined to be the winner.

It was not easy to play this game because the internet was not widely available, but its groundbreaking entertainment value attracted many sports fans and it was eventually evolved into an online format in 1999 by the web services provider Yahoo who opened the fantasy sports leagues. The fantasy sports combined with the internet became rapidly popular.

1.2 Appearance of Daily Fantasy Sports

The online fantasy sports market dramatically grew when FanDuel and DraftKings introduced daily fantasy sports in 2009 and 2010 respectively that could be enjoyed every day unlike the conventional league system.

While the vast majority of the format remained the same, daily fantasy sports have three different rules from traditional fantasy sports.

First, while traditional fantasy sports were played along with actual games when the real-world leagues started, daily fantasy sports create new games interconnected with real-world daily games, and accordingly their cycle of results of games is not a league but a day.

Second, while participants draft their players without duplication according to draft order in traditional fantasy sports, daily fantasy sports allow duplicate draft picks.

Third, a points system is used to determine the winner in daily fantasy sports, which is different from the 'Rotisserie' system. In other words, it is not that each category in a league is scored, but that all records of individual activity of players are scored and participants compete for the totaled scores.

The following is an example for detailed explanation.

Luke from New York City participates in daily fantasy sports for the games held on June 29, 2018 (during the MLB season). A total of 2 users participate in the game. They each assemble their own teams by registering lineups, 2 pitchers and 8 fielders, whom they choose based on the rules defined by the service. The teams they create are as follows.

LUKE	Pitcher1	Pitcher2	Catcher	1B	2B
	G. Cole	RYU	E. Gattis	M. Muncy	J. Altuve
	3B	SS	OF1	OF2	OF3
	N. Arenado	T. Story	Choo	A. Eaton	I. Happ
USER A	Pitcher1	Pitcher2	Catcher	1B	2B
	Z. Greinke	C. Smith	C. Iannetta	A. Rizzo	J. Altuve
	3B	SS	OF1	OF2	OF3
	A. Bregman	G. Torres	M. Trout	G. Springer	G. Parra

Participating in the game according to the game rules below, which are defined by the service, Luke and the other user record their scores and compete based on the actual performance of their players in real-world games.

Hitter Score Rule		Pitcher Score Rule	
Single	3	Inning Pitched	2.25
Double	5	Strikeout	2
Triple	8	Win	4
Home Run	10	Earned Run Allowed	-2
Run Batted In	2	Hit Against	-0.6
Run	2	Base on Balls Against	-0.6
Base on Balls	2	Hit Batsman	-0.6
Hit By Pitch	2	Complete Game	2.5
Stolen Base	5	Complete Game Shutout	2.5

If Choo, one of Luke's players, takes a very active part in today's game and records 2 Singles, 1 Double, 2 RBI, 1 Run, 1 BB, and 1 SB, Choo will gain the scores below for today's game, according to the rules defined by the service.

Based on the rule: scores on the scoreboard \times actual records,

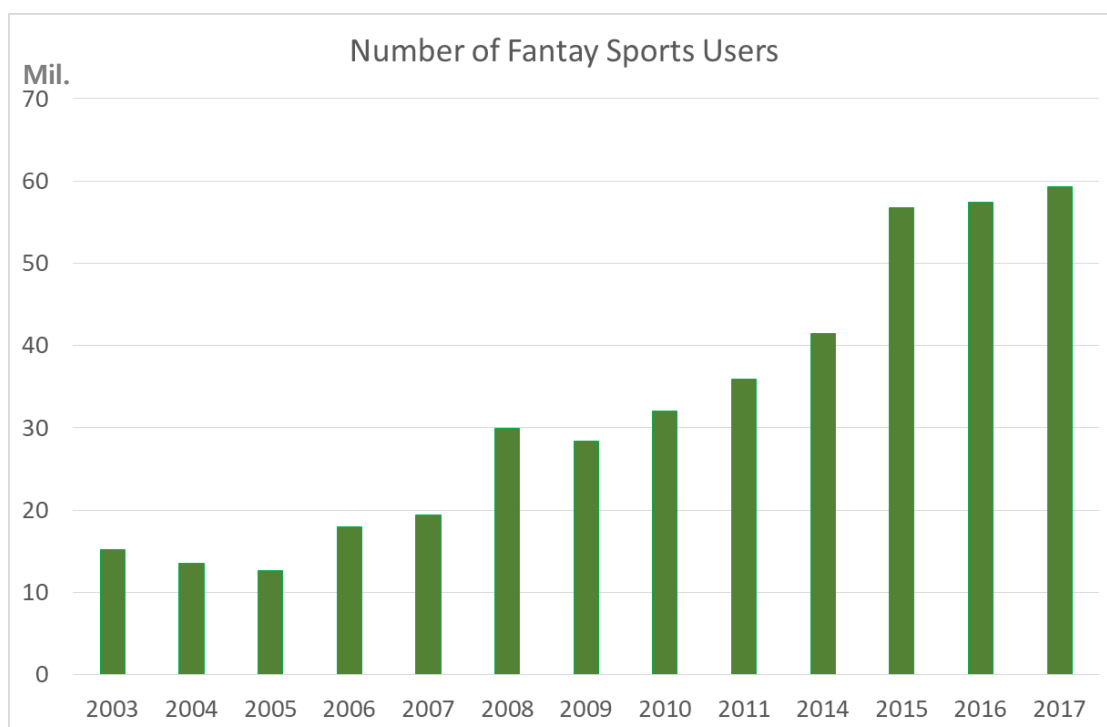
$$3 \times 2 + 5 \times 1 + 2 \times 2 + 2 \times 1 + 2 \times 1 + 5 \times 1 = 24$$

As per this explanation, users participating in each game gain scores based on actual records of the day's game played by 10 players they choose, and the winner is determined by adding up the scores. If Luke gains a total of 156 points by adding up 24 points scored by Choo, 12 points by RYU, and remaining scores by other players, and User A records a total of 143 points using the same scoring system for his or her players, Luke prevails over User A.

As such, the basic rule of daily fantasy sports is that the winner is the user gaining the highest scores by adding up the score multiplied by actual records in the day's game played by the chosen players.

1.3 Growth of Fantasy Sports Market and Current Market Size

According to the Fantasy Sports Trade Association (hereinafter referred to 'FSTA'), fantasy sports was a \$7.22 billion industry in 2017, and 59.3 million fantasy sports users are in the North American market only.¹⁾ The annual trend of number of fantasy sports users, which was first tracked in 2003²⁾, confirms that the market exploded when daily fantasy sports became



popular.

This is also verified by the data on the amount spent by users, which was provided by FSTA. FSTA announced that fantasy sports users spent \$556 a year.³⁾

	2012	2015	2016
Daily Fantasy Sports	\$5	\$257	\$318
Traditional Fantasy Sports	\$60	\$162	\$184
Materials	\$15	\$46	\$54
Total	\$80	\$465	\$556

This is 695% increase in just 4 years in comparison to 2012, which suggests that the amount spent by users on fantasy sports services is rapidly increasing. In addition, the 2017 annual spending on daily fantasy sports is about 1.7 times bigger than traditional fantasy sports, which is a 6,360% increase in comparison to 2012. This reflects the significant growth rate of the market since the appearance of daily fantasy sports services.

2. Limits of Fantasy Sports

2.1 Appearance of 'Shark'

In traditional fantasy sports, seasonal records of players are somewhat predictable because users gain scores and compete based on actual performance of players throughout a season, unless the player in question is a rookie.

However, since daily fantasy sports calculates scores based on records of games played in a single day, the outcome happens to be totally different from what is predicted, in case a certain player takes an unexpectedly significant role in a given game. Such unpredictability of daily fantasy sports adds a unique and novel facet to the traditional fantasy sports service, and brings positive effects that users study and analyze more players before assembling their own team.

The element of unpredictability also gave rise to a new source of revenue to professional online gamblers. The Unlawful Internet Gambling and Enforcement Act of 2006 (hereinafter referred to UIGEA)⁴⁾, caused many internet gamblers generating income from online poker games lose their source of revenue. On the other hand, UIGEA stipulated that daily fantasy sports was not considered online gambling as a skill-based game requiring analyses and studies of real-world players, which made daily fantasy sports welcome its new stage of growth. Online gamblers losing their place with the enforcement of UIGEA flock to daily fantasy sports, and they settle themselves as 'prize hunters' (field expression: 'Shark') by abusing the service through abnormal means.

According to an article published by McKinsey & Company⁵⁾, the negative impact of sharks in daily fantasy sports is a lot more serious than people perceive it. 77% of the entire prizes were won by sharks who accounted for just 1.3% of all users, and 85% of users, the 'minnows', lost in daily fantasy sports games. This problem made casual daily fantasy sports users perceive daily fantasy sports as unfair or as games which are hard to understand and participate in.

The long-loved traditional fantasy sports in North America and daily fantasy sports with fresh and innovative entertainment value in conjunction to traditional fantasy sports generally come off as an attractive services to casual users and sports fans. Yet, unless sharks exploiting these are forced out of the market, this growth of fantasy sports will wane and users will start to turn away from the service.

2.2 Excessive Fees

Fanduel and Draftkings, which have been leading the daily fantasy sports industry, have grown into huge enterprises in less than 10 years since they were founded. They primarily generate their primary by opening leagues, charging a fee from the winnings, and receiving 10% of high entry fees, also known as a 'rake', from participants.

According to Axios, a leading American news curation website, two companies, whose annual sales in 2013 were only \$4 million, recorded over \$100 million in sales both in 2015 and in 2016, and became unicorns with valuation of a billion dollars or more.⁶⁾ They have been leading the daily fantasy sports market as key vendors, and the annual spending of their customers was estimated to be over \$3 billion in 2017.

However, since users feel that their rake prices to be too high, their general stance is that a 'Rakeback' system is necessary under certain conditions. In the event that the majority of service users consider an entry fee excessively high, a company should to review its entry fee policy and try to find a reasonable fee for users to understand. It is because the excessive fee hard to be accepted by service users causes users to complain about the service itself, which consequently leads to customer attrition.

Besides, service providers need to be able to compose its business portfolio to reduce its fee. In case a service provider operates the service depending on a single source of revenue, it is not easy to solve problems and make an adjustment in spite of complaints about the service from customers. It is because sales tend to be seriously dropped by adjusting variables affecting the service which accounts for the majority of sales, unless sales diversity is guaranteed by multiple services provided.

2.3 Astronomical Marketing Expenses

According to Axios, FanDuel and Draftkings have seen a significant increase in their deficit since 2015, despite their high sales. This is because they had to spend enormous advertising costs in light of intense competition.

Furthermore, according to Inc.com, an American magazine which publishes about startups, two companies spent over \$200 million for 10 months on TV advertisements in 2015.⁷⁾ Although the public awareness of the two companies and daily fantasy sports significantly improved in this process, both companies had to shoulder the heavy burden of marketing expenses.

Excessive marketing expenses give negative impact on the financial performance of these companies, and it is unconscionable that these costs are eventually passed on to service users.

Since service providers struggle to overcome cost pressure, it is not easy to solve problems found in current business structure, in case the problems are closely connected with its sales.

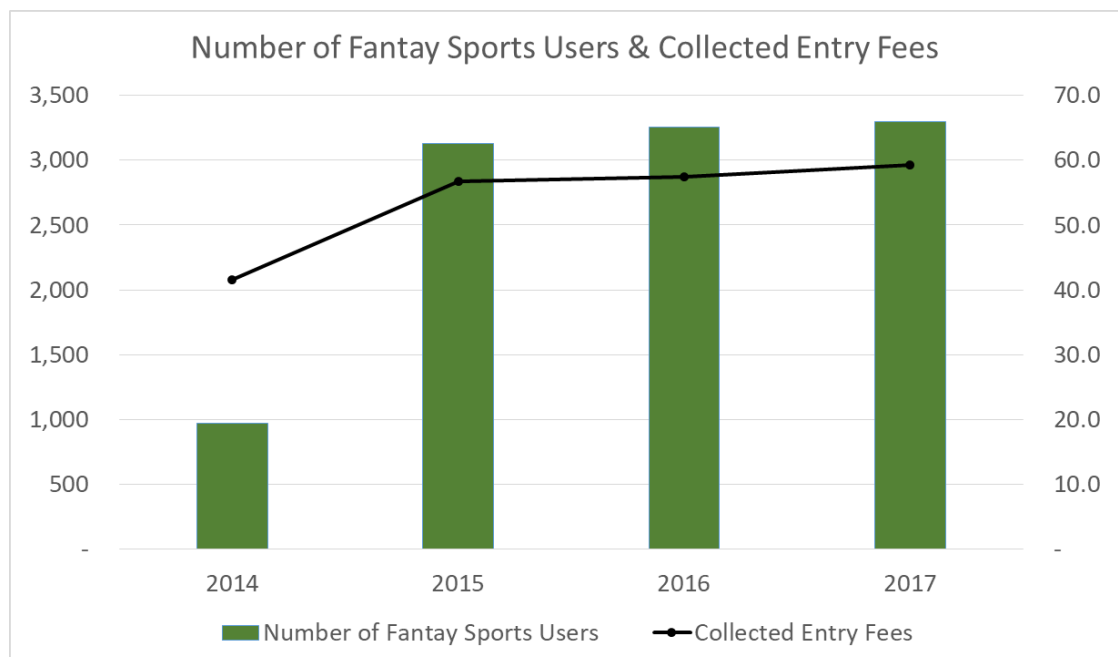
As stated earlier, even if service users complain about excessive fees, current service providers, who are not free from cost pressures, might have difficulties adjusting their entry fee which accounts for a critical part in their sales.

This issue can be viewed from a different perspective. According to the report published by McKinsey & Company⁸⁾, sharks accounting for 1.3% of all users generate around 40% of revenues in daily fantasy sports. Even if genuine problems of sharks were first addressed in 2014, the companies might be afraid of resolving the problems for their immediate profits because the sales generated by sharks already took up a considerable portion. Otherwise, sharks, who were likely to cause long-term problems, could have been forced out of this market.

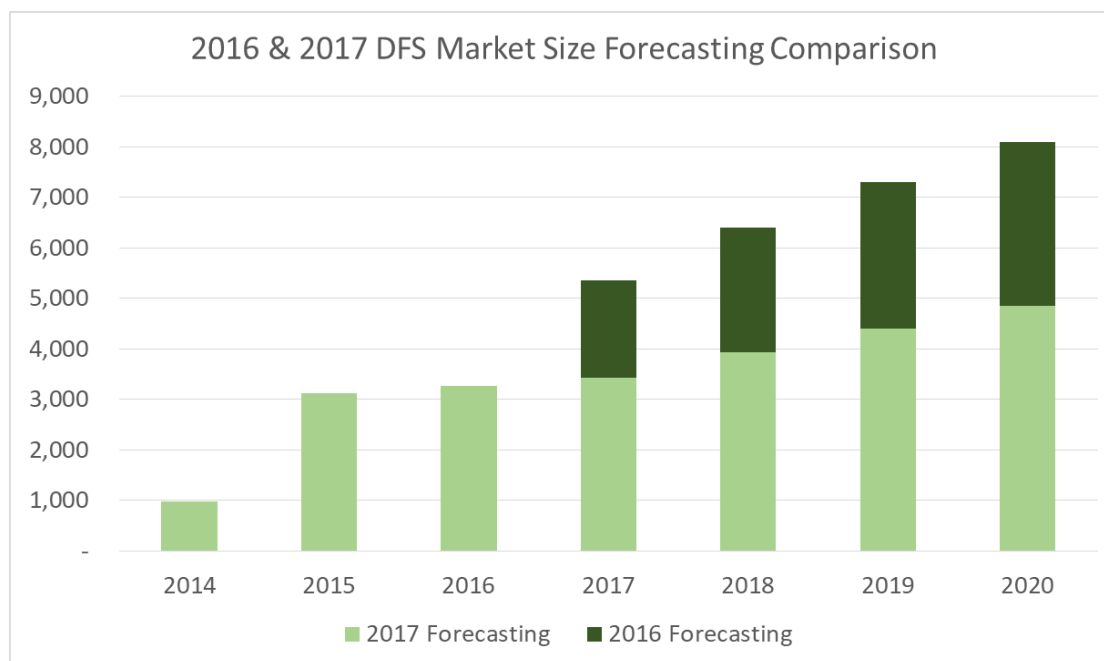
Therefore, a service provider needs to advertise its service most effectively after planning how to reduce costs.

2.4 Stagnation of Service Participation

The year-on-year comparisons of the number of fantasy sports users, which was published by FSTA (Fantasy Sports Trade Association), shows that the industry's growth has been stagnant since 2015. This is also confirmed by the total annual amount of entry fees⁹⁾ for daily fantasy sports, which was published by Wall Street Journal.



Eilers & Krejcie Gaming report published in 2016¹⁰⁾ that Wall Street Journal used for its own report forecast the daily fantasy sports market would be near USD 8 billion in 2020. However, their report published in 2017 took a conservative position on the growth forecast by adjusting it to USD 4.8 billion. Wall Street Journal pointed out that this was caused by casual users who found the daily fantasy sports hard to play and lost their interest due to the existence of sharks.



However, there is something we need to put into perspective, namely that the fantasy sports industry has grown 6 times fold over the last 10 years. This explosive growth of the fantasy sports market proves that there is a large base that passionately scrutinized and analyzes each of their favorite sports before participating as opposed to casually watching and enjoying sports as a simple spectator.

Therefore, when sharks are not allowed to play irregular games against casual users in fantasy sports services and new services are developed based on the analysis of play patterns of sports fans in the fantasy sport market, these will promote the influx of casual users again into the participatory sports service market. Through this process, participatory sports services based on the fantasy sports market will find their place again and leap for the explosive growth, as many research firms originally forecast.

Finding and developing new contents can expand a sport platform and advance the sports service market.

Furthermore, studies of emerging services are critical for the process of developing multiple services satisfying users, not to operate the service depending on a single source of revenue, mentioned earlier

2.5 Problem Awareness

The SPORTSPLEX team identifies 4 major issues in the current fantasy sports market.

First, in the long run, casual everyday users enjoying sports will turn away from fantasy sports, unless the sharks who regard daily fantasy sports as a mere gambling or speculation opportunity are filtered from the market.

Second, since fantasy sports fans are dissatisfied with the 10% entry fee charged by current service providers, the optimum point of this fee should be readjusted to a more reasonable level.

Third, marketing expenses spent by current fantasy sports service providers are excessive. The spending of marketing costs is eventually passed on to service users and causes them to experience an unsatisfactory services. Therefore, we will need to devise ways to introduce the service at a lower cost.

Fourth, the growth of service users has been stagnant since the emergence of sharks in the market, but the fantasy sport industry has grown tremendously. As described above, this means that there are large groups of sports fans who are not simply watching sports but studying and analyzing sports teams and players before participating in games. Therefore, the market may possibly expand greatly once again by introducing a new participatory sports service into this market.

We believe that all of the above problems may be solved when a service platform provider enhances its own transparency and discovers and develops new services.

We plan to allow service users to access records showing patterns of fantasy sports service users, so that they may directly identify sharks having unusual usage patterns. However, users' trust in operations of a platform provider is required for this whole process. It's because many fantasy sports users are constantly questioning that sharks generating high sales and platform providers are on the same side.

In addition, we will allow users to decide the optimal fee based on a rational decision-making through collective intelligence of all users, so that service participants can pleasantly enjoy our service. Along with this plan to reduce an entry fee, we'll come up with a structure of incentives as the reverse side of the entry fee reduction that will help users make a rational decision between setting a low entry fee and receiving more incentives to draw the optimum point of entry fee.

Furthermore, we want to grow our platform and ecosystem with our users. We hope to have our system intimately connecting pure sports fans and enabling service participants to

contribute to the overall platform expansion. We envisage a system of self-proliferation and development by means of decentralized marketing methods, whereby each of our users introduces our platform to their fellow sports fans. We will share the value created by this growth with our service participants, so that contributing value of users can translate to direct economic value.

Lastly, we will collaborate with a variety of strategic and industry partners to launch and discover original services optimized for fantasy sports user patterns. Progressing a single platform while managing various partnerships and collaborations require a unified value system which accommodates the needs of diverse partners and operating the platform transparently. Otherwise, users will be confused about our services.

3. Problem Solving and Progress

3.1 Elimination of 'Sharks'

Many daily fantasy sports users find the games unfair because of the lukewarm response from FanDuel or Draftkings to sharks.

The actions¹⁰⁾ taken by two companies to protect casual users from sharks can be summarized as follows.

Fanduel	Draftkings
<ul style="list-style-type: none">• Entry limits for more than 5,000 contests per slate• Entry limits for contests with entry fee of \$10 or less• Encouraging to enter one lineup into the same contest• Entry limits for different lineups in a contest• Beginner contests for those who have entered less than 50 contests• Experienced player indicator: 2 levels	<ul style="list-style-type: none">• Entry limit of high volume player for any contest with entry fee less than \$3• Total prize limit of high volume player for contests with entry fee of less than \$5• Entry limits up to 20 max in contests with entry fee less than \$5• Separate contest allowing players to enter 150+ lineups at once• Beginner contests for those who have entered less than 50 contests• Experienced level badges for players: 7 levels

Although such measures are not unreasonable, such self-regulated environments are ineffective in keeping sharks from targeting beginners of daily fantasy sports, and ultimately do little to remove sharks from the daily fantasy market.

Casual users of daily fantasy sports enter contests with their lineup assembled by analyzing real-world games and players. This process usually takes about 30 min - 60 min on average. However, sharks enter contests with lineups from 40 to 1,000 using an Excel Macro. In addition, they create many IDs to break limitation rule of participating contests and lineups from service operator, and the creation date of IDs tends to be the very day.

SPORTSPLEX plans to implement stronger operation policies on sharks as compared to those of FanDuel and Draftkings. In addition, based on the know-how it had accumulated by operating different services and the experiences it had gained by providing services, multiple supplementary tools will be added.

SPORTSPLEX will restrict the participation with an abnormally large number of lineups, which is the common pattern found in sharks' plays. Submitting 150 lineups in a game or playing 5,000 games in one slate is not the pattern found in casual users' playing. Therefore, the SPORTSPLEX team will place stricter limits on these numbers. In the case of multiple IDs used by one player even under tighter restriction, we will place a participation limit per IP or per MAC to respond to uncommon patterns of sharks.

However, we believe that we need to devise a fundamental way for service users of SPORTSPLEX to avoid playing against sharks themselves, as we believe this is the key for the SPORTSPLEX platform to win the trust of its service users. So far, daily fantasy sports users have been constantly doubtful that service providers and sharks are actually on the same side. Sports fans have been claiming that the creation of player indicators such as 2 levels or 5 levels based on the cumulative number of entries without transparently disclosing play patterns of multiple users or the entry restriction to 5,000 contests per slate are allowing sharks free use of services and letting them enter abnormal games. That's why SPORTSPLEX needs to enable users to trust its commitment to restrictions on sharks by using information irreversibility and transparency of the blockchain.

SPORTSPLEX will store game participation records of all users in the blockchain and allow users to access service use behaviors of other users. Through this function, users can not only check uncommon play patterns of other players, but also avoid playing against sharks.

Besides, we plan to counteract the patterns of sharks using massively and rapidly created ghost IDs by saving activity scores which are records of user participation history on the platform and banning the participation in high-stakes games in case activity scores don't meet set criteria.

SPORTSPLEX can instill trust in users through this process, inasmuch as the information provided by SPORTSPLEX will be disclosed based on irreversible transactions in the blockchain.

3.2 Reasonable Fee Policies

As previously explained, the current fantasy sport market provides the service by charging an excessive entry fee of 10% or more. SPORTSPLEX will adopt policies similar to the existing entry fee system at the early stages of its service launch.

However, after the services commence, the fee system will be altered at regular intervals through the agreement of entire users. The optimal fee can be determined by defining the fee policy based on a consensus among a large number of rational service users by means of the

users' voting on the fee policy every 2 weeks. Since users are likely to vote for the entry fee reduction unless the attractive incentive system available at the reverse side of the entry fee reduction is provided for users, SPORTSPLEX needs to help users to reach the most efficient entry fee level by creating the structure where the lower fee leads to lower incentives and the higher fee leads to higher incentives.

3.3 User-Contributed Marketing for Platform Expansion

SPORTSPLEX aims to create referral scores, which are the scores assigned for sharing the value of the platform expansion through a meaningful activity on the platform that is the introduction of the SPORTSPLEX platform to others. The referral scores are not simply gained by introducing the SPORTSPLEX to others but gained when a new user shares his or her scores of activities in SPORTSPLEX with the recommender. Therefore, recommenders will introduce this service to someone who can enjoy the service in SPORTSPLEX.

SPORTSPLEX will also incur marketing expenses to advertise for its services in the initial phases of market entry. However, once service participants are secured, we will encourage each one of them to act as their own marketing channel. We believe, as the number of service participants increases, the marketing effectiveness through referral scores will be improved which will reduce marketing costs. We will also design and operate this program efficiently so that users may believe that influx of more participants in the service facilitates the value sharing along with the growth of the platform.

Savings on marketing costs will relieve the revenue pressure on SPORTSPLEX and stimulate investments in the expansion of the platform. We believe that this chain effect will develop SPORTSPLEX into the platform loved by many sports fans, and moreover realize the vision to flourish into the all-encompassing general sports platform that all avid sports fans will eventually join.

3.4 New Service Findings

To stimulate the stagnant fantasy sports market, new services should be researched and developed to cater to the preferences of enthusiastic pure sports fans. The introduction of new services not only brings new kinds of enjoyment and anticipation to sports fans, but also helps a service provider to reduce its business dependence on fantasy sports, as explained earlier. This diversity of service portfolio will allow SPORTSPLEX to focus on the service itself.

We analyzed the usage behaviors of daily fantasy sports players to break away from our

service limited to fantasy sports, and maximize the utilization and value of tokens as the service area of SPORTSPLEX expands.

According to the FSTA, fantasy sports users typically access the service to check game results and replace their lineups, but they also use the service to analyze players and obtain data. Therefore, it can be inferred that fantasy sports users carry a strong sense of immersion and are familiar with analyses of sports and studies on players with enjoying this process. In other words, users of fantasy sports enjoy not only simply watching sports but also having fun by participating in the sports-based service games on the basis of their knowledge and analysis.

Also, the basic nature of fantasy sports includes 'competition' for scores gained depending on performances of players they choose and 'reward' for a winning prize. These are the most fundamental elements found in all online games, which enables us to infer that fantasy sports users are very familiar with games.

Therefore, we will offer three types of new participatory services to fantasy sports users. First, an online manager game based on simulation engines; second, an instant fantasy sports offering virtual fantasy games based on simulation engines; and third, a platform where service participant-generated contents on analyses and studies are shared.

Both the first and the second services are built on simulation engines. The world's most famous simulation engine-based manager games are 'Football Manager' series and 'Out of the Park' series. The manager game is a type of game where a user becomes a coach or a club owner, plans strategies through analyses of players, and buys and transfers players for the squad, and then results of matches are calculated by applying skill variables of each player into simulation function engines.

Famous existing manager games are not competing against other players as stand-alone games but playing against artificial intelligence. Unlike conventional manager games, SPORTSPLEX brings users excitement by allowing a large number of participants to compete with each other, instead of playing alone, and making a winner reap rewards. Service participants may gain a competitive advantage in this process, similarly to fantasy sports, through analyses and researches of real-world players and games. NABU Studio, who will build SPORTSPLEX, has already set a solid foundation for this based on its successful experiences of launching and operating the 'Baseball 9ers' in 2011 and 'Football Day' in 2013, a multi-player manager game.

Instant fantasy sports is a service created based on the new excitement of daily fantasy sports, which shortens the results cycle of traditional fantasy sports. SPORTSPLEX will allow users to experience the day's play in advance based on simulation engines to be introduced in its manager game and will offer them a novel entertainment experience by integrating the

existing modes of daily fantasy sports into this prior mode of experience.

Third, we plan to take more careful approach to the sharing platform for user-generated contents on sports before opening it.

Based on the team's experiences so far, fantasy sports and manger games are the services allowing a lot of user-generated contents. It's because there is a culture in this service that service participants share their analyses and studies with other users and discuss them. For this very reason, the sharing based platform for these contents becomes inevitable.

3.5 Evolution of Fantasy Sport by Blockchain and Cryptocurrency

The introduction of the fantasy sports service combined with the blockchain and the cryptocurrency has many benefits besides the solution to the above-mentioned problems.

Users of the fantasy sport services adopting the existing legal tender have to go through complicated verification procedures for deposits and withdrawals. They need to provide their legal identification, proof of residence, etc. However, SPORTSPLEX allows users to enjoy the fantasy sports conveniently by joining it with social login and a simple email verification process.

Besides, it takes up to 2-3 weeks to process the request for withdrawal in current fantasy sports services. However, when the cryptocurrency of the blockchain is adopted, users can receive their winnings almost immediately upon their request.

Besides these benefits, the most innovative development of the blockchain-based fantasy sports is that all sports fans in the world can enjoy fantasy sports all together in SPORTSPLEX. The above-mentioned simple service joining and transaction procedures and the use of cryptocurrency that is not fiat used in a single region enable world users to enjoy services in a single platform.

4. SPORTSPLEX Protocol

4.1 Definition of SPORTSPLEX Protocol

The SPORTSPLEX protocol is a platform that systematically connects all sports-related services based on fantasy sports.

We think the problems of existing fantasy sports can be solved in a more effective way through the blockchain and the token economy with the three following value systems. (i) SPORTSPLEX Ownership (hereinafter referred to 'SPO') defining rational service participation mechanism among users, (ii) SPORTSPLEX Token (hereinafter referred to 'SPX') having a basic currency function in SPORTSPLEX and the currency volatility just like other cryptocurrency, and (iii) SPORTSPLEX Cash (hereinafter referred to 'SPC') with fixed value for normal service uses

With the advent of the blockchain technology, SPORTSPLEX will be able to transparently store the activity scores, the usage history of all service participants, and the reputation scores of individual users, guiding service participants to be able to access and trust these records. In addition to the values above, we will employ the blockchain technology into the user participatory voting to lower price policies and fees, which will allow us to set up the best price policies to satisfy all users.

Besides, the token economy will enable users to act as marketing channels by themselves, contributing to expand the platform, and it will minimize confusion to users by allowing them to operate a single economic system organically when it comes to development of new service with multiple partners.

4.2 SPORTSPLEX Ownership: Definition of 'SPO'

'SPO' is a credit-rating system that forms the basis for determining various rewards and platform rules in the ecosystem of the SPORTSPLEX protocol. 'SPO' can be generated based on three major scores and the scores are as follows.

$$SPO = \sum f(\text{SPORTSPLEX Action History}) + \sum f(\text{My Friends' SPO} \times 0.1) + \sum f(\text{SPX Collected History} + \text{SPC Collected History})$$

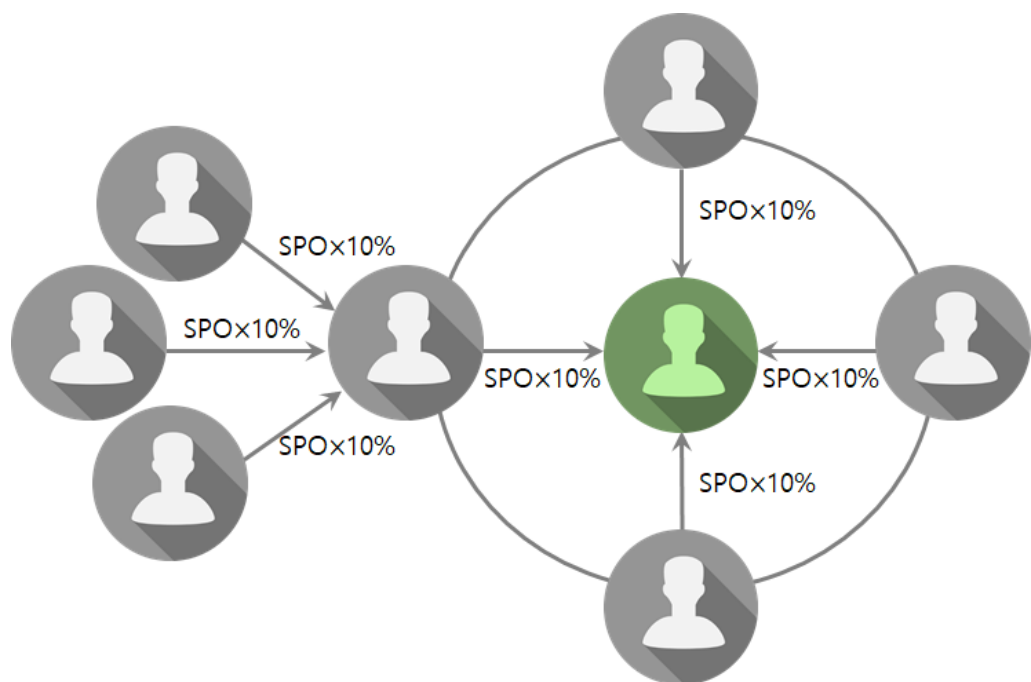
(i) it is the activity score gained by participating in various services of SPORTSPLEX, (ii) introducing SPORTSPLEX (referral score) to others and together with playing with them, (iii)

contributing to the collection of 'SPX' or 'SOC' (consumption score) using the service of SPORTSPLEX, (iv) using the service of SPORTSPLEX by others (reputation score).

· **Activity Score**

The activity score is a natural record of various services in SPORTSPLEX. For example, when a user participates in several contests in fantasy sports, the most basic service of SPORTSPLEX, it is recorded per a set number of participations. Partner companies participating in the SPORTSPLEX network can also set this score to be assigned to a user each time their service is used. The SPORTSPLEX team defines weightings for all activity scores together with partner companies before incorporating them into the 'SPO' scoring system to ensure that the scores are not concentrated on a particular service. Since the use of the service in the SPORTSPLEX platform is the powerful force to keep the platform vital, a user's simple participation in the service can be regarded as a contribution to the growth of the SPORTSPLEX platform.

· **Referral Score**



The referral score is gained by introducing the SPORTSPLEX platform to others and have them engaged in the service. A user does not gain this score simply by introducing SPORTSPLEX, but receives 10% of the cumulated 'SPO' from other users who participate in the service by invitation. This will work as an effective value chain because this connects the score of a user who starts enjoying the service by referral and new users get the 'SPO' score gained by the referral of existing users. We believe that this mechanism will be an effective alternative to advertisements for the marketing strategy in the long-term.

· **Consumption Score**

The consumption score is an accumulated score depending on the volume of consumed 'SPX' and 'SPC' using SPORTSPLEX. All partners participating in the SPORTSPLEX network will use 'SPX' and 'SPC' as a common value system. The consumption of 'SPX' platform, whether its value is constantly changing in the SPORTSPLEX or not, is considered an important contribution for cryptocurrency liquidity and revenue generation.

4.3 SPORTSPLEX Token: Definition of 'SPX'

With a basic currency function in SPORTSPLEX 'SPX' is the tradable token among users. This 'SPX' is used within the SPORTSPLEX network in two ways. (i) 'SPX' should be available to be used for the service when participating in the SPORTSPLEX network as a partner. 'SPX' is also needed to place an advertisement in the SPORTSPLEX. (ii) 'SPX' is used to buy and sell items between the users. For example, a user can sell his/her sports player by agreeing to a number of 'SPX' offered by another player, thereby creating a sports-based auction. Furthermore, the players can use 'SPX' to pay the entry fee to participate in fantasy sports and this entry fee can be adjusted between the users.

4.4 SPORTSPLEX Cash: Definition of 'SPC'

Another currency of SPORTSPLEX is 'SPC'. All transactions of 'SPC' are recorded in the blockchain, but it does not have the nature of cryptocurrency. SPC is akin to digital cash that can be purchased on the SPORTSPLEX platform. SPC is used to purchase items provided by the service provider and unlike 'SPX', it cannot be traded between the users.

On the other hand, SPORTSPLEX is the platform with strong B2C characteristics. The introduction of a highly volatile cryptocurrency in the market where contents are consumed at the fixed price, may cause users to face great inconvenience and confusion. If users need to use a cryptocurrency to purchase items for their sports-based games, the purchasers would bear the inconvenience because the purchase quantity varies depending on daily value changes.

Services should be most efficient and convenient to users. If not, service users will turn away from the services in the long run, so we will prevent the downside situation by introducing 'SPC', a token having a consistent value.

4.5 Service Steering Committee

Voting takes place every 2 weeks for users to agree on the rule of key services among users to establish reasonable price policies. We call this the 'Service Steering Committee'. The voting right for the Service Steering Committee is distributed based on the accumulated 'SPO' scores for 2 weeks. 1 point of 'SPO' means one vote with the voting limitation of 2000 per account. The purpose of this voting with the limitation is to prevent any user with exclusive voting rights from misusing the voting for the benefit of a certain user or group, rather than the development of SPORTSPLEX.

Various agendas may be addressed to the Service Steering Committee as the SPORTSPLEX platform is expanded. It is expected that the entry fee to use fantasy sports will be the most important issue at the early stage. The auction or the trading fee for various contents to be initially provided by SPORTSPLEX may be the agenda of the Service Steering Committee.

We believe that users' hostility toward excessive entry fee, which is one of the problems in the current operation of can be resolved through the voting system of the Service Steering Committee. Soon after the fee agreed on by a large number of users participating in the service will be acceptable to all users, the users are more likely to accept that lowered fee.

In order to work the voting system properly, two preconditions are necessary

(i) Transparency of the voting process should be guaranteed with blockchain technology. The application of blockchain technology to online voting converts voting information from a centralized system into a decentralized system. It's been already proven that the technical evidence can improve the problem of fraudulent voting, such as a third-party intervention.

(ii) Incentives are necessary for rational decision making. Without an effective incentive system, all users would vote for the lowering fee in order to get immediate benefits. Therefore, an incentive system should be prepared for all participants to evaluate the fee reduction reasonably.

4.6 Incentive System in SPORTSPLEX

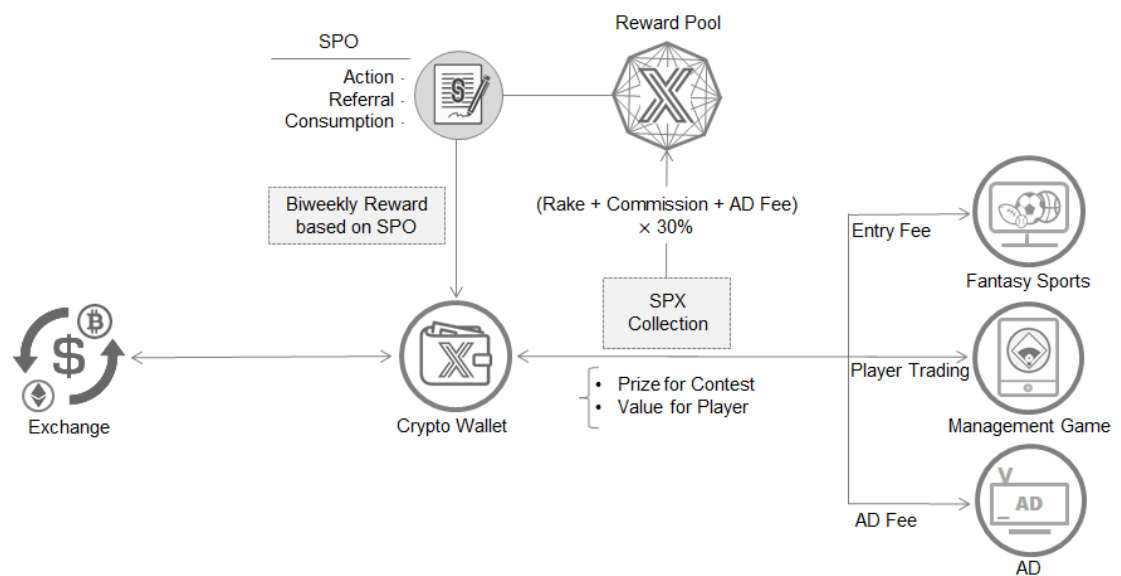
SPORTSPLEX gives 2-week accumulatively collected 'SPX' as the incentive based on 'SPO' records according to the following function.

SPORTSPLEX users will consume 'SPX' to pay for the entry fee of fantasy sports or use other services provided by its partners. We store 50% of the 'SPX' collected through this consumption in the SPORTSPLEX incentive pool.

These incentives are issued and given out to users, based on the result of function using accumulated 'SPO', after the Service Steering Committee voting taking place every 2 weeks.

However, incentives, which is 5% of the 'SPX' to be gained, are paid on a daily basis for 20 days to minimize the fluctuation in 'SPX' value.

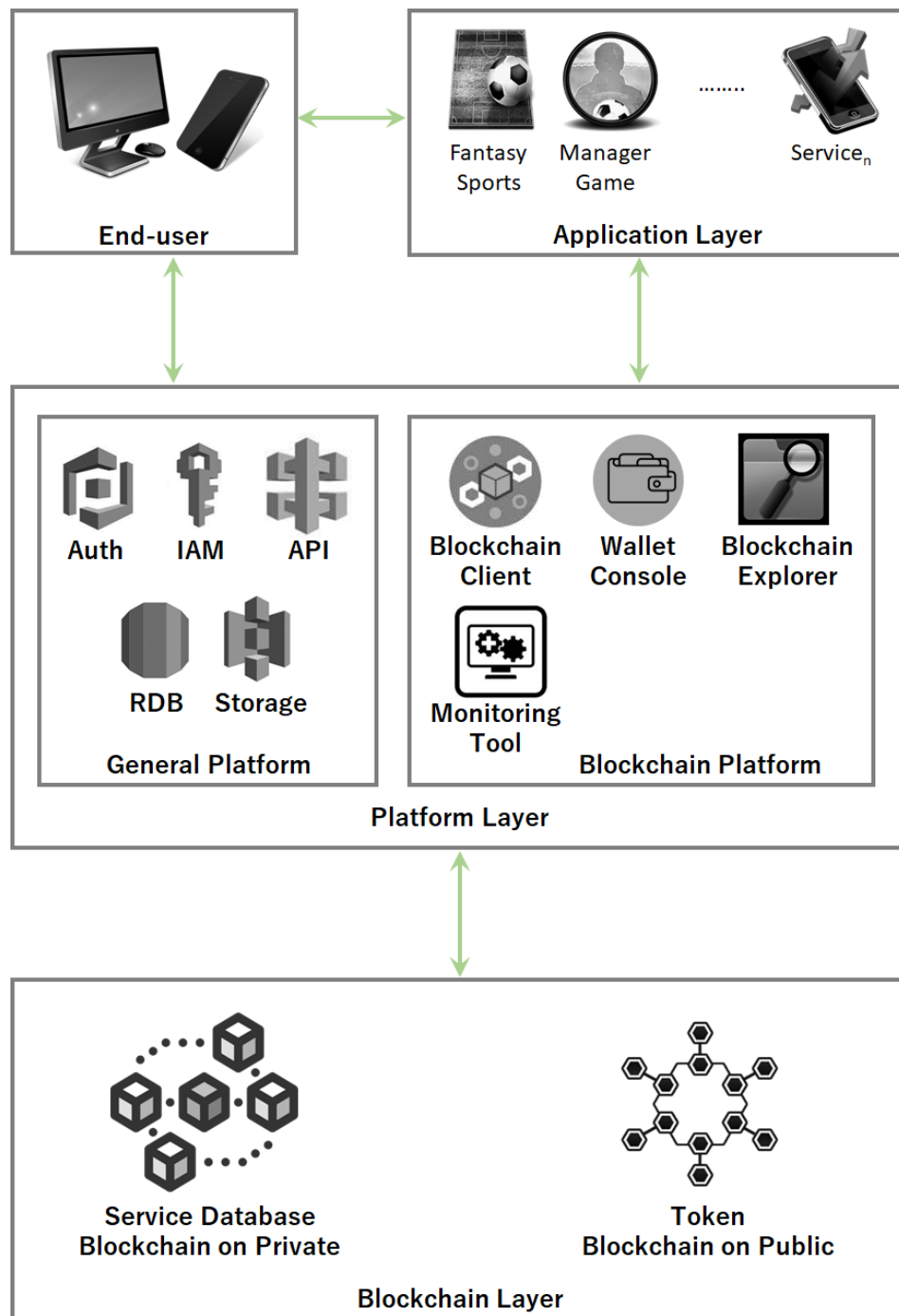
This incentive system allows the Service Steering Committee voting to be a reasonable decision-making tool. When voters reduce the fees for each service, service fees are immediately lowered, but on the contrary when the fees are increased, the allocated incentives are increased depending on 'SPO' scores, which allows rational participants to find the optimum point of the most efficient fees.



5. SPORTSPLEX Architecture

5.1 Technical Structure of SPORTSPLEX

Although the SPORTSPLEX system doesn't have a traditional hierarchical structure, it can be grouped into three layers depending on roles and characteristics of the components: application, platform, and blockchain layer.



5.2 Application Layer

The application layer, at which various applications running on the SPORTSPLEX platform are located, includes fantasy sports, multiple manager games, and etc. as an early stage of service. In the future, the application layer will be enriched with the development of user-created contents.

For this, the SPORTSPLEX team supports the open API and SDK, envisioning anyone can develop various applications running on the SPORTSPLEX platform.

APIs and SDKs provided by the SPORTSPLEX platform allow the applications of SPORTSPLEX to construct various functions easily and quickly such as authentication, payment, messaging, and etc. With this support, new service partners can focus on developing core contents. Furthermore, through the blockchain interface offered by the SPORTSPLEX platform, applications providers and application service users can easily access the information on the blockchain of SPORTSPLEX without relying on technical knowledge.

5.3 Platform Layer

The platform layer, providing APIs to be used by applications, functions as the portal for users and as the API server for service providers. Depending on characteristics of APIs, it consists of a general platform component providing a portal function and a blockchain component which provides a communication function with the blockchain layer.

- **General Platform**

The users of SPORTSPLEX application services can enjoy the convenience of integrated authentication, social authentication, etc. on the SPORTSPLEX portal. The general platform provides basic functions for online services such as authentication, and payment, as such service providers can focus on developing core contents.

- **Blockchain Platform**

The blockchain platform acts as an intermediary allowing service users or service providers to communicate with the blockchain layer. Based on its role, the components of the blockchain platform consist of (i) smart contracts (blockchain client), (ii) a monitoring tool transmitting to applications, (iii) a blockchain explorer to access the blockchain information, (iv) and a wallet console to keep users' tokens. The blockchain client is the main agent running smart contracts. It supports the movement of tokens between inside and outside of SPORTSPLEX and performs various functions embodied in the private blockchain according to requests from applications and users.

Applications can receive events occurring in the blockchain through the blockchain monitoring tool. This can provide users with post-processing services of the blockchain events. The blockchain explorer looks for contents related to SPORTSPLEX in the public blockchain and allows searches according to various conditions in the private blockchain.

Users can use these features on the SPORTSPLEX portal. The wallet console used inside SPORTSPLEX is securely managed on the blockchain platform in a different way.

5.4 Blockchain Layer

The blockchain layer of SPORTSPLEX consists of both a public blockchain for tokens, and a private blockchain for service data.

SPORTSPLEX pursues the irreversible token economy allowing service participants to have transparent decision-making process and realize the shared value. The public blockchain platform of SPORTSPLEX should have a stable consensus algorithm and block-producing process to form the token economy pursued by SPORTSPLEX. It also needs to be able to process a large number of transactions at a reasonable cost.

Users can enjoy contents using tokens with ensured transaction by the public blockchain in SPORTSPLEX. The private blockchain manages the history of changes for events and assets associated with these transactions. Since the history of events and assets is the proof of determining each value, irreversible storage for data and the basis of the token economy of SPORTSPLEX are required. On the other hand, this data has a feature that it is not frequently needed in using usual services. With this feature, using the private blockchain is cost-effective and simplifies the process, in comparison with using DB or analyzing logs.

· Public Blockchain

The public blockchain manages 'SPX', 'SPC' tokens, consumed to use services, and 'SPO' defining the history of activities of participants on the platform. It also defines policies on incentives, distribution, and currency supply depending on 'SPO'. 'SPO' is the convergence of smart contracts operated by the history of activities on the platform, and interactions between service providers, service participants, 'SPX', and 'SPC'.

They are applied on the blockchain in various forms including the currency supply. "SPX" tokens contribute to the development of the ecosystem in SPORTSPLEX and aim to work organically with 'SPO'. This requires 'SPX' tokens to be separately managed by dividing registered tokens in SPORTSPLEX for the service participation from regular tokens. The token deposit and withdrawal between SPORTSPLEX and an external wallet go through the process of making a request to the public blockchain platform through API provided

by the SPORTSPLEX portal. 'SPC' uses the blockchain to improve transparency and security of the operation of cash used in SPORTSPLEX, thus no external wallet is provided because it is only valid within SPORTSPLEX.

- **Private Blockchain**

Users can enjoy a variety of contents using 'SPX' and 'SPC' tokens in the SPORTSPLEX applications. SPORTSPLEX creates and manages the blockchain-based assets using the private blockchain for these contents producing transactions of tokens. This enhances not only stability in handling and transparency in managing records, but also handles the process of ownership transfer tracking and accounts settlement. Applications request the creation of the blockchain-based assets through the asset-creating protocol on the blockchain platform.

The history of assets registered in the blockchain is continuously managed through the blockchain. Its platform provides a function to search for status changes, transaction and distribution details. Since the records of the blockchain-based assets are available for everyone to access transparently, statistics and analysis functions are provided as a smart contract. It is run upon a user's request or it can be automatically run on the blockchain platform on a conditional basis. These functions are also available to users on the SPORTSPLEX portal. SPORTSPLEX easily and transparently manages settlement processes which are created by contents such as fantasy sports games, players trading in manager games based on smart contracts. The settlement process by a smart contract ensures real-time data accuracy and supports a real-time settlement-processing function.

This process is run according to set procedures. The settlement process supports a pricing function by auction and a multilateral clearing function, which generate different results depending on conditions, for fantasy sports games and manager games that are primarily developed. The settlement process will vary as various types of assets are necessary depending on the service.

5.5 Selection of the Public Blockchain Platform

The SPORTSPLEX team studied several public blockchain platforms to effectively establish the previously described SPORTSPLEX network. SPORTSPLEX has the service structure where frequent transactions are made given that the transactions speed is important. Those enjoy the service of SPORTSPLEX should be defined as common users and they don't understand the technical limitations of the blockchain technology however, the important matter for them is to feel pleasure through service experience.

As one of efforts we have made to improve the satisfaction from users, we strive to find the

platform with powerful network performance facilitating multiple transactions rapidly at a reasonable cost without laying a cost burden for frequent transactions on users.

In addition, we work with the platform with extensive experiences in B2C besides technical performance. Unlike many other blockchain projects, the ecosystem we're trying to build is a directly connected service to end users, providing users with user-friendly experiences based on B2C platform.

Given these factors, we believe that the Klaytn of GroundX is the best fit for our requirements. Having the smart contract technology equipped with all our technical requirements, the Klaytn of GroundX also has the experience of B2C platform that had been refined through Kakao service for a long period of time.

6. New Services

6.1 MLB Manager Game 'SP Dugout'

'SP Dugout' is the first manager game based on the simulation engine that was explained in the previous chapter.

In 'SP Dugout', a total of 30 users form one league – 15 users each in two major leagues - just like the real-world MLB league structure and play 162 games for 2 weeks in the pennant race and the postseason.

The first game of the league starts at 11 a.m. on Sunday EST. Game plays every hour, and users apply their game strategies in real time by accessing the game on the starting time. The last match takes place at midnight EST. The next day, they resume games at 11 a.m. EST. A mid-season break begins from Friday midnight EST in the 1st week to 5:00 p.m. on Saturday EST, and the postseason starts at noon on Friday EST in the 2nd week. The world series starts at 3:00 p.m. on Saturday EST, and users earn rewards including necessary resources and players for games, depending on league final results.

PST	EST	SUN		MON		TUE		WED		THU		FRI		SAT	
		1 st W	2 nd W	1 st W	2 nd W	1 st W	2 nd W	1 st W	2 nd W	1 st W	2 nd W	1 st W	2 nd W	1 st W	2 nd W
0	3	No Match													
~															
7	10														
8	11	1	93	15	107	29	121	43	135	57	149	71		Season Break	
9	12	2	94	16	108	30	122	44	136	58	150	72	WC		
10	13	3	95	17	109	31	123	45	137	59	151	73	DS1		
11	14	4	96	18	110	32	124	46	138	60	152	74	DS2		
12	15	5	97	19	111	33	125	47	139	61	153	75	DS3		WS1
13	16	6	98	20	112	34	126	48	140	62	154	76	DS4		WS2
14	17	7	99	21	113	35	127	49	141	63	155	77	DS5	85	WS3
15	18	8	100	22	114	36	128	50	142	64	156	78	CS1	86	WS4
16	19	9	101	23	115	37	129	51	143	65	157	79	CS2	87	WS5
17	20	10	102	24	116	38	130	52	144	66	158	80	CS3	88	WS6
18	21	11	103	25	117	39	131	53	145	67	159	81	CS4	89	WS7
19	22	12	104	26	118	40	132	54	146	68	160	82	CS5	90	
20	23	13	105	27	119	41	133	55	147	69	161	83	CS6	91	
21	24	14	106	28	120	42	134	56	148	70	162	84	CS7	92	

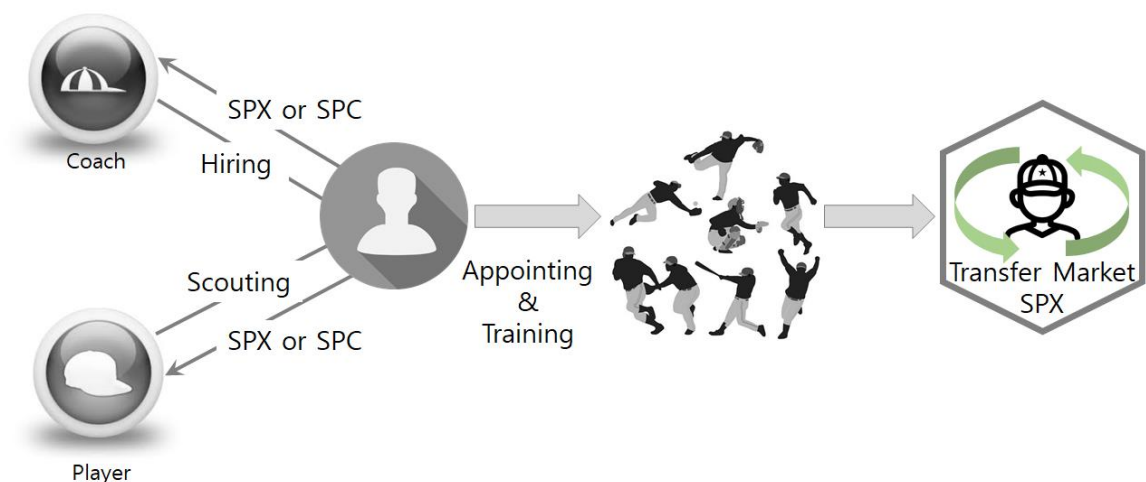
The most important resource in SP Dugout is players. In the game, users can scout players in a variety of ways, and all players are offered free of charge except for trades or auctions among users. However, there is an extra time required to source players depending on the types of contents, so users can shorten this extra time by consuming 'SPC' depending on a

remaining period.

Batters have 10 skill levels and pitchers have 8 skill levels. The skill level of the players is set by records of the players in a given year, but the growth limitation of the players is randomly assigned. In order to improve their skill sets, users need to recruit good coaches, train players, and use them in many games.

The difference in growth of players through the combination of several coaches make users find enjoyment of this game with the difference in growth of players and fostering players through talented coaches to obtain better scores.

While most items in SP Dugout use 'SPC' currency, particular players provided by SPORTSPLEX or coaches with special features will be scouted in 'SPX' auction. The trading market also uses 'SPX' to trade players. Due to the characteristic of the SP Dugout's growth system where various players can be fostered, the player will be traded at a high 'SPX' price. We believe this process will increase users' demand for 'SPX' and raise the value of 'SPX'.



The SPORTSPLEX team plans to start with the baseball-based manager game in Q1 of 2020. We start the baseball manager game because the baseball data is more accurate than that of other sports, so the design and development of engines based on this data could be essential for various manager games to be developed later. In the future, through baseball-based simulation engines we develop various manager games such as European soccer, NBA, NHL, and NFL going forward.

6.2 Instant Fantasy Sports

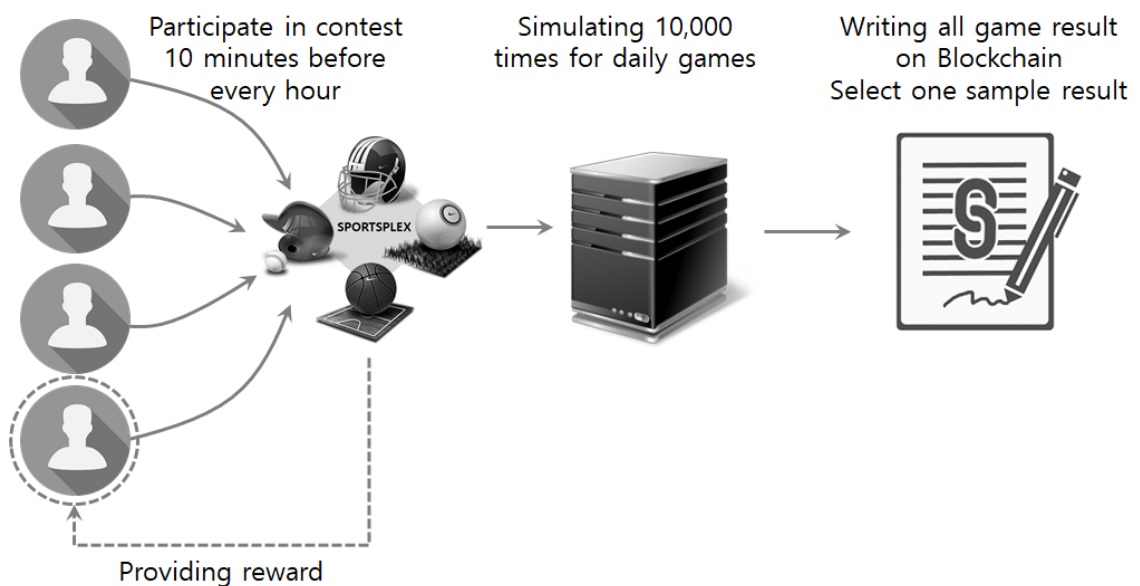
SPORTSPLEX plans to provide users with Instant Fantasy Sports (IFS) by combining daily fantasy sports and simulation engines.

This service has the same format as daily fantasy sports. In other words, like daily fantasy sports, users select 10 players for the day's game and compete against each other based on the players' records.

Further, the game of that day is simulated using our game engines to generate the outcome before the real-world game takes place. After 10,000 simulations for one game, a randomly selected result is published. The ranking is determined by the same scoring system as daily fantasy sports, depending on game records of each player from the extracted result.

All results of 10,000 simulations per game are recorded on the blockchain, and the random selection of result is also stored in it. Since the ranking is determined not by the real-life match result but by the simulation result, the original simulation result would be reliable and transparently open to users, which will allow them to find this game fair.

Instant fantasy sports take place 3 times a day at 10:00 a.m., 11:00 a.m., and noon EST. Users select 10 players and submit their lineup in 10 minutes, before the game begins. It has a similarity as the daily fantasy sports. Then, SPORTSPLEX simulates the game of the day 5 minutes before every hour and publish the result with the hashtag value.



Instant fantasy sports is provided as a free of charge in the early phase of the service. Users can enter the contest without an entry fee and receive a reward, varying from day to day. Instant fantasy sports will help users trust the simulation engines and get interested in the manager game as well.

Instant fantasy sports allows participants in daily fantasy sports to experience simulation results of actual games of the day first. With that result, they can use instant fantasy sports to create their own lineup for daily fantasy sports they actually participate in. Daily fantasy sports users will have unique experiences of undergoing the day's games in advance and checking

their lineups.

The first service of instant fantasy sports, MLB Instant Fantasy Sports, will be launched in 2Q, 2020. Since instant fantasy sports requires more sophisticated simulation engines, the manager game SP Dugout and MLB Instant fantasy sports are not launched together. Further, data from the actual result could be provided based on more data built through multiple models. Similarly, instant fantasy games such as European Soccer, NBA, NHL, NFL, etc. will be introduced to users based on sufficient data after the release of the manager game.

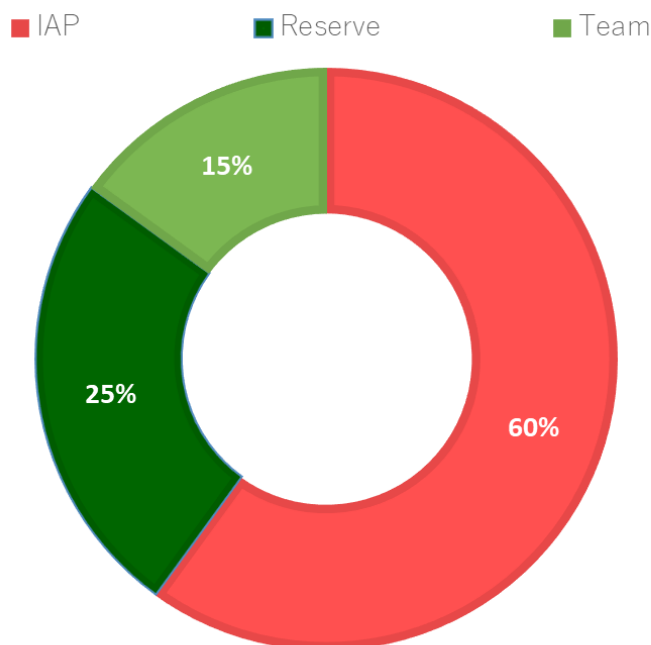
Instant fantasy sports will be converted to a paid service when it is activated and internally accumulates a large amount of data. In 2009, Fanduel gained sensational popularity by making up for the weakness of traditional fantasy sports which took too long to see game results. Since instant fantasy sports offered by SPORTSPLEX is designed to allow users to virtually experience daily fantasy sports games before the actual game results are available. We believe it can bring a new change to the fantasy sports market in the same way as daily fantasy sports.

7. SPORTSPLEX Token

7.1 SPORTSPLEX Token Generation Event

A total of 1 billion SPORTSPLEX tokens (hereinafter referred to 'SPX') will be issued. 'SPX' is allocated in each of the following categories as a basic currency of the platform.

Category	Portion	Quantity
IAP	60%	600,000,000
Reserve	25%	150,000,000
Team	15%	150,000,000



There will be no initial coin offering of 'SPX'. 'SPX' will be available for sale only after the SPORTSPLEX is officially launched. Therefore, 'SPX' will be distributed through services of SPORTSPLEX along with the launch of SPORTSPLEX since 'SPX' is a utility token.

After the service is launched, SPORTSPLEX will set the price of 'SPX' and announces every two weeks. This price is calculated by referring to the price of the exchange on which 'SPX' is listed. The total amount of token distributed to the IAP once every two weeks is determined by the analysis of data on demand and supply from the service. SPORTSPLEX will focus on minimizing the price fluctuation of 'SPX' for users in order to avoid any confusion and

disruption in the use of SPORTSPLEX services. Although 'SPX' does not seek to be a stable coin by employing artificial methods, we will adjust demand and supply based on data analysis and will limit the price fluctuation within -10% to 5% in a month.

The token assigned to Reserve is used for the activation and stability of the SPORTSPLEX platform. It will be used for effective collaboration of partner companies and for the stability of 'SPX'. And it will be used for internal service marketing of SPORTSPLEX.

Tokens assigned to teams are prohibited for sales and transfers for 18 months.

An aerial, high-angle photograph of a large baseball stadium at night. The stadium is brightly lit, with its tiered seating and the baseball field clearly visible. The field's diamond and bases are illuminated, and the pitcher's mound is prominent. The stadium is situated in a dense urban environment, with a river or canal flowing through the city in the background. The city skyline is visible in the distance, with numerous buildings and lights. The overall scene is a dramatic, high-contrast black and white image.

APPENDIX

ROADMAP

Schedules		Main Events	Details
2018	3Q	Simulation Core Development	Simulation engine function, matching, player growth engine development
		White Paper Release	Introduction of the SPORTSPLEX vision
	4Q	SPORTSPLEX Service Modules Development and Test	Development and Test of basic modules including fantasy sports
2019	1Q	SPORTSPLEX DFS Development	SPORTSPLEX DFS development including PC and mobile
	2Q	Token Generation Event (TGE)	Generating and allocation SPX
		SPORTSPLEX Blockchain Development and Test	SPORTSPLEX blockchain development completion and auditing
	3Q	SPORTSPLEX Platform Test	Testing SPORTSPLEX modules on Klaytn
		SPORTSPLEX Platform Release	Release of the entire SPORTSPLEX Platform before the season
		MLB DFS Release	MLB daily fantasy sports Release
	4Q	Listing on Exchange	Listing on exchange via the partnership
		NBA DFS Release	NBA daily fantasy sports Release
2020	1Q	LOL DFS Release	LOL daily fantasy sports Release
	2Q	SP Dugout Release	Final version launch after CBT
		MLB IFS Release	MLB IFS release based on Dugout Engine
	3Q	Introduction of Sports Blog & Community Partners	Sports Blog & Community Open Platform Release
		European Soccer, NFL, NHL DFS Release	European Soccer, NFL, NHL daily fantasy sports Release
	4Q	NBA Manager Game Release	NBA Manager Game Release using Sim Engine Core + Dynamics Zone Engine
2021	1Q	NBA IFS Release	NBA IFS release based on manager game simulation engine
		Introduction of Sports News Partners	Sports News Open Platform Release
		SP Dugout NPB Release	SP Dugout NPB Version Launch
	2Q	Sports UCC Platform Partnership and Opening	Opening of Sports UCC Platform
	3Q	NHL Manager Game Release	NHL Manager Game Release using Sim Engine Core + Dynamics Zone Engine
	4Q	NHL IFS Release	NHL IFS release based on manager game simulation engine
2022	3Q	NFL Manager Game Release	NFL Game Release by combining Sim Engine Core + Dynamics Zone Engine + Order Action Sim Engine
	4Q	NFL IFS Launch	NFL IFS release based on manager game simulation engine

TEAM

NABU Studio is the company specializing in developing sports services and sports simulation games. The initial development and core services of SPORTSPLEX are jointly developed with NABU Studio. NABU Studio was established on Mar. 10th, 2018 by experts with more than 10 years of experiences in developing sports services and sports simulation games.

Company Name:	NABU STUDIO
Date of Establishment:	2018. 03. 10.
Homepage:	www.nabustuido.co.kr
Address:	Bundangnaegok Rd 117 4 th Fl. Bundang Seongnam Gyeonggi Korea



Danny S. Woo CEO



Game Currency and Game Production, 15 years of experience
Anipang Plus CEO
NHN Blackpick CEO
NHN Entertainment VP
NHN Gambling Game, Sports Game General Deputy Manager
NHN USA BD General Deputy Manager
Seoul National University Business Administration Major

Leading the SPORTSPLEX development project, Danny S. Woo has 12 years of working experiences at NHN where he was in charge of Hangame Poker and Go-Stop businesses. He systematically established the management and distribution theory of game currency by carrying out Hangame Poker and Go-Stop businesses from 2004. In 2007 and 2008 when he worked for NHN USA Business Development, he contributed to a monthly sales increase from

\$300,000 to \$1 million. He came back to Korea in 2009 and directed the gambling game. Based on his game data analysis skill and currency management ability, he made an innovative integration of a sports portal and a game by launching Naver Baseball 9ers service in 2011, and in 2013, he proved the synergy effect between a sports portal and a simulation game once again through Naver Football Day. He left NHN in 2015 and successfully launched Anipang Matgo and Anipang Poker with SundayToz. He joined the SPORTSPLEX project to lead this project.

Jongsu Byun CSO



Game Currency and Game Balance, 14 years of experience
Anipang Plus CSO
NHN Blackpick Baseball 9ers Team Manager
NHN Go-Stop+Poker Business Team
KAIST Department of Industrial & Systems Engineering

Taking charge of defining core functions of simulation engines and designing the token economy in the SPORTSPLEX project, Jong-soo Byeon was in charge of game balance and game currency of different genres of games including RPG, Poker, and sports simulations during his 10 years of working at NHN. He developed his strong acumen in data analysis and overall currency managing balance in the practical field of RPG and Poker currency management, which became the basis of overall management of Baseball 9ers project in 2011 ranging from business strategy and game balance to entire game currency management and data analysis. He joined Anipang Plus, founded in 2015, as CSO where he took charge of business strategy and currency model design of Anipang Matgo, Anipang Poker, and Anipang Sudda. He joined the SPORTSPLEX project in March 2018.

Wihun Kang CTO

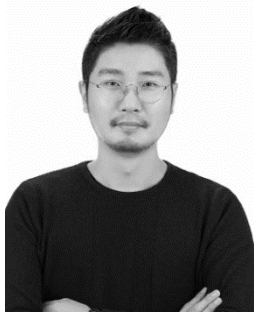


Game Production and Game Development, 12 years of experience
XLGAMES ProjectX4 TD
XLGAMES Civilization Online Lead Programmer
XLGAMES ArcheAge Senior Programmer
Mgame Japan Programmer
KAIST School of Computing

Taking overall charge of technologies in the SPORTSPLEX project, Wee-hoon Kang developed games in Mgame and XLGAMES. Through his working experience in Mgame Japan, he got very familiar with development processes of engines and clients based on a global partnership program. In XLGAMES, he joined consecutive big projects where he programmed high capacity

processing, defined complicated client mechanism, and modified and developed newly introduced engines. He joined the SPORTSPLEX project when he has been studying a blockchain and cryptocurrency for a personal interest since early 2017. Now, he takes charge of technical designs and studies of the blockchain and the entire technology of the project.

Iljun Jang CCO



Sports Game Art and Branding, 15 years of experience

Micro Studio Branding and Design, CCO

NHN Entertainment Art Team Manager

NHN Baseball 9ers, Football Day Design Directing

NHN USA Service Design Directing

NHN Naver News, Sports, Entertainment design

Hongik University College of Design and Art Digital Media Design Major

Leading the design and branding of the SPORTSPLEX project, Il-joon Jang has always been at the touch point with users as a UX and UI designer during the last 10 years. He had a variety of career experiences at NHN crossing over boundaries between the search service and the game portal service. Starting with the Naver Sports service design, he led the sports-related art and marketing designs including Baseball 9ers and Football Day which are sports simulation games based on the web and the mobile. Before joining the SPORTSPLEX project, he built up overall on-off line design experience by renewing the branding of 'Micro Studio', an off-line based EMS training service.

Ilho Jo Programmer



Sim-Engine and Game Server Development 10 years of experience

LinePlus Line Rangers Development

NHN Baseball 9ers and Football Day Simulation Engine Programmer

Hangame Web Development Office

Pusan National University School of Computer Science and Engineering

He began his career as a developer of Hangame Web Service at NHN and developed a platform in a web-based high capacity client game project. Based on this experience, he started developing the simulation engine in the Baseball 9ers project. He has over 8 years of experience in the sports simulation engine development as well as the operational know-how. Later, he moved to LinePlus where he joined the Line Rangers server development and experienced the development and operation of a global high capacity service. In 2017, he gained the experience of blockchain by conducting R&D of new technologies.

Seonyoung Han Programmer

Web and Game Development 14 years of experience
Anipang Matgo, Anipang Poker, Anipang Sudda Server Development
NHN Japan Simulation Baseball Game Development
NHN Naver Baseball 9ers Game and Paid Service Development
NHN Game Web Service and Log Analyzing System Development
Ewha Womans University Graduate School
Department of Computer Science & Engineering Database Major

After developing a number of web services, she joined NHN in 2006 where she started her game development with the Hangame web service. After experiencing the programming in Hangame including game log analysis and currency management analysis, she joined the Baseball 9ers project with the service launch. As the analysis of Baseball 9ers and its paid service necessity hit their stride, she developed its paid game base on her previous experience in POS system and Hangame analyzing system development and contributed to the growth of sales by successfully developing the paid service of Baseball 9ers having complicated currency system and service structure connected with Naver Sports. Later, she gained the experience in designing and developing a high capacity server by participating in the server development of Anipang Matgo, Anipang Poker, Anipang Sudda, and the facebook instant game Slotmate. She joined the SPORTSPLEX project in April 2018.

Kiyoona Do Designer

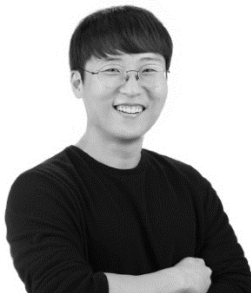
Game Art Design 7 years of experience
Anipang Plus Game Design
NHN Entertainment Publishing Art Team
NHN Entertainment In-house Art Support Team
PlusMX Game Art Design
PlusMX Partner Design
Hansung University Visual & Image Design

She joined NHN as a professional game art designer after gaining design experiences of games and various applications in a design agency where she designed UX and UI of webs and applications. She also developed UX for global users through various global projects such as the internally developed NHN global gambling, Simulation Baseball Game & Puzzle Game developed by NHN Japan, etc. Afterwards, she collaborated in various UX and UI designs for Sports, Puzzle, RPG, SNG, etc. in the publishing art team where the collaboration with partners was very important. So far, she's created a total of 30 game art designs. She joined the SPORTSPLEX project in April 2018 based on her UX and UI experiences of sports games.

Haeson Lee Game Designer

Game Service and Mobile Service Designing 10 years of experience
Anipang Plus Game Designing
NHN PAYCO Partnership
NHN Entertainment Global Business Development
NHN Baseball 9ers Game Designing
NHN USA Game Service Designing
Ohio State University Management Information System

She designed several services of Baseball 9ers at NHN Headquarters after gaining various planning experiences of game services and web services at NHN USA. Afterwards, she experienced overseas business development through various global partnerships related to the game publishing and participated in the Fin Tech business development as well as the establishment of PAYCO. Her designing ability to secure fun and value was proved in her previous projects at NHN such as Baseball 9ers, Anipang Matgo, Anipang Poker, and Anipang Sudda. She joined the SPORTSPLEX project in April 2018 based on her experiences of NHN USA and global business.

Jonghyeok Lim Game Designer

Game Production and Designing 8 years of experience
NHN Entertainment Vietnam Gambling Project PD
NHN Entertainment Mobile Poker Planning
NHN Japan Simulation Baseball Game Project PD
NHN Baseball 9ers Game Designing Director
NHN Sports Game Operation Management
Hanyang University Department of English Language & Literature

He gained experiences of various games by taking charging of operation management at NHN. With his passion for sports game, he joined the Baseball 9ers project where he started to produce a simulation game. After his great contribution to the sales growth of the Baseball 9ers through his designing of the paid game service, he took charge of overall game designing of the Baseball 9ers and served as PD in the simulation game development project carried out by NHN Japan. Afterwards, he participated in several projects of mobile poker and gambling games based on his analyzing and producing ability in the Baseball 9ers. He has been designing the Dapp game and pursuing his personal studies of cryptocurrency and a blockchain since 2017, and he joined the SPORTSPLEX project in March 2018.

PARTNERS



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