



# **VESPUCCI Green paper**

## **PYTHAGORAS SYSTEMS**

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[www.volentix.io](http://www.volentix.io)

[www.vespucci.site](http://www.vespucci.site)

[www.pythagoras.systems](http://www.pythagoras.systems)

## 1. OVERVIEW

The recent explosion of cryptocurrencies has attracted a lot of popularity and more people are becoming aware of the benefits over fiat currency. The ever-increasing number of platforms that support cryptocurrencies and allow for transactions between a wide variety of products and services attract many users forming a new, dynamic generation of traders, agnostic to the intricacies of blockchain technology. To navigate the complex world of cryptocurrencies, new users, along with experienced investors, would greatly benefit from a system that evaluates cryptocurrencies and provides a dynamic ranking, personalized with user-defined parameters.

### Vespucci

**Vespucci** is a new system that satisfies the aforementioned functionalities and goes well beyond. In particular, it monitors the evolution of blockchain and cryptocurrency markets and, by harnessing the power of cutting-edge AI and Machine Learning technology, delivers unbiased, robust and up-to-date rankings that represent the real value of a very wide spectrum of coins, but also their future potential. It brings to your fingertips confident and comprehensive data by aggregating the information currently scattered throughout various blockchains, websites, chat rooms, and exchanges. Further, we empower users with tools to graph and compare tradeable digital assets, to access and parse historical trading records, to plot trends and patterns, and to monitor and assess open-source software developments. In short, the platform provides non-experts with:

- An intuitive analytical agent and market-relevant overview of cryptocurrencies,
- A rating system of cryptocurrencies including risk assessment,
- A dashboard for cryptocurrency news.

**Vespucci** is a major pillar of the Volentix ecosystem and shares its values: decentralized governance, peer privacy, public ledger via a public blockchain, open-source software and ease of use. At the heart of the Volentix ecosystem, VDex exchange is a tradeable digital asset platform, managing transactions involving both our native coin VTX, and the vast array of digital assets and blockchains throughout the world. It employs a collection of smart EOS.IO contracts to ensure speed and security, user anonymity, liquidity, scalability, performance, and estimation of profit margin.

**Vespucci** accomplishes its mission by being, at the same time, Open-source, Decentralized, Objective, Automated, Intuitive, and In demand. It offers a unique service integrating all features in Figure 1. Moreover, it has the capacity to warn against scam coins. And, by relying on the Ethereum blockchain, it is particularly suited to support the smart contract systems of the immediate future.





Figure 1. Design principles of the Vespucci system.

### Vespucci features:

- Rating of cryptocurrencies;
- Combination of a complete spectrum of criteria;
- Transparency in methodology;
- Broad spectrum of sources;
- Extensible design (towards smart contracts);
- Security (Data on EOS blockchain);
- High accuracy using AI, and Deep Learning;
- Parameterized by the user, Post-processing for humans.

**Vespucci** is complete, as it draws from a very wide set of sources, categorized into three pillars:

- a sentiment gauge for sentiment analysis (SA),
- technical analysis (TA), and
- fundamental / technological analysis (FTA).

## 2. PILLARS

**Sentiment analysis (SA)** of crypto-related content is generated by the public on social media, blogs, forums and news sites such as Twitter, Telegram, Facebook, Reddit etc. Its importance stems from the fact that public opinion bears major weight of cryptocurrencies' monetary valuation. The key differentiating fact of Vespucci's SA is the broad and complete spectrum of data sources that are collected and analyzed. A user experience linking to the cryptocurrency's public community forum is developed to provide up to date announcements and statistics of community activity. Data ingestion and sentiment scoring are being decentralized in order to provide secure, community led, unbiased and credible results.

**Technical analysis (TA)** evaluates assets and identifies opportunities by analyzing statistics gathered from trading activity, such as price movement and volume. We focus on indicators and methods suitable for assets exhibiting high price volatility, and hence suitable for cryptocurrencies. Typical sources include CoinMarketCap, CoinTelegraph or BitInfoCharts. TA postulates that the analysis of price movement or the supply and demand of currencies are key to identifying trends in the currency. We employ a variety of related techniques and indices for economic data analysis, namely Keltner Channels, Moving Average Crossovers, Relative Strength Index, Bollinger Bands, and MACD.

**Fundamental and Technological Analysis (FTA)** starts with a quantitative analysis from a social perspective which looks at the involvement of the developer community surrounding the project. Such metrics include but are not limited to: online community participation, code base activity, creator approachability and responsiveness. Vespucci examines information from GitHub and the literature to monitor social cues standardized among software developers such as: The expertise and track record of the team; The activity on GitHub; The quality of code and maintenance of the software; The corresponding white paper; The mathematical and cryptographical principles of the system.

FTA is complemented by a quantitative analysis of network statistics of the blockchain, giving a real-time view of the cryptocurrency. Evaluation of the technological concepts of the different blockchain technologies is our basis in ranking different architectures in terms of performance, privacy, security and regulation. Employed statistics include but are not limited to: Block propagation time; Hash-rate vs Difficulty over Time, Price and Power consumption; Node activity and distribution; Coin and miner distribution; Transaction levels and fees; Security; Scalability; Hardware requirements for storage. Today, blockchain explorers, such as coinmetrics and cryptocompare are widely available to support this task.



### 3. ARCHITECTURE & USER EXPERIENCE

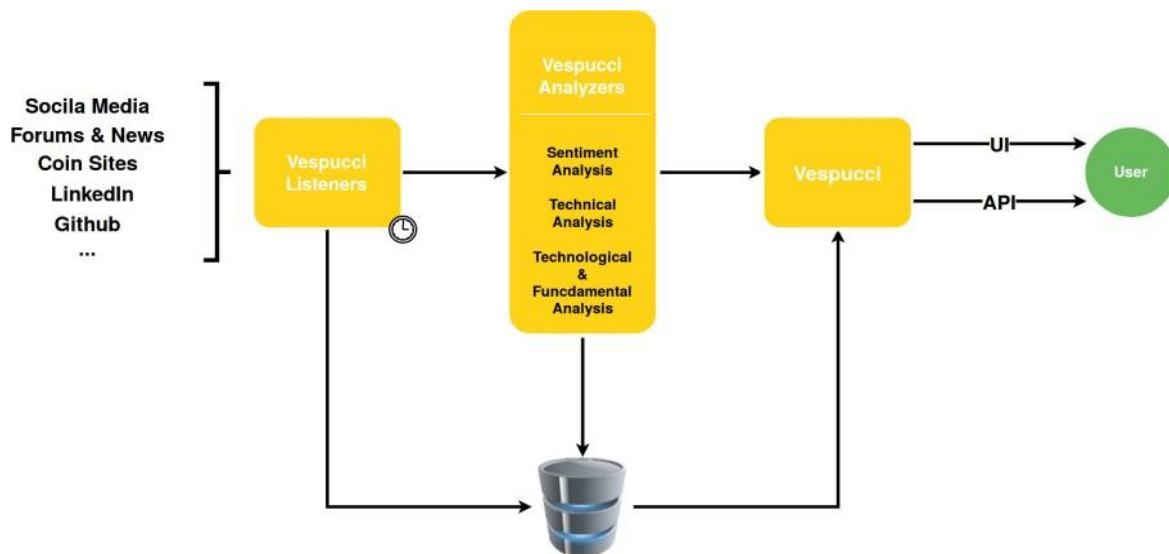


Figure 2. The pipeline of Vespucci

Individual pillars provide incomplete information. The final score for each cryptocurrency depends on all three pillars, weighted either by default values or by weights provided by the user. Based on research and trial of assessment parameters, appropriate weights are established. The output of all three constituents together with the corresponding price movements for different frames yield the final ranking. Alternatively, we exploit recent breakthroughs in deep neural networks in order to automate the combination of scores without human intervention, so as to avoid introducing direct or indirect bias. This is coupled with Post-processing for humans.

#### PLATFORM FEATURES

- Compile a cryptocurrency index using scale of 5 stars
- Show and explain parameters used in scoring
- Display up-to-date SA charts
- Provide a cryptocurrency distribution scheme
- Monitor transaction history
- Reveal technical and economic characteristics of coins
- Draw charts of activity on GitHub
- Evaluate Blockchain and software support
- Record activity on social networks using points on world map

#### USER OPTIONS

- Explore in detail features of selected cryptocurrencies, next to name and symbol.
- Configure rating system, by activating subset of parameters or adjusting their priority.
- Study separately the basic parameters, identify those shaping fluctuation of each coin.
- Filter cryptocurrencies according to hash-rate and chronological period of activity.
- Ability to add other utility charts through a list of parameters.





Figure 3. Top 10 cryptocurrencies according to Vespucci Score

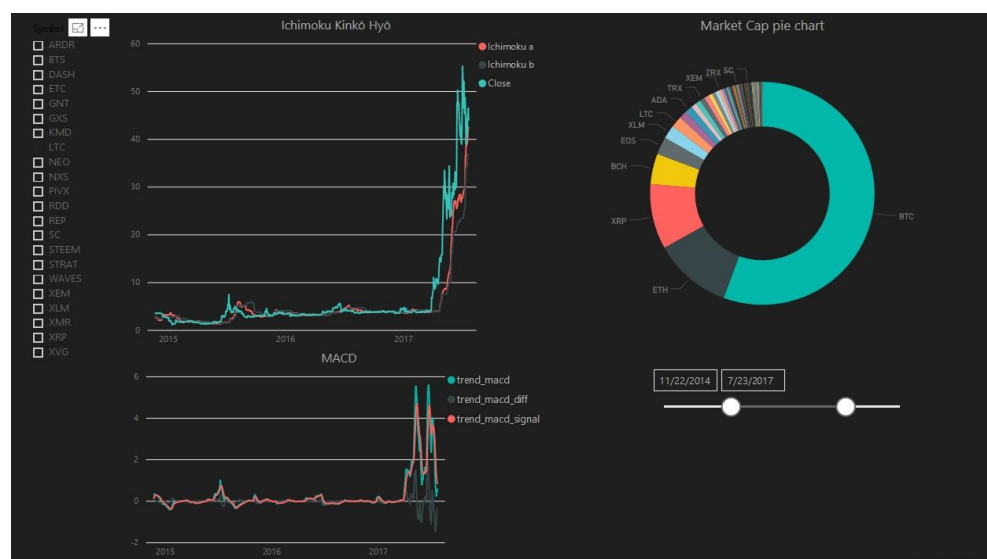


Figure 4. User Experience includes coherent displays of assessment metrics

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