EDGELESS CASINO
CROWDFUNDING WHITEPAPER

December, 2016

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Executive Summary

The online gambling industry was valued at USD 45.86 billion in 2016. However, it has two major problems: the **price** of the gamble and **transparency.** The price of the individual gamble comes from user-unfriendly rules: a large house edge of 1% - 15% (ref. Expn Section nr. 1), money deposit/withdrawal fees and 2 - 3 days withdrawal delays. In addition, there is no way of knowing what is happening inside the casino's servers and how the mechanisms are programmed. It can be easily rigged. Players need to rely on trusting the casino, which is most likely not the best option in such a profit-driven industry.

In 2008, Bitcoin and cryptocurrencies solved the gambling price problem. Cryptocurrency casinos are cost effective and can offer a 0.01% - 2% house edge, with instant money transactions without any fees and anonymity. However, the **transparency** problem is still there. Casinos can easily rig the game or hide profitability from the investors.

Using Ethereum smart contracts (ref. Expn Section Nr. 1.5), we can have a low price per gamble and solve the transparency problem. Random numbers and payouts can be ruled by smart contracts which are fully public and implemented on an Ethereum blockchain. Now players can see everything: transactions, sums, bets, the reasons why transactions are moving and, most importantly, the mechanism of randomness. If the casino tried to rig the odds, it would be immediately spotted.

Our team brings the first absolutely transparent, zero edge casino to the market - **Decentralised Edgeless Casino.** At this point in time, there are no casinos like this in the world.

Our casino will offer a 0% edge with Blackjack, Video Poker, Micro-limit Dice and Sports Betting. All games will be based on the Ethereum smart contract and will ensure absolute transparency.

The business will sustain itself in two ways:

1. From the players' imperfect play.
   Blackjack and Video Poker are games of skill and luck. If players make perfect

decisions, they will reach a 0% edge. n average, however, a player makes mistakes, so it will give a -0.83% edge to the casino and this 0.83% will be earned from the money wagered.

2. Sports Betting is about connecting players who are betting against each other and taking the facilitation fee to manage the process. The fee depends on the game types, the number of participants, bonuses and more. It is dynamic, floating in the range of 0% - 10%. Approximately 4% is earned from the money wagered.

Why investing in Edgeless tokens?

- 40% of all Edgeless Casino's profit is shareable with EDG tokens shareholders.
- Edgeless Casino is fully transparent since it is based on Ethereum Smart contracts.
    - Edgeless Casino players will trust that the casino will not cheat them.
    - EDG shareholders will always be sure that Edgeless Casino is transparent by it providing the full amount of earned profit.
    - EDG shareholders can trust that every 30 days, 40% of Edgeless' profit will be transferred to their wallets by non-changeable smart contracts.
- Edgeless is the first casino with 0% edge based on the Ethereum blockchain.
- Edgeless Casino will have strong competitive advantages (0% edge, transparency) to increase its market share in order to become a sustainable business.
- Edgeless Casino will provide many gambling games (BlackJack, Video Poker, Dice, Sports Betting).

Let's decentralise and solve the main online gambling problems!

	Traditional Online Casino	Bitcoin Online Casino	Edgeless Online Casino (Based on Ethereum Smart Contracts)
House Edge	1% - 15%	1% - 0.1%	0%
No logins/ registrations needed for casino users	x	Yes	Yes
Free money withdrawals and deposits	x	Yes	Yes

No delay to money withdrawals and deposits	x	Yes	Yes
100% anonymity provided by a cryptocurrency	x	Yes	Yes
Random number fairness check	x	Yes	Yes
Fully transparent random number fairness check	x	x	Yes
Transparency guided by Ethereum smart contract	x	x	Yes
Impossible for intentional casino profits draining	x	x	Yes

1. Price and Transparency Problems of Online Gambling

As stated before, in 2016 the online gambling industry was valued at USD 48.6 billion and has shown steady growth each year. Most of a casino's profits come from the "house edge". The House Edge is a term used to describe the mathematical advantage that the gambling game (and therefore the commercial gambling venue) has over you as you play. This advantage results in an assured percentage returned to the house over the duration of playing time, and for you, it is an assured percentage loss of what you bet.

Imagine that you are playing roulette and you bet $100 on the colour red. As roulette has a number ZERO coloured in green which is neither red or black, the house gets an advantage of 2.7% that is calculated thus:
100 : (36 +1) = 2.7%

So if the house has an edge, you ultimately lose every time. If you bet $10, your expected loss is $0.27. In one hour, you can spin approximately 20 - 25 times. If every time you bet $10, then in that hour you are expected to lose $5.4 - $6.75.

This loss can be calculated using the expected value (EV) formula:
EV = (prob.win)(gain) - (prob.lose)(gain)

Let's say you are betting $10 on red which gives you an expected $20 win and $10 is your expected loss. Roulette has 18 black fields, 18 red fields and 1 green zero. When you put all the variables in the equations, this is what you get:

EV = $20(18/37)+ $0(19/37) = $9.73 + $0 = $9.73

If you bet $10 on a roulette red, at the end of the game then you are expected to have $9.73. And $0.27 is lost due to the house edge.

This means that for each $10 that you bet, you are giving away 27 cents to the house. Of course in real life, numbers do not hit exactly like that and we may have a bigger range of wins and loses. However, if we merge the data from all players and calculate it in the long run, then the EV shows the actual sum that casinos are profiting from.

The house edge is different for each game.
Here you can find a list of games and house edges.

Technically, the 'house edge' is the price that people pay for the gambling experience as a whole. Which is not that big if your bets are reasonable and you are playing in Las Vegas. There are tourists who get free drinks, free meals, night entertainment shows, good travel deals and many more benefits such as instant cash deposits and withdrawals.

However, online casinos are almost a different industry in comparison. You don't get good travel deals or free meals, and players pay more for the raw experience of just the gamble itself. The mathematical house edge is the same, but you have to pay for extras, such as depositing money and withdrawal fees (most online casinos charge). Furthermore, there is usually a delay with regards to withdrawing and casinos usually take 2 - 3 days to send you the money. That barrier to taking your money out of the virtual casino immediately becomes how the industry profits even more. In a real casino - if you win a decent sum of money, you can rush to the cashier, cash out in seconds and celebrate your win. In an online casino, you

know that you cannot celebrate your win right away and need to wait. During that waiting time, a lot of people come back to the table and lose their winnings.

The worst part - even with all of the money making tools available (deposit, withdraw fees, withdraw delays, house edge), it's not enough for the industry. On some occasions, they even rig the odds to increase the house edge significantly and scam money from their own players. **Currently there is no way of checking the transparency of a casino.**

To sum up, we have two major problems in the online gambling industry: the price of the gamble and house transparency. As this industry is growing rapidly, these problems become ever more relevant.

1.1. Rise of the Cryptocurrency Reduce the Gamble Price

One of the reasons why online casinos have a deposit fee, withdrawal fees and extended withdrawal times are to do with problems related to traditional forms of currency such as USD and EUR. To move traditional currency from one account to the other is expensive. It has to go through many third parties and regulators which take their bit out of every transaction. In 2008, cryptocurrency Bitcoin came to life and started changing a lot of areas of our lives including the online gambling industry. By providing instant and low cost currency transactions, Bitcoin became a game changer for online casinos. Now, anyone can a run casino and offer services without any extra fees with instant money deposits/withdrawals and full anonymity. Some rooms offer a house edge that is lower than 1%, which is more of a fair bet. This significantly improves the quality of the gamble as a whole.

That's why cryptocurrency-based online casinos are on the rise. Right now, we have more than 100 rooms based on a cryptocurrency which accounts for 10 billion bets and is growing each year. In fact, 60% of all Bitcoin transactions are gambling-related. However, one major problem has not been solved yet: **transparency**. Even after the cost of the gamble has been reduced significantly, we still have many rooms rigging the odds and stealing from customers. Famous cases of Bitcoin casinos rigging the odds can be founder here and here. **So, one major problem is left: transparency.**

1.2. Fairness Check's Problems and Limitations

1.2.1 Random Number Generator

1.2.1.1. Explanation of Fairness Check

Online casinos create a random number using a combination of casino and client numbers. The casino assigns their own number automatically and the visitor can do it manually or let the casino decide for them. The two numbers are blended to provide a random outcome. The idea behind it is that the casino can rig their own number, but they would not be able to rig the client's number and therefore the outcome will be random. Therefore a casino would not able to cheat.

Oversimplified example: casino is assigned a number (also known as a seed), visitor assigns the other number (seed). The visitor can set it manually before every game or let the casino decide. Both numbers are blended into one number and using a formula (it's unknown to the player and determined by the casino otherwise the player could predict the final outcome) - **the random number is generated.** After the game, visitors can use a special key (hash, information access code/label/tag) to access the information related to that game and see what seeds were blended and which number was generated as the result.

1.2.1.2. Loops in Fairness Check

1) The casino can easily influence the client's seed by assigning it themselves (that's the case in most casinos, because an average player is not going to type and give a random number before every gamble round - even if they have this option)
2) The client entered the seed once and is not changing it. The casino can identify it and use that information to adjust their own seed.
3) The casino can delay creating their own seed and provide it to the 'blender' once the visitor has sent theirs. Then the casino can adjust their own seed to the client's.

Even if client sees that the 'randomness' of the casino is on the right track, the casino still has the ability to freeze a player's account without reason and steal the deposit, since these actions depend on humans' decisions but not on non-changeable fully transparent and decentralised smart contracts. There are so many ways of cheating that it is clear that a new generation of online casinos is needed.

1.2.2 Bitcoin Casino Can Also Drain Investors Profits

A lot of cryptocurrency casinos offer investment opportunities for people. They can invest into the casino's bankroll and get a share of a casino's profits. All cryptocurrency transactions are public on the blockchain so it is easy to see the exact profits every day. That's why this investment looks really attractive. However, there is a way that casinos can drain profits from their wallet and pay less to investors.

For example, a casino shares 50% of its profit to its investors. In 2016, they made $1,000,000$ profit and $500,000 should therefore go to the investors. However, the casino wants to cheat and pay less. They can easily drain money from the casino's wallet into a different wallet which belongs to them and no-one would even suspect that it has happened. They would do this by:

1. Casino owner enters his own online casino with a new account and different wallet.
2. Casino edits code in casino server and riggs odds ONLY for that new account.
3. Casino wins against casino and leaves.
4. The casino pays less profit share to its investors, because they think casino just had a loss and someone got lucky. But they have no idea that the lucky person is the owner of the casino.

Blockchain can see all transactions and the sums transferred. However they cannot see the reasons why transactions are moving or what is happening inside the casino's server. This scheme can be done in low sums and systematically over the year. At the end of the year, investors would see the total casino's profit and calculate the EV based on their edge. f a casino's profits are 10% less than expected, however, no one would suspect that the owner took it. And 10% from half a million is $50,000. That is one way that casinos can lower their public profits and steal money as a result.

1.3. Edgeless Casino Solution

This is why we will be developing Edgeless - a next generation casino. Edgeless casino will be built on the Ethereum blockchain. All of the key operations will be regulated by smart contracts, giving users a fully transparent experience.

We will be using the client's seed and our own seed to generate randomness. The main difference with Bitcoin Casinos will be that users will know our hashed (SHA512) seed before betting and before generating their own client seeds. Because of that there is no way for us to alter the results. After bet is made, client will be able to see our unhashed seed on Ethereum Blockchain and verify the randomness. Moreover, clients will have two options for getting random seeds. The first one is to type it in manually before every game; this would eliminate any ability to cheat the clients. The second one, which will be used by default, is to generate different client seeds automatically for every game by using an API integration with random.org. Smart contracts will be publicly available on the blockchain for everyone to examine and to test its randomness procedure.

1.4. Edgeless Based on Ethereum Smart Contracts - Full Transparency

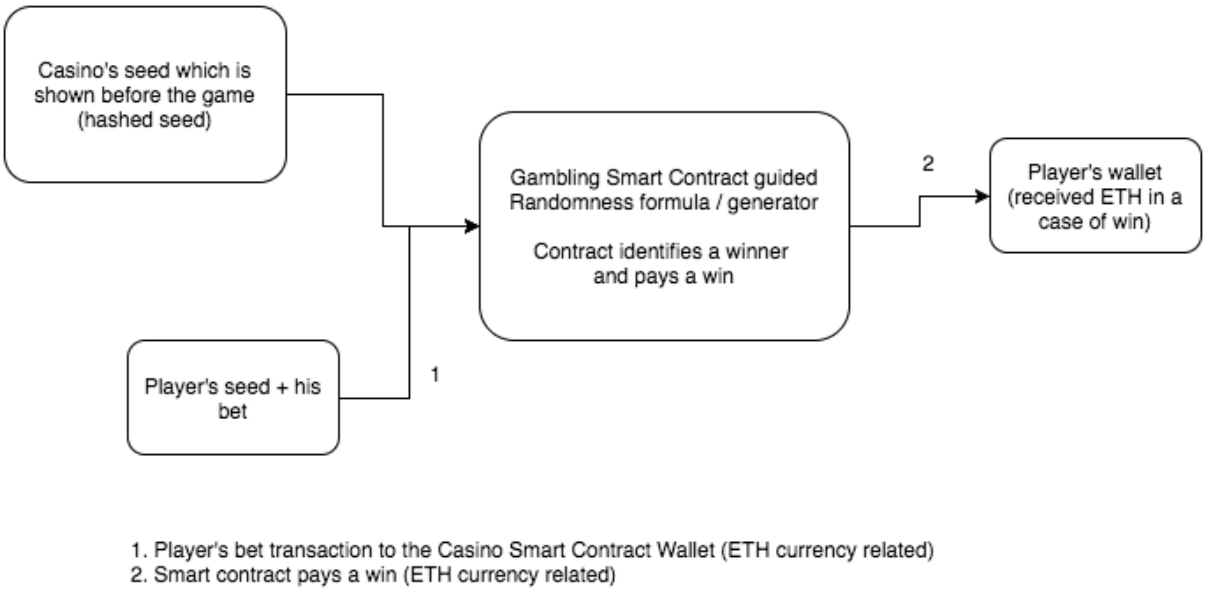
In 2015, the creation of the Ethereum smart contract is another major game changer for online gambling. Right now, we can solve the transparency issue once and for all. Using a smart contract, there is no way that casinos can rig the odds even if they wanted to. That means in 2017, we can have "THE PERFECT ONLINE CASINO" which can offer 0% house edge and 100% transparency. That's a next generation gambling product which is the best in a current market and does not exist. Yet.

The real power of smart contracts is that if they are properly implemented on Ethereum Blockchain, they will act each and every time how they are supposed to. That is truly trust-flawless technology that eventually all online casinos will be using. Also, it is near impossible to censor smart contracts, because they are placed in a decentralized infrastructure. All Ethereum smart contracts will be publicly available for everyone to see and examine.

Our Edgeless tokens will be sold via Ethereum-based smart contracts. This means that all investors will be 100% sure that if they send 100 ethers to the ICO smart contract, then they will get 12,000 EDG tokens during our power hour sale guaranteed.

In the same trustworthy way that our casino will be operated, if a user bets on a particular game, they can be 100% sure that their result will be truly random and that they will get their

win transferred directly into their wallet. The casino will not be able to suspend the transaction or redirect it to another wallet.



Graph - EDGELESS randomness and fairness mechanism based on Ethereum

2. How Edgeless Casino Can be a Profitable Business Offering 0% House Edge?

2.1. Player Mistakes and Imperfect Play

Most casino games do not require any skill to play or change the odds like roulette, dice, and slots. However, there are a few games which combine luck and skill. By providing more options - blackjack, video poker - players can influence house edge. That means that the house edge depends on the skill level of the player. Blackjack is the game which has the lowest casino edge (0.6%) if played perfectly. The average player, however, does not play the ‘perfect game’ and they make mistakes. Black Jack provides a variety of decisions to the player and based on that, they can increase or decrease their chance of winning. On average, a player makes mistakes which are equivalent of 1.43%. If we offer a 0% house edge game, mistakes count for a 0.83% house edge. That means on every $100 bet, an average player gives 83 cents to the house.

Take a look at full report and analysis of blackjack house edge and player mistakes: here

2.2. Gambler's' Ruin and Variance

Gambler's ruin adds an extra profit to the casino. A gambler with finite wealth playing a fair game (both sides have equal chance of winning - 0% house edge) would lose against an opponent with infinite wealth. It's quite simple; a larger bankroll can absorb higher levels of variance. And small bankrolls can't. That means a small player would bust more even if the casino has a 0% edge.

Let's take an example:

"Assume that the player makes a deposit of $1000 to an online casino, and wants to bet till he reaches $5000 that has been wagered. If the player is to willing to play through 500 hands, then his average bet size would be $5000/500 = $10. The number of betting units would be $1000/$10 = 100. The table shows the risk of ruin is 0.01% for 102 units, so would be just over 0.01% for 100. Perhaps this is too conservative, so the player considers playing 200 hands. The bet size is now $5000/200 = $25. The number of units is $1000/$25 = 40. Interpolating the table shows the risk of ruin would be 1.5%."

Number of Hands to Play

RISK OF RUIN	100	200	300	400	500	600	700	800	900
50%	7	11	14	16	18	20	22	24	25
40%	9	14	17	20	23	25	27	29	31
30%	12	17	21	25	28	31	33	36	38
20%	15	21	26	31	34	38	41	44	47
10%	19	27	34	39	44	48	53	57	60
5%	22	32	40	46	52	58	62	67	71
4%	23	34	42	49	55	60	65	70	75
3%	25	36	44	51	58	64	69	74	79
2%	27	38	47	55	62	68	74	79	84
1%	29	42	52	61	68	75	82	88	93
0.5%	32	46	57	66	74	82	89	95	101
0.25%	35	50	61	71	80	88	96	102	109
0.1%	38	54	67	77	87	95	104	111	118
0.01%	45	64	79	91	102	112	122	131	139

Source: http://wizardofodds.com/games/blackjack/appendix/12/
More info: http://wizardofodds.com/games/blackjack/appendix/4/

At this stage, we cannot estimate the profits coming from the gambler's ruin effect. It strongly depends on the type of players gambling in the casino and their bankroll management skills.

2.3. How will We Reduce an Edge to 0%?

Casino has a blackjack edge because they have best decision making position - the last one. That means that players can bust before the house even draws a card. To compensate for this edge, the house gives additional bonuses to the player such as 1 to 3 payoff in the case of blackjack, and the ability to double bet if casino has a bad card. That's exactly what we will do - increase these additional bonuses by reducing house edge to 0%. Actually such game models already exist - Voyages Casino has one. However, they charge 10% for money withdraws and there is no way of knowing if they are rigging the odds or not.

You can play a 0% edge blackjack demo here: https://betvoyager.com/games/equal-odds/

2.4. Games Provided by Edgeless Casino

Based on results of the crowdsale, these are the following games which Edgeless Casino will offer.

0% Edge Blackjack and Video Poker - the payout structure will be changed in favour of the player, so the house edge would be reduced to ZERO. Here, you can play a demo of zero edge blackjack: https://betvoyager.com/games/equal-odds/

Micro Limits dice. The game rules result in a 0% edge. In the first year, players will be allowed to bet only micro sums. The concept is similar to most bitcoin dice casinos, however the payout structure will be fairer. If you bet 1BTC on 50%, most Bitcoin casinos will offer 1.98x payout. We will offer a 2x fair bet payout.

Sports Betting - it's not really a traditional casino gambling game, but in order to attract a wider scope of people, we want to offer more games.

In the future, we will expand on the games offered by our casino.

3. Profit Sharing Edgeless Casino

Based on Ethereum blockchain smart contracts, token holders will get 40% of all Edgeless Casino profit. Token holders will receive shares of Edgeless Casino profit, proportional to the amount of tokens that they hold in a fair and transparent way.

Example: Investment of 100 ETH during the “Power Hour” will bring 120 000 Edgeless tokens (EDG) to your wallet. 120,000 EDG is 0.024% of all available EDG tokens in supply.

The formula to calculate Investor's profit share is:

$$(Total\ investors\ profit\ (ETH)) \times \left(\frac{Owned\ amount\ of\ EDG}{All\ EDG\ tokens} \right) = Investors\ profit\ share\ (ETH)$$

3.1. How Edgeless Profit Will be Shareable

Due to gas limitations, it's not possible to automatically send thousands of transactions within one function call. One possible solution would be to write a script which calls the contract as often as needed until all of the profit is distributed, but since the script would be started by us, it wouldn't be beyond scrutiny anymore. That is why we chose the following method that is truly trustless and decentralized - smart contracts.

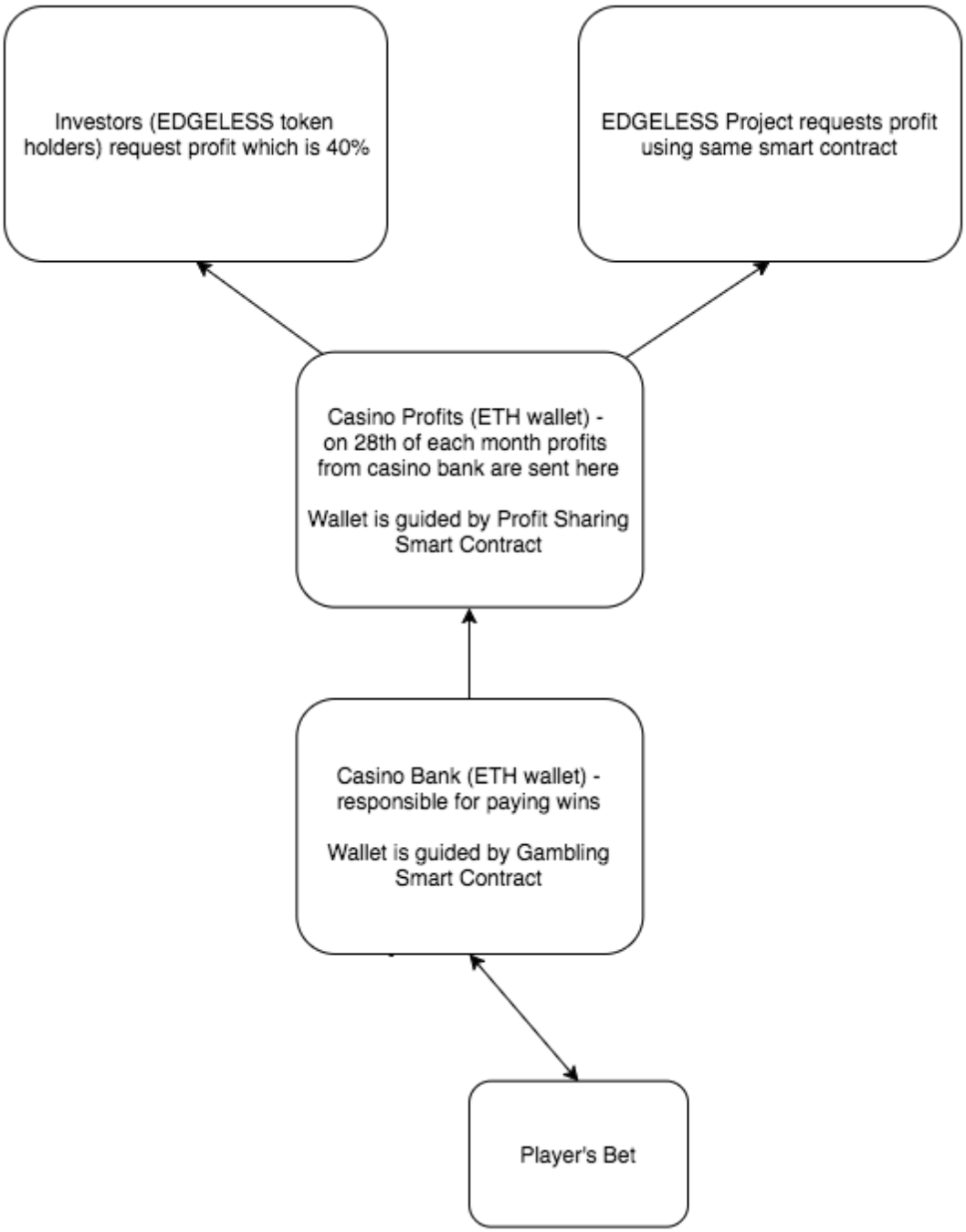
Profit sharing will be governed by a smart contract that will not send the profit to the investors, but will allow every Edgeless token holder to cash out their share. The profit will be collected from all Edgeless Casino Dapps and distributed in regular intervals of 30 days. If a token holder wants to trade the tokens, they may do it easily because the tokens are based on the ERC20 standard. In order to prevent multiple withdrawals using the same tokens, the tokens will be locked for trading for the rest of the interval after the profit has been collected. As soon as the next interval starts, the tokens will be unlocked automatically.

3.2. Where to Check Profit (Dashboard)

You will be able to check your balance of earned profit on our Edgeless webpage or directly on the Ethereum blockchain.

3.3. Payouts

Payouts to payout distributing via the Ethereum-based smart contract will be sent in 30 day cycles, after profit is sent to a contract. The user can cashout anytime he wants within the cycle.



Graph - profit sharing smart contract based on Ethereum

4. Edgeless Casino Business Plan

4.1. Market Potential

To sum up all of the facts mentioned in the sections above: the online gambling casino industry is valued at USD 45.86 billion and is expected to grow up to USD 56 billion in 2018. Every year, more and more market share of that is going into cryptocurrency gambling solutions. Right now, 60% of all BTC transactions are made for gambling purposes. And the industry has two major problems: transparency and price of the online gamble.

- At this point, online casinos have full power to cheat without being spotted.
- At this point, players need to pay deposit/ withdrawal fees, wait for payouts and gamble on 1% - 15% house edge.

It all can be changed with the Edgeless Ethereum-based Casino.

Comparison table shows the main Edgeless casino based on Ethereum competitive advantages for attracting player against online and bitcoin Casinos

	Traditional Online Casino	Bitcoin Online Casino	Edgeless Online Casino (Based on Ethereum Smart Contracts)
House Edge	1% - 15%	1% - 0.1%	0%
No logins/ registrations needed for casino users	x	Yes	Yes
Free money withdrawals and deposits	x	Yes	Yes
No delay to money withdrawals and deposits	x	Yes	Yes
100% anonymity provided by a cryptocurrency	x	Yes	Yes

Random number fairness check	x	Yes	Yes
Fully transparent random number fairness check	x	x	Yes
Transparency guided by Ethereum smart contract	x	x	Yes
Impossible for intentional casino profits draining	x	x	Yes

4.2. Marketing Plan

We do believe that having the best product/best offer is the key. Our team is planning to offer perfect gambling conditions: 0% house edge and ultimate transparency (Ethereum based smart contracts). Right now, there is no product like that in the market - our casino will be the first one.

Our main marketing messages:

- Perfect gambling experience with 0% house edge
- Fully transparent casino based on Ethereum
- Fast gaming like on Bitcoin casinos even though Edgeless is based on Ethereum blockchain
- 0% Edge BlackJack, 0% Edge Video Poker

In the first stage, we will target gamblers who are already familiar with cryptocurrencies. In the next stage, we expect to attract a large proportion of gamblers from traditional casinos. We will accept main cryptocurrencies by implementing a “Shapeshift” converter and will also pay attention when it comes to attracting and accepting fiat currencies. Most people are already furious from all of the drawbacks that regular casinos have.

After the successful Crowdsale, we will put a lot of focus into product development, legal procedures and capturing market share from other cryptocurrency casinos. The development process, business operations, and legal procedures will take 4-6 months. After all of the preparation procedures of Edgeless Casino’s development and licensing, we will implement mass-scale marketing strategies. All marketing efforts will be put in to attract people from cryptocurrency and traditional online casinos, in turn boosting the overall

popularity of cryptocurrencies and fair gambling. Having a 0% Edge Casino is a strong advantage to attract users to Edgeless Casino, where they can find many other gambling and betting games. One of these will be Sports betting, which will have a 4% commision fee.

4.3. Profit Forecasts (ROI %)

We offer games which are a combination of skill and luck. If players will play the perfect basic blackjack strategy, they will reach 0% house edge. However, that's not the case for an average player. From an average player, because of his mistakes (read it here), we expect to get a 0.83% house edge. In the later development stages, we will introduce sports betting which will drive an additional stream of profit. Sports betting is connecting players who are betting against each other and we would take the juice/rake/vig for process facilitation. It's similar to the 'rake' used by poker rooms. The sports betting vig will depend on the game type, the number of participants, bonuses and more. It is dynamic, floating in the range of 0% - 10%. In our casino, we aim to have 5% of all money wagered be placed as a sports bet with 4% ROI.

5. ICO

The crowdfunding of Edgeless and the corresponding token creation process will be organised around the smart contracts running on Ethereum. Participants willing to support the development of the Edgeless Casino Project can do so by sending Ethereums to the designated address. By doing so, they are purchasing Edgeless Tokens (EDG) at the rate of 1 000 EDG per 1 ETH which are sent instantly to their wallet.

Crowdfunding ends when the end date (9th March 2017, 4:00 pm GMT) is reached, or when the total amount of supplied Edgeless tokens (440 000 000 EDG) are sold.

If the crowdsale campaign does not reach its capital goal of 50 000 EHT or the equivalent, all funds will be returned to the investors by the Ethereum smart contracts.

5.1. Crowdfunding summary

EDG created per ether	1 000 EDG

Maximum goal to sell Edgeless tokens:	440 000 000 EDG
Minimum goal to sell Edgeless tokens:	50 000 000 EDG
% of tokens generated to Edgeless team*	10%
% of tokens generated to Crowdsale partners	2%
% of tokens generated to Crowdsale participants	88%
Date of crowdfunding start	16th February 2017, 3:00 pm GMT
Date of crowdfunding end	9th March 2017, 4:00 pm GMT
Maximum number of EDG generated	500 000 000 EDG
of which crowdfunding participants	440 000 000 EDG
of which Edgeless team	50 000 000 EDG
of which Crowdsale partners	10 000 000 EDG

*After the crowdsale, Edgeless team's 10% tokens will be stored in a cold bank for 6 month.

5.2. Announcement of Crowdsale Beginning

The crowdfunding address will be announced at the start through the following channels:

- Project webpage: edgeless.io
- Official Twitter: twitter.com/edgelessproject
- Official Slack: edgelesscasino.slack.com
- Reddit: reddit.com/r/edgeless

5.3. Edgeless Tokens (EDG)

Edgeless will issue 500,000,000 Edgeless tokens (EDG). Edgeless tokens will be an Ethereum-based token of value. The tokens are a digital asset, bearing value by themselves based on their underlying assets, properties and/or associated rights. Edgeless tokens represent ownership rights to the dividends of Edgeless Casino.

Ethereum-based tokens rely on a well-established Ethereum infrastructure, benefiting from several advantages:

- **Security and predictability** (as opposed to, for example, having to run an independent blockchain network);
- **Use of robust and well supported clients** (Ethereum-based tokens can be managed with official Ethereum clients):
- **High liquidity** (interchangeable with other Ethereum- based tokens or Ether);

easier listing on exchanges with infrastructure already in place;

- Ethereum smart contracts enable a very **transparent** and **secure** way of **profit-sharing** among the token holders.

Our Ethereum-based token contract complies with the ERC20 standard, which means that it is extremely easy for exchanges involving trading edgeless tokens to happen. More detailed info about the ERC20 standard: https://github.com/ethereum/EIPs/issues/20

5.4. Presale

The first hour of the crowdsale will be a Power Hour. During the Power Hour, 1 Ether will buy 1200 EDG. After that, the price will change to 1100:1, and then decrease every week until it reaches 1000:1 in the third week:

Power hour (16th February 2017, 3:00 pm GMT - 16th February 2017, 4:00 pm GMT):	1ETH = 1200 EDG
1 week (16th February 2017, 4pm GMT - 23th February 2017, 4pm GMT):	1ETH = 1100 EDG
2 week (23th February 2017, 4pm GMT - 2nd March 2017, 4pm GMT):	1ETH = 1050 EDG
3 week (2nd March 2017, 4pm GMT - 9th March 2017, 4pm GMT):	1ETH = 1000 EDG

5.5. Budget

How the ICO Fund Will be Used?

Field	Portion of a Budget	Activities
Legal	14%	Startup registration costs, casino licensing, law company which deals with cryptocurrency legalities
Development	33%	‘Break down in dev. roadmap’
Casino Bankroll to pay wins	20%	Stored in a separate casino wallet
Operations	17%	Project management, employees salaries
Marketing	16%	Expenses of attracting gamblers to Edgeless Casino (Online traffic generation expenses)

5.6. Development Roadmap

1. Phase - 50 000 ETH

In the first phase, we will develop a profit-sharing smart contract and 0% house edge Blackjack. The profit sharing platform will ensure that 40% of the decentralised profit is shared to Edgeless token owners. Another part of the investment will be allocated to casino bankroll/ funding.

2. Phase - 110 000 ETH

At this phase, most of the funds will be allocated towards security/hacker prevention and increased size of Edgeless Casino's bankroll so that it can payout any larger wins. A bigger bankroll means a larger betting range for visitors and more wagered money as a result.

3. Phase - 190 000 ETH

We will work on the development of a new game - 0% house edge video poker. It is based on luck and skill, the same as Blackjack. The second game is a micro limit 0% house edge dice - a pure luck game.

4 Phase - 250 000 ETH

This phase is all about the sports betting development. It has a smaller scale but better ROI than traditional games. Our Edgeless way will offer a much lower edge than other casinos. Sports betting will be so that our casino can stay competitive.

5 Phase - 366 667 ETH

The Grand Vision - a platform for developers where they can easily take our tools and develop their own fully transparent casinos so cryptocurrency and blockchain can become the standard of the casino industry. And later on, the standard of the world.

5.7 Timeline

Date of crowdsale announcement	(14th December, 2016)
Date of ICO starts	(16th February 2017)
Date of ICO ends	(9th March 2017)
Profit sharing contract Live	(Q2 2017)
0% edge BlackJack Live	(Q3 2017)
0% Edge Video Poker Live	(Q4 2017)
0% Edge Micro Limits Dice Live	(Q1 2018)
Sports Betting Live	(Q2 2018)

Casino platform for developers Live	(Q1 2019)

5.7. ICO Ethereum-based trustless smart Contract key points:

```
/* From this part of contract investor can see four main dates of ICO, and four different prices */
        address public beneficiary;
        uint public fundingGoal;
        uint public maxGoal;
        uint public amountRaised;
        uint public start;
        uint public tokensSold;
        uint[4] public deadlines = [1484020800, 1484625600, 1485230400,1485748800];
        uint[4] public prices = [909090909090909,952380952380952,970873786407766, 1000000000000000];
        token public tokenReward;
        mapping(address => uint256) public balanceOf;
        bool fundingGoalReached = false;
        event GoalReached(address beneficiary, uint amountRaised);
        event FundTransfer(address backer, uint amount, bool isContribution);
        bool crowdsaleClosed = false;

/* Here is minimal and maximal token sale amount, if minimal amount will not be reached, invested ethers will be returned to investors */
        function Crowdsale( ) {
        beneficiary = 0x2aA2B0Ca9405B882e02851B81706904829C4AF17;
        fundingGoal = 50000000;//in tokens
        maxGoal = 394240000;//in tokens
        start = 1484146800;
        tokenReward = token(0xec1edef9c3c6035ee89589f516b20929a9225a24);

/* The function without name is the default function that is called whenever anyone sends funds to a contract, will recieve Edgeless tokens */
        function () payable{
        uint amount = msg.value;
```

```
uint numTokens = amount / getPrice();
if (crowdsaleClosed||now<start||tokensSold+numTokens>maxGoal) throw;
balanceOf[msg.sender] = amount;
amountRaised += amount;
tokensSold+=numTokens;
if(!tokenReward.transferFrom(beneficiary, msg.sender, numTokens)) throw;
FundTransfer(msg.sender, amount, true);
}
```

6. Team

Ignas Mangevicius, Co - Founder, Blockchain-Based Systems Developer, Etherslots Founder

He is a father and a husband. He profoundly enjoys developing centralized and decentralized systems. He is a university educated Information Systems Engineer who has been working in IT for more than 10 years.He is now focused on smart contracts and Ethereum-based decentralized apps that he sincerely believes will make a better world. His most recent project is the Etherslots.win, an app built on Ethereum blockchain.

Tomas Draksas, Co-founder, Professional Poker Player & Gambler

In 2008 - 2013, online poker was on the rise and a lot of new players were jumping into the game. At that time, Tomas decided to study the math of probability and poker. Later on, my direction changed to investing, cryptocurrency and digital marketing. He is the CEO of a conversion rate design company (Convi Design) which provides solutions to start-ups in the field of conversion rates and sales funnels. Additionally, he is investing into other start-ups. My key competences which are needed for Edgeless Casino are: probability math and models, gambling theory and psychology, digital marketing.

Tomas Lukosaitis, Co - Founder, Operations & Business

Tomas is coming from the field of P2P technologies, the sharing economy and FINTECH industry. He was working as digital marketeer in a platform “SAVY”. It is a peer to peer lending platform which connects investors to consumer loan offers. Currently Tomas owns an IT development company which is specialising in Mobile App Development. My key competences which are needed for Edgeless Casino are: digital marketing, operations management.

Dipl.-Ing. Julia Altenried, Smart Contract and Dapp Developers

She studied computer science at the University of Salzburg and the Politechnical University of Madrid. Julia has gathered over 8 years of experience as a software engineer, working for different international companies, and then founded JAM Data. Julia specialized in IT-Security and later blockchain technology with a focus on Ethereum smart contract development. In Blockchain technology, she sees the potential to increase transparency in governmental operations as well as business processes, thereby reducing corruption worldwide. When not working, she is traveling around the globe or practicing Yoga.

Dipl.-Ing. Stefan Höller, Smart Contract and Dapp Developers

Stefan was formally educated at the University of Salzburg. His career started 15 years ago as the e-commerce department head for Austria's largest bicycle retailer. He's a professional mean-fullstack engineer and early blockchain enthusiast. Currently, he is consulting for companies regarding decentralized applications. Stefan sees blockchain technology as a powerful tool to bring equal chances to developing countries. He is a fitness-freak and passionate about exploring foreign cultures.

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