HeartBout

White Paper
HeartBout Social Network

Introduction

Today social networks are an integral part of life of every person. We can't imagine a single day without taking part in communities, exchanging messages with friends, looking for new friendships, getting new information from our news feed, which information value we determine ourselves.

Generation and consumption of information has become a part of daily routine for all of us. An average user spends about two hours a day on social media, which is equivalent to five years and four months over a lifetime. In the article How much time people spend on social media? on a reputable American Internet web site Social Media Today the following data is given: Youtube consumes about 40 minutes a day (1 year and 10 months in a lifetime), Facebook – 35 minutes (1 year and 7 months), Instagram – 15 minutes. And these figures are only increasing.

People become both witnesses and participants of the process of evolution of social communication. Telegrams and handwritten letters, time consuming delivery, and waiting for reply became a thing of the past only yesterday. We and our contemporaries do feel but don't completely realize the addiction to social networks and messengers. Online communication has become a way to fill free time and a tacit norm. Since the advent and development of the blockchain technologies the online communication has put a new face on– monetization of user activity.

The HeartBout social networking service was developed with the idea to convert time spent in the network into profit for all participants (users and advertisers) in mind. After registration any user gets an easy access to cryptocurrency and their own wallet.

HeartBout is a social network with a decentralized reward system based on a blockchain technology. Users taking part in creation and promotion of content receive rewards in the form of HBC cryptocurrency.

The HeartBout social network monetizes activity of users for publications, votes or comments providing issuance of HBC through its advertising capabilities.

The HBC tokens can be spent on promotion of a publication (advertisement). Besides, the coins can be taken out to an accredited stock and converted to other currencies in future.

Users assess content using "hot" (like) and "cold" (dislike) hearts. It means that the more often a user uses the social network, the more HBC they can get.

The HeartBout social network will become a revolution of communication in social networks. The HeartBout users will be rewarded for their activity, both authors and voters, and such rewards will stimulate their involvement and encourage to spend more time there than in common social networks.

Functionality

Registration

One should just fill in four fields to register: Name and Last Name, User Name, E-Mail, and Password. If a user forgets the password, the password reset instructions can be sent to e-mail. Once the user is authenticated, he/she gets access to the Subscriptions Feed screen with 5 tabs: Subscriptions Feed, User Feed, Add Content (Publication/Challenge), My Activity, My Profile.

Feed

The feed screen has a list of publications/user challenges. Each post has a text header, graphic content (photo/video), graphic information author data, hot/cold heart assessment icons, go to comments bar.

Comments

Users can add comments and reply to comments of other users. Any comment can be rated by a hot or cold heart like a post.

Filters

The content (publications, comments) in HeartBout can be filtered in four ways: Hot, New, Best, Not Sure. The category that a publication is put into depends on the user reaction to it, i.e. the number of hot and cold hearts.

Comments to publications are also filtered according to these categories. In Profile Settings users can choose comments category that will be shown under publication by default. If standards settings of the profile haven't been changed, the user will see hot comments with the biggest amount of hot hearts first.

For convenience, users can create categories – sets of tags. When a category is chosen, the content is shown according to the current filters and filtered according to the presence of the tags included into the category in the publication. Initially, everybody can see the Popular category including all tags registered in the network. All the other categories are private and not available for other users.

Users can search for hashtags, people, and content after they click on the lens icon in the upper part of the application.

Creation of Publications

Users can create their publications by pressing the "+" button in the centre of the bar in the lower part of the screen. A photo/video or a link to youtube video can be used as graphic content for a publication. Users can add descriptions and tags (popular and user tags) that will help find the publication when searching by tag/category.

Any publication or tag (user own tags or tags of other users) can be sent to chat for further discussion.

Challenge

You can also issue a Challenge for another person having specified a rate in HBC. In such a case your publication will compete with the post of the user you have issued a challenge for. At the same time the other users will be able to vote for the post they have liked. The winner of the Challenge gets his/her rate and the money of the opponent excluding the system fee.

Chat

The Activity tab has a list of queries to subscription, history of your activity, and list of chats.

Chats are group chats by default. They allow to share content, issue challenges, and communicate in the HeartBout space.

Profile

The User Profile contains user pic, nickname, name, web site, number of user HBC.
The Profile has three tabs: Publications, Subscriptions, and Subscribers.
You can update data in tabs in your Profile. You can enter the Settings menu by clicking on the gear icon. In Settings you can set events, push-notifications, specify filters by default, reset password, and change Black list.

Decentralized Reward System

Main Principles

The HeartBout coin token (abbreviated as HBC) is the only and the basic token of the HeartBout social networking service.

The HBC is used as a reward for actions of the HeartBout social network users and is directly connected with the advertising capabilities of the social network, i.e. it allows to pay for the advertisement exposures in the social network at the following price:

100 HBC = DAU * U

where **DAU** — is the number of unique users that have visited the application during 24 hours.
U — advertisement exposure.

Consequently, per 100 HBC a user can buy the amount of ad exposures equal to DAU. The value of DAU is daily updated and adjusted.

Therefore, the price of the HBC token directly depends on the success rate of the HeartBout social network, and, more precisely, from the number of DAU in the network.

The HBC token economy can be called the advertisement standard (similarly to the gold standard) quite reasonably. It is based on the advertisement standard (100 HBC = DAU * U) that guarantees the exchange of the issued HBC tokens to the relevant amount of advertisement exposures in the HeartBout social network by its holder's request and according to the current exchange rate.

Emission

Tokens are issued daily, once 24 hours, between 10.00 pm GMT and 02:00 am GMT. In order to maintain the stability of the token and considering that the token value is directly connected with advertisement in the HeartBout social network, the HBC token is issued strictly according to the following formula:

$$E_{HBC} = \frac{DAU}{1000} \times 4 \times 2\$ \times 0,5 \times \frac{1}{P_{BH}}$$

here E_{HBC} — is the number of the issued tokens,
DAU — is the number of daily unique users that have visited the application during 24 hours,
P_{BH} — token intrinsic value in US dollars.

The value of 2\$ is reasonable as it is competitive and provides lower CPM (advertisement payment model terms used to denote the price of 1,000 impressions of an advertisement) if compared to other social networking services. It is the basic price for CPM.

Internal price of HBC token is calculated and used for quantification of issued tokens using the following formula:

$$P_{BH} = 0,02\$ \times \frac{DAU}{1000}$$

where 0,02\$ cost per one impression

All tokens issued during 24 hours are distributed between authors, voters, and miners.
The value of 0,002\$ for one impression is reasonable as it is competitive and provides lower price compared to other social networking services. It is the basic price for one impression. From the above mentioned formulas one can see that the presence of shared variable DAU kept in mind, the number of issued tokens is always the same being 200 HB a day.

Author Reward

The HeartBout social network rewards its authors. Rewards for publications depend on the power of publication calculated according to the following formula:

$$PP = \sum_{i=1}^{n} PL_i$$

where **PP** — is the power of publication,

PL — is the power of hot heart of the user who reacted to the publication positively.

PP (Power of Publication) allows to distribute the total volume of tokens issued during 24 hours between certain publications (distribution of issued tokens between them), and the reward of the author and users estimating a certain publication depends on it.

Distribution of issued tokens between publications is made according to the following formula:

$$E_{POST} = \frac{E}{\sum_{i=1}^{n} PP_i} \times PP$$

where **E_{POST}** — issued tokens for a publication per day,

E — total volume of issued tokens,

PP — power of publication.

The issued tokens are distributed as rewards to the author, miners, and voters. The author receives 65% of the issued tokens.

The power of publication is reset after the rewards are distributed. When the issuance is calculated, only the hot hearts received during the 24 hours after publication are taken into account. The publication can be involved into the distribution of issued tokens an unlimited number of times.

Comments to publication also have such properties as the power of publication and hot and cold hearts and take part in the distribution of issued tokens in the same way as all the other publications of the social network.

Voter Reward

The reward for reacting to the publication with a hot heart is 15% of the issued tokens.

The reward is distributed between users reacting to the publication.

In order to prevent the user activity aimed at increase of their rewards (the users might tend to add hot hearts to publications with a big number of hot hearts), the reward is distributed taken the sequence number of the hot heart in the publication into account. Besides, the reward depends on the power of the hot heart added to the post. This measure prevents users from adding hot hearts to all publications.

The share of the participant is calculated according to the following formula:

$$SAL_i = \frac{\dfrac{N_n - N_i + 1}{\sum_{i=1}^{n} N_i} \times \dfrac{PL_i}{\sum_{i=1}^{n} PL_i}}{\sum_{i=1}^{n} \left(\dfrac{N_n - N_i + 1}{\sum_{i=1}^{n} N_i} \times \dfrac{PL_i}{\sum_{i=1}^{n} PL_i} \right)} \times 100\%$$

where **SAL** — is a user share,

N — is the sequence number of the hot heart,

n — is the total number of hot hearts in a publication,

PL — is the power of the hot heart.

Therefore, the user share is the percentage of the total reward amount of all parties. It allows to determine the reward for each certain user (AL):

$$AL_i = SAL_i \times \sum AL$$

Voting with cold heart

When a user votes with cold heart , this heart doesn't influence the issuance of tokens but it can restore the power of a hot heart of the voter using a so called reliable cold heart.

If the number of cold hearts voted for publication during 24 hours since it was posted is more or equal to 30% of the number of all hot hearts added during 24 hours, then the cold hearts voted are considered to be reliable, and all users who have voted with their cold hearts to the publication have the power of the hot heart restored.

In order to avoid unjustified recovery of the power of the hot heart, the users can vote with their cold hearts that already have a big number of cold hearts, and the value of the hot heart power recovery will depend on the sequence number of the cold heart:

Cold Heart Sequence Number	Hot Heart Power Recovery Value
First 20% users	$0,2 \times PD$
Second 20% users	$0,15 \times PD$
Third 20% users	$0,1 \times PD$
Fourth 20% users	$0,05 \times PD$
Last 20% users	$0,025 \times PD$

Consequently, the maximum value of the hot heart recovery with the help of one reliable cold heart is 0,2.

Power of Heart

The power of hot heart (PL) is the power with which the hot heart of the user influences the amount of tokens issued by the publication.

As to prevent the attempts to drive up the hot hearts (likes) and other fraud actions, an instrument restricting the number of the hot hearts with power that are available for the user is used.

The instrument determines a dependence between the number of the hot hearts used and the power of each next hot heart according to the table below:

Number of Hot Hearts Used	Power of Each Next Hot Heart (PL)
0	1
10	0,8
20	0,6
30	0,4
40	0,2
50	0

The power of the hot heart is restored each 9,6 hours to 0,2 of power. Consequently, the power of the hot heart is completely restored during 48 hours.

The maximum power of the hot heart is 1, and the minimal power of the hot heart is 0.

The power of cold heart (PL) is the power with which the reliable cold heart of the user influences the value of the hot heart power recovery.

As to prevent the attempts to drive up the cold hearts (dislikes) and other fraud actions, an instrument restricting the number of the cold hearts with power that are available for the user is used.

The instrument determines a dependence between the number of the cold hearts used and the power of each next dislike:

Number of Cold Hearts Used	Power of Each Next Cold Heart (PD)
0	1
10	0,8
20	0,6
30	0,4
40	0,2
50	0

The maximum power of the cold heart is 1, and the minimal power of the cold heart is 0.

Reward for participants during bout

The Challenge function allows to create a publication where two participants compete with each other through content. It also allows to use the HBC tokens for making stakes on the publication. The winner of the post is determined by the number of hot hearts given to the publication taking part in the challenge.

The stake is set by the user issuing the challenge, and it should be approved by another participant. In such a way the challenge prize fund is made which is basically the sum of stakes of the user issuing the challenge and the one confirming it.

The prize fund is given to the challenge winner, 10% commission fee of the HeartBout social network deducted.

The authors of each content as well as the voters receive the reward according to the general rules for a standard publication.

Miner Reward

The generation of blocks in Blockchain HeartBout is made in rounds. For each round of creation and signing of the blocks with transactions 21 candidates are chosen. The aim of this process is to assure better reliability and provide opportunity to take part in generation for everybody. Blockchain HeartBout can make a blocks generation schedule every 3 seconds as the active delegates are known beforehand. The delegates synchronize the generation of blocks through the NTP protocol. A variation of such an algorithm has been used by the BitShares net for more than a year, and it has proved its reliability.

The traditional Proof-of-Work blockchains combine the blocks generation with the Proof-of-Work production. As the proof-of-work production process takes unpredictable amount of time, the result is that the blocks generation time can't either be predicted. Blockchain HeartBout is aimed at overall reliable process of generation of blocks every 3 seconds with potentially zero probability of forks generation.

In order to reach such results, Blockchain HeartBout separates the blocks generation from the proof-of-work production. When the miners produce the proof-of-work for Blockchain HeartBout, they transmit transactions containing work. The next scheduled delegate includes the transactions into the blockchain. After the transactions are included, the miner is added into the queue of miners that are scheduled for the blocks production. For each round a miner from the queue is chosen and included into the active list of delegates.
The miner gets paid after he/she produces a block according to the schedule.

HeartBout coin (HBC)

Usage

In the first version of application one will be able to buy views of native ads placed in the friends timeline and in public timeline with categories for HBC tokens. Later other kinds of advertisement will be used.

Native advertisement is a way to attract attention in the context of platform and user interests. Originally it is perceived as a part of the timeline content being looked through.

If one-time advertisement demand is higher than the capabilities of the system, an advertiser can independently increase the cost per 1000 impressions (CPM) in order to increase the ad demonstration priority. The advertiser reserves the right to choose the base cost (not higher than 2$ CPM according to the current HBC rate in the system), but in such a case the advertisement is shown in priority sequence.

Exchange of a Token on Cryptocurrency Exchange
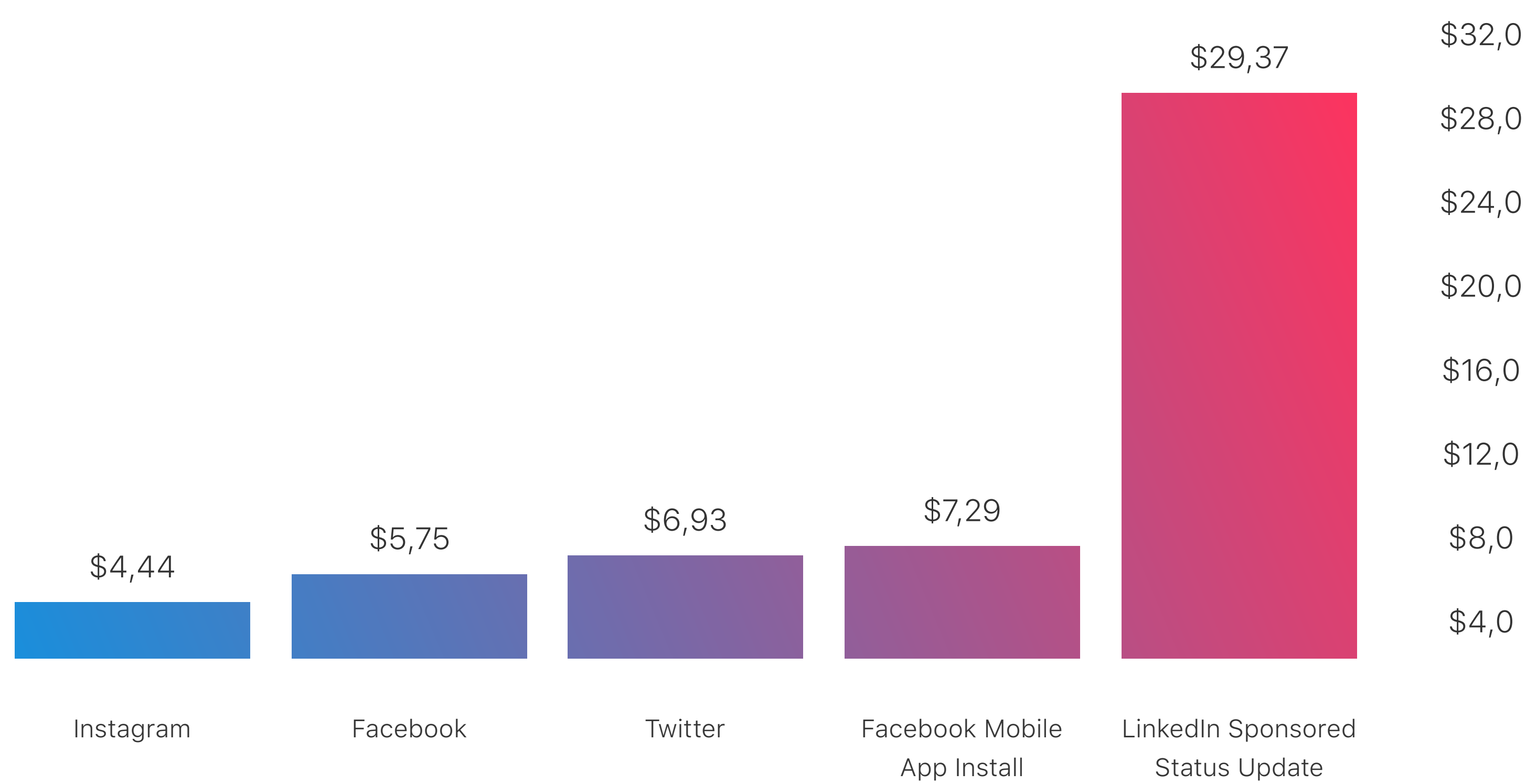
Upon completion of the sale of the tokens (ICO) on June 30, 2018, in June cryptocurrency of the Heart Bout blockchain will be available at various cryptocurrency exchanges, where we will systematically increase the distribution of our cryptocurrency at the maximum number of the most reliable exchanges; also we will work to create our own domestic exchange to provide maximum convenience.

Liquidity

Over the past years there has been growth in spending on mobile native advertising around the world. The graph reflects the growth of mobile native advertising spending in the United States.

Year	Spending
2016	$16,8 bil
2017	$20,9 bil
2018	$25,2 bil
2019	$28,9 bil
2020	$33,5 bil
2021	$36,3 bil
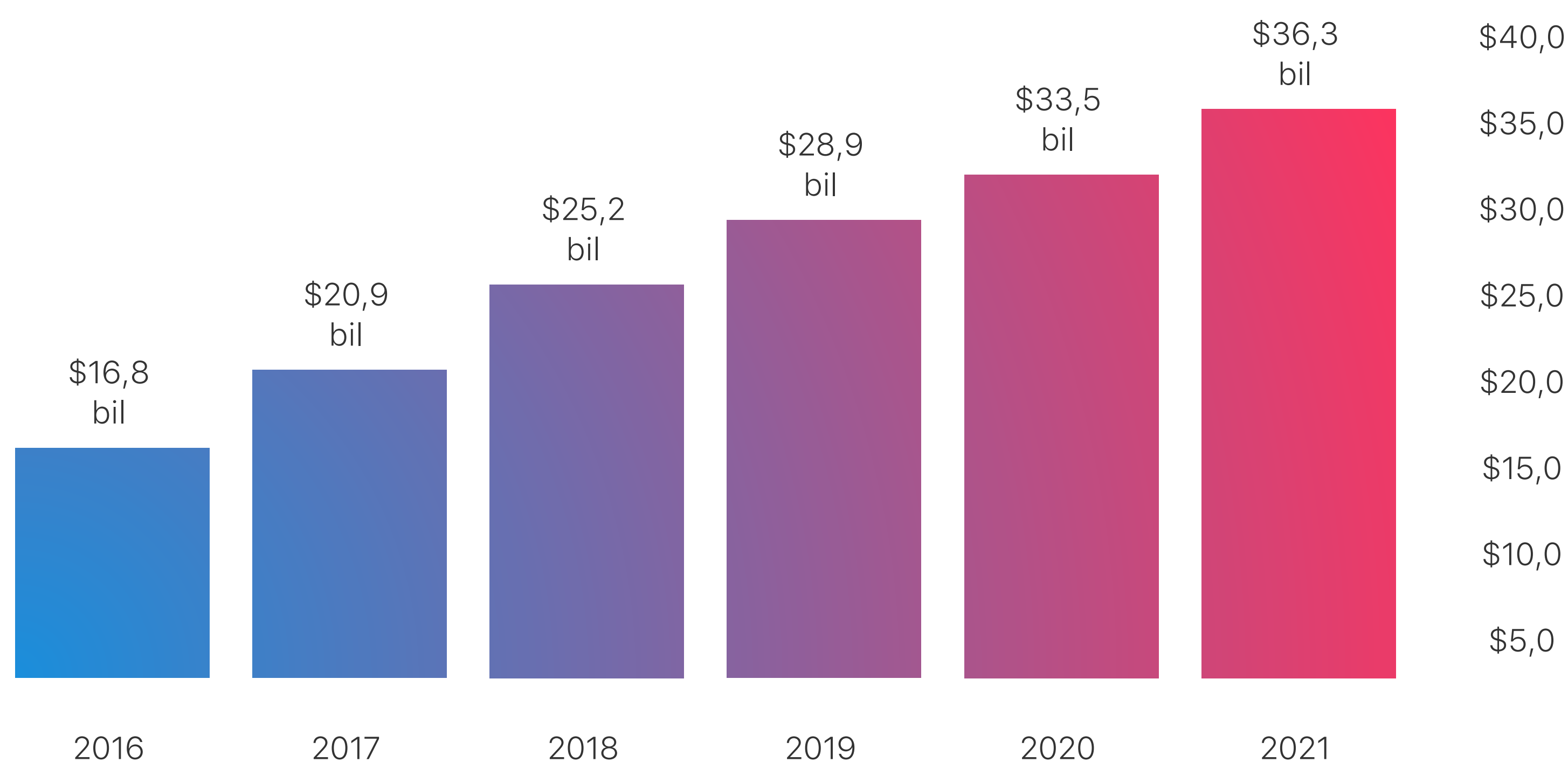
The recommended cost of the HBS token directly depends on the amount of DAU in the system, the more DAU there is in the system presumably the more expensive token HBC is. The cost of advertising per 1000 views does not exceed $ 2 which is several times less than in other systems (see the graph):

Platform	Cost
Instagram	$4,44
Facebook	$5,75
Twitter	$6,93
Facebook Mobile App Install	$7,29
LinkedIn Sponsored Status Update	$29,37

For example: *1% DAU = 1HB*

The user will be able to receive 300 views for 1 HBC with DAU of 30 000 users at a recommended price of $ 0.6. Thus, for 3.3 HB you can get 1000 views.
The user will be able to buy 5 000 views for 1 HBC with a higher DAU of 500 000 users at a suggested price of $ 10. In this case, the price for 1 000 views will be reduced to 0.2 HB.
It is clear from the example that with an increase in the recommended price of 1HBC the price for 1 000 views will not exceed $ 2.
The tokens converted into advertising are perishing, which helps to avoid an oversupply of HBC coins at the market and their depreciation.

Today there are practically no social networks on the market using the decentralized principle of encouraging users' activity. Today Steemit can be considered as the only one. The currency of this system reliably holds the position in the TOP-10 of all cryptocurrencies with the capitalization of more than $ 300 million, which demonstrates great potential for the social network Heart Bout.

At any time, holders of HBC tokens will be able to transfer to the cryptocurrency exchange from their wallet in the user profile. We expect a high demand for HBC tokens based on the factors of price and a growth in demand for mobile advertising.
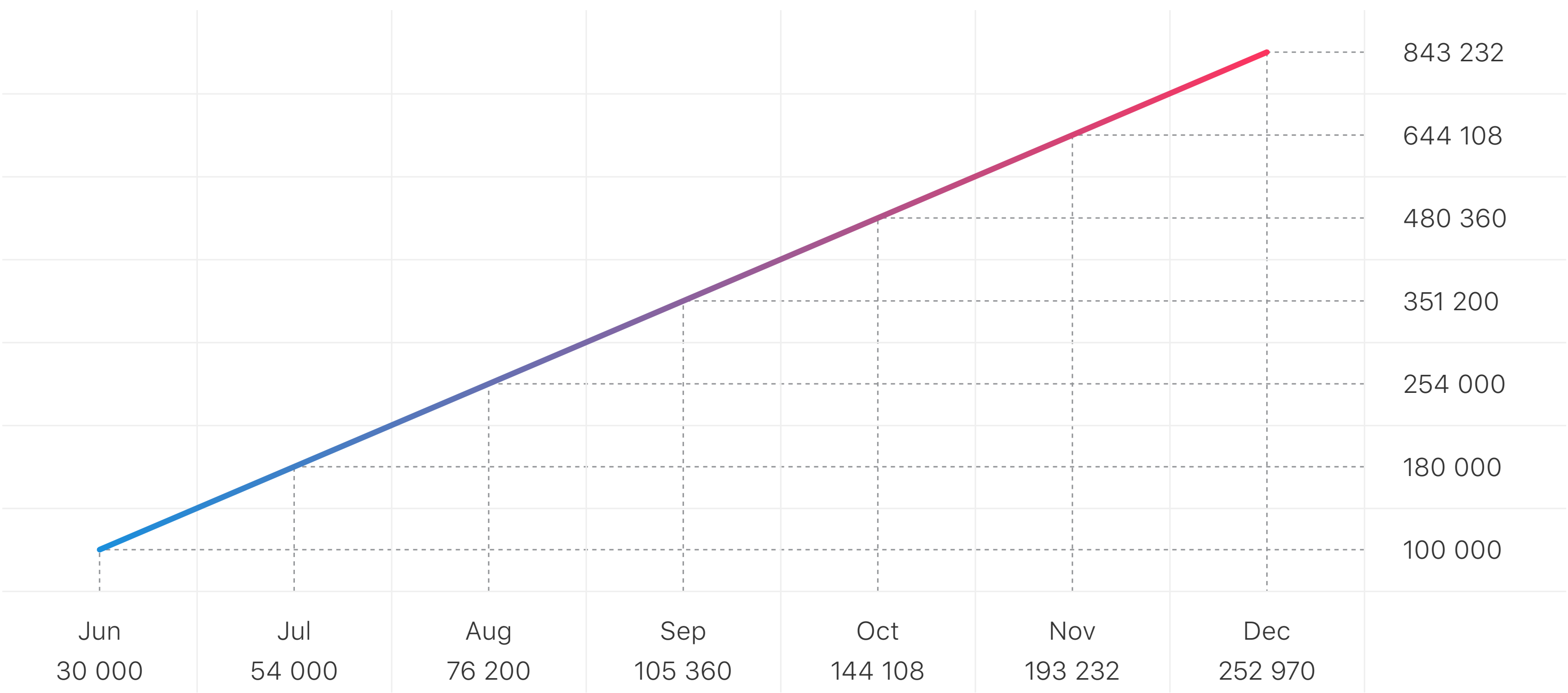
Transparency and Reliability

The economy of the social network HeartBout is decentralized and built on the blockchain technology. The information about tokens and their owners is stored in a distributed database, which allows ensuring transparency and reliability for users and investors.

Divisibility

The divisibility of the HB token makes it possible to avoid existence of a significant entry barrier for any token buyer or advertiser. The divisibility of the token HBC is up to 0.00000000001.

Increase in value of the HBC Token

Considering the projected growth of the audience of the social network HeartBout, taking into account the advertising that is much cheaper for every 1000 views (CPM) in comparison with competitors and the limited issuance of HBC tokens, it is possible to predict the HBC token price growth at the market.

	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	30 000	54 000	76 200	105 360	144 108	193 232	252 970

Chart y-axis values: 100 000, 180 000, 254 000, 351 200, 480 360, 644 108, 843 232

As you can see from the graph, in 7 months after the launch of the social network HeartBout the predicted number of registered users is 843 232 with DAU equal to 252 970 participants. This is a quite restrained forecast, but we believe that it is better to forecast the result less than that that the system can objectively expect under current conditions.

It is possible to predict the dynamics of growth in the value of the HBC token based on the forecast.

The token price on ICO at the rate of dollar, without bonuses — **0,051$**
The recommended price at 292 970 DAU — **5,1$**
The growth in value is **10 000%**

Jun	Jul	Aug	Sep	Oct	Nov	Dec
30 000	54 000	76 200	105 360	144 108	193 232	252 970
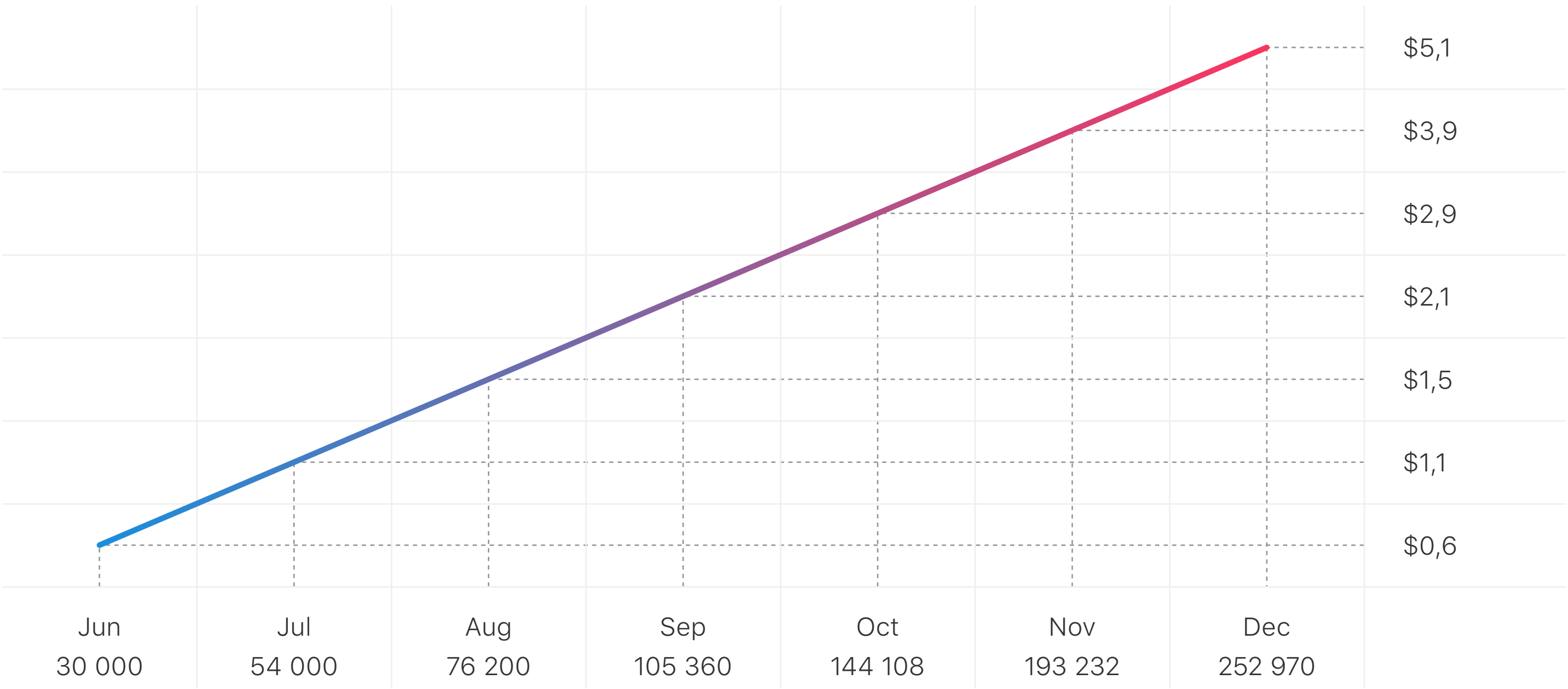
Thus, the price of 1 HBC is expected to grow at a selling price of 0.051 (without a discount) on ICO by 10 000% in 7 months after the launch of the social network Heart Bout, which ensures the token attractiveness for purchase on ICO.

System Architecture
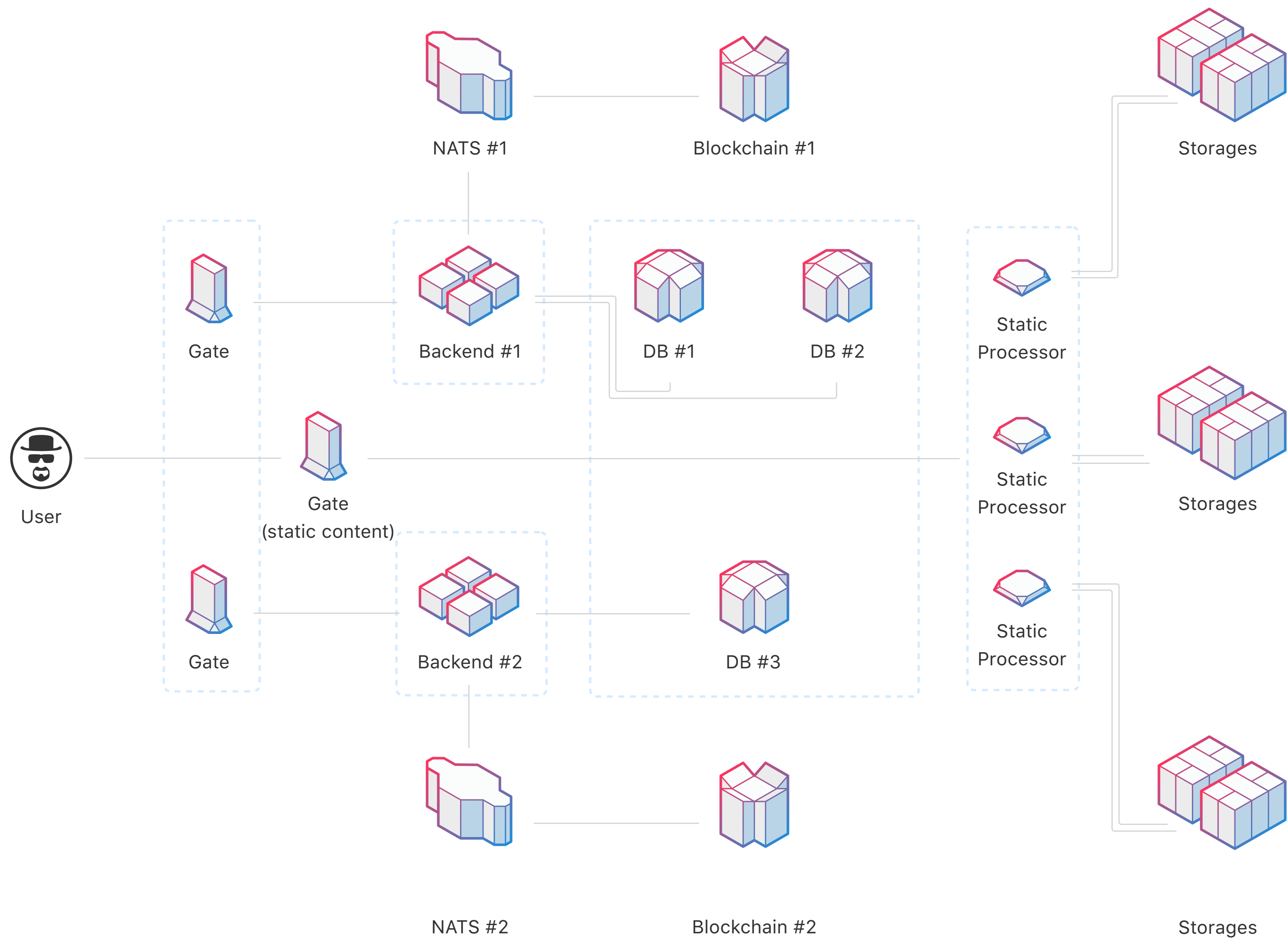
Description of elements

Gate

Servers located around the world. They serve to create a "web" of our connections. The closer the gate is to the user, the faster the user will be able to connect it. It is one of the components of fast network operation.

Gate (static content)

The same as gates, but they serve to transfer static content. The main difference is that they are used to transfer the large amount of data.

Backend

Servers-handlers. They handle all requests (except for requests for static content).

DB

Database. It stores all users' data, publications, etc. It includes everything with an exception of static content.

NATS

Queue. All requests directed to the blockchain are sent here. It allows blockchain to take the requests from the queue when it is convenient.

Static Processor

Static Content Server. It processes and gives back the static content.

Storages

Static Content Stores. They store all videos, pictures, files, etc. The Storage task is to store data petabytes and give them back as quickly as possible.

Blockchain

Stores data about users and their transactions.

Advantages

Safety and fault tolerance

The architecture of the social network HeartBout is distributed, and because of that many servers in it are duplicated. We are concerned about safety and fault tolerance. A fully distributed structure can also expand dynamically. Adding or removing of the servers from the chain after the connection of the Open Stack platform will happen almost instantly: the rest of the network will not even notice it. Users will not notice any downtime or interruptions in case of equipment replacement or server farm expansion.
The safety of the users is ensured by the products that are already proven on the market and by our own developments in the field of active and passive safety systems.

Data transmission speed

Input gates convert the request into a special protocol, which is used inside of our architecture. This allows achieving maximum network performance. Fully streaming architecture allows transmitting simple requests, images, video, etc. in dynamic, asynchronous mode. It will significantly reduce the time of user request and the load of the network. Even a slow Internet connection will work faster, because the user will not need to reconnect in case of multiple simultaneous requests.

Compatibility

The server part is a hybrid. The entry points to our architecture support all modern protocols: Plain TCP, WebSockets, HTTP, HTTPS, UDP, Protobuf (TCP / UDP). Therefore, we can guarantee the simplicity for the introduction of new platforms.
The protocols can be compatible with other applications. For example, the stream of our static server is played by VLC and MPC players. Therefore, the content of a static server (for example, downloaded videos) can be played by almost any media device with connection to the Internet: TVs, players, projectors, media banners and other devices.

Speed of blockchain

Dynamic off-chain blockchain transactions. This method will allow quickly synchronizing new transactions and will significantly speed up the work with the blockchain.
Our service has a distributing blockchain system, which allows users to work decently with HB cryptocurrency.

Diagram of Interaction between Etherium, Blockchain HeartBout Server, Web Client, and Mobile application

The software project architecture consists of three main nodes that interact with each other at different stages.

1. ICO site. It includes Node Blockchain Ethereum, a web client for authenticating and purchasing of HB tokens.

2. The Heart Bout project. The server, a web client and the mobile application.

3. Blockchain Heart Bout. The service for the system of user activity encouraging in Heart Bout. Designed as fork Blockchain Steem.
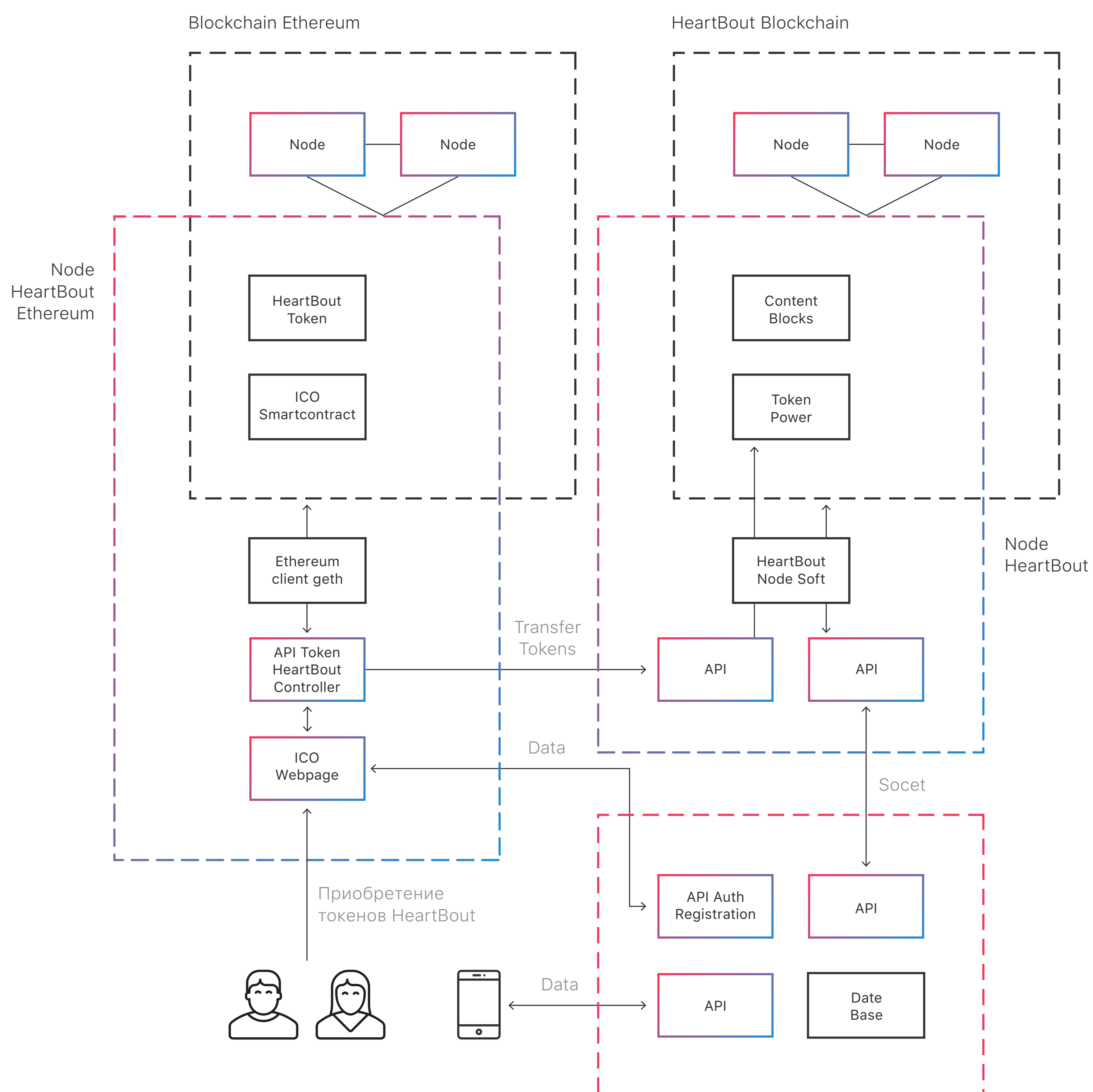
The Interaction of the Website for the sale of tokens with Blockchain Ethereum
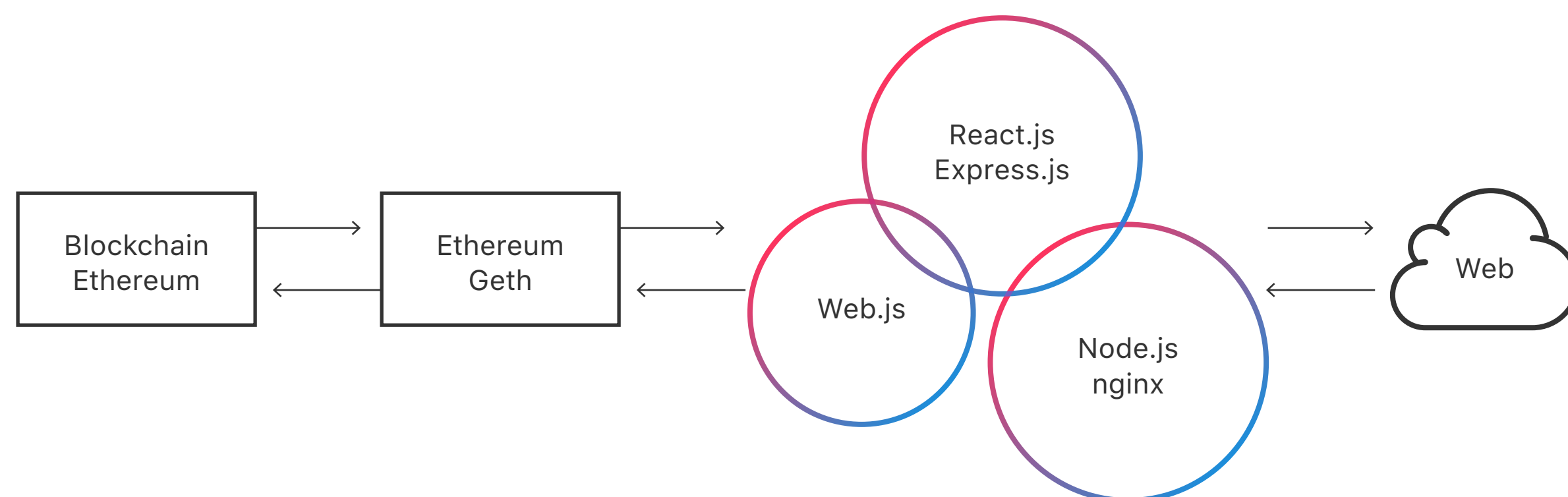
Ethereum is a programmable Blockchain. Ethereum allows users to create their own operations of any complexity instead of providing users with a set of predefined operations (for example, bitcoin-transactions). Such capabilities make Ethereum a convenient platform for the development of many different types of decentralized applications of Blockchain, including ICO of the company.

From the technical point of view ICO is a service that allows direct interaction between the user and the owner of the service.
For the user the interface is built as a web application that uses the Javascript API to interact with Blockchain and allows implementation of a business logic piece that should not be included in the Blockchain smart contracts.

The development of a website for the sale of tokens at ICO, which is integrated with Blockchain Ethereum, combines various tools and technologies to create a mechanism for the convenient and safe purchasing of HBC tokens. The technology stack identifies tasks for development of a back-end and front-end website, integration of a website with the Blockchain Ethereum node.

The ICO website server is developed on the Node.js platform, which allows creating applications with the ability to withstand high loads.

The software framework is written on a platform for the structured development of the Framework React.js and Express.

The multi-purpose Ethereum Geth tool written in the Go programming language is used for the starting and operating of the Blockchain Ethereum node. The Geth client is the basis for the Ethereum Mist official cryptocurrency digital wallet and a provider of the high level of job security.

Before running the project Geth allows the user to connect to one of the Ethereum Ropsten Test Net test networks, where take palace a deployment and usage of smart contracts ICO in conditions close to working in the main Ethereum network.

The interaction of the website with Blockchain Ethereum occurs with the help of web3.js library provided by the developers of Ethereum. Web3.js communicates with the local node using RPC calls.

Backend HeartBout Interaction with Blockchain Heart Bout

```
        ┌─────────────────┐
        │   Blockchain    │
        │    HeartBout    │
        └─────────────────┘
              ↑ ↓ Messages
    ┌─────────────────────────────────┐
    │        Message Queue            │
    └─────────────────────────────────┘
    ┌──────────────┐    ┌──────────────┐
    │Client Publisher│   │Client Subscriber│
    └──────────────┘    └──────────────┘
              ↑ ↓ Messages
        ┌─────────────────┐
        │     Server      │
        │    Heartbout    │
        └─────────────────┘
```
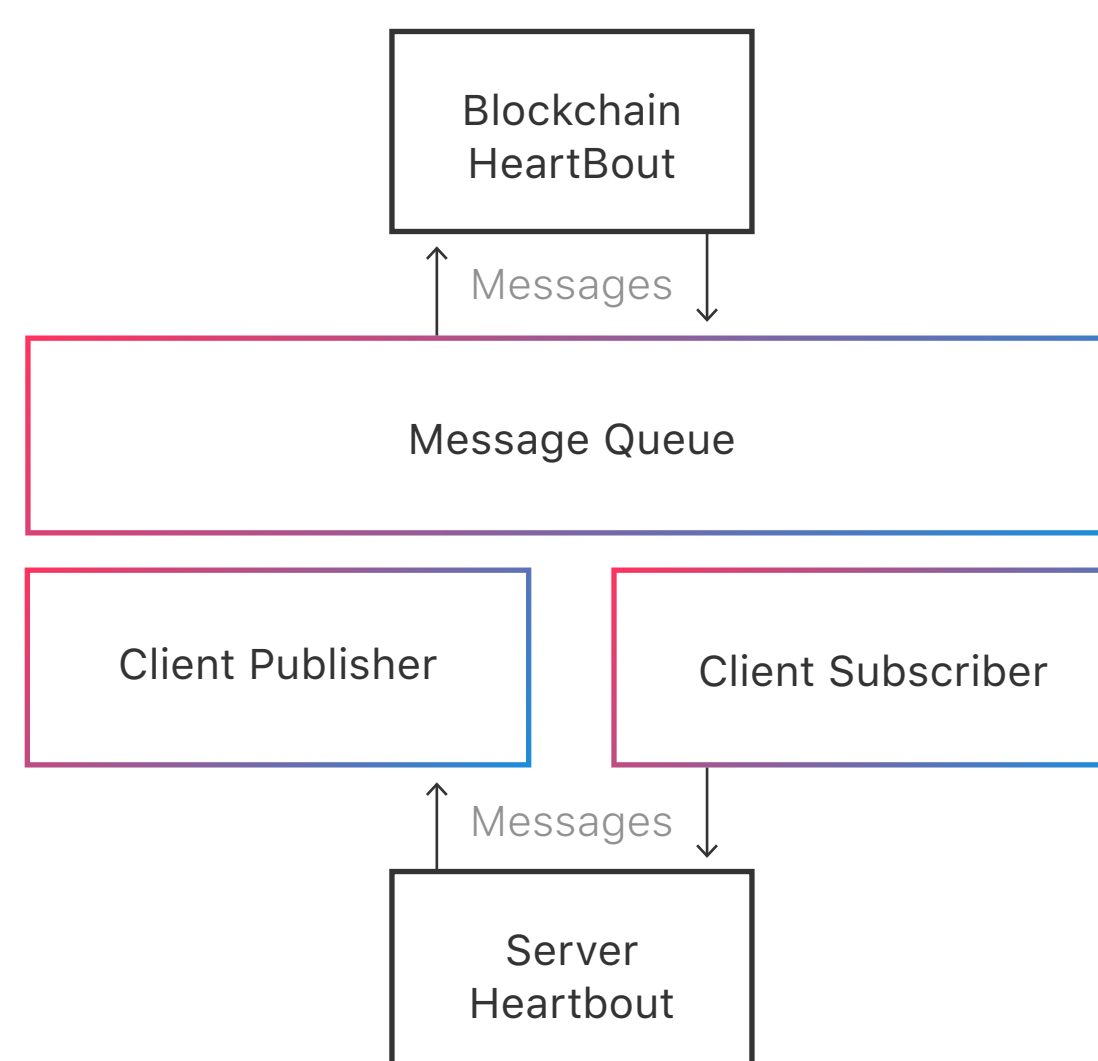
The Message Queue management process is organized to transfer a large amount of data between the Node Blockchain Heart Bout and the Heart Bout project server. The connection and communication between the client and the MQ server are carried out via a TCP / IP socket controlled by the MQ protocol commands. This solution will allow horizontally increasing the capacity of the system, along with the growing popularity of the application and the increase in the number of requests.

Communication between the Heart Bout client and the Blockchain Heart Bout occurs in both directions through the Heart Bout server. The information about users' activity is transmitted in the direction from the application to Blockchain (set hot hearts and cold hearts, leave publications and comments, DAU).

The application receives data about the earned tokens from Blockchain.
The text of a message is formatted using JSON, encrypted and added to the message queue in the Node Blockchain Heart Bout server. The Subscriber service subscribed to the queue, picks up messages, decrypts them, parses and transfers the structured information further to Blockchain or to the Heart Bout application depending on the working side of the Subscriber.

Interaction of Website for selling tokens with Backend HeartBout

The ICO website consists of lending and users' personal cabinets participating in the purchase of HBS tokens.

Landing provides general information of performed ICO. On this page you can find the information about the concept and economy of the created crypto currency, as well as the conditions for the sale of tokens.

You need to pass authentication, requiring registration and authorization via e-mail and password to access the private cabinet.

The information for the purchase of HB tokens is provided in the personal cabinet. It is important to note that the ICO site does not have access to your digital cryptocurrency wallet, and all operations for the purchase of tokens are made through the interface of Metamask and Ethereum Wallet services.

Metamask is a simple and convenient digital cryptocurrency wallet that technically is a plug-in for the browser, allowing users of the ICO personal cabinet to purchase tokens via the interface without launching the full Ethereum node.

Ethereum Wallet is the official digital cryptocurrency wallet from the developers of Blockchain Ethereum. It belongs to the Cold storage category and provides reliable protection from hacking and theft of accounts of your cryptocurrency wallet that are created and stored offline.

The central server Heart Bout is responsible for maintaining the consistency of the user accounts database during their registration and authorization. User accounts become active in the Heart Bout application after registration in ICO.

Transfer of HB tokens from Ethereum Block Chain to Heart Bout Block Chain

The token transfer program is a software script that performs logical operations when transferring tokens from the Ethereum block chain to the HeartBout blockchain.

When performing the logics of transfer, the program works with the Ethereum block chain through requests to the Geth client and also with the HeartBout blockchain through the client's requests to the HeartBout block chain.

The project includes one smart contract for the HeartBout token and an unlimited number of Heart Bout ICO smart contracts.

At the beginning, the smart contract for the HeartBout token is downloaded on the Ethereum block chain. After downloading, the token smart contract address on the Ethereum block chain becomes available.

To upload the HeartBout ICO smart contracts, it is necessary to know the Heart Bout token smart contract address on the Ethereum blockchain. New ICO smart contracts are uploaded sequentially, as the previous ICO completes.

Tokens and user address links with their accounts are stored in the Heart Bout token smart contract.

At the time of transfer of HB tokens from Ethereum platform to tokens on the Heart Bout block chain, the ICO campaign must be completed. Tokens transfer cannot be started if the ICO campaign is active.

Transfer control is performed by the token transfer program.

Only the owner of the ICO smart contract can initiate the transfer of tokens, who also has an access to the transfer interface of Heart Bout block chain.

The transfer of tokens goes sequentially on each address of the Ethereum block chain attached to the user's e-mail (address).

After the transfer is completed, the transfer of tokens is checked. The audit is performed for each account on the Heart Boutblock chain. If the number of transferred tokens on the Heart Bout block chain does not match the number of tokens on the Ethereum block chain, the program notifies the transfer administrator. The administrator makes a decision to fix the problem.

After the transfer is successfully completed, the HB tokens are removed from the Ethereum platform. The removal of HB tokens from the Ethereum platform is initiated by the owner of the ICO smart contract, and this operation can't be canceled.

Tokens transfer

The script is installed on the Ethereum node. To access the Ethereum block chain through the Geth client, the script makes a request for the token smart contract address to the interface, that returns an associative array where the key is the user's wallet address, and the value is the user account to which his/her wallet is attached.

Then, the script receives the number of tokens for each wallet address through requests to the smart contract interface of the HeartBout token. The number of account tokens is the sum of all account address tokens.

To ensure the security of the transfer, the received data (accounts and the number of account tokens) are transferred to the node of the HeartBout blockchain.

The script is installed on the node of the HeartBout blockchain. The script performs the process of transferring of the associative array obtained in the previous stage to the Heart Bout block chain through the client interface.

The transfer of the list of accounts is performed sequentially for each key. The script transfers users' accounts to the client on the Heart Bout block chain through the new user interface. If the account already exists on the Heart Bout blockchain (account was created on the previous ICO), the iteration is skipped.

The transfer of the number of tokens attached to the account on the Heart Bout block chain is performed after the transfer of accounts in the previous stage. The tokens are transferred through the client interface on the Heart Bout block chain, to reward the accounts with the appropriate number of Heart Bout tokens.

At the final transfer stage, the number of tokens on users accounts on the Ethereum block chain is compared to the number of tokens received on the accounts of the HeartBout blockchain. If there is a mismatch, the process of removing of the generated tokens on the HeartBout blockchain is initiated.

If the token and address compliance check is successful, the administrator initiates the process of removing the tokens on the Ethereum block chain.

After that, the transfer process is considered to be complete.

The right to Change the Terms.

The Company reserves the right to update or change these terms at its sole discretion at any time and without prior notice. If any changes are made to these terms, a revised version of these terms will be posted on the Company's website. Accordingly, you agree and confirm that it is your responsibility to check the company's website and notify yourself of any changes in these Terms, and you agree to keep to the latest versions of these Terms.

Crowdsale

The maximum number of tokens issued for sale — 44,197,720

The sum of the maximum collection amount of ETH — 6 440

The name of token: Heart Bout Coin

The kind of token: ERC20

The price of token: 0.051 $, 1 ETH (at the dollar rate 1 ETH — $ 350) = 6 863 HBC

The minimum purchase sum: 0.1 ETH

Crypto currency for payment: ETH

Structure of bonuses for token purchasing:

Pre-ICO
The number of tokens — 8 235 600

Bonuses:
December 15—31 — a discount of 35% of the price (for limited number of tokens)
January 30—February 28 — 20% discount

ICO
The number of tokens — 35 962 120

Bonuses:
April 1—30 — 15%
May 10—30 June — 10%

ICO
In December 2018 the number of tokens and the sale rate will be calculated according to the results of the system.

Distribution

The team — 6%

The first investor — 5%

Advisers — 2%

Token buyers — 81.5%

Marketing — 1.5%

Bounty — 4%

Use of funds

Development — 40%

Operating expenses — 5%

Marketing — 47%

Equipment — 1.3%

Other expenses — 6.7%

Development road map

Salaries and expenses for the development of blockchain per month

To April 2018

CEO — $ 5 000
2 ios developers — $ 8 500
2 backend developers — $ 8 000
1 technical director — $ 5 000
1 tester — $ 3 000
1 designer — $ 4 000
1 marketer — $ 3 000

Blockchain development — $ 20 000

$ 51 500 per month

From April 2018

CEO — $ 5 000
2 ios developers — $ 8 500
2 backend developers — $ 8 000
1 technical director — $ 5 000
2 testers — $ 6 000
1 designer — $ 4 000
1 marketer — $ 3 000
2 android developers — $ 8 000 – 9 000
2 – 10 moderators — $ 1 600 – 8 000
2 media buyers — $ 5000
1 SMM — $ 2500

Blockchain development — $ 20 000
$ 76 600—84 000 per month

Operating expenses
Office — $ 10000

Marketing

The average user cost is $ 1.3.
The growth of new users (organic) 30% from synthetic.

June	Users
Organics	0
The new increase	100 000
New in the system	100 000
Total in the system	100 000
DAU	30 000
Expenses	130 000$

July	
Organics	30 000
The new increase	50 000
New in the system	80 000
Total in the system	180 000
DAU	54 000
Expenses	65 000$

August	*Users*
Organics	24 000
The new increase	50 000
New in the system	74 000
Total in the system	254 000
DAU	76 200
Expenses	65 000$

September

Organics	22 200
The new increase	75 000
New in the system	97 200
Total in the system	351 200
DAU	105 360
Expenses	97 500$

October

Organics	29 160
The new increase	100 000
New in the system	129 160
Total in the system	480 360
DAU	144 108
Expenses	130 000$

November	*Users*
Organics	38 748
The new increase	125 000
New in the system	163 748
Total in the system	644 108
DAU	193 232
Expenses	162 500$

December	
Organics	49 124
The new increase	150 000
New in the system	199 124
Total in the system	843 232
DAU	252 970
Expenses	195 000$

Total	*840 000$*

Equipment

Purchase of servers — 30 000$

Other expenses

128 800$

Marketing for ICO

112 000$
5% of the total amount of fees

The total amount   *2 254 000$*

Terms of Development

2017

4 quarter

— Adjusting application design and adapting to iOS 11
— Start of blockchain designing
— The formation of technical specifications for the development of the advertising engine

Development

— Registration
— Tape
— Search
— Create and edit categories
— Profile, editing / settings
— Creating a publication
— Analysis of steemit blockchain
— Development of blockchain on the basis of fork stream

2018

1 quarter

— Advertising promotion design in the application
— Design of the wallet

Development

— Streaming videos
— Creating of the final post
— Activity / Chat
— Call
— Animation and testing
— Beta version (April)
— Development of blockchain using fork steemit

2 quarter

— Finalizing
— Testing
— Release of the application (June)
— Development of the android version

3—4 quarter

— Launching of the advertising engine
— Release of the Android version
— Analysis of the possibility of integration of other advertising types into the application
— Formulation of the technical assignment for the development of other types of advertising
— Development

Disclaimer

Pleasse read this and previous sections carefully if you have any questions about the actions you should take, please contact the legal, financial, tax or other professional consultant.

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Representations and warranties of the investor

(1). Purchasing HeartBout coin (HBC) tokens you give the following assurances and warranties in favor of HeartBout coin (HBC):

(2). You agree and acknowledge that the HeartBout coin (HBC) tokens are not securities in any jurisdiction.

(3). You agree and acknowledge that the document is not a prospectus or an offer and is not intended to offer to acquire securities or to make investments in any jurisdiction. You also acknowledge that you are not required to enter into any contract or assume any obligation under this document.

(4). You agree and acknowledge that the publication and distribution of this document, as well as any part of it or its copy, and your acceptance of it, is not restricted or prohibited by applicable law or subordinate legislation. If there are restrictions on the possession of HeartBout coin tokens (HBC), you have to ensure compliance with all the restrictions for your own account; HeartBout coin (HBC) is not responsible for it.

(5). You agree and acknowledge that if you intend to purchase HeartBout coin (HBC) tokens, these HeartBout coin (HBC) tokens will not be deemed, recognized, characterized or used as:

      (a) Any currency but hybrid cryptocurrency;

      (b) Bonds, shares, rights, options or derivatives in respect of bonds or shares;

      (c) Shares of stock in investment funds or derivatives.

(6). You agree and acknowledge that you are not entitled and should not purchase HeartBout coin (HBC) tokens if you are a citizen or resident (tax or other) of the USA, Canada or PRC.

(7). You have a sufficient degree of understanding of the operation, functionality, usage, storage, application, transmission mechanisms, and other significant characteristics of cryptocurrencies, hybrid cryptocurrencies, blockchain software systems, digital cryptocurrency wallets or other storage mechanisms, blockchain technologies, and smart contract technologies;

(8). You are fully aware and understand that if you intend to purchase HeartBout coin (HBC) tokens, you can face with the risks associated with HeartBout coin (HBC), its activity and business operations, as well as with the HeartBout coin (HBC) tokens themselves;

(9). You are fully aware and understand that HeartBout coin (HBC) is not liable for indirect, special, incidental or other damages of any kind arising out of the infliction of harm, of the contract, or other way (including but not limited to lost profits, the loss of data, etc.) arising for any person who has accepted or relied on the information in this document;

All of the foregoing representations and warranties are true, complete, accurate and not misleading at the time you receive or gain access to this document, or any part of it.

Rorward-looking statements

All announcements and statements set forth in the document, as well as those made in press releases or other public places and sources on behalf of HeartBout Coin (HBC), constitute "forward-looking statements". All announcements and statements regarding the financial condition, business strategy, plans or prospects of the HeartBout coin industry (HBC) constitute "forward-looking statements".

Such forward-looking statements include stated and unstated risks, uncertainties and other factors that could lead to substantial variance of actual results, economic performance or achievements of HeartBout coin (HBC) regarding actual results, economic performance or achievements HeartBout coin (HBC) stated, stipulated or implied in forward-looking statements.

Among other things these factors include:

Changes in political, social, regulatory and economic conditions in countries where HeartBout coin (HBC) operates;

Risks that HeartBout coin (HBC) will not be able to fulfill its strategic plans;

Changes in interest rates and exchange rates of fiat currency and cryptocurrency;

Change in market conditions in which HeartBout coin (HBC) operates and the ability of HeartBout coin (HBC) to compete in the changed conditions;

Changes in statutory regulations applicable to tokens, cryptocurrencies and fiat currency;

Military actions or terrorist acts;

Natural and man-made disasters, force majeure circumstances that may affect HeartBout coin (HBC);

Other factors beyond reasonable control of HeartBout coin (HBC).

All forward-looking statements related to HeartBout coin (HBC) are directly qualified by the abovementioned risks. Due to the above stated risks and uncertainties, the future actual results, economic indicators or achievements of HeartBout coin (HBC) may differ substantially from the actual results, economic indicators or achievements of HeartBout coin (HBC) mentioned in the document; respectively, you should not unduly rely on such statements.

Forward-looking statements are applicable only on the date of this document. HeartBout coin (HBC) does not give any representations or warranties that they will meet those stated in the document.