



ftec
first trading ecosystem



WHITE PAPER

WHITE PAPER

Contents

• LEAD-IN	4
• MARKET ANALYSIS	6
• THE CALCULATION OF TOKENS QUANTITY	10
• BRIEF HISTORY OF THE PROJECT	14
• WHAT DO WE NEED OUR OWN TOKEN FOR?	15
• SCHEME OF ECOSYSTEM PRODUCTS USAGE	17
• GENERAL DESCRIPTION OF THE ECOSYSTEM ELEMENTS	24
System Automatic Setup Module	24
Smart Trading System	24
Adaptive Social Assistant	34
Analyzer of the News Background Based on the Neural Network	37
Arbitrage Assistant	38
Exchange Orders Management Module	40
Telegram Assistant	41
Cryptoacademy	42
Global Price Analyzer	43
Module of Price Notification	44
Module of Cryptocurrency Portfolios Management	47
Desktop App	48
Mobile App	49
Trading Recommendation Platform	50
Service of Trader`s Behavioural Analysis	51
Anomalous Volume Dynamics Analyzer	52

Contents

● FINANCIAL ISSUES	54
Monetization model	54
Financial plan	54
Guarantees and Refund	57
● MARKET ENTRY STRATEGY	58
● TOKEN	61
● PRE-SALE	62
Project development strategies according to Pre-sale results	63
● TOKEN SALE	65
Project development strategies according to Token Sale results	66
● TEAM	67
● ROADMAP	70
● GITHUB	72
● CONCLUSIONS	73

Lead-In

There are many services, bots, signals, academies, neural networks and other products for successful trading.

But where can one find a place that combines all these tools?

What will be equally useful and convenient for both novice and experienced trader?

We are glad to introduce FTEC - the first trading cryptocurrency ecosystem.

FTEC is an ecosystem of intelligent services and neural networks for conducting effective trading activities on cryptocurrency markets.

Our global mission is to reduce the number of unprofessional traders.

The idea behind this project is very clear and simple: to create a holistic ecosystem that will contain all the necessary tools for users with any level of experience and knowledge in the field of cryptocurrencies.

We already have currently running projects based on algorithms for automatic trading on cryptomarkets, they gave us a great and valuable experience and therefore we moved on to fulfill more ambitious goals.

The ecosystem offers a complex of 15 original solutions for:



Boosting your sales efficiency
(by using smart trading systems)



Saving your time
(by using neuronetworks for information flow filtering)



Studying the specifics of crypto trading
(with the help of automatized cryptoacademy and broad database)



Improving your trading strategies
(by using a smart system for analyzing your trading history on cryptocurrency markets)



Minimizing the risks of the trading activity
(by using the tips of the automatic search for most profitable offers on the market)



Receiving the latest trends in the industry
(by means of smart service for analyzing social networks and web search data)

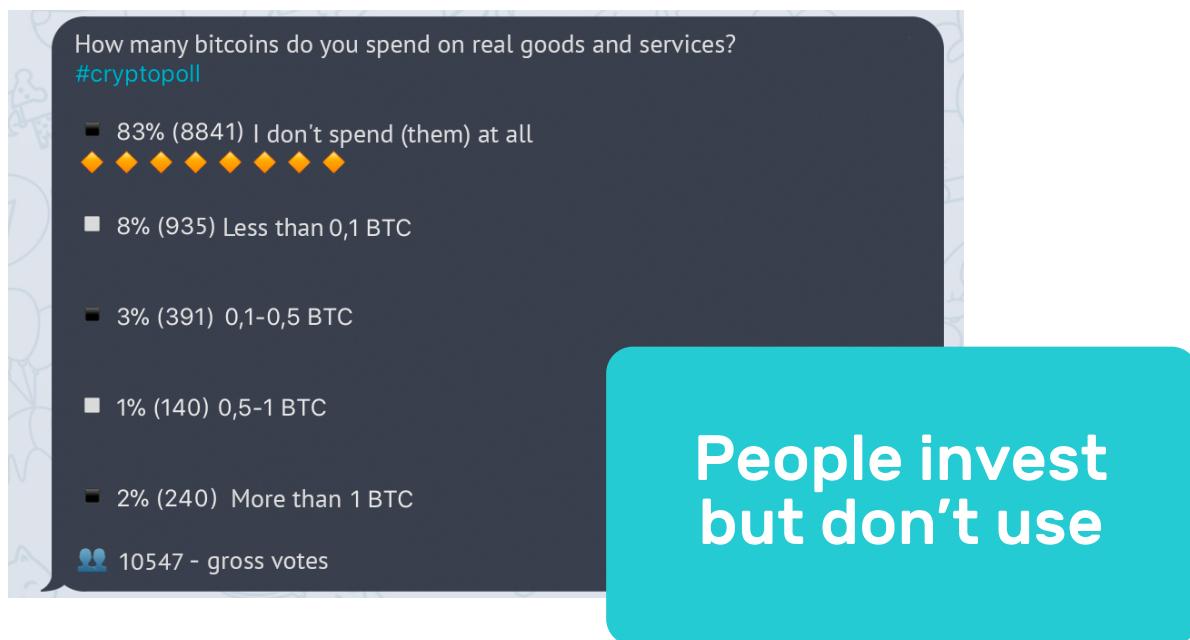
This White Paper is our plan of how to implement this idea right and with perfect quality.

Market analysis

By now, there has been an increase in the interest of the broad masses in the technology of blockchain and cryptocurrency in general.

Before we started developing our first project coinbot.club, we conducted our own research, and also analyzed a large number of online polls to find out how people most often use cryptocurrencies in their activities.

If you sum up all the researches, then the result is as follows:



This made it possible for us to conclude that, in spite of all the significant benefits that cryptocurrencies provide as a means of payment, the vast majority of people use them not for their intended purpose, but as a trading tool with a high level of profitability.

And, therefore, a project aimed at increasing the efficiency of trading will inevitably be in demand on the market of cryptocurrency products, as it saves time on market analysis, helps to reduce and diversify risks, enables to automate all routine processes associated with decision making.

We reviewed a number of existing solutions, conducted a comparative analysis and found that completely similar products are not represented on the market. Because their implementation is quite complex and requires some experience in software development due to all the features of the cryptocurrency industry. Our team got this experience while developing the coinbot.club project and therefore we strive to scale up to take our place in this industry.

Let's look at a comparison table of features provided by the most popular competing services of FTEC:

Advantages	FTEC	Trading View	Coinigy	Coin Stats
Efficient and fast trading	✓	✗	✓	✗
Flexible system of notifications	✓	✗	✓	✗
Convenient monitoring of user's cryptocurrency portfolio	✓	✗	✗	✓
Multi-level partner program	✓	✗	✗	✗
Ability to analyze news background	✓	✗	✗	✗
Cross-platform	✓	✗	✗	✗

Advantages	FTEC	Trading View	Coinigy	Coin Stats
Multi-level model of trading training	✓	✓	✗	✗
Ability to monetize user's knowledge	✓	✗	✗	✗
Personal data security	✓	✓	✓	✓
Analysis of user's behavioral pattern on the exchange	✓	✗	✗	✗

A general comparison of other cryptocurrency services and FTEC:

	Time-saving	Trading efficiency	Skills development	Fast access	Automation of the tasks	Monetization of user's content	Global analysis
Cryptocurrency services of trading bots	+	+	-	-	+	-	-
Cryptocurrency training websites	-	-	+	-	-	-	-
Cryptocurrency arbitrage services	+	+	-	+	+	-	+
Cryptocurrency services of analytics and indicators	-	+	+	-	-	-	+
Cryptocurrency statistics services	-	+	-	-	-	-	+

	Time-saving	Trading efficiency	Skills development	Fast access	Automation of the tasks	Monetization of user's content	Global analysis
Cryptocurrency services of order management	+	+	-	-	+	-	-
Cryptocurrency news resources	-	-	-	-	-	-	+
Cryptocurrency social networks	-	-	-	-	-	-	+
FTEC Foundation	+	+	+	+	+	+	+

The calculation of tokens quantity

The number of issued tokens is calculated based on many criteria, here are some parameters which were used during calculation:

- the value of average monthly check of one of our cryptocurrency project for the last 3 month is 360\$;
- target audience coverage of 1, 2, 3, 4, 5, 6, 7, 8 percent respectively;
- target audience size is 1,9 million people;
- project working period until expected getting to top ratings on capitalization is 18 months;
- the percentage of profit which will be spent on marketing and other tools for an increase of capitalization of the project is 30%.

All data are taken from official sources or our own statistical observations.

There are bills of transactions conducted on our accounts, average cost based on current rate and rate at the time of transferring.

Block No	Unix Timestamp	Value_IN (ETH)	Current Value	TxnFee (ETH)	Historical
4839023	1514857138	0,4	280,22	0,000483	861,97
4841598	1514895725	0,4	280,22	0,00126	861,97
4846747	1514974493	0,4	280,22	0,00105	941,1
4847636	1514987419	0,4	280,22	0,00105	941,1
4852739	1515068418	1	700,54	0,000441	944,83
4854979	1515104161	0,2	140,11	0,001071	944,83
4857801	1515150137	0,3	210,16	0,001386	967,13

Block No	Unix Timestamp	Value_IN (ETH)	Current Value	TxnFee (ETH)	Historical
4858283	1515157616	0,3	210,16	0,0021	967,13
4864808	1515262369	0,2098	146,97	0,00198	1006,41

• • •

4873687	1515402417	0,3	210,16	0,0011781	1136,11
4881244	1515523140	0,3	210,16	0,0011594	1289,24
5153596	1519559608	0,1797	125,87	0,00105	840,28
5155503	1519587612	0,29042	203,45	0,000042	840,28
5165634	1519738507	2	1401,08	0,000063	840,28
5165771	1519740526	0,19	133,104	0,000223	871,58
5166294	1519747643	0,6	420,324	0,000223	871,58
5179794	1519945945	0,22948	160,759	0,000189	869,87
5184005	1520008142	2	1401,08	0,00021	855,6
5191884	1520122097	0,42	294,227	0,00105	864,83
AVERAGE			360		

To check the validity of all transactions, you can get acquainted with a full version of the table on the link:

<https://etherscan.io/address/0xC1f0665e774a7a6898383AbBd3578AF80BDcd523>

To calculate the estimated number of the interested audience (traders), **Google Adwords** statistics on the most popular requests on the relevant subject were used. After duplications and approximation were removed, following result were received:

Your plan can get **1.9M** clicks

Clicks	Impressions	CTR
1.9M	32M	5.9%

Based on above-mentioned data, the table which shows expected cap values of the project in reference to the covered audience was drawn. Considered percents of the covered audience are 1, 2, 3, 4, 5, 6, 7, 8%.

To calculate capitalization, we use the following formula:

$$\text{CAP} = \text{CPR} * \text{AUP} * \text{ITM} * \text{BTP}$$

Where:

CPR - cost of average check;

AUP - percentage of audience coverage;

ITM - duration of Token Sale in months;

BTP - percentage of profit which will be spent on marketing and other tools for increase of capitalization of the project is 30%.

Relevant calculations and table which sums up results are given below:

$$360\$ * 1\% * 1,900,000 * 18 \text{ months} * 30\% = 36,936,000$$

$$360\$ * 2\% * 1,900,000 * 18 \text{ months} * 30\% = 73,872,000$$

$$360\$ * 3\% * 1,900,000 * 18 \text{ months} * 30\% = 110,808,000$$

$$360\$ * 4\% * 1,900,000 * 18 \text{ months} * 30\% = 147,744,000$$

$$360\$ * 5\% * 1,900,000 * 18 \text{ months} * 30\% = 184,680,000$$

$$360\$ * 6\% * 1,900,000 * 18 \text{ months} * 30\% = 221,616,000$$

$$360\$ * 7\% * 1,900,000 * 18 \text{ months} * 30\% = 258,552,000$$

$$360\$ * 8\% * 1,900,000 * 18 \text{ months} * 30\% = 295,488,000$$

Percentage of covered audience	Capitalization
1	36,936,000
2	73,872,000
3	110,808,000
4	147,744,000
5	184,680,000
6	221,616,000
7	258,552,000
8	295,488,000

Under such ratio of percentage of covered audience and capitalization the coin will be in **top 100** by capitalization at the start of sales with expected low percentage of audience coverage.

Since it is planned to boost audience coverage to 8% in **18 months**, the capitalization will increase and the coin will approach the **top 50** by capitalization. Token price will also increase through capitalization growth since demand for services of ecosystem increases, too.

To calculate a required number of tokens, calculated capitalization has to be divided by expected token price (in reference to the currency of capitalization). So we get **maximum quantity** of tokens which is equal to **998,400,000**.

Brief history of the project

The idea of constructing a whole cryptocurrency ecosystem did not emerge out of the blue but was a logical conclusion from a broad experience gained during the development of cryptocurrency projects as well as trading services.

Almost a third of our team members have been trading for a long time and had been involved in the industry even before the rapid development of the cryptocurrencies.

The first and biggest problem we wanted to solve was the automation of the trading process. Exchange trading itself requires a constant study of a large number of statistical parameters, news, social signals, trends, and so on.

We began with the simplest task - the automatization of the very trading process, namely, buying and selling based on certain criteria of technical analysis.

More specifically: the double zigzag crossing of the Bollinger's Top Line. In a dynamically growing market, the bot, which was based on such a simple algorithm, yielded quite good profits.

However, the practice has shown that it worked effectively only on a growing market. And there is no constantly growing market, so we proceeded to the implementation of the second step.

The second step. Creating a social bot that would analyze all Twitter content by an adapted dictionary. Thus, we managed to improve the effectiveness of the trading platform by analyzing the impact of messages that contained words such as listing, partnership, update, hard fork.

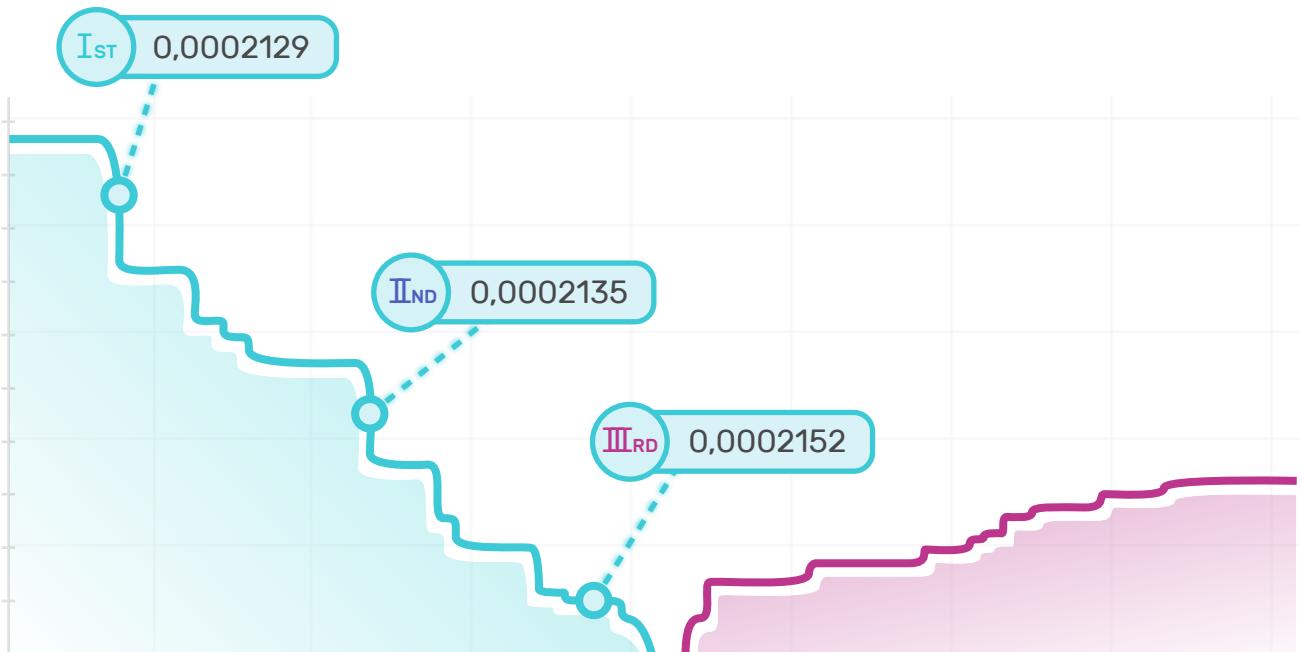
The third and all following steps are described in the subsequent sections of this White Paper.

What do we need our own token for?

Problem

The key problem we faced in developing our first trading algorithms was order book limitation on exchanges. So if automatic module finds a situation when the user can get a profit on the market, it also needs to define a queue of people for whom purchase and sale will be made. As price is not a constant value and the price of further purchases increases after the purchase of the first user (because buying demand has risen), the next user will buy at a bigger price. So a potential profit of the last user is significantly lower. The same situation is during the sale process. Sale for the first user will be at the highest price and profit and for the last user - at the lowest price and profit.

We can use ecosystem's tokens to solve this problem. Let's consider what advantages our own token can provide.



Solution

Firstly, amount of issued tokens is constant. Thus, the possibility of additional token emission is liquidated. It means that every token holder can be sure that he can manage a part of tokens he bought.

And secondly, we will have an opportunity to form a certain queue of users because of uneven distribution of tokens between holders. In this case, any user can influence the position he has in the queue by changing the number of tokens he has. The user will be able to track his position in the rating by using the relevant tool in user's account. The place in queue will be determined by the number of tokens on user's balance within the system. Tokens, which are held on exchanges, will not be considered during the queue forming.

Taking into account all above-mentioned factors, using our own token can solve fundamental problem and allows to form fair queue which can be influenced by users.

During the project's development, there will be situations when token holders will be able to make decisions about the vector of the ecosystem's movement. FTEC holders who have more than a certain amount of tokens on balance within the system have a voice in questions of project development. Such votings will last a certain amount of time and all users will be notified of their start. To prevent users from increasing his voting weight by creating a few accounts, the voting weight will be determined by the amount of tokens which were on the user's balance at the moment of voting start.

Other options of token use in the ecosystem

All payments will be made in FTEC tokens. Also tokens will be used for quick transactions in the system and getting bonuses.

Scheme of ecosystem products usage

Smart Trading System - a set of 12 modules, which automatically trade through tested, verified and debugged algorithms.

Approximate use scheme:

1. The user selects a smart trading module.
2. Selects the exchange and the trading limit.
3. Connects his own API keys.
4. The trading module trades according to the chosen algorithm and accumulates profit on the user's stock account.

Adaptive Social Assistant is a program module that sends filtered news to a trader from cryptocurrency accounts on social networks by pre-adapting them to specified parameters.

Approximate use scheme:

1. The user selects a group of accounts for tracking (for example: stock exchanges, project pages, industry leaders pages, cryptoenthusiasts account pages).
2. Selects one of the available dictionaries for tracking or sets user's own keyword list (for example: listing, delisting, hard fork).
3. Adjusts the frequency of notifications.
4. Selects dynamics level of references for a specific keyword.
5. Receives notifications of new messages and accepts trading decisions on the basis of fundamental grounds.

Service of Trader's Behavioral Analysis is a module that analyzes the trading history and forms recommendations on how to change the trading strategy to achieve better profitability.

For example: "You are a very nervous trader. In 85% of cases, you get out of trades too early. Try to set your Take-Profit level 2% higher than usual."

This service helps to reduce the losses caused by impulse decisions.

Approximate use scheme:

1. The module tracks the user's orders on selected exchanges, analyzes the situation that follows them.
2. Based on the information collected, the algorithm conducts an in-depth analysis of the behavioral factor of the trader.
3. It generates an interim report for the user with recommendations for improving the quality of decisions that the trader will make in the future.
4. There is a separate report on the potential loss of profit due to incorrect and impulsive trading decisions of the user.

Exchange Order Management Module is a service that allows you to simultaneously set Stop-Loss and Take-Profit levels and additionally calculates the most favorable price for opening an order based on its own mathematical algorithm.

Approximate use scheme:

1. The user is able to simultaneously place orders above (Take-Profit) and below (Stop-Loss) the current price of cryptocurrency.
2. Also, there is the option of a smart choice that is available for execution of the order. With this approach, the assistant automatically chooses the price of the order, depending on the current situation.
3. After the order is executed, the assistant sends the relevant notification to the trader.

Analyzer of the News Background is a module based on a neural network that is built on LSTM architecture. Analyzer generates reports based on the flow of information from the media.

Approximate use scheme:

1. The algorithm forms a dataset, which includes meaningful information from relevant media and the dynamics of the market that follows them.
2. The collected dataset is randomly divided into training and test samples. Then follows the training and checking the effectiveness of the LSTM-neural network.
3. The cycle repeats until the optimum set of parameters is found, in particular: the number of training periods and neurons in the deep layers, the value of the training coefficient.
4. A trained neural network with the most efficient architecture in real time awaits new information messages from a separate web bot which follows the news flows of selected authoritative media. After analyzing the news, the algorithm makes a forecast regarding the future situation on the market, displays probabilistic estimates of the forecast and sends it to the trader.
5. The user makes a trade decision, relying on the forecast of the neural network.

Arbitrage Assistant is a module that allows you to get profit by using arbitrage windows on most cryptocurrency exchanges in manual and automatic mode.

Approximate use scheme:

1. The user selects exchanges and cryptocurrencies, the arbitrage windows of which he is interested in.
2. In addition, the trader may specify the minimum trading volume of the arbitrage window and the minimum percentage of potential profit.
3. The Assistant displays the information (exchanges of input and output, trade pairs, volume, and percentage) of available arbitrage windows that correspond given parameters.
4. The user buys cryptocurrency on an input exchange and sells it at the output, fixing the profit.

Anomalous Volume Dynamics Analyzer is a program module that will help the trader to automatically track the unusual behavior of assets in the market.

Approximate use scheme:

1. The user selects cryptocurrency exchanges and coins, which anomalous behavior is interesting for him. Or chooses a "no parameters" mode, while the assistant tracks the entire available market segment.
2. The assistant sends a notification each time it notices anomalous increases in volumes on certain markets.
3. The trader analyzes the situation and makes decisions regarding this asset.

Cryptoacademy is a training module with theoretical materials and also convenient practical tasks that will help to develop analytical skills without the risk of losing their own funds.

Approximate use scheme:

1. The trader has a section with theoretical and reference materials in text and video formats.
2. There is a section with trader exercises aimed at developing trader skills.
3. There is a choice of key topics and sections on which the learning process should be focused.
4. It is possible to make a statistical report of the user's academic success, such as test results and effectiveness of mastering the material.

Trading Recommendations Platform is a module for monetization of trading recommendations from independent traders and experts using ratings and reputation system.

Approximate use scheme:

1. Users are provided with a general set of all trading recommendations, specifying authors-experts, author reputation and the price of a specific recommendation.

- In addition, a paid subscription to all expert's materials during a certain period may be possible.
2. Traders publish their own trading recommendations.
 3. Moderators track the success of the author's recommendations, which determines his reputation & rating.
 4. Users take into account expert rating when buying materials.

Global Price Analyzer is a program module for finding the most profitable offers on the exchanges, which allows you to save on the difference in rates of cryptocurrencies on various exchangers.

Approximate use scheme:

1. The user selects a pair of cryptocurrencies for analysis.
2. The user determines the exchanges on which the analysis is to be conducted.
3. Depending on the number of selected exchanges, the service cost is calculated.
4. The results are presented immediately in the form of a table, which can be sorted by the user's preferences. The table is relevant only at the time of ordering the service.

Module for Cryptocurrency Portfolios Management is a comprehensive solution for the creation, management, and tracking of portfolio statistics.

Approximate use scheme:

1. The generator is based on the main market indicators and forms an individual cryptocurrency portfolio, taking into account the preferences of the user.
2. Separately, you can define a set of cryptocurrencies and exchanges that can be included into the future crypto portfolio.
3. The function of rebalancing the current cryptocurrency portfolio is available if it is outdated and lost relevance to the actual situation on the market.
4. It is possible to track the statistics and an analytical report of assets that are part of the current portfolio.

5. Separately the user can use the function of integrating his own portfolio, if it is formed out of the module, for example, by the trader himself.

Module of Price Notification is a program solution for timely informing the trader about achieving the set price values.

Approximate use scheme:

1. The user creates a list of exchanges and cryptocurrency pairs about which the user will receive notifications.
2. For each pair, flexible pricing analysis settings are provided - Take-Profit lists, Stop-Loss coefficients, percents of acceptable deviations.
3. Next, the user selects ways of informing - mail, phone, mobile/desktop application, via messengers. The user can choose several options at a time.

Telegram Assistant is a program module that allows the trader to interact with the main ecosystem functionality through the Telegram messenger interface.

Approximate use scheme:

1. The user creates or logs into the Telegram account using an official desktop or mobile application.
2. The user joins the chat with the assistant. The user must type '/start' or click on the relevant button.
3. Next, the settings for the Telegram assistant will appear on the FTEC web settings page.
4. The user saves the changes after selecting the desired settings. The Assistant is ready to work and allows you to use the basic functions of FTEC.

Desktop App is a program solution for personal computers that provides access to all ecosystem functions. In addition, part of the functionality can be used offline.

Approximate use scheme:

1. The user downloads and installs the application for user's operating system. We plan the support for all popular modern operating systems - MacOS, Linux, Windows.
2. After successful authorization, the user gets the possibility to use all services that are implemented into the FTEC web version.
3. It is possible to store and cache a part of services. For example, educational materials from the cryptoacademy are available for local saving. They can be used in the future, even if there is no Internet connection.

Mobile App is mobile version of the ecosystem, which can be conveniently used with a smartphone.

Approximate use scheme:

1. The user downloads and installs the application for user's mobile operating system. We plan to provide full support for all the most popular operating systems - iOS, Android.
2. The application, using an intuitive interface, conducts a poll on user's wishes. For example, if he would like to use cellular data.
3. The user gets the possibility to use the full functionality of the FTEC modules.

General description of the ecosystem elements

System Automatic Setup Module

To simplify the work of users who are not experienced enough in the field of cryptocurrencies, it was decided to develop a module of automated polls, which will help to effectively, explicitly, and in detail select the most optimal individual mode of operation with the elements of the ecosystem.

This module has a limited list of questions with a different degree of difficulty. During the poll, the next question will be selected depending on the user's answer. For example, if the user didn't give a correct answer to the medium difficulty level question, the system would not choose the next question from a higher level.

After completing the poll, all user responses are collected for analysis by the neural network and a list of recommended settings for a particular user will be determined. The user, in turn, reviews the list and can either accept the recommendations and automatically set them up for the account, or reject the proposal and configure everything in manual mode.

If the user does not have time to complete this questionnaire at the moment of creating the account, the user always has the opportunity to complete it later.

Smart Trading System

To automate trading on cryptocurrency exchanges, we have implemented a number of simple but effective modules. Their combination makes it possible to receive a high profit under certain conditions in the market. Below are a brief description and algorithm of the assistants' work.

Example №1

When the assistant fixes the absorption of the next candle, he enters the standby mode of confirmation, which may be in the form of a price action towards a new trend, intersection of the trend line, or any other mark of technical analysis (programmed beforehand), indicating the further movement of prices in the new direction.

Also, the coefficient of reliability is taken into account if the absorption is observed at an overbought zone, which is tracked by the assistant with the help of Bollinger bands.

Once confirmed, the assistant enters the market and awaits the moment of fixing profit/loss. Stop-Loss and Take-Profit are calculated and set dynamically depending on the current situation.

To provide all the necessary functions, the assistant must implement the interface in the specified format:

```
public interface Bot1 {  
    //Static  
    boolean isConsumed(Candle first, Candle second);  
    boolean isNewTrendStarts(Candle[] period);  
    boolean isTrendCrossed(Candle[] period);  
    //Object oriented  
    double getInsuranceCoefficient();  
    double getStopLoss();  
    double[] getTakeProfits();  
  
    class Candle{  
        private String pair;  
        private Date date;  
        private double maxPrice, minPrice, maxVolume,  
        minVolume;  
    }  
}
```

To define Stop-Loss and Take-Profit, the assistant's data which is specified in the constructor is used. Such a division was chosen to avoid the storage of unnecessary data in assistant instances and to store this data only if the actual position was executed.

Example №2

The first point in the calculations is the High or Low point, which is the highest or the lowest compared to those surrounding it. The next candle after the first one is considered the second point. It is a confirmation signal.

As soon as the candle, responsible for it, is closed, the assistant translates the pattern into a "formed" state. The third candle defines profit.

The logical basis for this assistant is the short-term change in market trends, which gives the assistant an opportunity to step into the impulse and fix a small profit.

Market entry takes place at the beginning of the third candle. If the coefficient of the stochastic indicator is in conflict with the entry conditions - the assistant skips the current situation.

The interface for the implementation of this assistant is as follows:

```
public interface Bot2 {
    Signals getFirstPoint(Candle candle);
    Signals getSecondPoint(Candle candle);

    boolean isFormed(Signals first, Signals second);

    double getStochasticCoefficient();

    class Candle{
        double high, low;
        double volume;
    }
}
```

The stochastic coefficient is calculated on the basis of the data transmitted to the constructor, while the first three functions are calculated on an empty object.

In the logical structure of this assistant, you can see a similar separation to save memory when analyzing various candles.

Example №3

To calculate channel parameters, an exponential moving average is used. One line is built by the points of High, the second - by the points of Low. The assistant enters the market when the bullish candlestick closes inside the channel.

After that, the parameters of Stop-Loss and Take-Profits are dynamically set.

The interface for the implementation of this assistant is as follows:

```
public interface Bot3 {  
    Line getHighLine(Candle[] candle);  
    Line getLowLine(Candle[] candle);  
  
    double getExponentialAverage(Line firs, Line  
        second);  
  
    double getBullyCandleDirection();  
  
    class Candle{  
        double high, low;  
        double volume;  
    }  
}
```

The exponential moving average is calculated by the results of the first two functions. Candle objects that are not completely filled will be transferred to the appropriate functions to maintain efficiency.

When the object is ready for realization, the direction of the bullish candlestick is calculated using the data transferred to the builder.

Example №4

In standby mode, the assistant detects 2 candlesticks directed against the trend, enters the market while closing the next candlestick in the direction of the trend.

Stop-Loss is set slightly higher/lower than the nearest local maximum/minimum. Take-Profits are calculated dynamically.

The interface for the implementation of this assistant is as follows:

```
public interface Bot4 {  
    boolean isAgainstTrend(Candle candle);  
  
    boolean isTradeStarts(Candle first, Candle  
second);  
  
    double getStopLoss();  
    double getTakeProfit();  
  
    class Candle{  
        double low, high;  
        double trend;  
    }  
}
```

Start of trading is determined by the function on the empty object. Dynamic trading coefficients (Stop-Losses and Take-Profits) are determined on filled objects. The trend is calculated separately and in advance in the auxiliary functions.

Example №5

Based on the Bollinger bands and the moving average, the bot finds cryptocurrencies, on which there is a potential gradual wave-like purchase for the next pump.

According to a number of signs which are typical for the start of a pump, the assistant buys a few coins at the stage of preparation for the pump and fixes the profit on the first wave of growth. This allows getting a large percentage of profit without significant risks.

The interface for the implementation of this assistant is as follows:

```
public interface Bot5 {  
    double countSmoothedAverage(Candle[] candles);  
    double getPumpCoefficient(double average,  
        Candle[] candles);  
  
    double getCriticalPrice();  
    double getFirstWavePrice();  
  
    class Candle{  
        double low, high;  
        double volume;  
        Date date;  
    }  
}
```

Memory usage on calculation algorithms is rather high since the assistant analyzes large sets of data, therefore, for optimization, it was decided not to store intermediate data. Thus, the lists used for calculations are erased in intermediate stages.

Example №6

The algorithm is based on the physical model of the movement of the body which is thrown upright. It is believed that the increase in the price growth rate decreases when it is close to reaching the maximum, as well as the body which is thrown upright slows down.

Assistant fixes the dynamics of the growth of the price movement rate and calculates the potential turning point, then, based on these data, decides to enter the market.

As an additional indicator, it is taken into account that when the price moves up, the acceleration vector is directed downwards, and the vector of the price velocity is directed upwards, that means that they are divergent, and therefore, their projections will have different signs. Such divergence makes it possible to clearly identify only reliable entry points.

This assistant implements an interface that does not include trading features.

```
public interface Bot6 {
    double getModelAcceleration(Candle[] candles);
    Point getCriticalPoint(Candle[] candles, double
acceleration);

    char doesProjectionsHasDifferentSign(Point
criticalPoint, double firstCoefficient, double
secondCoefficient);

    boolean isReadyToTrade();

    class Point{
        double price_x, price_y;
    }

    class Candle{
        double low, high;
        double prevLow, prevHigh;
    }
}
```

Also, to simplify calculations, data about the prices of previous candles are stored in the objects of candlesticks . This allows the user to do less iterating through an array and reduce the complexity of the algorithm by increasing the memory used.

Example №7

The algorithm works when detects various kinds of divergences. Divergence is the difference between a price chart and a chart of technical indicators. When the assistant records the occurrence of divergence, it means the end of the movement and the possible strong reversal of the price or its retracement. In these circumstances, the sales assistant conducts a trading operation, since divergence is one of the most important trading signals.

The larger the period during which the divergence was detected is, the stronger the signal is considered and, accordingly, the bot conducts a trading operation with larger sums.

This assistant requires several additional structures and implements an interface that has additional control functions.

```
public interface Bot7 {
    double getGraph(Candle candle, Date startDate);
    double getDivergenceCoefficient(Graph[] prices,
    Graph[] technical);
    // int var =
    "9F7E1E49345CD5E7E673EDD52FFF73ED12F1124EF6FA2E456C7
    6297772C4D4B";
    double getDivergenceStability();

    double getTakeProfit();

    class Graph{
        double first_x,second_y;
    }
    class Candle{
        double price1, price2;
        Date date;
    }
}
```

Graph Class is an auxiliary class that contains pairs of values that can be virtually represented by the points of a particular chart (or vertices of a graph).

Example №8

The main tool this assistant uses to detect harmonic patterns is the Fibonacci grid.

Not a classic Fibonacci grid is constructed, but a grid of derivative coefficients. The coefficients are calculated as follows:

$$0.382 = 1 - 0.618$$

$$0.786 = \text{square root of } 0.618$$

$$0.886 = \text{fourth root of } 0.618 \text{ or square root of } 0.786$$

$$1.13 = \text{fourth root of } 1.618 \text{ or square root of } 1.27$$

$$1.27 = \text{square root of } 1.618$$

$$1.41 = \text{square root of } 2$$

$$2 = 1 + 1$$

$$2.24 = \text{square root of } 5$$

$$2.618 = \text{square root of } 1.618$$

$$3.618 = 1 + 2.618$$

Taking these coefficients into account, a decision on the implementation of the relevant trade transactions is taken.

For the implementation, the object of the assistant is needed, as it will store all the coefficients for comparison. The appropriate interface looks like:

```
public interface Bot8 {  
    double[][] getFibonacciGraph(Candle[] candles);  
  
    boolean isReadyToTrade();  
  
    double getTakeProfit();  
    double getStopLoss();
```

```
class Candle{  
    double low, high;  
    double volume;  
}  
}
```

Take-Profits and Stop-Losses are determined on the finished object after checking the readiness for trading. For calculations, low-level bit operations are often used to save the time.

Example №9

Having detected the trend, the assistant waits for the formation of a fractal. If the current trend is descending, the assistant expects the formation of the lower fractal. On the contrary, if the trend is ascending, it waits for the formation of the upper fractal.

This assistant has a “lazy” initialization due to unused data, which will be filled only after determining the direction of the trend:

```
public interface Bot9 {  
    boolean isTradeStable(Candle[] candles, Date  
timeframe);  
    boolean isReversed(Candle[] candles, Date  
timeframe);  
    double getInsuranceCoefficient();  
  
    boolean isFractalFormed();  
  
    @Autowired  
    double getTakeProfit(double coefficient);  
    @Autowired  
    double getStopLoss(double coefficient);
```

```
class Candle{  
    double low, high, open, end, volume;  
    Date date;  
}  
}
```

Depending on the called function, the relevant data is initialized. @Autowired allows using the very same “lazy” initialization using the Spring framework.

Example №10

To make decisions, this assistant uses so-called Bollinger bands - a tool for technical analysis of financial markets which reflects current price deviations.

The indicator is calculated on the basis of a standard deviation from a simple moving average. The main parameters for calculation are the type of standard deviation (the assistant uses double) and the period of moving average (the assistant calculates it dynamically).

Thereby, the assistant estimates how the prices are located regarding the normal trading range. The Bollinger bands create a channel within which prices are considered normal.

A trading signal for an assistant is a situation where the price goes out of the trading channel - either rising above the upper band or breaking through the lower band. If the price chart fluctuates between the bands - the indicator does not give trading signals and the assistant does not trade.

Adaptive Social Assistant

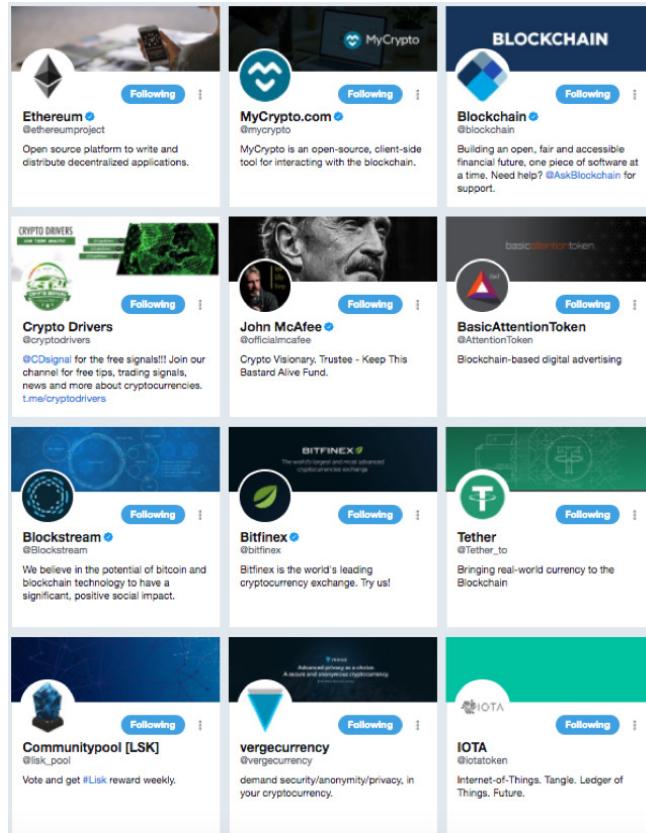
Social networks play a significant role in the existence of any cryptocurrency community.

It is difficult to overestimate the importance of timely and high-quality analysis of these sources of information. The ability to work effectively with data flow coming from developers and active members of the cryptocommunity is an integral part of the skills of a professional trader and cryptoanalyst.

On their pages on social networks, cryptocurrency companies post the most relevant and important information, including:

- Announcements of updates
- Information about new partners
- ICO announcements
- Progress reports on the RoadMap

If you add at least one hundred Twitter accounts of the largest cryptomarket projects to your news feed, the analysis of such an amount of data will require at least 2 hours a day! Thus, new posts will need to be monitored constantly, so that the information does not lose its relevance. Our adaptive social assistant will help to solve the problem of efficient processing and analysis of information coming from the primary cryptosources.



Adaptive social assistant is a program module designed to optimize the work of traders with major social networks used by teams and followers of cryptocurrencies. The assistant will allow the trader to independently choose which data from the social networks will help the trader to effectively predict the behavior of certain assets in the cryptomarket.

The Assistant analyzes a user-defined keyword list and selects the most relevant messages containing the words from the list.

A trader has the opportunity to choose a convenient way to send filtered information *, including:

- Chat-bot messages in the Telegram messenger
- Emails
- SMS
- Push-notification

* Separately, the user can choose the frequency of notifications.

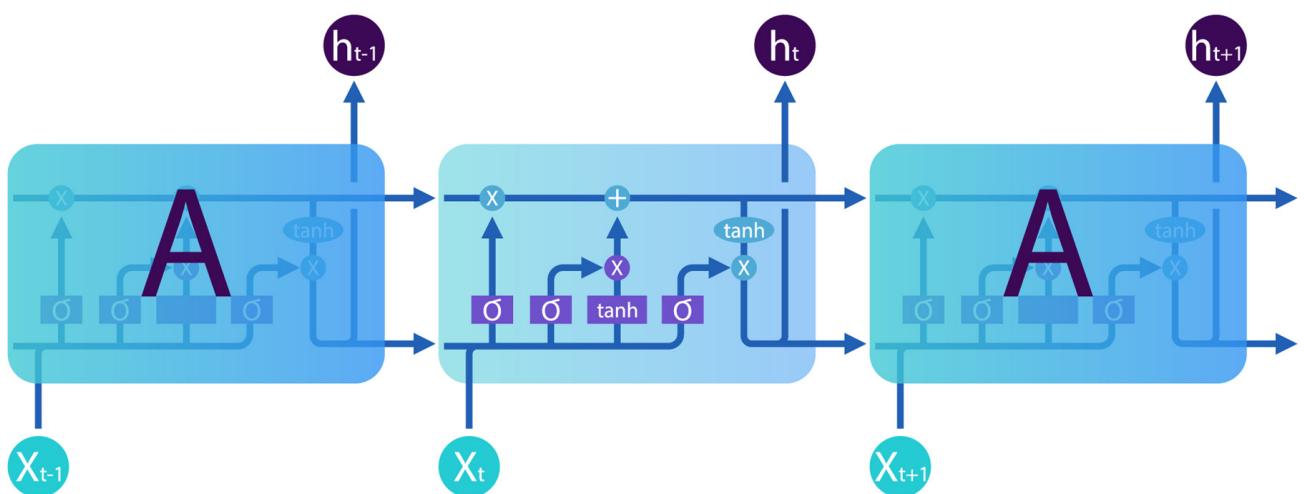
An adaptive social assistant will allow FTEC users to save at least 60 minutes per day, effectively organize the work with information from cryptocurrency developers and functionaries.



Analyzer of the News Background Based on the Neural Network

The news background has a great influence on the dynamics of the high-volatile cryptomarket. For example, news about hard fork can change the price of specific cryptocurrency by tens of percents.

The correct analysis of the news flow greatly increases the professional efficiency of the trader. In addition, current developments in the field of artificial intelligence enable to automate the work with large data sets which come from the media every day.



Nowadays, advanced companies engaged in the field of machine learning use a variety of technologies and architectural approaches to build systems for automated analysis of text information.

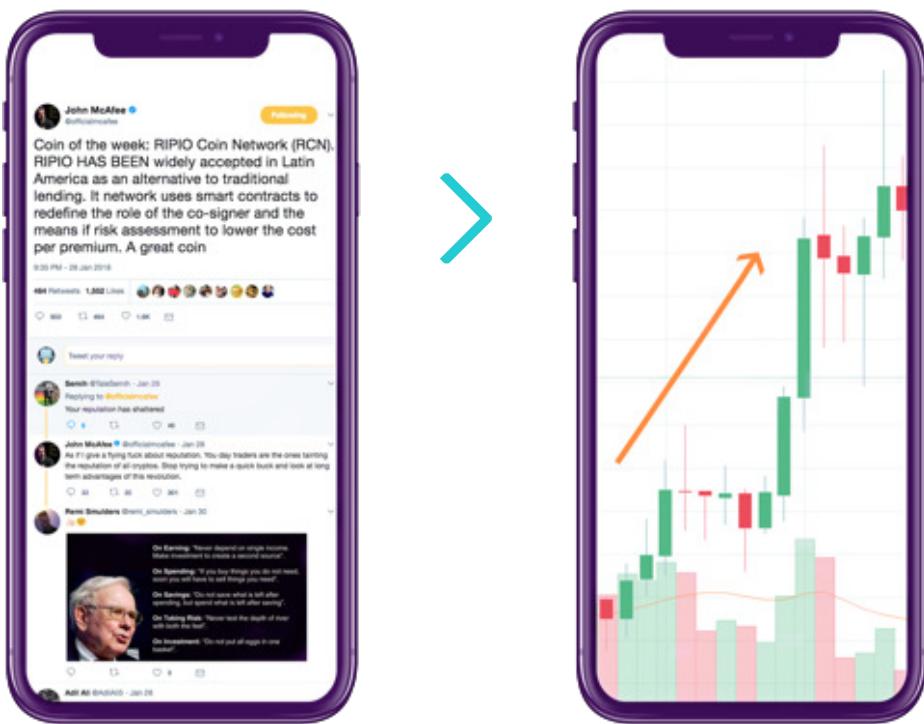
We think that the construction of neural networks based on LSTM-architecture is the most appropriate.

Long short-term memory allows calculations of any complexity if there is a required number of nodes.

This approach was chosen because of its high efficiency in tasks related to analysis and clustering of text arrays.

The approach based on this algorithm of machine learning enables to submit the input material for analysis in a convenient format. The specific implementation of the interaction and filling of the nodes is an individual development which is optimized for training on the crossing of user selections.

This architecture allows you to simulate a certain analog of human memory. This neural network will not only find banal patterns from the word combinations but also enables to analyze the relations between different news over time, which will increase its efficiency as a news analyzer a lot.



Arbitrage Assistant

Currently, cryptocurrencies can be called the most volatile assets. Their cost can rise and fall by a few percents every minute. Such high dynamism creates unique opportunities for the arbitration between the exchanges.

The situation, when at a certain period of time the rate of a specific cryptocurrency on one exchange market is higher or lower than on another, is called an arbitrage window.

An Arbitrage Assistant helps you to get profit from working with such windows.

All implementations of arbitrage algorithms take place on a special module for interactions between the exchanges. It is a protected REST API for the work with the main module, which is an interface for the work with users. To share data with exchanges' public APIs, this module uses encrypted https request.

The Arbitrage Assistant can be applied in two modes - automatic and manual.

In manual mode, the assistant searches and displays arbitrage windows on exchanges which provide reliable access to current prices through their own APIs. Additionally, the trader can select a number of parameters to narrow the resulting sample, namely:

- Exchanges where an arbitrage window is open
- Currency pairs for analysis
- Minimum trading volume
- Minimum percentage of expected profit

In the automatic mode, the assistant looks for arbitrage windows, makes trading transactions, and transfer funds between the exchanges. Only initial configuration is required of users.

The algorithmic implementation of the assistant includes several stages:

- Real-time collection of information about all available cryptocurrencies on the connected exchanges. The module of arbitrage trading receives data from each exchange individually, after which they will be formed into objects of the same class and added to the common named list for further analysis.

```
Map<Stock, ChartData> allAnalyticsInfo = new  
HashMap<Stock,ChartData>();
```

- Comparison of obtained rates for each cryptocurrency.

```
while(true){
    boolean breakSwitch = false;
    for(Stocks stock:Stocks.values()){
        if(allAnalyticsInfo.get(stock)==null){
            breakSwitch=true;
            break;
        }
        //...
    }
    if(breakSwitch) break;
}
```

- Formation of a stack of cryptocurrency pairs taking into account available trading volumes (except when the exchange does not provide data about the order book using the API). Pairs from API are stored in HashMap, and this approach allows to significantly improve the effectiveness of data processing by the assistant.
- The assistant interface, like other FTEC modules, will be presented as the web page and tab in the desktop or mobile version of the service. For the convenience of configuration, input fields and links to the usage instruction will be available at the top of the interface.

Exchange Orders Management Module

A very widespread and relevant problem of many cryptocurrency exchanges is the absence of the possibility to set Take-Profits and Stop-Losses at the same time.

We are developing a module that will help to define the levels of Take-Profits and Stop-Losses, and also maximize profit from long-term trends.

The main goals that can be achieved through the use of the module:

- Maximize profitability when closing orders.
- Automatically determine levels of support and resistance.
- Finding the best places to set Take-Profits and Stop-Losses.
- Automating the process of closing and opening orders for specified user parameters.
- Possibility to set both Stop-Loss and Take-Profit simultaneously.

All operations are carried out on a separate modular server, which provides high bandwidth due to low load on a specific segment of the network infrastructure.

Telegram Assistant

The modern rhythm of life makes us optimize our time and working tools. It is not always possible for a trader to quickly and conveniently use a full-fledged PC to analyze received information. That is why we decided to develop a high-functioning Telegram-assistant.

The Telegram Assistant is designed to provide ecosystem users with access to key features of the service and their profile information. The main advantage of Telegram-assistant is its mobility since it is fully integrated into a reliable and well-known messenger for most of the traders.

The implementation of this assistant was made possible by the Telegram Bot API, a secure and productive program solution from Telegram for the development and implementation of third-party web services in the existing messenger structure.

The interface of the assistant will be fully presented in the format of the usual Telegram messenger dialogue. Users will need to send simple commands to use many opportunities of ecosystem services.

In particular, the user will be able to get information about:

- The number of tokens on user's account inside the system.
- Positions opened by a trading assistant.
- History of operations on user's account.
- Analytical outlooks for major exchanges and cryptocurrencies.
- General statistics.
- Affiliate earnings information.

The Telegram-assistant will allow users to take advantages of the ecosystem even from the phone, in a brief format of chat messages, without wasting time on authorizing and downloading pages.

Cryptoacademy

The extremely dire problem of the industry is the fact that any person who wants to become a trader in the cryptocurrency market, begins the training with classical materials that have been created for other types of markets.



Very often it works against the person because the cryptomarkets have their own very specific rules.

To solve this problem at least partially, we are creating a training module that will enable beginner trader to get only the knowledge that will work exactly on the cryptocurrency market. We called this module "Cryptoacademy", its main goal is to compensate for the lack of convenient training tools that allow the user not to risk real money and learn how to make effective forecasts in real time.

The functionality will be implemented in the form of simulators, which use real situations aimed at gaining practical trading experience within the

Global Price Analyzer

One of the functions of an ecosystem, available to users, will be the global analyzer of cryptocurrency exchanges aimed to find the most profitable offers for buying or selling.

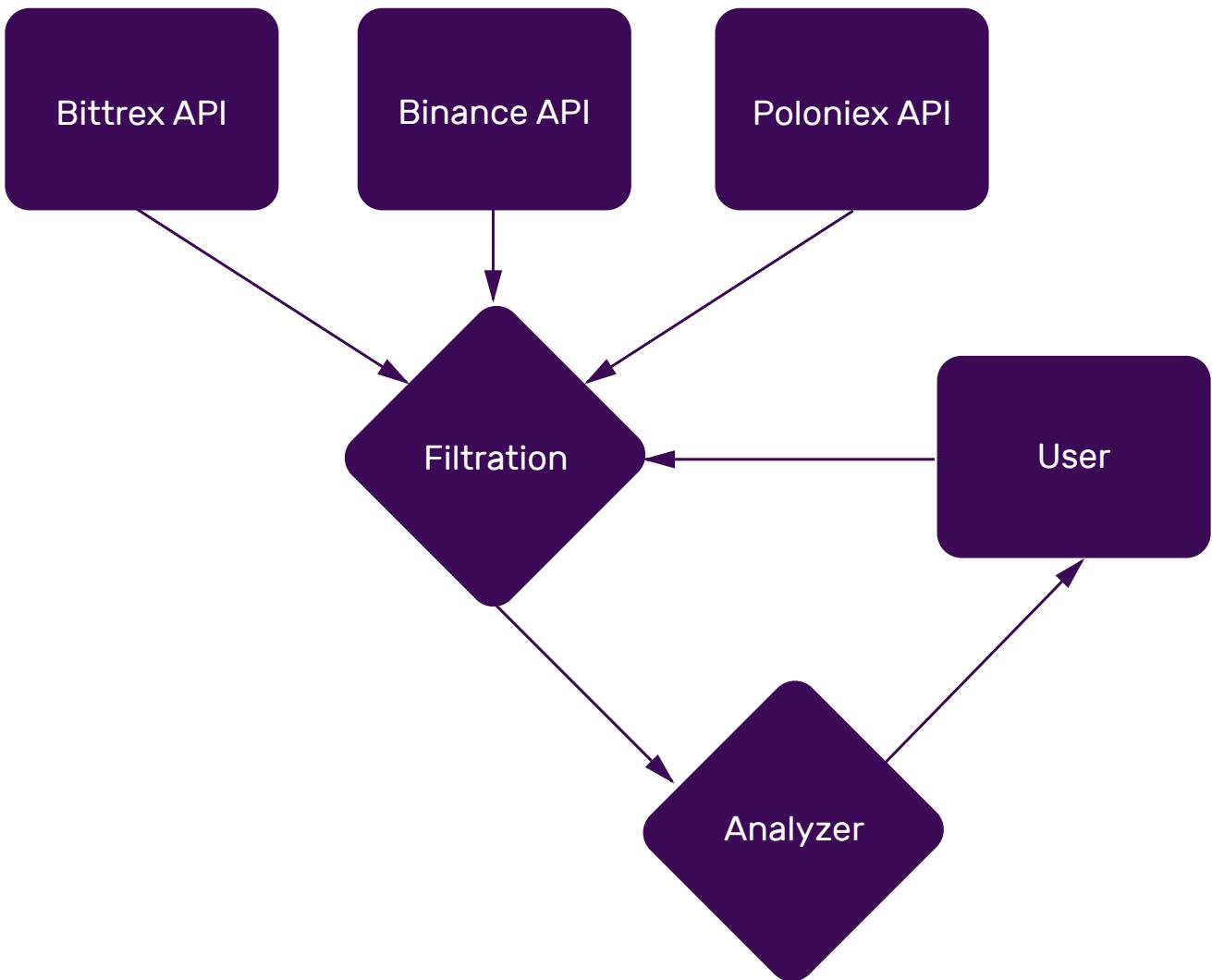
For most users of cryptomarkets, the search for the most profitable price of a certain cryptocurrency is a process either lengthy and routine when it has to be done manually, or it provides results that are far from the current situation on the market, because most of these services do not provide the relevance of the data obtained from exchanges.

So, the goal of the price analyzer for finding the most profitable offers is to make this process as convenient, fast and flexible as possible.

A user who wants to buy/sell coins will be able to quickly and easily get a table with a summary of data collected through APIs from different exchanges.

The most urgent problem is to ensure the relevance and actual value of the data that the exchange sends to the service.

We will provide the necessary level of data relevance, analyzing not only the price set on the last order, as most services of cryptocurrency statistics offer but also several previous ones.



In addition, a large number of orders in general and a larger volume of trades will enhance the assessing the data relevance.

This is how the part of the service responsible for aggregating data will look like. The second component is needed to filter results that a priori do not represent values for the user.

The user will be able to choose the most convenient search options to increase the relevance of results.

Examples of search options:

- cryptocurrency;
- order type (purchase / sale);
- volume of trades for the selected period;

In addition, the user will be able to specify the requirements for results using the advanced search function. Among the additional search options we selected:

- range of desired prices;
- desired exchanges;

The result of such a request will be a data set filtered by a decrease of price profitability parameter. The user will be able to view the results from all exchanges (in case if he specified only one or several desirable).

Module of Price Notification

The most common trading mechanism for a cryptocurrency trader is determining one or more Take-Profits and Stop-Losses.

Any service that automates exchange price monitoring significantly simplifies control over trading, depriving the user of routine work. In the classical case, it is an SMS-message or an e-mail with the relevant text.

However, the purpose of the module, which will be implemented on the FTEC platform, is not only to conveniently configure the notifications of reaching the level specified by the user, but also to assist in identifying these levels.

The module can be configured in two modes: manual and automatic. The user will choose the mode, considering his level of knowledge in the field of trading.

Users with extensive trading experience are advised to choose the manual mode of the module. This mode allows the user to set Take-Profits and Stop-Losses manually. At the same time, the module indicates only the recommended limits for each of these levels.

Newcomers are advised to choose the module's automatic mode. Then, Take-Profits and Stop-Losses will be calculated dynamically by the algorithms implemented by the team of developers.

As for the actual assistant for configuring the price notifications, the user must specify the following parameters to start his work:

- Cryptocurrency pair.
- One or more exchanges.
- For manual mode: Take-Profits and Stop-Losses or a fixed percentage for each of these levels.

Notifications about the achievement of the desired price levels will occur in several ways.

- The desktop and mobile versions of the platform will send push-notifications to the device on which the application is installed.
- If there is a phone number linked to the user account in the database, SMS messages will be sent.



Module of Cryptocurrency Portfolios Management

To monitor the effectiveness of the strategy, the user must be able to view detailed statistics of the state of the cryptocurrency portfolio. It is much easier to monitor and adjust actual trading strategy by having such analytical data.

In the personal account, the user will be able to connect one or more cryptocurrency exchanges accounts to his FTEC account using the appropriate API keys. Thus, the system will have access to data on the user's cryptocurrency portfolio on each of the exchanges, history of orders and transactions.

Since the account aggregates all FTEC ecosystem services, the user will have the convenient direct access to other functions closely related to the portfolio overview, such as setting up Take-Profit levels and configuring notifications.

The user will receive recommendations regarding selection and ratio of cryptocurrencies on the basis of system's algorithms.

Data collected from the user exchange account will be analyzed and arranged by the system as follows:

Cryptocurrencies ratio in cryptocurrency portfolio.

Profits and losses in percents and dollars/bitcoins for each cryptocurrency in a portfolio. In the account settings, the user can set maximum and minimum goals for losses and profits.

Also, in the settings, the user sets the frequency with which the system will synchronize the information of the assistant with data from exchanges.

If the user wants to manually enter all of his portfolio information or uses an exchange that does not have an open API, he will be given the opportunity to create a portfolio manually.

In addition, the ecosystem will include a cryptocurrency portfolios generator, which, based on the main market indicators and taking into account the wishes of users, will form an individual cryptocurrency portfolio, as well as provide recommendations about the rebalancing of existing portfolios, thus maintaining their relevance.

The user will be able to specify the following options:

- The desired value of cryptocurrency portfolio in the BTC equivalent.
- A preferred set of cryptocurrencies or a stack of technologies that are associated with the blockchain industry.
- Approximate term of portfolio.
- Permissible level of risk

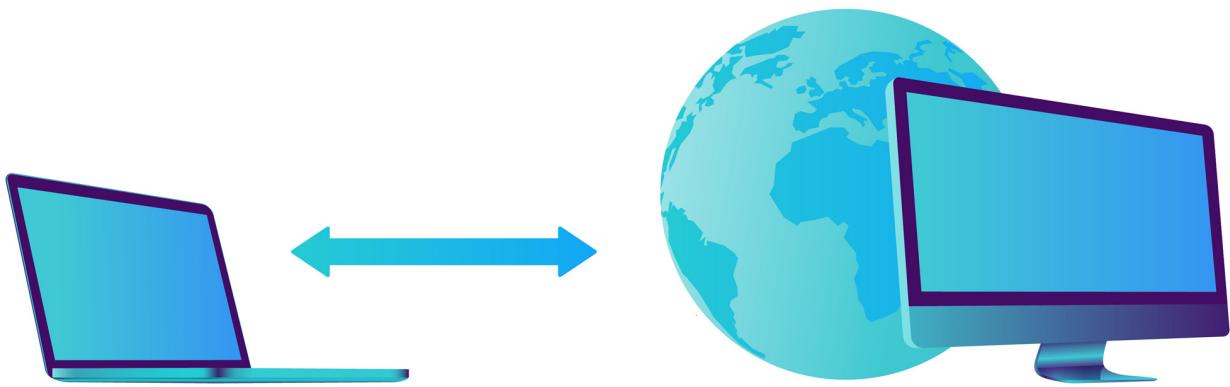
In addition, the existing portfolio can be rebalanced and updated to the current state.

Desktop App

A desktop app is an application for all popular operating systems. Because the use of the web version of the application is not always a convenient solution for really loaded systems with a large number of services. The need for such an application is fully motivated.

This is a program that allows you to use separate ecosystem modules even without connecting to the Internet. And when connected to the Internet, it is convenient to use absolutely all services.

For some connections, web socket technologies will be used to ensure instant communication between the server and the application. This two-way communication helps to use the data provided by the application most effectively.



To create such a connection, the requests from the application will first be sent with the required data to a special port of the HTTPs server distributor, after which it will provide a secret dynamic link that will be stored only during the session with the user. Following this link, the user is already trying to connect to the web socket technology:

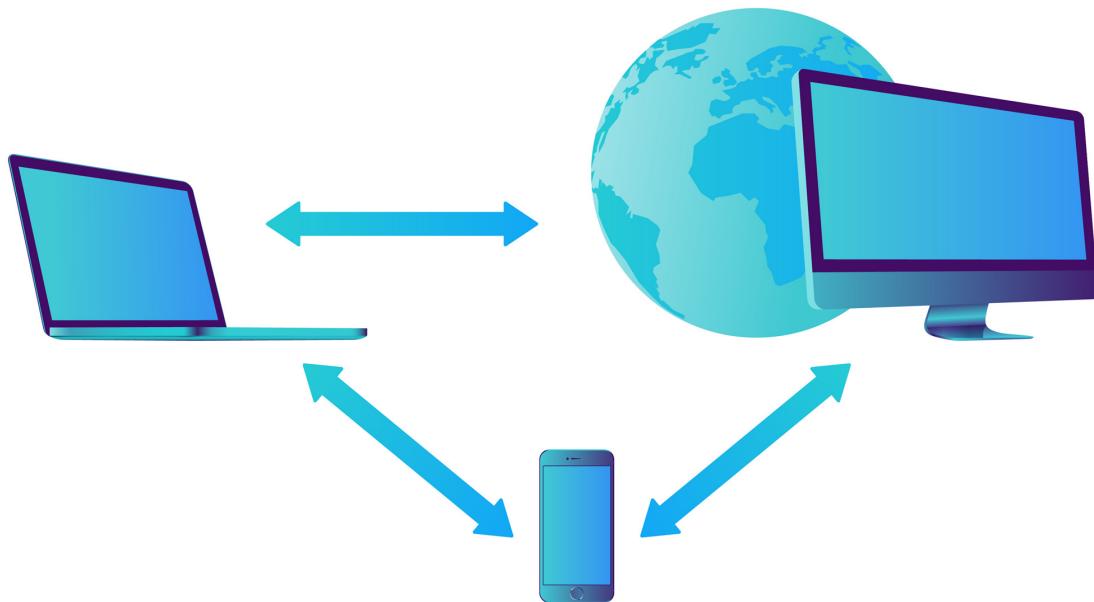
- First, the OPTIONS request, which connects the server and the application to each other, is used.
- If the port is ready to accept the WS connection, the server will send the HTTP 101 response code, indicating the readiness to change the protocol, to the next GET request.
- After that the protocol changes and the server exchanges "Greetings" packages on the WS channel with the client.

Mobile App

The mobile app is implemented for the two most popular mobile operating systems: Android and iOS.

The mobile application will provide access to a simplified version of all ecosystem modules and will provide fast and mobile transfer of tokens and messages between users.

All actions, training progress, token balance, trading history and trading recommendations are synchronized through ecosystem nodes, providing relevant and comprehensive information on both the mobile device and the desktop application as well as in the web version of the ecosystem shell.



Trading Recommendation Platform

The FTEC Trading Recommendations Platform with adaptive ratings is a platform for content publishing (mainly articles and trading recommendations) from experienced traders and analysts.

This service will allow:

- For traders and analysts with a high reputation - to monetize their knowledge.
- For ordinary users: to gain experience from experienced traders and analysts who publish their articles.

Anyone posting their marketing recommendations or articles gets ratings from the service itself, which generates a common flexible adaptive rating. The rating will help ordinary users determine the competence of the other trader.

The score is based on the forecasts that the trader has made. The greater the accuracy of trader's forecasts is, the higher the final score is.

In addition, recommendations market will add motivation to content makers, which will contribute to the growth of the quality of the created content. If a trader wants to share free trade recommendations and articles, then he/she can specify this when creating the material.

Service of Trader's Behavioral Analysis

Most traders, even the most experienced, sooner or later face the psychological intricacies of trading on the stock exchange. Even a person with all aspects of technical and functional analysis can panic.

We have reasons to believe that the correct behavior on the market for the trader is as important as the knowledge and experience in this area. That's why this side of trading can't be ignored, so for tracking and adjusting behavior on the market, our ecosystem offers a unique solution that we plan to implement for the first time.

The essence of this intellectual system is that it continuously monitors and analyzes the behavioral factor of the trader on the exchange. If you describe its algorithm as simple as possible: the system loads the history of market trading with a certain cryptocurrency and concludes how often a trader closed positions on the wave of Panic Buy or Panic Sell.

On the basis of the collected data, a deep analysis will be performed, which will reveal behavioral patterns which are typical for the user, the percentage of accuracy of user's forecasts and it will be able to visibly show the disadvantages of user's behavior on the market.

The user will be able to configure the system to receive notifications or alerts while making the typical mistakes.

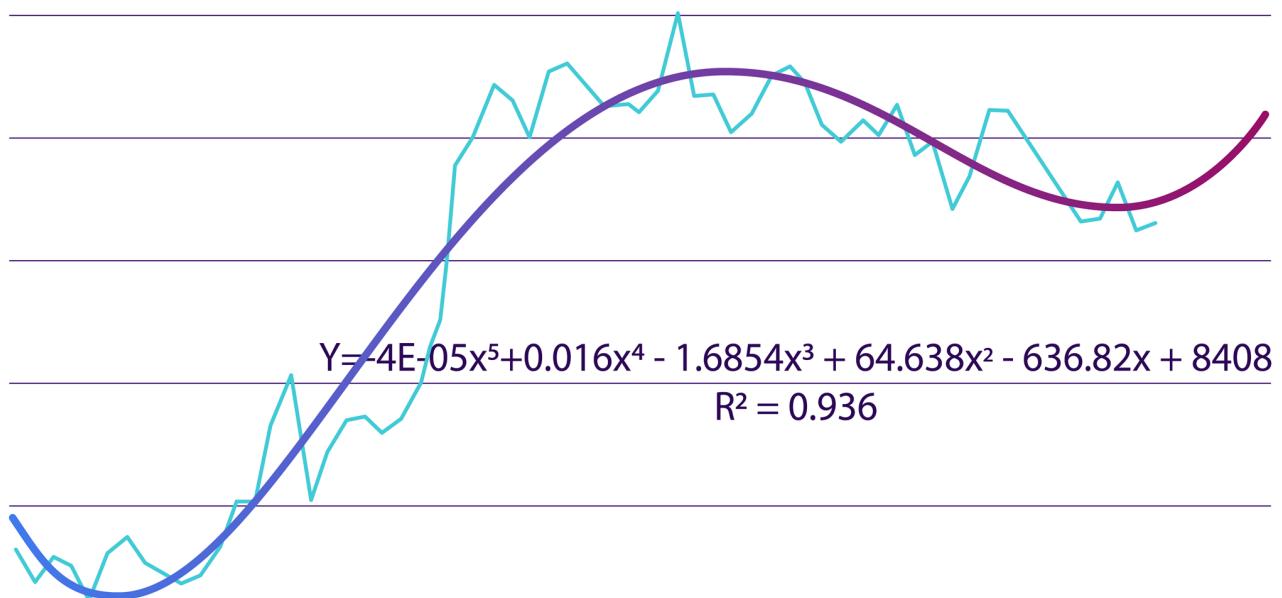
Such a service will be of great practical importance since the conclusions obtained as a result of its work will help the trader to avoid mistakes, that he/she unwittingly makes, and increase the confidence in user's own decisions.

Anomalous Volume Dynamics Analyzer

Important and very reliable signs of future changes in the market are instant changes in the level of trading volumes.

On the basis of a large number of experiments, we conclude that the sudden increase in trading volumes is often preceded by a large-scale market activation.

So we have developed an assistant, which analyzes trading volumes in real time on the smallest of available timeframes and detects each individual increase in the trading volume. This allows to clearly record anomalous situations, where the volume increase significantly exceeds the average result on the exchange or a specific cryptocurrency.



For noise filtering, the algorithm smoothes all signals if the coin demonstrates increased volatility for a long time because, under such circumstances, any anomalies do not necessarily mean a change in the mood of traders in the market.

As a special case, the system also analyzes significant deviations from the predicted volume level. The predicted volume is calculated using the polynomial regression of the N-th degree, where N depends on the current situation and is calculated by the assistant automatically.

Financial issues

Monetization model

Since the ecosystem features already have a well-formed consumer market, there is a question of its full and effective monetization.

Taking into account the specifics of the cryptocurrency market, we have identified the following ways of receiving profit:

1. Payments from users of the ecosystem for the use of certain services.
2. The global increase of the interest in the ecosystem due to a high level of efficiency and usefulness of the ecosystem's products.
3. Commission fees on the domestic market of trading recommendations.
4. Useful thematic advertising integrations.

Financial plan

List of some expenses to maintain the working capacity of the project

Salary Fund:

Content Managers

SMM Specialist

PR manager

Videomaker

Copywriters and translators

Support

Traders

System administrators

System architects

DevOps

Testers

System Analyst
Front-end developer
Mobile app developer
Back-end developers
Advisers and consultants
Legal support
Premium Fund
Staff extension

Marketing:

Press releases and promotional publications
Google Adwords
Facebook
Instagram
TradingView
Trackers and monitoring
E-mail marketing
SEO
Reviews on Youtube
Banner advertising
Merchandise

Infrastructure:

Domains
Design
SSL
Hosting
DDOS protection
Backup services
Purchase of training facilities for neural networks
Purchase of datasets for training samples
Creating a Research Center
Business APIs
Software
Other:
Office
Google Play

Apple Store
 Synchronous translations
 Office equipment

Estimated expenses distribution table (\$)

Expenses	04/2018	05/2018	06/2018	07/2018 8640	08/2018 8640	09/2018
Content	8640	9828	10800	8640	8640	8640
SEO + SMM + PR	12960	15120	16200	19440	21600	21600
Managers	20520	20520	20520	20520	20520	20520
Developers	30240	30240	30240	30240	30640	42120
Support	6156	6156	6912	8316	8640	9180
Legal services	5940	6372	6696	7128	7560	7776
Web infrastructure	8748	9612	9936	10692	11880	16200
Researches	3996	4320	4536	4644	4860	4968
Office + awards	7992	8424	8856	9288	9720	9936
Facilities rent	2484	3024	3456	4104	4536	6480
Developers scouting	1080	1080	540	324	216	216
Testing of strategies	151,2	151,2	194,4	216	216	216
Other	648	432	432	432	432	432
Total expenditure	109555,2	115279,2	119318,4	123984	134460	148284

Guarantees and Refund

Soft cap Pre-sale is limited by 2000 ETH, 25% of the collected funds will be spent on the marketing tasks of the main round of Token Sale. 75% of ETH coins will be spent on the development of alpha versions of program modules and execution of planned items from the Roadmap.

Stage of Pre-sale also has a hard cap of 4000 ETH. As soon as this value is reached, the Pre-Sale will be completed and preparations for the Token Sale will begin.

The Token Sale Main Round, accordingly, is limited by the hard cap of 55,000 ETH. The structure of expenditure of funds collected during Token Sale is described in a separate paragraph of this White Paper.

Pre-sale Smart Contract include a refund function that allows users to return their money in case if soft cap is not achieved. The mechanism for returning funds is implemented through the feature within the smart contract, since reverse transactions will cost a certain amount.

Example of the code for this feature:

```
function refund() {  
    require( now > tokenSaleBegin + period * 1 days &&  
    this.balance < softCap);  
    ...  
}
```

Token holders will be able to track the expenses of the team, as on the official pages of the project regularly will be published reports on expenditures and completed goals from the Roadmap.

Market Entry Strategy

First of all, it should be noted that we already have a working product that has already entered the market and is profitable. So our strategy of entering the market is based on the main items of the Roadmap for the coming year. In particular, it is a release of beta versions of the main ecosystem modules.

The task of creating a truly working ecosystem in the shortest time possible is the cornerstone of the development strategy for the coming year.

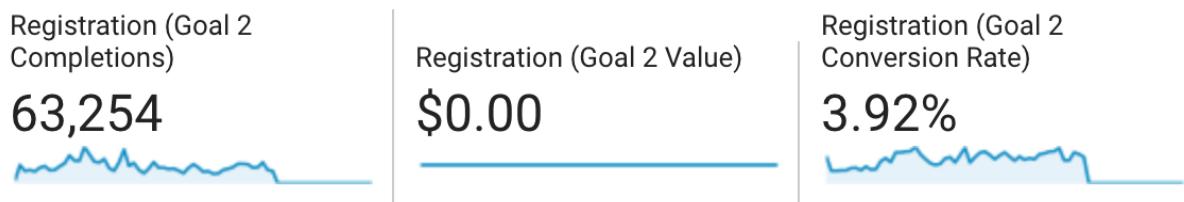
In addition, it is very important to take into account the constant change in trends and tendencies in the field of cryptocurrency. For example, almost every month new promising projects, coins and approaches to the use of blockchain technology appear. Our team clearly understands that being successful in this market means tracking these changes and offering new unique solutions.

The long-term basis for the project's development is the creation of a broad and active community. To achieve these goals, we have a well-organized department devoted for communicating with our community in social networks.

Due to the already existing project, we are able to calculate the average price of a check (refill) of the user. We also can calculate a number of expected registrations, payments, and users who will refill balance again. The accuracy of calculations is achieved through the already existing statistical base.

To construct a plan for users, we use current conversion coefficients:

- registration conversion ≈ 3,92%;
- first payment conversion ≈ 25-33%;
- repayment conversion ≈ 35-48%.



Estimated number of users in months:

	04/2018	05/2018	06/2018	07/2018	08/2018	09/2018
Registrations	63254	96778	127795	261740	300259	335412
First payments	20380	28700	42320	66930	89860	103450
Repayments	–	18690	24340	38900	58940	82320
	10/2018	11/2018	12/2018	01/2019	02/2019	03/2019
Registrations	509675	444583	647123	955406	1083923	1906503
First payments	129340	144340	182390	262320	318380	382390
Repayments	93240	110380	128230	140890	171350	182100

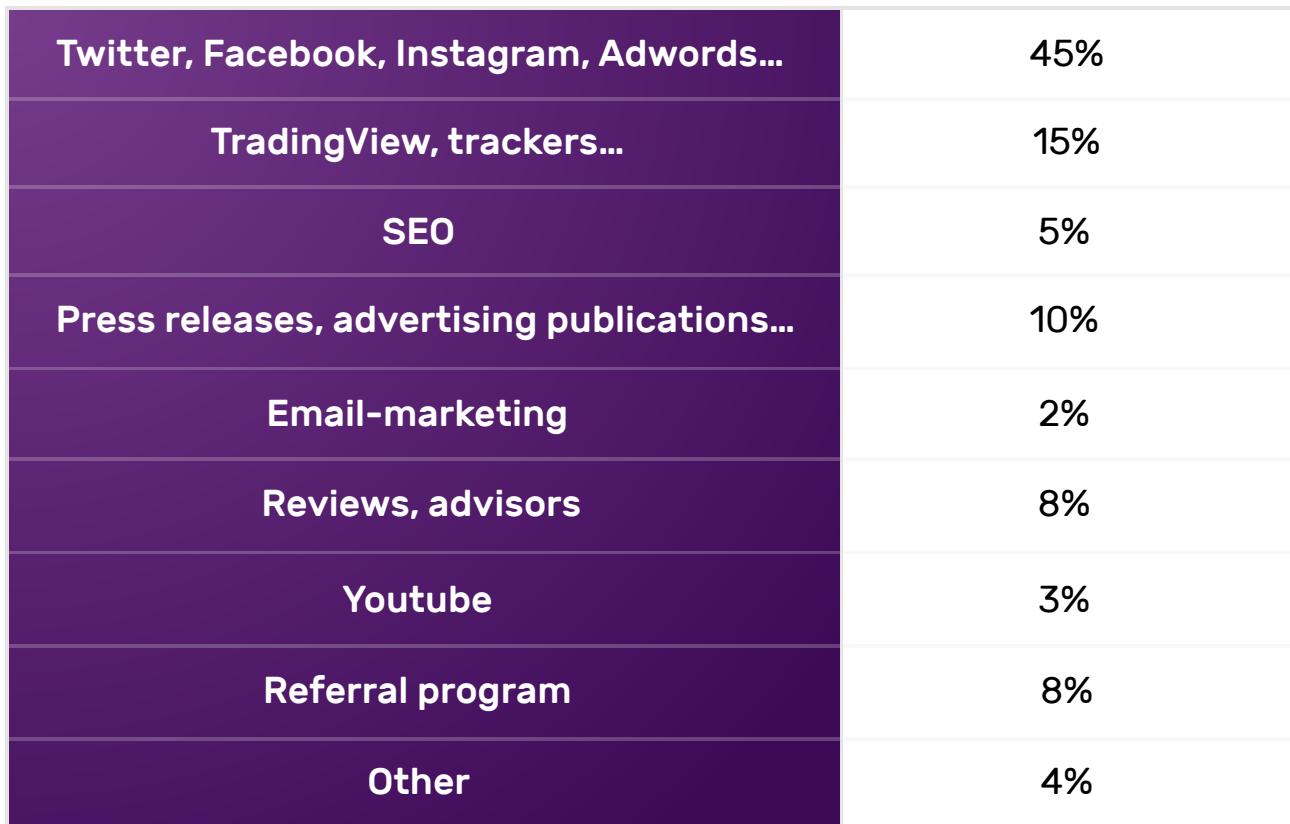
On the basis of a plan for a number of ecosystem users, the main marketing tasks will be aimed at achieving target audience maximum coverage with the use of following resources:

- Press releases and advertising publications
- Google Adwords
- Facebook
- Instagram
- TradingView
- Trackers and monitorings
- Email marketing

- SEO
- Reviews on Youtube
- Banner advertising
- Merchandise
- Advisors

Depending on advertising platforms policy, priority will be given to systems with the possibility of using narrow targeting by interest and behavioral factors.

Distribution of the advertising budget:



TOKEN

Since order book of any cryptocurrency exchange consists of orders with different prices, automatic trading modules face a dilemma of priority of buying/selling order execution. Our own token can solve fundamental problem we faced and also gives token holders certain advantages. Due to a constant number of tokens, users will be able to influence their position in the queue by selling or buying tokens. The system will have a mechanism for calculating certain queue of users owing to the uneven distribution of tokens between holders. The place in this queue will determine potential profit of token holder because his orders will be executed earlier and at a more favorable price. You can learn more about options for use of the token in the relevant section of the WhitePaper.

Token economics

Category	Amount of tokens	Percentage
Total output (emission)	998,400,000	100%
Pre-sale	99,840,000	10%
Token Sale	748,800,000	75%
Team	69,888,000	7%
Advisors	29,952,000	3%
Bounty	29,952,000	3%
Airdrop	19,968,000	2%

 Maximum amount of tokens 998 400 000 FTEC	 All unissued tokens will be burned
 Freezing of team's tokens for a year	 Automatic refund if the soft cap is not achieved

PRE-SALE

Before the official launch of the Token Sale, for users who want to receive tokens, a campaign will be conducted to present the token mission. That will allow to determine the level of people's interest in the future project.

Fundraising goal:

To raise funds for the development of already implemented products and large-scale marketing for attracting interested audiences to the main stage of Token Sale.

Main aspects of expenditures:

- Advertising on social networks
- Press releases
- Contextual advertising
- Advertising publications
- Expert reviews
- Banner advertising
- Content makers services
- Translators
- Merchandise.

In addition, most of the funds will be spent on the development of the system. For new employees, a basic set of software will be purchased.

Pre-sale will last for 27 days, starting on 11/04/2018 14:00 GMT+00 to 08/05/2018 14:00 GMT+00.

The number of tokens available for purchase at the Pre-sale stage is 99,840,000, which allows users, who learned about the project before the others, to get tokens at the best price.

Project development strategies according to Pre-sale results:

SOFTCAP is not reached	SOFTCAP is reached HARDCAP is not reached	HARDCAP is reached
We return investments to participants of Pre-sale and develop the project independently	We conduct an active advertising campaign, expand the staff, attract more attention to the main Token Sale stage	We observe a high level of interest in the platform, so spend the maximum amount of funds on buying huge datasets for quick improvement of our AI-based services, marketing and development

Since the ecosystem already has a prototype and is in active development, at the time of Pre-sale the interested users will be able to evaluate some ecosystems services.

The achievement of hard cap in Pre-sale will allow to hire additional staff with clear and determined tasks.

Soft cap on Pre-sale is 2000 ETH, because it is just a necessary sum to prove interest in the implementation of the service and will allow a full-scale advertising campaign.

Hard cap in 4000 ETH will allow us not only to realize the necessary level of advertising but also to start active development of certain products for which it is necessary to purchase the necessary capacities and extend the staff.

In order to participate in Pre-sale, it is necessary to go to ftec.io web-page at the moment of Pre-sale start and find the instruction on how to get our tokens. The receiving will be based on the principle of FIFO (first in first out), which is implemented as a queue. The first person who has applied for the receiving of tokens will be processed in the first place, and the latter, respectively, will be the last.

Since the value of Tokens at the time of Pre-sale is the lowest, the participating in the project at this stage is the most advantageous to anyone!

Discount	Amount per 1 ETH	Amount of ETH involved
55%	29 320	0 - 1 000
50%	25 400	1 000 - 2 000
45%	23 100	2 000 - 4 000

TOKEN SALE

Main Token Sale stage is characterized by the active implementation of the product itself, a transition from a prototype to a ready-made solution with the possibility of public testing and the first profits for Token Sale participants.

Fundraising goal:

At the main stage of the Token Sale, we are collecting funds for the implementation of the entire functional ecosystem. Since it essentially consists of a large number of individual modules, it is reasonable to hire individual workers for each one of the modules.

Each module will be located on a separate server, so it will be necessary to provide support and configuration of these servers by system administrators. DevOps are required to coordinate commands between each other and provide their needs in external services. The quality of software development will be monitored by the test staff.

To maintain community interest, additional marketing expenses will be devoted to the project.

Extensive funds will be spent to provide the necessary infrastructure. After all, such things as protection against DDOS attacks, the purchase of facilities and datasets for the training of neural networks are very important tasks for such a project.

Token Sale will last for 23 days, starting on 29/05/2018 14:00 GMT+00 to 21/06/2018 14:00 GMT+00.

The number of tokens available for purchase at the Token Sale stage is 748,800,000.

Project development strategies according to Token Sale results:

SOFTCAP is reached HARDCAP is not reached	HARDCAP is reached
<p>Approximately same distribution of funds on marketing and development. Try to implement the main functionality as soon as possible and work on the attraction of a new audience</p>	<p>We have a strong support of the community, so we spend most of the funds on the development. We create our own research center, expand the staff as much as possible. We create favorable conditions for fast implementation of the original idea.</p>

Since the system consists of a large number of complicated subsystems, its rapid implementation is solved by staff expanding and purchasing additional computing capacities. Since this is the highest priority of the main Token Sale phase along with marketing costs, the following system of token cost allocation has been developed:

Discount	Amount per 1 ETH	Amount of ETH involved
30%	18 200	4 000 - 8 000
25%	17 000	8 000 - 13 000
20%	15 870	13 000 - 19 000
15%	15 000	19 000 - 28 000
10%	14 100	28 000 - 40 000
0%	12 700	40 000 - 55 000

TEAM



Ihor Torshyn

Chief Executive Officer

- International Business Development Manager at IO Technologies
- Trader and Business Development Manager at CryptoAngels



Stanislav Ochkur

Business Development

- Head of Marketing, Advertising and Brand Support, Project Manager at Luxwen



Viktor Daverman

Chief Technology Officer

- Middle Developer at coinbot.club



Alena Tymoshenko

Head of Marketing

- Manager of Lead Generation at Skywell
- Researcher at CIENCE



Roscislav Gorbachov

Head Trader

- Publishing Editor at Neron
- Developments Manager at Hochuza



Vlad Nesmiiian

Legal Advisor

- Director HR at Visotsky Consulting
- Public Relations Manager and HR Representative at Terrasoft



Evgeniy Sidelnikov

Financial Advisor

- Director of Finance at Luxoft
- Senior Finance Executive at Alba Technology
- Finance Administrator at Tomorrow People



Maxim Bashmakov

Art Director

- Art Director and Equity Partner at Toogarin Digital Agency



Andrea Meeld

Senior Trading Advisor

- Business Development Manager at Oracle
- Business Development Manager at Terrasoft



Julián Marcelo Bernal González

Cyber Security Specialist

- IT System Analyst at New Group
- IT Engineer Internship at GD7 Distribuidor de Alimentos LTDA



Luis Felicio

Software Web Developer

- Software Developer at iFactory Solutions
- Software Developer at Serpentarius Software
- Software Developer at Instituto Atlantico



Kateryna Klymko

UX/UI Designer

- UI Designer at ELEKS
- UX Designer at Cirlkum



Denys Bannikov

Blockchain Developer

- Owner of Hashgang.io
- Unity 3D Developer at Gamepoint



Janine Lakhotska

Public Relations

- Public Relations at Peace Corps
- Public Relations at KPMG
- Public Relation at Xogito Group Inc.



Oleg Mazurok

Trading Analyst

- Trading Analyst at CryptoAngels
- Trading Analyst at coinbot.club



Egor Osaulenko

Software Developer

- .Net Back End Developer at Serious Cake
- Software Developer at CODE Ingenieria SA de CV



Tim Marchini

Content Manager

- CEO at MarchiniMarketing
- Sales Manager at Fiscer Planning

ROADMAP

july 2017	Ideology, teambuilding, setting a technical task, architecture development for coinbot.club database.
august 2017	Template design development, signal subscription mode, 2FA connection.
september 2017	Development of candlestick classifier, Orderbook analyzer.
october 2017	Creating a new logo, redesign.
november 2017	Creating a coinbot.club blog, algorithms for intelligent trading modules.
december 2017	Decision tree architecture, Bittrex API connection, Poloniex, automatic API checking, affiliate program development.
january 2018	Connecting the Binance API, Kraken, a support department was created.
february 2018	Updating the payment system, fixing bugs.
march 2018	Landing creation, White Paper, preparation of documentation.
april 2018	Pre-sale, interview-sessions, advertising campaign. Report.
may 2018	Token Sale, full-fledged development. Report.
june 2018	Summing up, connecting the API of new exchanges, creating Telegram Assistant, Adaptive Social Assistant, Arbitrage Assistant, Telegram Assistant, staff expanding. Report.

july 2018	Mobile App, Service of Trader's Behavioral Analysis, statistics collection. Report.
august 2018	Exchange Order Management Module, interaction testing with other modules, Price Notification Module. Report.
september 2018	Development of network architecture, Analyzer of the News Background, materials collection and tests for Cryptoacademy, the launch of a full-scale marketing campaign. RoadMap update. Report.
october 2018	Anomalous Volume Dynamics Analyzer. Report.
november 2018	Roadmap update, Cryptoacademy, Global Price Analyzer. Report.
december 2018	Module for Cryptocurrency Portfolios Management. Report.
january 2019	Desktop App. Report.
february 2019	Global testing, RoadMap update. Report.
march 2019	Trading Recommendation Platform. Report.

GITHUB

Github repository is created and accessible at:

<https://github.com/FtecFoundation>

The main technical features of the project will be published in the form of a code on this repository. Only those parts of the code that do not violate licensing and copyright and which are not part of the Web application work services will be available. In the main repository, general settings and implementations of certain functions are available. All of these implementations are exclusive products of the FTEC Developer Team.

Following our GitHub account, you can follow the readiness of the main (interface) ecosystem module and the overall status of the project.

All additional services provided to users will be implemented in private repositories since such implementations will be owned by FTEC.

Conclusions

FTEC is a project that seeks to combine all trading intelligence services and neural networks into a single ecosystem.

Goal: Make a comprehensive and integrated product that will help raise the overall level of professionalism of cryptotraders.

Our advantages: Already available product (coinbot.club), partially open source code, comprehensive approach, absolute transparency and accountability, explicit development strategy based on Token Sale results.

Authoring: The FTEC team has a number of unique ideas and already running products (adaptive social assistant, trading history analyzer, trading modules, arbitrage assistant etc), which we also plan to implement into our ecosystem. It greatly distinguishes us from other projects and makes us proud!

We are creating something really innovative and useful. Join us and become a part of the first cryptocurrency ecosystem!

