A TRANSPARENT SPORTS BETTING AND GAMBLING PLATFORM BASED ON SMART CONTRACTS ON THE ETHEREUM BLOCKCHAIN THAT RETURNS 100% OF PROFITS TO THE DBET HOUSE CREDIT HOLDERS.

VERSION 0.5.2

ABSTRACT

Decent.bet is a transparent, smart contract based sports betting platform and online casino. Employing the Ethereum blockchain based smart contracts, Decent.bet is aiming for mass adoption. Unlike other decentralized gambling platforms which primarily use Ether and Bitcoin for transactions, Decent.bet makes use of specialized ERC20 tokens – DBETs to facilitate bets on the platform as well as buy credits in the house, known as DBET house credits. This opens up numerous possibilities such as community owned houses, white label solutions and more.

The Decent.bet sports betting platform will make use of a trusted setup wherein the Decent.bet addresses will provide betting lines and outcomes. All transactions will be transparent and verifiable on the blockchain. This transparency will make it impossible for malicious or predatory activity to take place from the outset. All payouts, credit distributions, lottery winnings, house buy-ins, would be completely decentralized and determined on-chain.

A whole host of gambling based casino games will also be available on the Decent.bet platform – making use of off-chain state channels that are finally verifiable on-chain. The speed and scalability would combine the user experience of a high-end gambling platform while bringing the transparency and auditability of the blockchain.

This paper discusses the functioning of the Decent.bet user-owned house model, state channel based casino games, white label solutions, decentralized houses and business prospects for the platform.

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1.0 ABBREVIATIONS AND DEFINITIONS

DBET Exchange	Decentralized exchange for DBET tokens and DBET House Credits
DBETs	ERC-20 Token used for placing bets on the Decent.bet platform.
DBET House Credit	A DBET token entered into the House for a complete session.
House	The Cumulative DBET house credits locked into a session to back all bets placed for the associated session.
Session	3-month period of gaming whereby profits are distributed at the end of each session.
White Label House	Gaming platform supported by Decent.bet that other companies may choose to rebrand as to make appear as if they had developed it.

2.0 INTRODUCTION

2.1 About Decent.bet

Decent.bet is a transparent profit sharing sportsbook and gambling platform employing decentralized Smart Contracts on the Ethereum blockchain.

Decent.bet aims to provide a long-term solution to allow users from around the world to establish credit in the houses, DBET house credits, that provide sports betting and gambling games while leveraging the blockchain to provide transparency, verifiability and constant uptime, unlike other regular online casinos. This platform structure allows users to generate returns with minimal interaction while allowing houses on the Decent.bet platform to operate and payout DBET house credit returns in a transparent and honest manner.

Decent.bet will start out with a single house operated by the Decent.bet platform and in due time open doors to traditional casino operators to establish houses on the platform. This essentially allows traditional casino operators to leverage blockchain technology to provide the next generation of gambling games and sports betting to their existing user base.

2.2 Problems and Solutions

Problem: High profit-generating gambling platforms owned by a single group/entity with limited transparency running on dated technology stacks.

Traditional online casinos/sports betting platforms available in the current market, work in a completely centralized manner and operating profits are distributed between selected individual(s)/group(s).

Although this may not pose as much of a problem at the moment, with the coming shift from centralization and tightly controlled models to a decentralized future, the current model has a high-risk of being outdated in the coming years. Decent.bet's vision aims

to make full use of the opportunity that presents itself with the upcoming shift to decentralization – where DBET house credit holders will have a say in how the platform moves forward with a decentralized governance model, receive profits generated by the platform for each session and even get to contribute to democratically selected charitable causes.

With the current push for disruptive blockchain based solutions among all industries and the obvious fit for gambling based solutions, there are a few platforms that have been conceptualized and at times have even been implemented over the last year. However, regardless of what stage existing platforms are at this point in time, there are a few fundamental issues that do exist with a majority of them.

Problem: Blockchain based casinos providing slow, costly blockchain dependent games without layer-2 solutions, sports betting platforms in their infancy/concept stages and profit sharing gambling platforms with a single house model.

Platforms that have been built on the Ethereum Blockchain face the same problems that all decentralized platforms built on Ethereum face right now. Games that are traditionally played at a quick pace, are slowed down due to the slow block times for RNG and transactions on the blockchain in general. Although this would not be a problem in the future with the scheduled upgrades to the Ethereum network that will greatly improve its capacity, games right now are painfully slow and don't replicate any regular online casino in terms of speed and experience. This poses a significant roadblock in convincing the masses to switch to a blockchain based platform.

Decent.bet being based on Ethereum blockchain faces the same problem at the moment as these platforms, but it looks to tackle it by using off-chain state channels for RNG and game moves after channel creation. This greatly improves the speed of games and offers the experience of any other high-end online casino to the end-user while being finally verifiable on-chain. State channels also lead to greatly reduced gas costs since transactions do not happen on-chain.

Sports betting platforms on the other hand, pose a different problem in achieving

consensus on events. The task although seemingly straightforward, turns out to be a complex action to implement whilst keeping methods of gaming the system to a low and reducing malicious entities from pushing the wrong outcomes to the network.

Keeping a 50% majority consensus could lead a single entity/group to simply purchase 50% of tokens in the network and push the wrong results.

Increasing the consensus requirement, to say 75%, could lead malicious parties to constantly hold 26% or more of tokens in the network and push incorrect outcomes making it impossible to reach a 75% consensus.

The decentralized crowdsourced outcome reporting problem is definitely a hard one to tackle and one which currently has two platforms actively working on solving it– Augur and Gnosis. They still have ways to go before being ready for use at this point in time. However, in the future APIs provided by the two platforms would be a great resource for betting platforms to link with, and provide accurate outcomes in, a decentralized manner.

For now, Decent.bet looks to tackle this overarching issue by providing centralized oracles for each house on the platform. The blockchain helps provide the transparency and verifiability to make sure the houses do not try to cheat players by pushing incorrect results to the platform. With multiple houses that spring up on the platform, users would have a variety of different outcome and line providers to choose from. This also opens doors to bringing in traditional sports betting platforms to adopt the technology provided by the Decent.bet platform and in turn increase the platform's user base as a whole.

Apart from the two problems mentioned above, platforms that do have profit sharing models at the moment seem to offer it in a closed manner – with a single house splitting profits of their offered games among users holding a dividend sharing token. This may not be a problem in itself, however for long term expansion of a platform, Decent.bet looks to bring in the multiple house model with white labelled houses which will allow for providers/casino operators to start their own house and have their own profit-sharing mechanisms.

Decent.bet allows users to buy DBET house credits which will allow them to collect session returns and participate in the success of the platform in a very unique and advantageous manner. Initially, the sportsbook will make use of lines and outcomes supplied by addresses owned by Decent.bet.

The ERC-20 standard token provided by Decent.bet will be used for all purposes within the platform, unlike other smart contract based gambling platforms that allow bets in Ether.

2.3 Market Analysis

Since the majority of the running block chain based gambling platforms have been implemented only within the last year, there aren't any data sources providing usage statistics of the emerging market as of yet. However, statistics for online casinos are available and would portray an acceptable representation of our target audience and future growth potential.

(Ref #4) The market for online casinos as a whole was $35.97 billion USD in 2014 and is estimated to reach $66.59 billion USD by 2020, at a CAGR of 10.81%.Additionally, the use of mobile devices for online gambling purposes is increasing with market growth for this industry being very geographically specific.

More than 80 nations have legalized online gambling and Europe has the largest online gambling market in the world which accounts for some 47% of the entire world. (http://www.egba.eu/facts-and-figures/market-reality) Importantly, this is something which is just going to increase, as countries like the Netherlands adopt new online gambling regulations which facilitate and promote growth. Additionally, in the Asia Pacific region, the online gambling sector has not grown much, as there has been no scope, a fact which promotes both a disadvantage and a significant opportunity to be explored.

Since the online gambling market allows players to use virtual money, it has reduced the burden and risk of carrying cash as in the case of real gambling activities, and since this can be done in the comfort of one's home, many people are now resorting to online gambling. Something which highlights that there is greater and greater opportunity for this market to grow and expand in the near future as governments move to regulate practices and enable safe, healthy growth in a market which is still in its infancy.

2.4 Limitations

Obtaining correct and verifiable results/outcomes for sporting events in a completely decentralized system would require a significantly larger engineering effort, while also opening doors up to a number of security and integrity concerns.

Getting to market early maximizes our potential to succeed, but requires us to use authorized addresses to provide outcomes to the contract – which would bring an aspect of centralization to the platform. This approach means users would have to rely on Decent.bet to provide accurate outcomes for games, all other aspects of sports betting – i.e. payouts, bets created, house hedges etc. are all decentralized, transparent and verifiable – which is a large improvement over existing centralized online gambling platforms operating today.

For gambling games like slots, craps and roulette that rely on instant results and game moves to meet the user experience expectations while making sure outcomes are verifiable on the blockchain, Decent.bet makes use of state channels between the house and users utilizing a REST API to communicate between the user and the house. Current competitive implementations rely on an oracle to act as an RNG to call back results into a contract, taking much too long in terms of user experience, which consequently will decrease the possibility of achieving mass adoption. By using state channels that work completely off-chain and are finally verifiable on-chain – we are able to sidestep this limitation and improve the timeliness and quality of the service.

However, with the planned updates to the Ethereum blockchain such as sharding, which would increase Ethereum's capacity in terms of transactions per second – Decent.bet will eventually restructure all gambling game contracts to work based on completely on-chain solutions.

3.0 DBETS

Decent.bet uses its own ERC-20 standard token, DBETs - for all transactions on the platform. Unlike other platforms in the space that make use of Ether and Bitcoin for gambling, DBETs are used for gambling along with other use cases such as purchasing DBET house credits, buying out custom houses, purchasing lottery tickets and more. Ether will only be accepted by the Decent.bet contracts at the time of the ICO and will be used to fund and run the platform for the foreseeable future.

4.0 THE HOUSE

Unlike traditional centralized casinos and online gambling platforms, Decent.bet offers a transparent house that its users can participate in.

4.1 DBET House Credits

The house allows users to purchase DBET house credits at the start of every session which are composed of three month periods. Session 0 will begin with a house credit buying period for every user during which no profit distribution will take place. From Session 1 onwards, users will be able to redeem profits for their house credits at the end of every session with the distribution of profit being based on the proportionality of house credits that they have held in comparison to the total house credits bought out from the house. 100% of all house profits will be distributed among house credit holders of which 5% is to be reserved for a winning DBET house credit holder lottery.

4.2 Obtaining DBET House Credits

All DBET house credits are purchasable using DBETs and are locked up for the entire session before they can be redeemed for profits or rolled over to the next session.

4.3 DBET House Credits Exchange

For liquidation purposes, Decent.bet will offer a decentralized DBET house credits exchange which allows users to trade their house credits for DBETs at any time during the initial 11 weeks of a session. In the event a user has any house credits in active orders within the exchange during the profit distribution period, the house credits would be automatically liquidated when users claim their portion of the profit distribution.

5.0 SPORTS BETTING

The initial offering at launch by Decent.bet is a sport betting platform with multiple sports offerings such as; Baseball, American Football, Basketball, Ice Hockey, Tennis, Soccer and more.

All games, bets and outcomes on the platform will be saved on Smart Contracts. However, since there are issues with creating a completely decentralized sports betting platform in terms of having the right outcomes pushed to the contract and reducing the possibilities of different attacks and methods to game the system, Decent.bet will be pushing the games and outcomes onto the contract using trusted addresses. Although this brings in an aspect of centralization to the platform, all games, odds and outcomes being pushed in would be transparent and verifiable on the blockchain. Users would be able to immediately view incorrect outcomes on the blockchain and report them, if any such occurrences were to happen.

5.1 Decent.bet API

The Decent.bet API will be used primarily to retrieve sports betting metadata. The API will deliver metadata required by the front-end such as team names, league names, event names etc., without bloating the smart contract with data that does not require decentralization and also helping to reduce gas fees. Games on the Smart Contracts would be identifiable by their IDs.

5.2 Results & Verification

All odds and outcomes obtained by the Decent.bet backend come from multiple sports betting feeds and line providers. This approach reduces the chances of error while pushing odds and outcomes to the contract. To verify any of the results, users will be able to view the outcomes straight from the Decent.bet front-end or it's API and verifies the results pushed into the smart contract manually on the Ethereum blockchain. If any outcome is found to be in error users would be able to call for a correction and receive a refund.

6.0 CASINO

In addition to the sports betting platform that will be available on launch, Decent.bet will launch a decentralized casino based on smart contracts and state channels. Slots will be available at launch and will be followed by a series of other casino games such as craps, roulette etc., which will be developed in line with our vision of mass adoption.

6.1 State Channels

With the current state of the Ethereum blockchain – relying on an on-chain oracle connected to a trusted source to act as an RNG i.e. random.org or WolframAlpha , users have to wait for a callback from a query which could take a minute or more due to being on-chain. Furthermore, Ethereum's current limitations in terms of transactions per second dramatically disrupt the user experience by creating these delays which in turn would disenfranchise a large portion of our target potential users, traditional online gamblers, who are unaware of how blockchain gambling works.

This led the Decent.bet team to use an alternative method to act as an RNG and settling games on-chain between the house and the user – state channels. State channels make use of the blockchain to initially deposit funds into the channel contract for both house and player before making the game available to play for the player off-chain using a turn-based system. The user and house exchange details for a turn using signed messages which enable final verification on-chain.

***** IMPLEMENTATION INFO TO BE PROVIDED IN FINAL VERSION *****

On the front-end, all users viewing closed channels would be able to reconstruct the RNG sequence for all their games and verify validity. The advantage of using this system is the speed at which games could be played and its scalability in comparison to a completely on-chain solution with the current state of the Ethereum network. With transactions only happening at the start and end of a channel contract rather than for every move – users would save significantly in gas fees, which would otherwise cost a significant amount of Ether over time.

With future updates that have been proposed to Ethereum such as Casper and sharding – Ethereum would have the capacity to process a magnitude of times larger amount of transactions per second (~15 tx/sec currently to over 10,000+ tx/sec – Ref #3). This would enable Decent.bet to eventually switch to a completely decentralized solution for its casino games, whenever the proposed updates are ready.

6.2 Slots

Slot machines provide more profit for casinos than any other type of game. According to 2016 data, slot machines accounted for more revenue than all other casino games combined, with penny slots making up the most revenue.

For example, an April to September 2016 Nevada Gaming Control Board Gaming Revenue Report (ref) shows that the “total gaming win” (the casino’s win) from slots was $7,066,306,000 USD (about $7 billion USD) in total, and the total table games win was $4,094,401,000 USD (about $4 billion USD). Even with sports gaming added in at $19,236,000 USD (about $19.2 million USD), no casino game revenue even gets close to slots. (Ref #1)

Slots on the Decent.bet platform will have the advantage of being verifiable and transparent while being hosted on decentralized smart contracts.
The slots contract will allow users to create channels between them and the house for initial deposits and final settlements. All game moves will be processed using a simple two-way communication over a REST API at the time of launch.

Eventually, with a stable release of Whisper (Ref #2), Decent would switch to using the Whisper protocol for complete decentralized communication for its state channels.

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6.3 Mechanics

At launch, Decent.bet will offer multi-line slot machines consisting of 5 reels and up to 5 lines.

Bet sizes for each slot spin would be multiplied by the number of lines the player would like to play. For example, if a user would like to spin with a bet size of 10 DBETs while playing 5 lines, the user would have to bet 50 DBETs while increasing chances of a payout using more lines.

Payouts are based on left-to-right symbol repetitions for each line, starting from 3x symbol repetitions to 5x.

The payout distribution is listed below for winning combinations of different symbols for each line. Each symbol is denoted by an alphabet – which would be substituted by their respective symbols in the actual game.

3xA – 10	4xA - 20	5xA - 30
3xB – 20	4xB - 40	5xB - 60
3xC – 40	4xC - 80	5xC - 120
3xD – 50	4xD - 100	5xD - 150
3xE – 75	4xE - 150	5xE - 225
3xF – 150	4xF - 300	5xF - 450
3xG – 300	4xG - 600	5xG - 900

Slots will consist of 5 reels containing 7 different symbols each with varying frequencies giving multiple winning combinations at different probabilities. The frequency distribution for each symbol in each reel is given below:

S	R1	R2	R3	R4	R5
A	4	4	7	6	7
B	5	4	4	6	4
C	4	6	2	3	3
D	2	2	4	1	3
E	4	2	2	2	1
F	1	2	1	2	2
G	1	1	1	1	1

This gives us a distribution of 21 symbols for each reel.

The total number of different combinations would now be 21^5 or 4,084,101 different combinations.Based on the reels distribution listed above, the probability of a winning combination would be 9.433165%

Returns to users based on different winning combinations based on the reels distribution and payouts mentioned above would be around 93.08291%.

100% of the profits generated would be distributed among holders of DBET House Credits as part of each session profit distributions. As stated in 4.1 the 5% balance is reserved for a single lottery drawing. The game itself will create the experience of actually playing the slots in a casino and would be playable across multiple screen sizes. We believe that mobile support will go a long way to increase adoption and user retention.

6.4 Craps

Craps will be the second casino game on the Decent.bet platform. The game will be offered with one table per player due to the user experience issues that would arise on a game with multiple players being required to push transactions into a smart contract.

The craps game will be user-friendly and in-line with our vision to create a platform that is both transparent and provides a responsive user experience that will go a long way towards increasing adoption.

Craps will also make use of state channels with pre-determined random numbers making use of blended seeds and their hashes. Users will always play against the house and will be able to choose between pass and don't pass lines to start, before rolling their die.
Once the die is rolled on the front-end, a random number is generated based on the turn and its respective blended seed. It then checks for the following conditions for a pass line bet;

1. If the sum of the die is 7 or 11, the user wins the game. If the sum of the die is 2, 3 or 12, the house wins the game.

2. If the above conditions aren't met, the previously retrieved sum is now set as the "point". Now, the user and the house gets to roll repeatedly until either the point or a 7 comes up. If the point comes up first, the user wins. If a 7 comes up first, the house wins.

3. All user winnings are double of the amount that was bet.

For don't pass line bets, the conditions are swapped between the user and house. As with other Casino games on the platform, 100% of the profits generated would be distributed among holders of DBET House Credits as part of each session profit distributions.

6.5 Other Games

Over time, other casino games will be added on to the platform based on user demand in the form of smart contracts and state channels while making use of DBETs for all transactions.

7.0 WINNINGS, PAYOUTS & PROFIT DISTRIBUTION

On the Decent.bet platform, users will be able to buy DBET house credits for each session, a 3-month period. At the beginning of session 0 **or** the final week of any other session, users will be able to buy-in to the house by using DBETs to purchase DBET house credits. This essentially locks users' DBETs into the house and allows it to be redeemed only at the end of a session, along with profits.

DBET house credits will also be exchanged on the DBET house exchange in the future for DBETs anytime during a session thereby providing liquidity. DBET house credits can also be rolled over to the next session in the final week of the current session, locking in a users' DBETs for another session while allowing them to redeem profits.

Since smart contracts cannot automatically liquidate all DBET house credit holder's due to its nature, at the beginning of every session following S1, DBET house credit holder's will have to manually exchange their house credits to redeem their payouts. All DBET house credit holders will be notified through the front-end and via e-mail before each house credit buying period and at the beginning of every profit distribution period.

Profits for a user during each session are calculated using the following equation -

$$\frac{House\ Credits}{Total\ House\ Credits} \times (Session\ Profits)$$

Example: if the total purchased DBET house credits equate to 10,000,000 DBET house credits and the session profits amount to 4,000,000 DBETs – the profits split between the users are 3,800,000 DBETs which is 95% of the profits. Again, 5% is reserved for the session Lottery.

In this scenario, if a user had purchased 20,000 DBET house credits, he/she would

be entitled to redeem $\frac{20{,}000}{10{,}000{,}000} \times 3{,}800{,}000$ for a sum of 7,600 DBETs.

If for any reason the session profits are zero or below at the end of a session, users would be able to liquidate their DBET house credit holders and realize a loss.

8.0 LOTTERY

Lotteries will take place at the end of every session after profit distribution takes place. All DBET house credit holders with a **minimum** of 1,000 DBETs at the end of a session will automatically be given an entry into the session's lottery for every 1,000 DBETs they own, up to a **maximum** of 5 entries. The lottery does not require any manual interaction from the user.

Lotteries work in a simple way; A function is called at the beginning of a session as long as it hasn't been called yet. The function requests a random number from random.org between 0 and the number of DBET house credit holders present in the DBET house credit holders array for the previous house session.

The address present in the DBET house credit holders array at the index denoted by the random number that's returned from random.org will be deemed as the winner of the lottery.

All winnings will be automatically transferred to the winner.

9.0 WHITE LABEL SOLUTIONS

In line with Decent.bet's vision of a fast and flawless user experience for our blockchain based gambling platform, it will offer white label solutions for other larger companies to adapt Decent.bet's platform & technology to create their own houses which utilize their own custom lines and feeds.

9.1 Requirements

All outside companies looking to utilize Decent.bet for blockchain based gambling services will be required to hold at least 2,000,000 DBETs. Vetting would take place to ensure their track record as well as to verify compliance with appropriate regulations in the jurisdiction they are based in.

9.2 White Labelled Houses

Outside companies that are accepted into the platform are allowed to implement their own custom games and line feeds through the Decent.bet API. Once the API implementation is complete, separate smart contracts are created for each provider and users are allowed to switch between different providers from the platform.

9.3 Initial House Buyouts

Prior to the sale of white label houses to outside companies, users will have an opportunity to purchase DBET house credits to the newly created houses. These credits would have to be bought out by the companies at a pre-defined rate set by the house credit holders. For example, a new house that is introduced to users has 1,000,000 credits bought in by the users. Users are now allowed to select a pre-defined rate to sell the house to companies at. Now, in this case, say users have selected a pre-defined rate of 1.2x, a company would have to pay 1,200,000 DBETs to all DBET house credit holders before being able to take control of the house. This allows users to decide which providers they would like on the platform, as well receive a financial incentive for doing so.

10.0 MULTI-PLATFORM USABILITY

In line with Decent.bet's vision of mass market blockchain backed digital casino, betting front-ends will be available across multiple platforms to increase adoption and retention rates. Decent.bet will offer both a responsive web front-end as well as native mobile apps for both Android and iOS devices.

With focus on games that are flexible in terms of transaction times – a significant limitation in Ethereum at the moment, sports betting and casino games like slots and craps will still be able to be played with a smooth and appealing user-experience.

11.0 DECENT C

Decent.bet will establish a certified 501c (3) charity called Decent C for Humanity or Decent Charity for Humanity. 10% of the profits generated by the founders DBET house credits will be donated to Decent C for Humanity. The obligated amount shall not exceed $50,000.00 per session donation.

The focus of the charity will be to provide support for humanity worldwide. The beneficiaries of the charity will be chosen in 2 ways, by the founders and by a vote through the community.

12.0 CROWDSALE

Decent.bet will conduct a crowdsale September of 2017 offering DBET tokens to investors before a full launch of the platform.

The crowdsale will be capped and 250,000,000 DBETs will be available for distribution during the duration of the crowdsale. The crowdsale will continue until the cap is reached or 28 days has passed whichever comes first. At the end of the crowdsale, any remaining tokens will be burned.

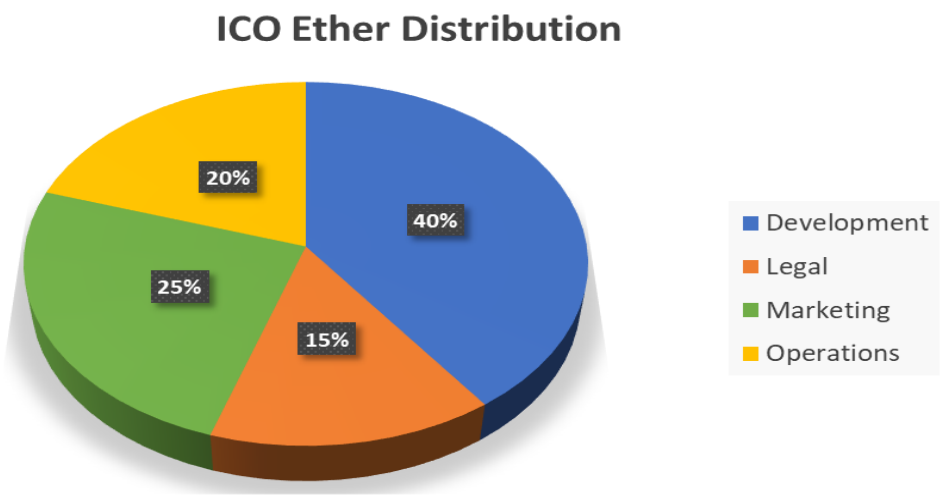
Also, the tokens distributed during the duration of the crowdsale will represent 70% of the total supply of coins. The remaining 30% will be minted at the end of the crowdsale and would be allocated as follows:

18% time-locked founder's share – withdrawable after 1 year. This incentivizes the Decent.bet team to develop the platform and remain motivated to grow token value at a steady rate.

10% held by the contract that can only be used to establish the house. This initial deposit into the house will be accounted as a contribution by the founders entitling the founders to the resulting DBET house credits profit.

2% used for bounties – Bitcointalk signature campaigns, Social media campaigns, Blog posts, translations and more.

The distribution of Ether raised during the crowdsale will be used as follows:



Development – 40% - Will be used to hire developers to the team for smart contract, front-end, and game development to ensure Decent.bet is on schedule for announcements on its roadmap and continues to bring in innovative ideas into the platform.

Legal – 10% - Licenses, lawyer fees and other legal work/processes that are required to run a gambling platform legally.

Marketing – 25% - Bringing in users through the use of marketing campaigns online/physically that educate and convert regular online/traditional gamblers to users of the Decent.bet platform.

Operations – 25% - For all other operating expenses that would be required by the platform to ensure day to day operations and long-term growth.

13.0 FUTURE POTENTIAL

After the completion of the crowdsale, based on the amount raised, Decent.bet will be setting up a larger development team looking to add as many casino games onto the platform as possible in line with its vision of mass adoption.

With a vast selection of casino games that will be transparent, auditable and verifiable using the Ethereum blockchain coupled along with a 100% profit payout to DBET house credit holders, Decent.bet will have a solid base to grow into a leading player in the global online casino market.

With improvements to the current infrastructure of the Ethereum blockchain, Decent.bet would also switch to a completely decentralized model for casino games as long as user experience would not be affected.

From a sportsbook perspective, Decent.bet will be looking to add all popular sports/e-sports that cater to regions across the entire world, to establish itself as the leading blockchain based sportsbooks globally.

14.0 RISKS INVOLVED

14.1 Server Downtime

With state channels, Decent.bet requires a mode of communication for gambling games to exchange data for each game move. At the time of launch, due to the lack of stable decentralized messaging protocols – Decent.bet will have to make use of a REST API hosted on regular cloud infrastructure to act as a mode of communication to conduct off-chain game moves between users and the house. As with any solution that relies on a client-server architecture, downtime could happen due to a number of unforeseen circumstances.

However, with timeouts are embedded into each contract users are able to finalize and close channels themselves after the timeout period, ensuring their funds are not held in limbo while the servers are unable to communicate directly with users.

To mitigate these negative effects and keep uptime at a maximum, Decent.bet will make use of high-end cloud infrastructure with multiple instances backed by load balancers along with DDOS protection. All on-chain events will also be watched by separate instances to ensure even if API servers are offline, on-chain transactions such as closing channels could be performed by the house. Once Ethereum's Whisper launches a stable release, all communication between users and the house will be switched to use Whisper rather than the REST API.

14.2 Trusted Data Providers

All sports betting odds, lines and outcomes on the Decent.bet platform will be pushed by the addresses owned by Decent.bet. Users of the platform would have to rely on Decent.bet to push in correct data which otherwise would lead to undesired consequences. To prevent issues from arising in this aspect, Decent.bet will make use of data from multiple data providers and verify all data before pushing any data on-

chain. However, if any mistake does arise, users would be able to report the bet, call for a correction and receive refunds.

In the future, Decent.bet will look into implementing decentralized oracles that would be incentivized to push the right results through a reward system, with punishment for malicious activity.

14.3 Ethereum Blockchain Dependence

Since Decent.bet is a platform based on the Ethereum blockchain, it ultimately relies on the state of the Ethereum Network for its long-term success. Any unforeseen incident on the Ethereum Network could negatively affect Decent.bet in terms of performance, stability, security etc.

Additionally, Decent.bet will also be limited by the limitations of the Ethereum Network, may it be in terms of speed, scale or any other factor. However, with the proposed updates that will drastically improve the state of the Ethereum Network, Decent.bet will only be set to improve in terms of offering complete decentralized/on-chain solutions rather than relying on layer 2 solutions like state channels for fast, verifiable gambling games.

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