



# WHITE PAPER

Signature Chain (SIGN) is an online platform that allows the certification of any data and document on the decentralized Waves Blockchain

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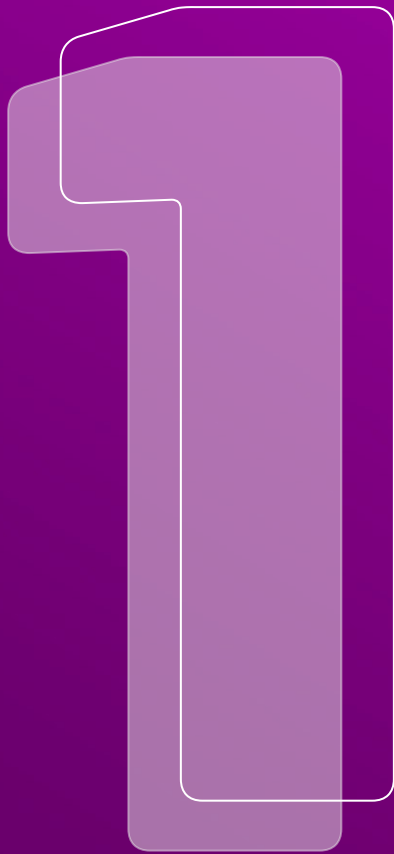
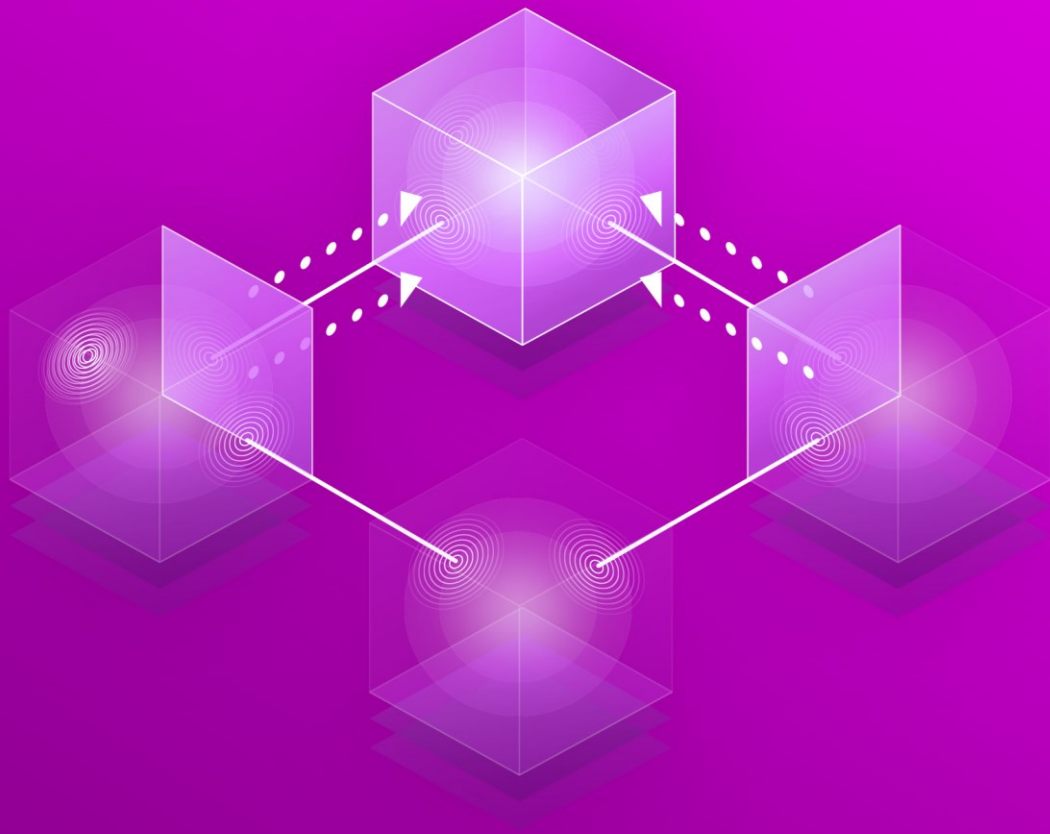
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## CHAPTER 1

# INTRODUCTION

**Signature Chain aims to provide a solution to known certification issues, by offering a platform that allows anyone to certify data and files on a blockchain.**

**Additionally, Signature Chain hopes to help other Waves projects by offering a custom and project-dedicated web-wallet service.**

# 1. Abstract

**Blockchain is most famous for its role in facilitating the rise of digital currencies, however the same mechanism of data management and storage could just as easily be applied to any processes requiring a stringent verification policy and procedure.**

The technology works such that information submitted is organized into chunks of data called blocks that are irreversibly linked in a chain and sealed with a powerful cryptography. Identical copies are finally maintained across a trusted transaction network. The blockchain mechanism can provide solution to issues concerning contemporary certification and verification procedures and agreement proceedings.

The project aims to develop a platform to certify data and files on a blockchain, which can dispense definitive confirmation that are precise, unbending, and trustworthy without fail. The main goal of Blockchain Certification is to enhance existing systems and models, and raise operational efficiency where applicable, towards advancement.

During the development of the web application, the team has determined that other projects can benefit off the wallet feature of the application, that focuses on token acquisition and management. As a part of the Waves Ecosystem, we hope to that by offering a dedicated and customizable Web-Wallet to current and new Waves projects, more resources can be directed towards actual project development

**SIGN's focus is to create a platform that will be convenient and advantageous. Decentralization and immutability are the key elements of Blockchain certification, raising the bar for security, reliability and integrity of information.**





# 2. The Problem

## 2.1. Document Certification

**The way that organizations facilitate the processing of documents has not changed for over 20 years. Current document certification and validation methods are dependent on third parties, which generally require longer processing time.**

General issues on contemporary centralized systems and solutions are costly, relatively slow, hard to trace, and prone to fraudulence. Important files and documents are passed on from person-to-person and agency-to agency hence the high fees to pay, the days to weeks of processing and the issue on accountability. The process is relatively manual and is dependent on different regulations, existing systems and formats of documentation. The reality is, some third-world countries surprisingly still utilize typewriters and are mostly paper-based, requiring filing boxes and cabinets that opens loopholes and causes ambiguity. In the end, verification can take weeks to even months of verification.

Vulnerability of documents and records to manipulation are high, especially with files that are not kept properly. Therefore, anyone with access can easily manipulate documents to serve a purpose, whether to deceive or to cover-up illicit practices. In government agencies and private institutions, employees can be coerced and management can be bribed to falsify documents and transactions. Records can easily be manipulated and falsified with innovations on technology. Image processing tools and the world-wide web have been associated with a variety of crimes, including counterfeiting, plagiarism, copyright infringement, manipulation of important government documents, wills, financial deeds or educational certificates.

## 2.2. Token Acquisition

One of the main problem with Cryptocurrency Exchanges, in general, is the difficulty of token-acquisition, as well as the over-complexity of these exchanges' user interface. Generally, heavy multi-currency wallets tend to overwhelm. For new users entering the Cryptocurrency market without prior knowledge, dealing with complicated exchanges creates a disadvantage and limitation. Normally, Blockchain projects would give focus on the provision of a wallet, as differentiation from a vast array of blockchain projects.

This is necessary to facilitate user-experience, and for community appreciation and satisfaction. However, the time and resources directed towards the project's main goal will be diverted onto tangential and secondary development, hence down-tracking the actual project development.

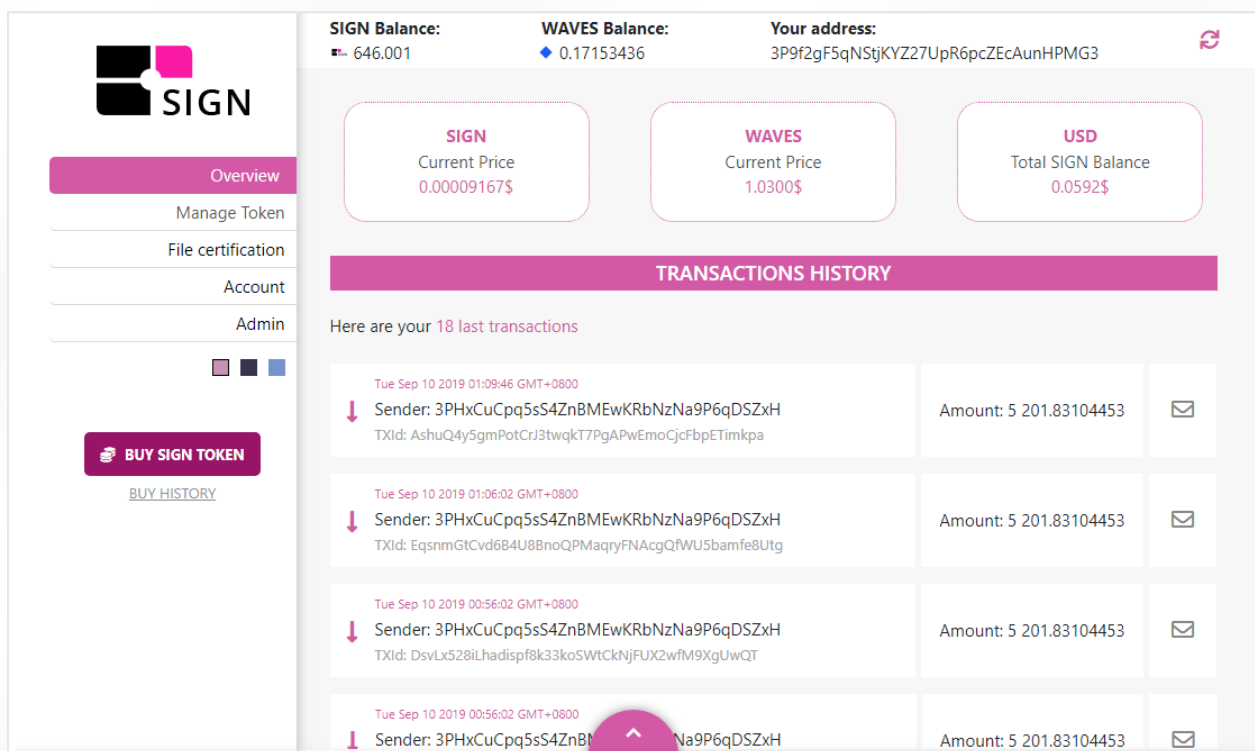
**New projects, creating a token on Waves Platform, will have to convince their future users to buy token on a general exchange with complicated options. The user-interface can be confusing for non-cryptocurrency users. Small to medium-based token can easily get lost in the middle of hundreds of other Blockchain coins and tokens.**

# 3. The Solution

## 3.1. Certification Features

We have studied and identified what could facilitate and accelerate the certification process for many enterprise currently undertaking the Blockchain Technology. Our experience and current knowledge gives an incentive to solve the problem of document falsification and deal with the time-consuming process of certification. There is a demand on solutions that guarantees security, autonomy, and fast-execution time.

As explained in the Problem, current third-party dependent processes can be complicated and tedious.



-- Example illustrated with our main web application.

With the implementation of Blockchain Technology, the certification and validation of digital assets (diplomas, contracts, etc.) eliminates any adverse factors and disadvantage. The execution of these transactions into a blockchain guarantees authenticity and security of information, and definitely expeditious processing within a click of a button.

The process is simple. An Asset is any file of almost any size and any format (word, pdf, jpg, etc.). A digital asset's signature is then created through the web-app, which is a unique value for each asset. The signature is created by using a cryptographic hash function that takes an input and returns a fixed-sized alphanumeric string. The string is called the "hash value".

This is a one-way process, meaning that the document cannot be reproduced from the hash value.

The significance is the fact that the hash value changes if there is a modification on the document itself, including the text, template, or size. Therefore, if a hash value is obtained from the original document, it will be possible to validate the originality of the document in the future by comparing the hash values.

A match between the values would mean that the document is identical to the original one, and a mismatch between the values would mean that the document is different from the original one.

Once a certification transaction is executed in a blockchain network, the content cannot be forged, destroyed or reversed, and is therefore immutable. Decentralization and immutability are the key elements of these verified transactions, raising the bar for security, reliability and integrity of information.

What we work on at Signature Chain is to propose a user-friendly platform, where users will be able to get a digital signature for files, documents and contracts.

## 3.2. Custom Wallet for Waves Tokens

With the development of the SIGN web application, we are able to replicate the codes and share a wallet web service to other Waves projects.

The screenshot shows the CoffeeCoin Web Wallet interface. On the left is a sidebar with a logo and navigation links: Overview, Receive, Send, File certification, and Account. Below these is a 'BUY COFFEECOIN TOKEN' button and a 'BUY HISTORY' link. The main area displays the following information:

- COFFEECOIN Balance:** 462.175
- WAVES Balance:** 0
- Your address:** 3P3Ax2JMNkxzJB74vdY6NF51GRXDPoTWrm

Below the balances are three boxes showing:

- COFFEECOIN** Current Price: 0.00234393\$
- WAVES** Current Price: 1.0300\$
- USD** Total COFFEECOIN Balance: 1.0833\$

A green bar labeled 'TRANSACTIONS HISTORY' is followed by the text 'Here are your 12 last transactions'. The transactions are listed in a table:

Date & Time	Sender	TXid	Amount	Action
Fri Aug 16 2019 04:19:54 GMT+0800	Sender: 3PjmkTsyvN1YVECFb116wLJAXaES4hEB2c	TXid: Cu69Bb4kpxeU1fr2h8AKsDDw3VYeZgxxwEqD6aGGQh	Amount: 199.999	✉
Sat Jul 27 2019 13:52:57 GMT+0800	Sender: 3PL9ix71v3g6hHgwZM4kWD5zqvCAzMsoYJe	TXid: EMNHuwu8msDn7dSKphDTYoFKTU7LDfvJTjWwMjbNm37j	Amount: 254.216	✉
Sat Jul 27 2019 08:38:04 GMT+0800	Sender: 3PL9ix71v3g6hHgwZM4kWD5zqvCAzMsoYJe	TXid: BjBvdztmHsyD4ZvbVL9qGnS7zBVdGaRNjacvKahGVjhw	Amount: 0.415	✉

-- Example illustrated with our partner CoffeeCoin Web Wallet



The strength of the web-wallet is that it's cost-effective and user-friendly. The app will be a quick and effortless way for token-holders to procure and manage token.

The dedicated wallet features sending and receiving tabs, and as well as a straightforward in-app token buying option.

Furthermore, a simple activation system allows Signature Chain partners to include into their own wallet, part or all of SIGN Certification features.



[WHY A CUSTOM WEB-WALLET?](#) [ORDER FORM](#) [WALLETS DIRECTORY](#) [ABOUT SIGN](#) [CONTACT US](#)

## GET A DEDICATED WEB-WALLET FOR YOUR WAVES-BASED TOKEN

GET YOURS NOW



The screenshot displays the SIGN web-wallet interface. At the top, it shows the 'RELAY Balance' as 0.000003715, the 'WAVES Balance' as 175.12967358, and the 'Your address' as 3P9Gp5gN5qKXZ27upRlpC2icAuH4PMG3. Below this, there are three buttons: 'RELAY' (Current Price: 0.000003715), 'WAVES' (Current Price: 2.46005), and 'USD' (Total RELAY Balance: 0.00005). The 'TRANSACTIONS HISTORY' section lists six transactions with details like date, time, recipient, and amount. On the left, there are navigation tabs for 'Overview', 'Receive', 'Send', and 'Account', along with a 'BUY RELAY TOKEN' button.

-- Example illustrated with [www.web-wallet.com](http://www.web-wallet.com) homepage

# 4. Feature and Use cases

## 4.1. Features



FILE CERTIFICATION



EMAIL CERTIFICATION



MULTIPARTY CONTRACT



CUSTOM WALLET



CERTIFICATE CREATION



KYC PROCESS

## 4.2. Use cases

**In concept, any file can produce a unique Hash, and any changes made to the file can produce a different Hash. The main point of SIGN's certification platform is that when an Original File or Document is recorded and digitally signed into the blockchain, the hash can be openly and easily verified.**

If a party wishes to verify the authenticity of a document compared the Original File or Document, the aim is to get a match on the hash produced.

Blockchain certification can be applied onto different real life issues. The level of complexity of each task will be different.

The innovation that SIGN's platform aims to provide focuses ranges from basic document and email certification, to a complex multi-user contract (described in the following scenario):

John is a freelance designer contacted by Mark, who owns a company. They both agreed on a quotation to create Mark's company logo, and Mark sent a contract, via Certified email, for John to sign it thru sign-web.app

## DIPLOMAS



Educational institutions will be able to use Signature Chain's platforms to dematerialize and automate the delivery of academic diplomas, online training and short-course certificates.

Once complete, the recipient will be able to prove and verify the authenticity of diplomas and certificates. For example, an educational institution registers the certificate to the SIGN platform to get a unique hash (SHA-256). A person sends out the diploma to a third party, i.e. an employer.

The third-party then checks, through the same platform, if the document will produce the same hash combination as the one issued by the educational institution. This process will prove the authenticity of the document as every document has its unique hash number.

## CERTIFICATE



Medical groups will use Signature Chain's platform to issue medical and laboratory certificates.

For example, a laboratory diagnostic is performed to a person as part of an insurance claim. The physician and/or laborator technician registers the result and finding to the SIGN platform for a timestamp and a unique hash (SHA-256).

The patient can then prove the authenticity of his/her medical records to anyone, during an entire lifetime, by simply providing the exact certified document, where agencies can extract the same hash combination.

The certification process provided in this example is based on the Medical sector, however the concept can be applied in other fields such as Real Estate, Art authenticity, etc.

## PATENT & ART CREATION

The idea is to use blockchains for patent and copyright registration, by capturing and attributing ownership as part of the documentation process.

The most controversial issue for artists and inventors is proving who first conceived or created a concept or artwork, especially in court. However, there is no concrete way to prove the exact time an idea or concept came to mind. That is where proof-of-existence comes beneficial.

## MULTIPARTY CONTRACT

SIGN's platform will also be used to sign multi-party contracts digitally. Once parties agree on a contract, issuing party can select the final contract and register onto the blockchain, to seal the document with a unique hash. Agreeing parties can verify the final contract using the SIGN platform, before signing the contract electronically.

## KNOW YOUR CUSTOMER

With the rise of blockchain, we see more regulation coming into play and getting adopted. Given that Waves is working towards regulation compliance, it becomes a necessity to offer the ability for any Waves-based Project to conduct a Know-Your-Customer within their dedicated wallet, which follows an internal stringent processing. This feature eases up processing and compliance to these policies.

## WEB-WALLET

The wallet service is highly customizable and Waves Keeper powered. Available for any Waves based project, it can include certification options if needed.

## INVOICES GENERATION

Simplify the process of payment requisition by generating an invoice effortlessly, where any outward and inward remittance are recorded in the blockchain.

## DATA CERTIFICATION

Some documents don't necessarily need to be certified. However, entries and events are required to be timestamped in some cases, i.e. a registry.

Any action from any external application, would simply call SIGN's API to register and timestamp it into Waves Blockchain. By recording every detail (form requests, status changes and payments), changes are verified records and statement.

## EMAIL CERTIFICATION

The basis is that emails can easily be denied receipt by deletion. For important emails specifically e.g. insurance, mortgage and contract notice emails, email certification can be beneficial. Sending email via the web wapp can register a unique message ID and timestamp onto the Blockchain. The sender and receiver both receives a copy of the email. The entry can corroborate against claim on non-receipt of urgent and crucial notifications.

## 5. Why Waves?

# 100

## TX/SEC

Waves Platform is among the fastest blockchain with Waves-NG feature, with mining nodes that are able to process up to 6,000 txs /minute or 100 per second

Signature Chain has chosen Waves not only for the simple token creation process, but also for the performance of the Blockchain.

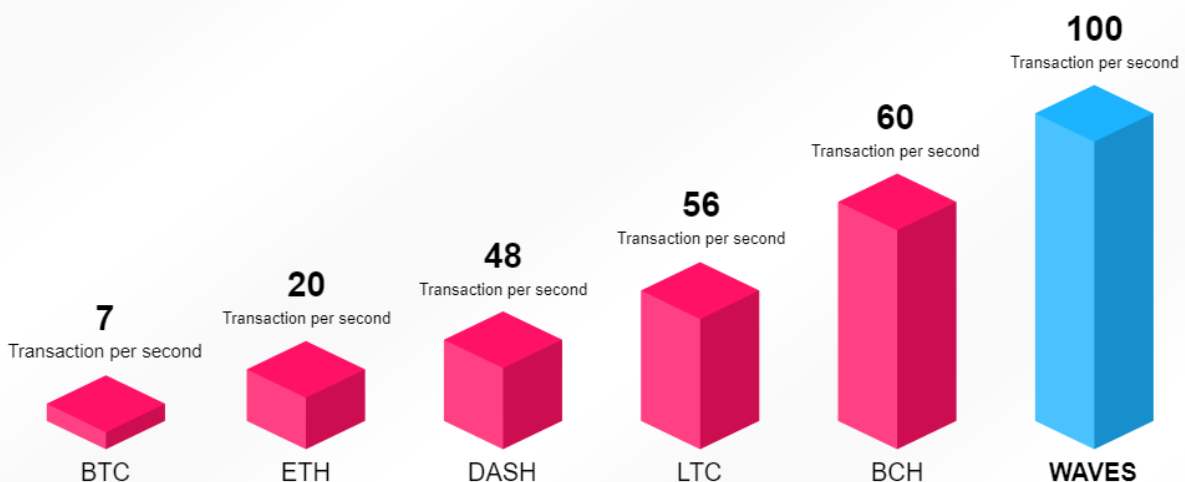
We have considered different options such as Lisk and Ethereum (ETH).

The comparison between WAVES and ETH was evident. Waves has newer functionalities, which accommodates our platform perfectly. Waves offers everything we need to build a stable Blockchain application.

Waves' success is down to its use of Waves-NG, a consensus algorithm adapted from the Bitcoin-NG scaling proposal, suggested by Cornell Professor, Emin Gun Sirer.

In Waves-NG, miners are chosen in advance and transactions are processed into the blockchain in almost realtime, with the chief delay attributed to network latency.

Along with other advances, this enables us to do what no other open blockchain platform has ever achieved,' continues Ivanov. 'And we have further optimisations we can make to improve capacity still further.'





## **We attribute the popularity of ETH over WAVES over the following reasons:**

- The token creation on Waves is rather simple and straightforward. It is ideal for decentralization, but the disadvantage is that it becomes the first choice for many illegitimate projects.
- The platform is new and less popular than others, which SIGN believes will change with time.
- SIGN believes Waves will surpass Ethereum in regards to transaction speed, dApps and smart contracts.



**The Waves Blockchain supports and responds to all of Signature Chain's needs and requirements into building a legitimate, functional and effective application.**

### **Voting**

Transparent and fraudproof voting mechanism, available for all

### **Waves – NG**

One of the fastest blockchain protocols in existence

### **DApps**

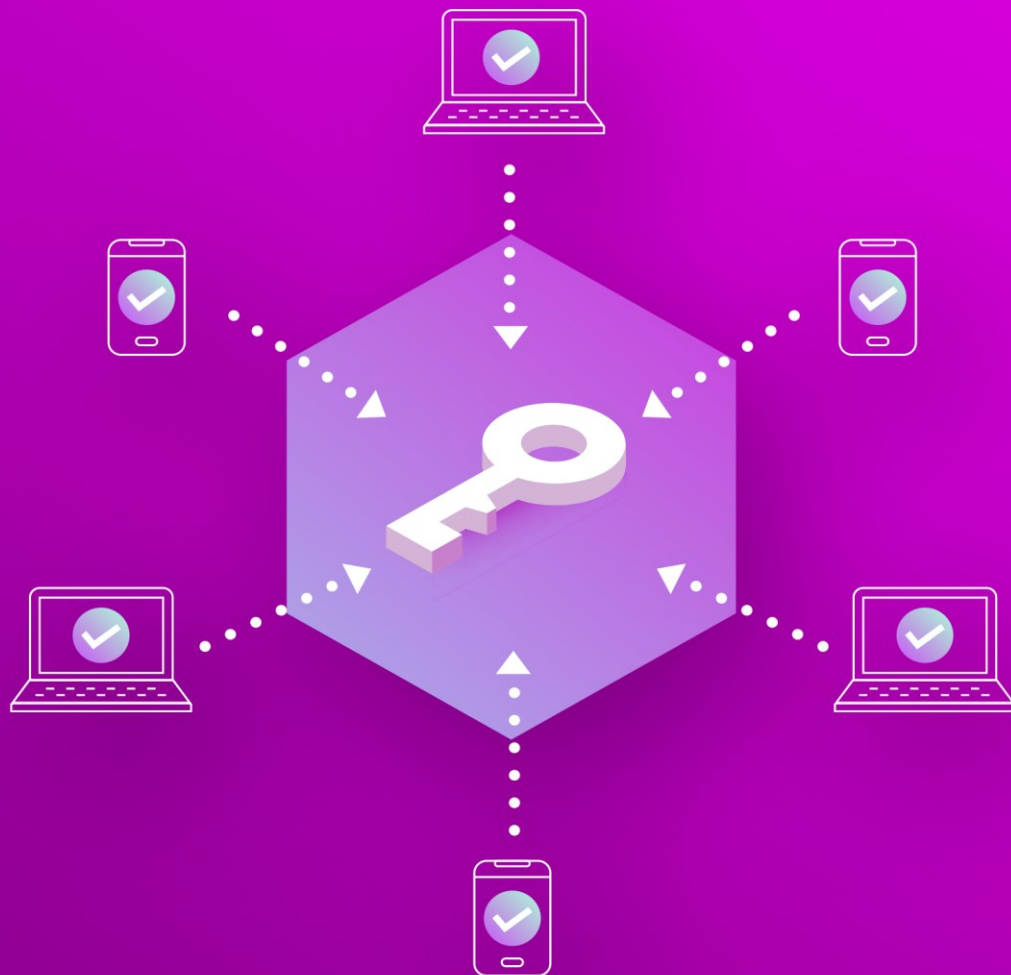
Open-source, P2P apps running on smart contracts

### **Atomic Swap**

Exchange one cryptocurrency for another, securely and easily

### **Smart Contracts**

Deals executed with 100% guarantee



## CHAPTER 2

# DEVELOPMENT

The SIGN Web Application, in version 1.0, covers the main functionalities, with the Certification feature and \$SIGN Web-Wallet on Mainnet.

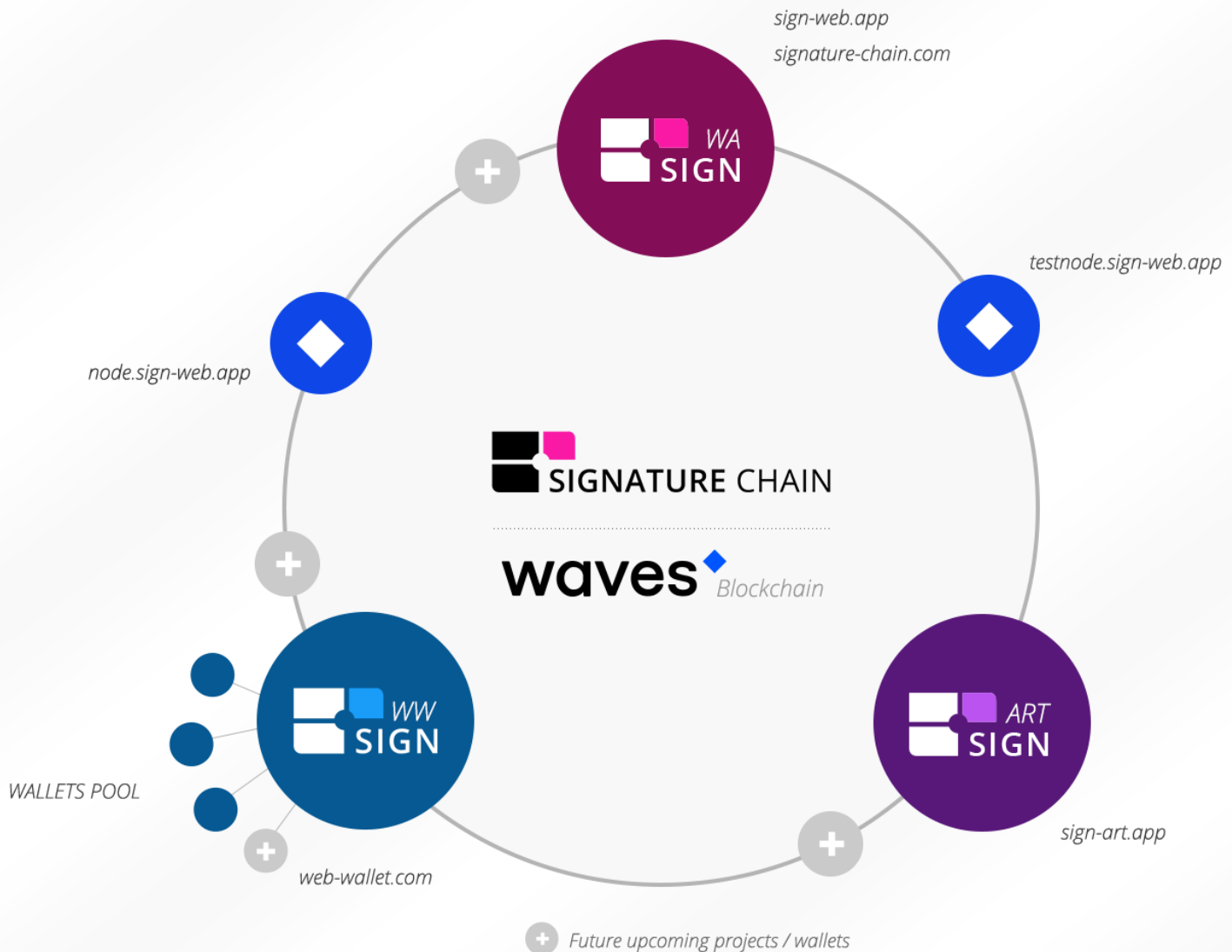
The anticipated version 2.0 of the web application includes improvements and secondary certification features, the switch from App to dApp and the utilization of RIDE.



# 6. Current Version

## 6.1. Current Ecosystem Diagram

Here is a visual representation of the current Signature Chain ecosystem:



### The ecosystem includes:

- 2 Websites [www.signature-chain.com](http://www.signature-chain.com) and [www.web-wallet.com/](http://www.web-wallet.com/)
- Main Web App [www.sign-web.app/](http://www.sign-web.app/) and [testnet.sign-web.app](http://testnet.sign-web.app)
- Web-wallets pool under [www.web-wallet.com/](http://www.web-wallet.com/)
- Digital Art Certification (upcoming): [www.sign-art.app](http://www.sign-art.app)

All web applications, as well as our own Mainnet and Testnet fullnodes, are running on the Waves Blockchain through Waves Signer.

## 6.2. SIGN-WEB.APP

Signature Chain's main web application is currently available on mainnet, at [www.sign-web.app](http://www.sign-web.app).

The application was built in an effort to quickly offer a working solution/ platform. Presently in Version 1, SIGN offers 3 of the Main features:





- **Custom Wallet**
- **File Certification**
- **Quick Token Buy**

The web app requires the Waves Signer to connect to the Waves Blockchain, to process all transactions. Additionally, the current version includes the following:

### 6.2.1 Connection Tab

The connection allows users to sign in with Waves Signer or installs the extension if user has not yet.

**This WebApp only works on your browser with the Waves Keeper extension installed.**  
Available on Chrome, Firefox, Edge and Opera.



### 6.2.2 Overview tab

The Overview comprise of the token balance in \$SIGN, and with the counter value in WAVES and USD. The page also appends a full history and view of all past transactions.





**SIGN**  
Current Price  
0.00012501\$

**WAVES**  
Current Price  
1.0400\$

**USD**  
Total SIGN Balance  
1 916.5804\$

**TRANSACTIONS HISTORY**

Here are your 12 last transactions

<div>Wed Aug 28 2019 13:06:52 GMT+0800</div> <div> Sender: 3PGUuG6qfNvpuxXkHmJ5zhN428MngdfcFJT TXid: 8ARBKU7o39H95dpQiXijVTjCwTWru3qJbgHsfCCj5Bz</div>	Amount: 2 000 000	
<div>Tue Aug 13 2019 16:31:16 GMT+0800</div> <div> File certification: source_sent_waveslab_13082019.zip TXid: 5DD1R57wmswLEydQLkNWkSSkPPSdNAAeCU61Lzdt9zP5</div>	Amount: 3 426.30028096	

-- Example illustrated with sign-web.app overview

### 6.2.3 Receiving tab

The tab displays the account's current SIGN balance and SIGN (Waves) Address, the QR Code of the address and a list of all incoming transactions, with the following details:

- A. Date
- B. Sender Address
- C. Amount
- D. Transaction ID
- E. Attachment (if any)
- F. Link to the transaction on Waves Explorer

DEPOSIT SIGN



You have: **15 331 416.29444973** SIGN

Address

3PEXiks2GzdgbCuwaVy14Bj9pshS1ZNNB

Copy address

Download QR CODE

DEPOSIT HISTORY

Here are your 4 last incoming transactions

<div>Wed Aug 28 2019 13:06:52 GMT+0800</div> <div>↓ Sender: 3PGUuG6qfNvpuxkHmJ5zhN428MngdfcFJTW TXid: 8ARBEKU7o39H95dpQiXijVTjCwTWru3qJbgHsfCCj5Bz</div>	Amount: 2 000 000	
<div>Sat Jul 27 2019 19:08:09 GMT+0800</div> <div>↓ Sender: 3PGUuG6qfNvpuxkHmJ5zhN428MngdfcFJTW TXid: AkUg41tRfwv1q1W6J3KcGjWaa39UMQtnoPaFDPsVrsmW</div>	Amount: 1 500 000	

-- Example illustrated with *sign-web.app* receive tab

### 6.2.4 Sending tab

The tab includes the basic sending fields to process a token payment or outward remittance, such as the Recipient address or Alias, the amount of \$SIGN, a Comment (if any), and a choice of transaction fee between \$SIGN or \$WAVES.

Similarly, it will include a list of all outgoing transactions, with the following details:

- A. Date
- B. Recipient Address
- C. Amount
- D. Transaction ID
- E. Comment (if any)
- F. Link to the transaction on Waves Explorer



**TRANSFER SIGN**

Recipient address / alias

SIGN: 

Amount

Comments/Notes (0 / 100 Chars.)

This transaction is secure and will open  
**WavesKeeper**

Transaction fee:  

25 SIGN

**CONFIRM TRANSFER**

**TRANSFER HISTORY**

Here are your 8 last outgoing transactions

<div style="margin-bottom: 5px;">Fri Aug 09 2019 09:52:38 GMT+0800</div> <div style="display: flex; align-items: center;"> <div style="color: #e91e63; font-size: 20px; margin-right: 5px;">↑</div> <div> Recipient: 3P9f2gF5qNStjKYZ27UpR6pcZEcAunHPMG3  TXId: 14fRuhdEf9RJnvKEg8QreDWQxP1egsbGTAMVvX8sUBgh </div> </div>	Amount: 0.001	
<div style="margin-bottom: 5px;">Tue Jul 16 2019 17:44:55 GMT+0800</div> <div style="display: flex; align-items: center;"> <div style="color: #e91e63; font-size: 20px; margin-right: 5px;">↑</div> <div> Recipient: 3PHmhJvra65hYa8NEK2RFyCSF3fKxtJuuUw  TXId: FyuXSaiT1Ygb2RyyscNYwngExbXNflfswZuDvQB842YT </div> </div>	Amount: 1 000 000	

-- Example illustrated with sign-web.app send tab

## 6.2.5 File Certification

The main feature of the application enables certification of any file and document. The page contains a selection field, to select or drop a file. This automatically computes and assigns a cyrpotography to a file, that is identified as the File Hash.

The File Name of the document, by default, is the Reference of the certification, but modifiable if needed. The Reference is limited to 45 charaters in version 1, and will be used as the file name of the Proof of Certification accordingly.

### Example:

File Name (Original Document): REF0125\_contract.docx

Reference: REF0125\_contract

Proof of Cerfitification: REF0125\_contract\_certified.pdf

Blockchain\_WB.docx

Reference (18 / 45 Chars.) ?

Blockchain\_WB.docx

Your file hash - Please note that no file is sent or stored online.

cf693b5270a107162259e210def51db7ceff2cab542ed07a2bdd59a8ba7f2d19

100%

-- Example illustrated with sign-web.app File Certification tab

### IMPORTANT:

File Hash is computed locally and no file is uploaded and stored online, at any point. This is most significant and imperative especially for confidential and sensitive documents. The file never leaves the user's computer, no copies are made and absolutely no one can access the file, including SIGN team.

This current File Certification feature, in version 1, utilizes a Transfer Type 4 transaction, that passes data through the attachment field in a json format. The upcoming version 2 will take advantage of RIDE technology and Data Transactions to offer a wider range of options.

CERTIFY A FILE

Click to select or drag and drop any type of file.  
Bigger files will take longer to compute. Max recommended file size is 10 GB.

Select or Drop a file

Reference (0 / 45 Chars.) ?

Your file hash - Please note that no file is sent or stored online.

This transaction is secure and will open **WavesKeeper**

Transaction fee:

25 SIGN

Certification fee:

3999.6800 SIGN (0.5\$)

CERTIFY FILE

CERTIFIED FILES HISTORY

Here are your 5 last file certifications

<div><div>Tue Aug 13 2019 16:31:16 GMT+0800</div><div><div></div><div>Reference: <b>source_sent_waveslab_13082019.zip</b></div><div>Hash: 56b5925993f23683cd87f65aa5409ad973516745211651a0bd82d5012746e2a3</div><div>TXId: 5DD1R57wmswLEydQLkNWkSSkPPSdNAAeCU61Lzdt9zP5</div></div><div><div></div></div></div>
<div><div>Tue Aug 13 2019 15:13:13 GMT+0800</div><div><div></div><div>Reference: <b>sources_sent_waveslab13082019.zip</b></div><div>Hash: 1d1d0756f3f3229dd3532450055f1a1d315dd0a006c06f0ff42cf20915b1a078</div><div>TXId: 3ZcWBhP76HL9P7red9fJr3LCuxNqCFe1e8ZaZhVYN</div></div><div><div></div></div></div>

-- Example illustrated with sign-web.app File Certification tab

The Proof of Certification, in PDF, will be available after the transaction has been signed and broadcasted. This can be accessed in the Transaction History, directly on the right side of each certification, through the PDF icon.

***The best practice scenario is to save the PDF proof in same folder or drive as the certified Original File on your computer, for ease of retrieval and reference.***

### 6.2.6 Quick Buy Button

The in-app quick token buy option allows users to instantly and conveniently convert \$WAVES token to \$SIGN token, at the current market price. The aim of the feature is to ease the token acquisition for \$SIGN users.



-- Example illustrated with sign-web.app Quick buy option.

All SIGN (sign-web.app) feature requires to authorize Waves Signer, which securely links the web application to Waves Blockchain, to sign every transaction requests with maximum privacy and security.

## 6.3. TESTNET.SIGN-WEB.APP

The Testnet version of SIGN Web Application is also available at [testnet.sign-web.app](https://testnet.sign-web.app). This version includes the same features as the Mainnet version, including feature/s still in development.

As of September 2019, the following feature is available on Testnet:

- **Email Certification**

The Email Certification tab allows users to send a certified email, with/out attachment and to single or multiple recipients, via the user's own SMTP credential or via SIGN's Mailgun Open SMTP.

**IMPORTANT:**

No data is stored regarding the content and credentials, nor are copies made. Absolutely no one can access the data, including the SIGN team.

This option includes several fields based on the SMTP choice, whether open or private:

**OPEN SMTP:**

A Reference of maximum 45-characters is required and will be used as the reference for the email's blockchain certification.

Fields available are the following:

- A. Reference
- B. First Name

- C. Last Name
- D. Sender Email address
- E. Receptient email address (separated by a “,”)
- F. File Attachment (10Mb max total and recommended 2Mb max per file)
- G. Transaction fee dropdown (to choose between \$SIGN or \$WAVES)

Use our open SMTP ▼		Reference * (45 Chars. max.)
First name	Last name	
Email sender	Email recipient	
Select or Drop attachments here		
Recommendations: 10MB total, including message and attachment(s); 2MB limit per attachment.		

-- Example illustrated with sign-web.app Open SMTP option.

#### CUSTOM SMTP:

Server (ex: smtp.gmail.com), Port (ex: 587), Login and Password (from user's email server account)

Other fields available are the following:

- A. Reference
- B. First Name,
- C. Last Name,
- D. Sender's Email address,
- E. Receptients' email address (separated by a “,”),
- F. File Attachment (10Mb max total and recommended 2Mb max per file),
- G. Transaction fee dropdown (to choose between \$SIGN or \$WAVES).

Use your custom SMTP (For privacy) ▼		
Reference * (45 Chars. max.)	Server	Port
Login	Password	First name
Last name	Email sender	Email recipient
Select or Drop attachments here		
Recommendations: 10MB total, including message and attachment(s); 2MB limit per attachment.		

-- Example illustrated with sign-web.app Custom SMTP option.

The transaction fee, by default, is \$SIGN. Emails sent through this feature will be signed under `certify.sign-web.app`.

Once the email is successfully sent, the application will write significant details onto the Waves Blockchain including the Reference, the Message ID (generated by the email server) and as well as all transaction related information e.g., Timestamp and Transaction ID.

Similarly, the tab includes a quick view of all certification history, with the following details:

- A. Date
- B. Reference
- C. Transaction ID (Link to the transaction on Waves Explorer)
- D. Message ID (Envelope icon)
- E. Proof of Email Certification (PDF icon)

## 6.4. Sandbox

The sandbox is where developments are in private testing, before being opened to the public on Testnet.

Currently developing in the Sandbox:

- **Mass Send**
- **Mutual Agreement**

### 6.4.1 Mass Send

The SIGN web application in version 1 is currently able to send tokens to one user or WAVES address. The concept is to ease the token sending process to multiple users or WAVES address.

Presently, if a user wishes to send and pay 10 contractors with 1,000 \$SIGN each, the transaction will have to be individually processed 10 times. In abstract, the Mass Send feature can send 1,000 \$SIGN to 10 WAVES address in a single transaction, instead of 10 transactions.

The Mass Send tab includes the basic sending fields to process a token payment or outward remittance. User is able to add a field for every Recipient address or Alias. Fixed fields include the amount of \$SIGN, a Comment and attachment (if any), and a choice of transaction fee between \$SIGN or \$WAVES.

Similarly, it will include a quick view of all incoming transactions, such that each entry pertains to a single Mass Send transaction.

Each entry will include the with the following details:

- A. Date
- B. Sender Address
- C. Recipients' Address
- D. Amount
- E. Transaction ID
- F. Attachment (if any)
- G. Link to the transaction on Waves Explorer



## 6.4.2 Mutual Agreement

The upcoming feature allows up to 8 parties to electronically sign a contract or agreement on the blockchain.

CREATE A MUTUAL AGREEMENT

Click to select or drag and drop the agreement document.  
Enter a reference for this contract and add the counterparts required to sign it.

Upload or Drop a file

Reference (0 / 45 Chars.)

Your file hash - Please note that no file is sent or stored online.

Recipients addresses - Enter all counterparts with one address per line.

This transaction is secure  
and will open **WavesKeeper**

Transaction fee:  
1000 SIGN

Certification fee:  
151515.1515 SIGN (0.5\$)

CREATE AGREEMENT

MUTUAL AGREEMENTS HISTORY

Here are your 9 last mutual agreements

Sat Jul 27 2019 15:50:14 GMT+0800

Agreement: **REF1245FG45-CONSENSUS-TRI-PARTY-AGREEMENT.pdf**

Hash: 84cfd0ec291473dbfca2c957d2537b100038de3c320a6ff95c71481b7120da9b

TXId: 6HjKBdr8nEUjxcqpUGtMx5Pw4DPkwEoV5psh6SDDtWR

-- Example illustrated with *sign-web.app* Multi party agreement option.

To begin with, the Person-in-Charge (PIC) would have to write an agreement into a document e.g., a pdf or a doc file. This document would include the terms of the agreement and most importantly, the Waves Address of all agreeing parties or recipients.


The PIC would then need to certify the document under the Mutual Agreement tab, where a hash can be computed. The File Name will be used as a Reference, but modifiable if needed. In the same tab, all of the Recipients' Waves Address should be entered in the Recipient's Address field, one per line.

By clicking on CREATE AGREEMENT, PIC automatically signs and sends the agreement, using a mass transfer transaction type 11, to all signing counterparts.

On PIC or Creator's side, in the Agreement History, a clickable Envelope icon displays the status of the agreement i.e, who has signed and who has not. Once all parties have signed, a PDF icon will allow the Creator to download the Proof of Agreement.

By clicking on SIGN THE AGREEMENT, agreeing parties will be able to sign the contract with their account and personal public key.

Sat Jul 27 2019 15:50:14 GMT+0800

 Agreement: **REF1245FG45-CONSENSUS-TRI-PARTY-AGREEMENT.pdf**

Hash: 84cfd0ec291473dbfca2c957d2537b100038de3c320a6ff95c71481b7120da9b

TXId: 6HjKBdr8nEUjxcbqpUGtMx5Pw4DPkwEoV5psh6SDDtWR



Agreement creator:

3NCzApG3ka4tvDuKX8HxnJtXe7eJw5PmdVt (you)

Signed!

Counterparts:

3MvujUZTtoANRzrKYKzx99Vtb9TUh6VPCDm

3NB38F1wMpKsVQsXVPm28G2X6rViRbZwpjC

Signed!

Signed!

-- Example illustrated with sign-web.app Multi-Party Agreement option.

On Recipients' side, in the Agreement History, a clickable Envelope icon displays the details of the agreement, including a Transaction ID, and an Agreement ID which links the agreement in the Waves Explorer.

Proofs	4dLm6Ct3U7jxcEUtSaxwcwiQf9ZdEAbSrDPmrucZntXGvJnZTTkdASJGcLss93ZmuXiLPk9Jzghx1JQfEonm7sHF
Total amount	0 <a href="#">SIGN</a>
Transfers count	2
Attachment	<b>{<code>"type":3,"hash":"84cfd0ec291473dbfca2c957d2537b100038de3c320a6ff95c71481b7120da9b","ref":"REF1245FG45-CONSENSUS-TRI-PARTY-AGREEMENT.pdf"</code>}</b>
Fee	0.003 WAVES
Sender	<a href="#">3NCzApG3ka4tvDuKX8HxnJtXe7eJw5PmdVt</a>
Sender PublicKey	GcsZHdsb81NZ6P3HLpGwhZH9Ct7jYETUTk5euZV622A1
Transfers	
Recipient	Amount
<a href="#">3MvujUZTtoANRzrKYKzx99Vtb9TUh6VPCDm</a>	0 SIGN
<a href="#">3NB38F1wMpKsVQsXVPm28G2X6rViRbZwpjC</a>	0 SIGN

-- Example illustrated with 3 parties (sender + recipients), agreement details in attachment.

## 6.5. The Certification Proof

Main certification features such as File Certification, Email Certification or Multi party Agreement, once broadcasted and digitally signed in the blockchain, will include a PDF icon to download the Proof of Certification.



-- Example illustrated with *sign-web.app* File Certification Proof Of Certification.

A PDF file will be generated with details of the certification and a link to Waves Explorer, with the details of the transaction.





The recommendation is to save the proof in the same location as the certified file, or in a dedicated folder will all your certification proofs.

This Proof Of Certification can also be shared to prove the validity of a document or file. For example, a University issues diplomas and certifies these on [www.sign-web.app](http://www.sign-web.app). The diplomas are then awarded to students. The diploma, with the Proof Of Certification, allows the student to prove the validity of his diploma to anyone.

The hash of the document or diploma, available in the Proof of Certification and in the Waves Explorer, should match the hash that third party verifiers and organizations can produce off the diploma via the [www.sign-web.app](http://www.sign-web.app), if authentic. Additionally, the University's Waves address, as the certifying party, should match with that on the blockchain transaction.

## 6.6. WEB-WALLET.COM

Aside of our main Web Application under [www.sign-web.app](http://www.sign-web.app), we also offer a web service for Waves projects allowing them to get a customizable and dedicated web wallet.

<b>Logo:</b> (10Kb max.) *	<b>Favicon:</b> (16x16px 8Kb max.) *
<input type="button" value="Click to select your file"/> 	<input type="button" value="Click to select your file"/> 
<b>Main color:</b> (Main Wallet color) *	<b>Secondary color:</b> (Buy token button) *
<input type="text" value="#902100"/> 	<input type="text" value="#902100"/> 
<b>ASSETID</b> *	<b>Website url:</b> (https://www.url.com)
<input type="text"/>	<input type="text"/>
<b>Telegram url:</b> (https://t.me/name)	<b>Your twitter url:</b> (https://twitter.com/name)
<input type="text"/>	<input type="text"/>
* Mandatory field	
<p><b>CURRENT PRICE:</b> <b>160 WAVES FOR 12 MONTHS</b></p> <p><b>CONFIRM TRANSACTION</b></p>	

-- Get your custom web wallet at [www.web-wallet.com](http://www.web-wallet.com)

The web-wallet allows any Waves-based token to get the same wallet as SIGN, without certification features by default, by going to [www.web-wallet.com](http://www.web-wallet.com) and filling out the Order Form with the following information:

- A. Logo (10Kb max)
- B. Favicon (16px x 16px, 8Kb max)
- C. Main color
- D. Secondary color
- E. ASSET ID
- F. Website url
- G. Telegram url
- H. Twitter url

Only the account used to create the Asset on Waves Blockchain can order a custom wallet for the said Asset. The account will need to be connect to Waves Signer to process the Order Form and finalize the order.

```
[{
  "type": "string",
  "value": "#D359A6",
  "key": "color1"
},
{
  "type": "string",
  "value": "#981467",
  "key": "color2"
},
{
  "type": "string",
  "value": "https://www.signature-chain.com/",
  "key": "website"
}...]
```

-- Example illustrated with our SIGN Web Wallet data transaction updating Wallet informations

This will record data into the Account Data Storage using a Data Transaction. The cost for a wallet service is 160 Waves per year, which includes hosting and a subdomain. Once the transaction is processed, the web-wallet will be available under the following address: `asset_name.web-wallet.com`. If the `asset_name` doesn't match URL standards, SIGN will contact The Asset Account owner to define an appropriate subdomain prefix (make sur to fill at least one social media link).

As the Issuer Account, there will be an additional Admin tab in the dedicated web-wallet, allowing modifications and changes, even after submission of the initial Order form, which excludes the Asset ID.

The screenshot displays the SIGN Web Wallet Admin interface. On the left is a sidebar with navigation links: Overview, Manage Token, File certification, Account, and Admin (highlighted in pink). Below these links are a 'BUY SIGN TOKEN' button and a 'BUY HISTORY' link. The main content area shows wallet configuration details:

- SIGN Balance:** 646.001
- WAVES Balance:** 0.17153436
- Your address:** 3P9f2gF5qNSjKYZ27UpR6pcZEcAunHPMG3

The configuration section includes:

- Logo:** (10Kb max.) \* - A file selection button and a preview of the SIGN logo.
- Favicon:** (16x16px 8Kb max.) \* - A file selection button and a small icon preview.
- Main color:** (Main Wallet color) \* - A color picker showing #D359A6.
- Secondary color:** (Buy token button) \* - A color picker showing #981467.
- ASSETID \*** - A text field containing 9sQutD5HnRvjM1uui5cVC4w9xkMPAfYEV8y.
- Website url:** (https://www.url.com) - A text field containing https://www.signature-chain.com/.
- Telegram url:** (https://t.me/name) - A text field containing https://t.me/SICA\_official.
- Your twitter url:** (https://twitter.com/name) - A text field containing https://twitter.com/SignatureChain.

A note at the bottom states: \* Mandatory field.

-- Example illustrated with our SIGN Web Wallet connected with token issuer account



# 7. Upcoming Version 2

## 7.1. From Web App to dApp

The Web App version 1 on Mainnet was released in April 2019, with main features such as Web-Wallet and File Certification. Email Certification and Multiparty Agreement was later released, and at present, still on Testnet.

The web app will be rewritten in RIDE4DAPP in order to move Certification business logic and validation directly into the blockchain, therefore switching from a regular web application to a decentralized application commonly known as a dApp.

SIGN app features will no longer utilize json in attachment field and will be switched to using invokeScript, Data Transactions and Callable functions from RIDE, instead. As such, all functionalities will be greatly extended, and will bring more flexibility and wider range of option to each feature.

## 7.2. New SIGN Features

New Certification functionalities will be added, including:

- Digital Certificate Creation
- Know Your Customer
- Complete Explorer

### 7.2.1 Digital Certificate Creation:

Presently, the File Certification tab allows users to certify existing files and documents onto the blockchain. This functionality has already a wide range of application and use case.

To extend this, a new feature in version 2, will also allow anyone to create new certificates directly in the dApp and automatically certifies it onto the Waves Blockchain.

Details of this new feature are currently in study and will be released soon, with the White Paper updated accordingly.

### 7.2.2 Know Your Customer:

A new tab will be added into the the soon SIGN dApp and will allow the user to participate and undergo a Know Your Customer process within a project. On the user's end, personal information and compulsory records, which normally includes a selfie holding one's passport, will be required to be sent in a certified email.

The Asset Account holder's end will have to access his email to verify and validate the received requirements, and consequently approve or decline applications in [www.sign-web.app](http://www.sign-web.app). If user is approved, the Waves Address will be tagged White-Listed or as a verified user, able to trade the specific token.

Token issuer, or the Asset Account owner, will be the only one holding the KYC documents as SIGN will only certify the transaction and write the hash in the Waves blockchain. No document will be stored neither in SIGN's servers nor in the Waves Blockchain, hence it will be the responsibility of the Token Issuer to comply with GDPR requirements, to properly store and protect these data.

SIGN foresees this feature as a practical and well-demanded tool for IEO, as regulations require it.

### **7.2.3 Block Explorer:**

Block Explorer is currently missing, but is an essential and practical tool that will allow anyone to search for an existing certified file or a created certificate using the unique Hash or Reference.

SIGN, in version 2, eventually will not require Waves Signer connection. By then, the platform will allow anyone to search, verify and compare a received hash in order to confirm its existence in the Waves Blockchain, as well as verify the Issuer's Waves Address.

Details of this new feature are currently in study and will be released soon, with the White Paper updated accordingly.

## **7.3. New WALLET Features**

The wallet will also be rewritten to work with a single instance for all Waves tokens, instead of having an instance per token as currently. The feature will significantly extend the performance of the SIGN wallet.

The web-wallet will automatically be setup, instead of the current manual setup, which ensures faster delivery. An updated list of current wallets will be first checked prior to validation to confirm subdomain availability, thereafter subdomain choices will be offered.

Accessing the wallet from the chosen subdomain will automatically call a Config File associated to the subdomain and the corresponding Asset ID. A wide range of configuration option will also be added in the Admin tab, which are accessible only with the Token Issuer account.

Configuration options will include customization of the Proof Of Certification background and setting up the transaction fee to either \$WAVES/\$TOKEN or to strictly \$TOKEN only

Signature Chain considers Web-Wallet a big part of the project, hence the side project will be regularly extended with the gradual implementation of the following features:

- A. Messaging System: A simple messaging system, based on the waves address, amongst users of the dedicated web-wallet community.
- B. News System: The Token Issuer could post project- based news and updates
- C. Contact Book: Users can create an Address book, where Waves addresses can be tagged to the actual User, whether by Name or Alias, to ease address recognition.
- D. Invoice: Users can generate an invoice and send to request a payment.
- E. Enhanced Customization: Add more customization options for the Token Issuer, as well as for web-wallet users such as hide news, activate or deactivate certain features, etc.
- F. Generic Optimizations : Add filters, optimize user-interface, etc.

## 7.4. Activation Feature System

The main SIGN dApp and the Web-Wallet service shares a same and unique codebase. Every custom web-wallet, will have the ability to activate any of our current and upcoming certifications features, however still not widely available.

The File Certification feature has been activated and is currently being tested and implemented with our partner, CoffeeCoin. The File certification feature in the CoffeeCoin web-wallet is being used to allow wallet users to certify the origin of Coffee documents.

Activation system for each web-wallet is currently stored and run from a configuration file. However eventually, this will be stored and communicated with the blockchain.

```
// TOKEN INFOS
this.expDate = null
this.assetID = "Gf9t8FA4H3ssoZPCwrg3KwUFCci8zuUFP9ssRsUY3s6a"
this.ownerAddress = "3NCzApG3ka4tvDuKX8HxnJtXe7eJw5PmdVt"
this.projectId = "88c9f5d0-a79a-11e9-848c-bb08bb187516"

// FEATURES
this.feature_0 = 1 // Theme switcher
this.feature_1 = 1 // Certification
this.feature_2 = 1 // Email Certification
this.feature_3 = 1 // Mutual agreement
this.feature_4 = 1 // Mass transfer
this.wavesasfee = true

// GENERIC
this.appId = "web-wallet-from-sica-3N9fgRYxo55NzKCwoAtj1vtHDxpKsu2VxBz"
this.matcher = "matcher.testnet.wavesnodes.com"
```

*-- Example of activation settings in version 1. Version 2 setting will all be in issuer account data storage.*

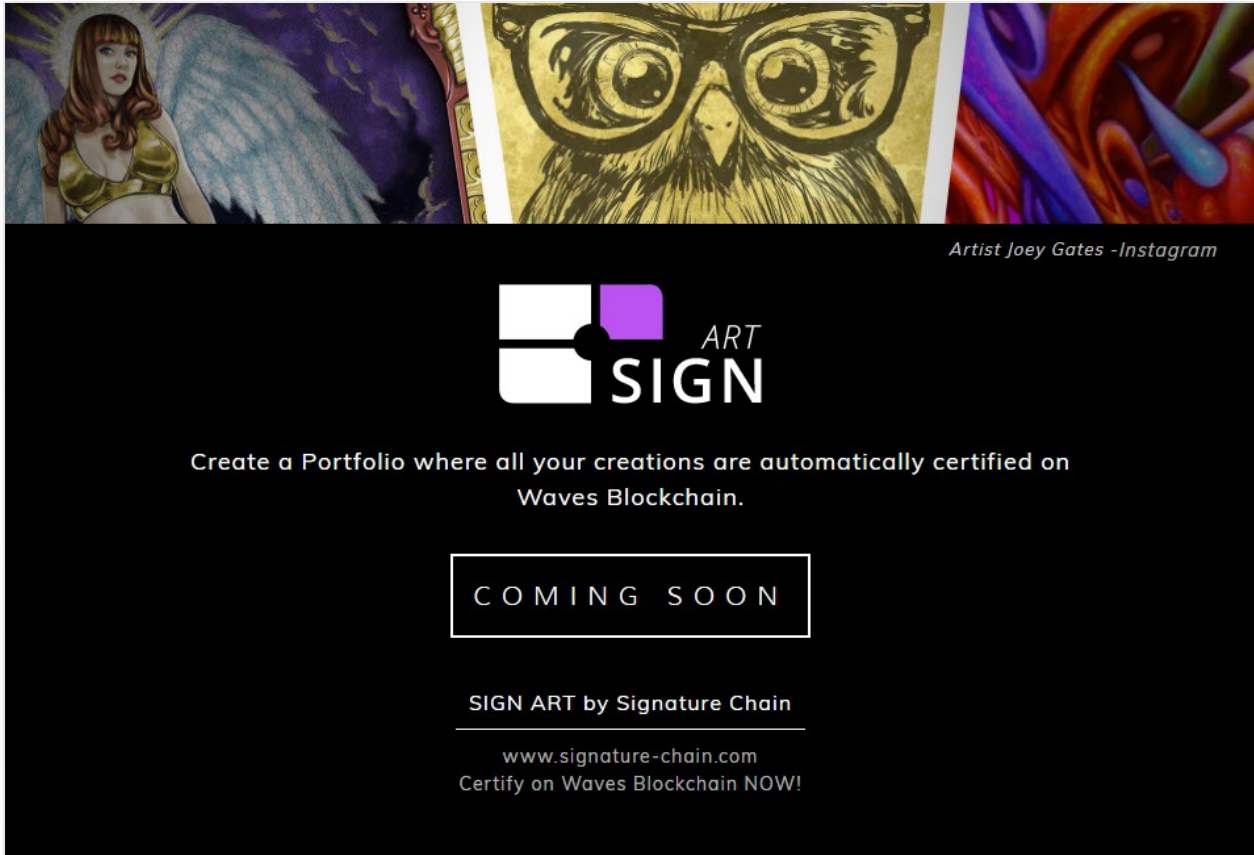
## 7.5. UX/UI Rewrite

Current UX/UI will be adjusted in order to bring more accessibility to the application such as displaying a simplified Hash and Transaction ID

Signature Chain believes that the adoption of dApp will come by keeping the platform simple and user-friendly. SIGN is a heavy advocate of the KISS doctrine, Keep It Stupid Simple, and in order to match the principle, ample time will be allocated towards the improvement of the User Interface/Experience to it's finest.

# 8. Side project

## 8.1. Decentralized Art Gallery



-- Artworks from Surreal Artist & SIGN Ambassador Joey Gates

Signature Chain believes that the mass adoption will come from building tools and solutions that are practical in real-life.

Seeing sign-web.app as the main central tool for blockchain certification, building side-projects such as the Web-Wallet are what will assist in the acceptance and mass adoption in a society that is skeptical towards blockchain and cryptocurrency.

SIGN is currently working with Artist Joey Gates to develop a decentralized art gallery and platform where artists will be able to showcase and certify one's art in the blockchain. Whether it be digital or traditional art and photography.

Signature Chain is excited to bring to light SIGN ART, which is a side project that will carry SIGN's certification features.

[READ OUR ARTICLE ON THIS SUBJECT](#)

# 9. Vision & Adoption

## 9.1. Our Vision

Signature Chain has a long term vision and once the main SIGN webapp is running in it's complete version, focus will be redirected towards side-projects.

These side-projects are studied and developed to distinctly match needs and demands, which are mainly centered towards different blockchain and certification issues.

SIGN's side-projects include [WEB-WALLET](#), a customized wallet service for Waves projects, and SIGN ART, the upcoming Digital Certified Art Gallery.

Currently, Signature Chain is heavily focused on development and creating educational materials such as How-To-Videos ([See our HowTo serie](#)), a PDF Documentations ([PDF](#)), and Medium articles. ([example](#)).

Aside of this, we are already getting in touch with potential users, clients and partners.

## 9.2. Adoption

The SIGN web application, in version 2, is expected to be live and running around Q1/Q2 of 2020. The push on adoption will be emphasized. Signature Chain will slowly expand the team, by adding partners and ambassadors. The main focus after initial development will be marketing, education, and the development of side-projects.

Expansion of the team will include a Sale Manager and a Marketing Manager to support this goal. The executive team will reach out to different sectors to introduce our platform and offer an opportunity to start and incorporate blockchain certification into their current models and systems.

White Listing will be offered to selected partners and by doing so, will allow them to use our tool for free in exchange of support and review to help spread the project and the advantages of blockchain certification.

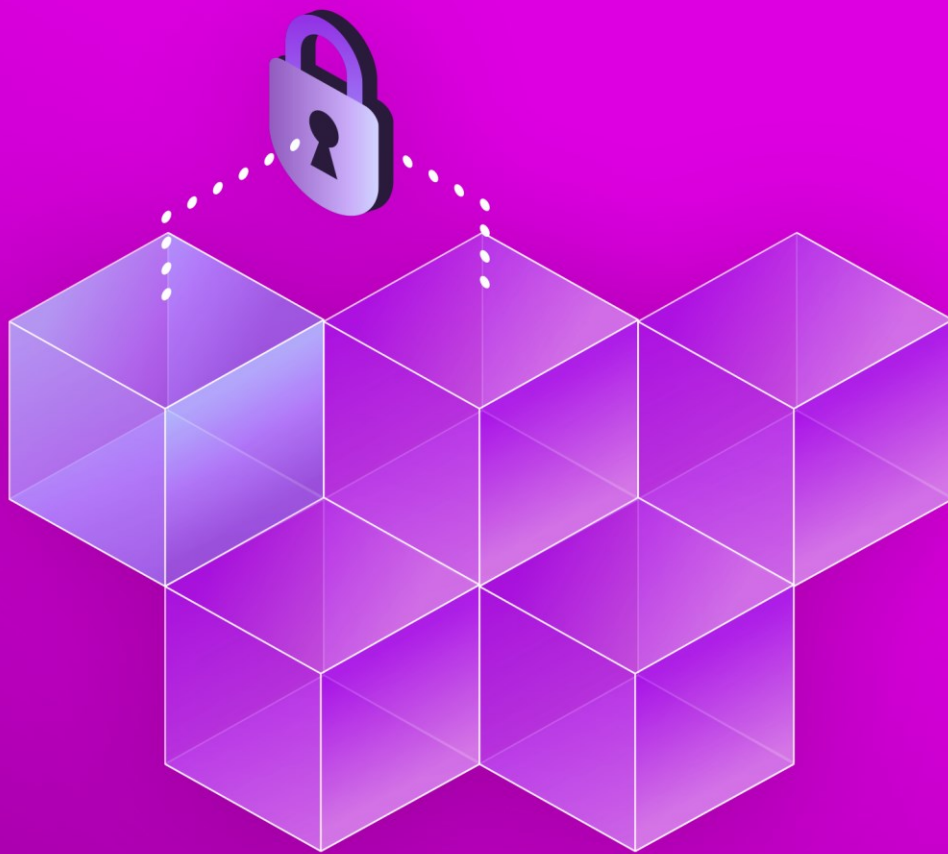
Regular educational content and articles will be created, e.g., how-to-videos and infographies to ease and clarify the general misunderstandings over [sign-web.app](#) utilization. This will be coupled with a constant research on UI/UX simplification of the main webapp, as well as implementing new tools to constantly ease the process. The main goal being that Blockchain becomes a normal integration into effective systems and solutions. Institutions and users will be confident and assured that information recorded and verified through Signature Chain's platform will be convenient, reliable and decentralized.

## 9.3. Long Term

Signature Chain is a long term project with a long term vision. Adoption isn't here yet for blockchain and cryptocurrency. Focusing on building platforms and tools now means being first in line, and being ready and experienced when adoption finally comes, be it in 2 or 5 years.

SIGN is building on the web of tomorrow.





## CHAPTER 3

# BEYOND THE DEVELOPMENT

Meet the people behind Signature Chain, the core members, ambassadors and partners.

Understand SIGN's long term vision through the Roadmap, and see project and developer recognitions in the Waves Ecosystem.

Finally, get more information on the token distribution and utility detail.





# 10. Team & Partners

## 10.1. Core team

Signature Chain's application was conceptualized and developed by Christophe Verdot, CEO of Digital Chain LTD, with the help of a dedicated and experienced team in Web Design, Web Development, Content Writing and Patent Processing. SIGN's Community Manager and Marketer are constantly building connections and expanding operations. Our team is working endlessly to ensure we reach our goals.



**CHRISTOPHE VERDOT,** [in](#) [twitter](#)

Founder and Lead Developer – Waves Ambassador

A Web Designer, Web Developer, and a freelancer since around 15 years, and an expert in multiple programming languages. Christophe is also a Blockchain enthusiast and has experience in development on centralized applications for banks, governments, and name brands. He has been also officially recognized as a Waves Tech Ambassador for France & Waves Lead for Philippines.



**KRISTINE VALENCIANO,** [in](#) [twitter](#)

Marketing Manager

As an Experienced Marketing consultant, Kristine contributed a great deal to the marketing effectiveness of several start-up companies in South East Asia. Kristine will be playing a crucial role in product packaging and development and in the research and evaluation of new product opportunities and of potential customers, markets and partnerships for SIGN.



**ABDULLAH TIRTIL,** [in](#) [twitter](#)

Community Manager

Proficient in various computer software's and intellectual property, Abdullah is responsible for managing our social media platforms, such as Telegram, Discord, and Twitter. He will also be the bridge between our supporters and management team. Abdullah is originally from Turkey but permanently resides in Geneva, Switzerland.

## 10.2. Ambassadors

Signature Chain created an Ambassador Program for anyone interested in helping and spreading the project. Ambassadors have been carefully screened and chosen to represent SIGN, and their contribution and dedication have been significantly helpful to the project. In return for their support, ambassadors will be receiving rewards, will be given early access to Beta and updates, and as well as being White Listed on all SIGN web application features.



**John Nguyen**   

Waves Ambassador and Founder of wavesdapp

Tim has been a long time supporter of the project and has always been spreading positivity of SIGN. Tim's official appointment as ambassador will help Signature Chain reach new clients and opportunities, and be SIGN's point of contact in UK.



**Joey Gates**   

Pop & Surreal Artist

Artist Joey Gates is one of the first artists to use blockchain and SIGN to certify his work. He conceptualized the idea of running an online art gallery where all art pieces would be certified in the blockchain. Signature Chain supports his initiative. Joey will be assisting and consulting on SIGN ART.



**Joep van Gool**  

Community support

Joep is a young cryptocurrency enthusiast and has been supporting and helping out Signature Chain, since its SICA origins. He has also been actively monitoring and supporting the community. Joep has been helping out with market research and has discovered multiple marketing opportunities for SIGN.



### WE ARE WAITING FOR YOU!

Are you interested on being a SIGN Ambassador?

An ambassador is someone who publicly supports our project and will help spread SIGN, such as getting contacts and reach, helping community, writing articles, etc.

If you fit the description, contact us and lets discuss it! Write to us at [contact@signature-chain.com](mailto:contact@signature-chain.com)

## 10.3. Partners

Signature Chain mainly aims to get the SIGN application adopted through direct users, but recognizes partnerships will help in project recognition.

Here is a list of our current Partners. More are under negotiation and will be released soon.



### COFFEECOIN

**Blockchain Efficiency For The Specialty Coffee Trade**

Signature Chain and CoffeeCoin recently made their partnership official. CoffeeCoin is utilizing a customized web-wallet from SIGN, where the File and Document Certification feature has been activated and is currently being tested.

<https://coffecoin.io>

<http://coffecoinwallet.com/>



### KOLIN PLATFORM

**Decentralized network for translation & collaboration**

Kolin & Signature Chain came to an agreement that working together is a key to success. Kolin is the official translation partner of Signature Chain. Similarly, SIGN is the official certification partner to Kolin.

<https://private.kolinplatform.com>

<https://twitter.com/Kolinplatform>



### MORE TO COME...

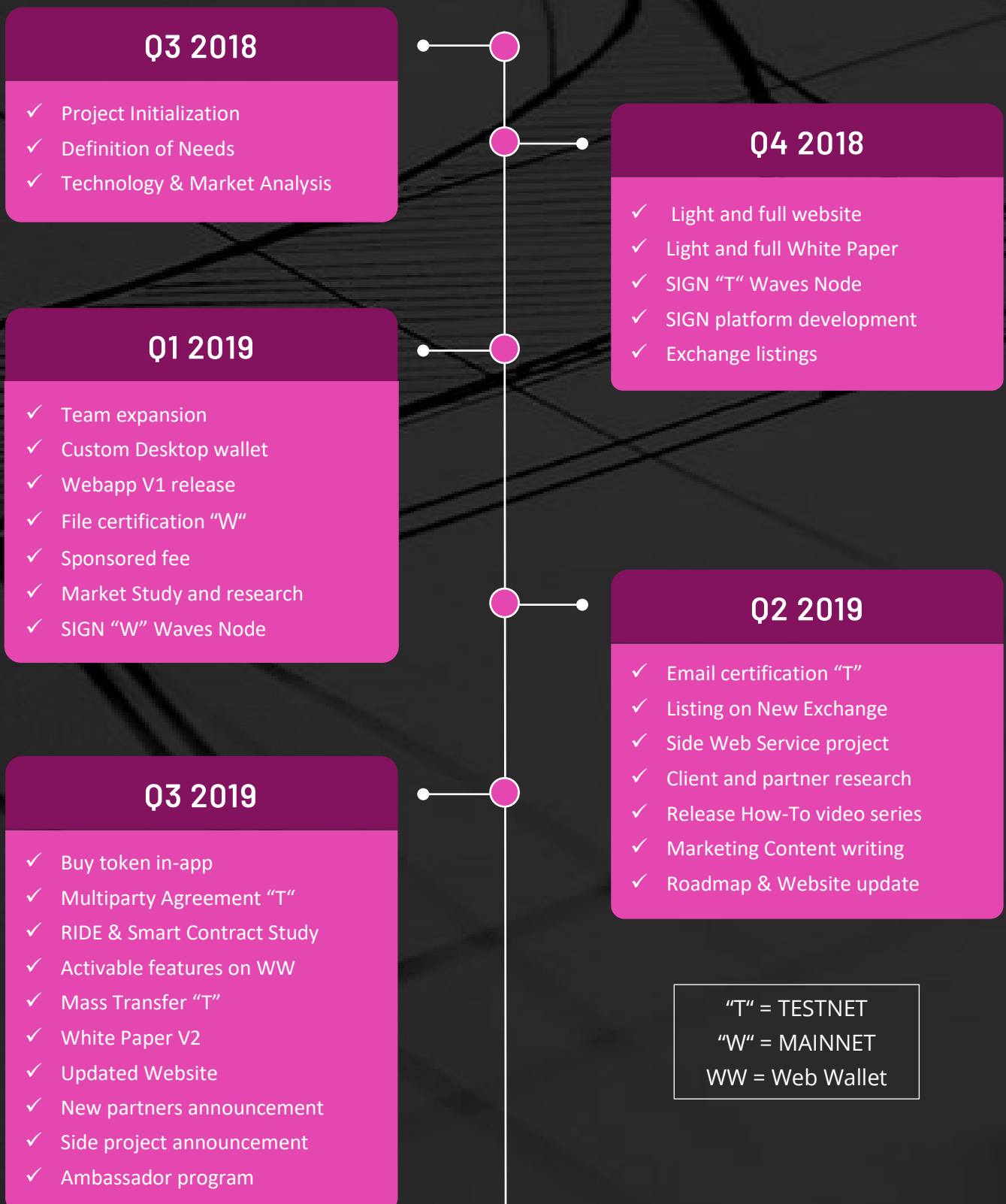
**We are open to every interesting opportunity...**

Don't hesitate to contact us if you think a partnership with Signature Chain would be beneficial. Several partnerships are still in discussion. If interested, write to us at

[contact@signature-chain.com](mailto:contact@signature-chain.com)

# 11. Roadmap

Our roadmap reflects our past milestones and achievements, and as well as upcoming plans. Although the Roadmap presented will guide the project's progress and long term vision, the plan and strategy will be adjusted to needs, clients and market accordingly.



## Q4 2019

- ✓ Email Certification V1 "W"
- ✓ Multi-party Agreement V1 "W"
- ✓ File Certification V2 RIDE
- ✓ Clients & partners research
- ✓ Pitch Deck
- ✓ Educational Content writing
- ✓ Educational videos
- ✓ Sign-art UI concept

## Q2 2020

- ✓ Batch Certification
- ✓ Sign full documentation
- ✓ Sign Art UI/UX
- ✓ Sign Art development
- ✓ Sign Browser/NodeJs Library
- ✓ Trial request webapp
- ✓ Sign presentation Pitch

## Q4 2020

- ✓ Sign Art Smart Contract V2
- ✓ Sign Art Portfolio Beta "T"
- ✓ Sign Art NFT Market Beta "T"
- ✓ Sign Art Cache Updater
- ✓ Sign Art Phase 2 Closed Beta Test
- ✓ Sign Art Public Beta Test
- ✓ Sign Art Educational Content

## IN STUDY

- ✓ Web Wallet enhancement
- ✓ Content Translation
- ✓ Sign Diplomas
- ✓ Sign Assets Stocks
- ✓ SIGN Authors
- ✓ SIGN Agreement standalone
- ✓ Interface languages expansion

## Q1 2020

- ✓ Email Certification V2 RIDE
- ✓ Multi-party Agreement V2 RIDE
- ✓ Waves Signer integration
- ✓ Certification Credit
- ✓ UI/UX Optimisation
- ✓ Mobile support
- ✓ White Listing feature
- ✓ Fiat Gateway
- ✓ Verification explorer
- ✓ Community Program

## Q3 2020

- ✓ Educational content
- ✓ Marketing campaign
- ✓ SEO Optimization
- ✓ Online Documentation
- ✓ Sign Revoke feature
- ✓ Sign Art Front End development
- ✓ Sign Art Smart Contract V1
- ✓ Sign Art Portfolio Alpha "T"
- ✓ Sign Art Phase 1 closed beta test

## Q1 2021

Sign Art Release "W"

Sign Art API

Sign Art Secondary Market Development

Sign Art Secondary Market Beta "T"

Sign Art Secondary Market "W"

Sign Art Online Documentation

Sign Art Adoption Campaign

Q2/3/4 Roadmap Planning

"T" = TESTNET  
"W" = MAINNET  
WW = Web Wallet



# 12. Recognition

## 12.1. First Grant from Waves



### Recipient: SIGN (SICA)

Grant amount: 2,000 WAVES

SICA is a custom Waves wallet with diverse functionality. One of the wallet's main features is certification of files, such as texts, video and images. The developer has tested hashing for files of up to 10 GB in size. SICA also runs Web Wallet, a service enabling users... [READ MORE](#)

## 12.2. Second Grant from Waves



### Recipient: SIGN (SICA)

Grant amount: 2,000 WAVES

The grant is awarded for further development of an already existing solution, SICA Wallet, including launch on MainNet and addition of new functionality. As well as some standard features, the wallet's current version supports certification of files...

[READ MORE](#)

## 12.3. Waves Tech Ambassador & Lead for Philippines



Christophe Verdot, SIGN's Main Developer, has been officially appointed as Waves Tech Ambassador for France & Waves Lead for Philippines. The Lead role aims to spread & expand the Waves developers community in Philippines, as well as validating and managing the ambassadors and events in the country. Christophe is also certified in Waves Web 3.0 Smart Contract and RIDE development. [SEE CERTIFICATE](#)



# 13. Token Details

## 13.1. Distribution SICA: Max supply 50B

**Token ID:** [3Z4SBCZ2LRZLuDweUYJkypmjrWkcLuduxpf3Vj8FddSk](#)

Token initial distribution prior to SICA > SIGN swap was as follow:

DISTRIBUTION TYPE	AMOUNT	DESCRIPTION
Exchange	19 000 000 000	Initial token distribution on Waves platform
Development	5 000 000 000	Amount reserved for development purposes, including hosting, domains, nodes etc.
Marketing	5 000 000 000	Amount reserved for all marketing purposes such as paid marketing, rewards, contests etc
Team	5 000 000 000	Personal share of the team members
Reserved	15 000 000 000	Amount initially reserved for staking during the Waves platform testing period and in the event of swapping to another Blockchain.
Airdrops	1 000 000 000	Amount was reserved for the differents airdrops

## 13.2. Burned SICA: Max supply 31B

Token burn prior to SICA > SIGN swap was as follow:

BURNED WALLET	AMOUNT	DESCRIPTION
Reserved	14 000 000 000	After the final Blockchain technology choice, the amount became useless and was burned.
Marketing	4 000 000 000	Burned after receiving first Grant from Waves Lab
Team*	1 000 000 000	Was burn to reduce the team shares

\* Team share have been distributed after the initial 6-month locking period, between the 4 initial members of the team.

## 13.3. Swap 1:30 SICA to SIGN: Max supply 918M

**Token ID:** [9sQutD5HnRvjM1uui5cVC4w9xkMPAfYEV8ymug3Mon2Y](#)

In order to reduce the supply as well as getting rid of a 11% supply lost wallet, Signature Chain conducted a swap in July 2019 at 1:30 (1 sign = 30 sica):

DISTRIBUTION TYPE	AMOUNT	DESCRIPTION
Max supply*	918 333 333	Current Max supply
Non swapped tokens**	49 165 498	Token remaining to be swapped.
Development wallet	122 917 852	Project wallet for marketing & development
Circulating supply	746 249 983	Current circulating supply is calculated as follow: Max supply – (non swapped tokens + development wallet)

\* To be adjusted with final unswapped token burn

\*\* Swap will still remain fully possible until December 31 2019. After which, 20M will be burned on 31 January 2020, another 20M on 28 February 2020, and the remaining on 31 March 2020. Swap will still be possible from 1 January 2020 to 31 March 2020, but on first come first served basis and depending on the remaining available tokens.


## 13.4. Token utility in SIGN ecosystem

In order to use any of Signature Chain's features, users will need to acquire the SIGN utility token from exchanges like Waves Dex or STEX. The token can be used for the following:

### Transactions fee\*:

Signature Chain is using the Sponsored Fee feature to allow users to have a simplified experience using our wallet and features with only one token, \$SIGN.

Currently, a transfer transaction fee costs 25 \$SIGN and will be regularly adjusted based on Waves market price.



This transaction is secure and will open  
WavesKeeper

Transaction fee:  
25 SIGN ▼


CONFIRM TRANSFER

\*Mass transfer fee in token are not supported at the current version of Sponsored fee. This feature in our wallet then require to pay the transaction fee in \$WAVES. The possibility to also allow sponsored fee on mass transfer is still in study on Wave's side and will be implemented into our SIGN web-app if the feature will be pushing through.

### - Certifications Fee:

Whether using the File Certification, Email Certification, Multi-party Agreement or any upcoming feature, web app users will have to pay the regular transaction fee + the certification fee, which is dynamically calculated based on USD for more stability.

- **File Certification:** 0.5\$ + 25 SIGN or InvokeScript transaction cost \*
- **Email Certification:** 0.5\$ + 25 SIGN or InvokeScript transaction cost \*
- **Multiparty agreement:** 0.5\$ + 25 SIGN or InvokeScript transaction cost \*



This transaction is secure and will open [WavesKeeper](#)

Transaction fee:  
25 SIGN

Certification fee:  
3617.1598 SIGN (0.5\$)

CERTIFY FILE

\* Features in version 1 are using type 4 transactions which have a fixed transaction fee of 25 \$SIGN, aside of certification fee. In app version 2, SIGN will be using RIDE and Smart Contract, invoking callable functions with invokeScript. Hence, the transaction fee will be calculated based on the amount of data.

### - White Listing Option:

In some cases and for some future clients and institutions, the buying process and use of token will be complicated and unfamiliar. For these specific cases, to simplify the process, Signature Chain will also offer the possibility to buy certifications packs in Fiat.

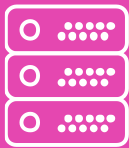
The Fiat payment will be automatically converted into \$SIGN. The account will then be white listed to lift the certification fee for the amount of certifications covered by the Fiat payment.

## 13.1. Calculation of Certification Fee

To maintain a fair and stable certification fee, the cost is calculated based on WAVES/USD price. In version 1 of all features, the web app calls an API function, dynamically calculating the price prior to every certification.

In version 2, an Oracle will hold the certification price and base it on SIGN's average price for past days, and will then be updated every 24 hours. SIGN web app will then query the Oracle, prior to every certification, to get the Certification fee. RIDE validation function will then compare the received fee to the Oracle, in order to confirm the transaction.

# 14. Identity, Hosting etc.



## Hosting & SSL

Website and domains:  
IONOS

Webapp and Web Wallets  
DIGITAL OCEAN

SSL  
LetsEncrypt



## Technology, 3rd parties & programming languages

Ubuntu, nginx, Gzip, PM2,  
nodeJs, ExpressJs, HTML, Css,  
VanillaJs, JQuery, Electron, Git,  
BitBucket, Waves Blockchain,  
RIDE, Waves Signer, Smart  
Contract, MailGun...

## 14.1. Logo identity



We place a strong emphasis on visual appearance and providing meaning behind everything we do. SIGN's logo is composed of a chain of curved squares and rectangles that represent the two main components of our project, Blockchain blocks and Documents. The pink block represents the last block in the blockchain known as Current Height.



Each side project will use the SIGN logo with a dedicated color scheme for quick identification.

## 14.2. Webapp & Full Nodes

In order to have full control over transactions and API requests, as well as supporting the Waves Network, it is necessary for the SIGN project to run on it's own full nodes.

**SIGN's Testnet webapp**, used for development, is accessible at: <https://testnet.sign-web.app> and utilizes it's own testnet node at: <https://testnode.sign-web.app>

**SIGN's Mainnet webapp** is accessible at: <https://www.sign-wepp.app> and same as Web-Wallet, utilizes it's own Mainnet node at: <https://node.sign-web.app>

## 14.3. Token Information & Tracking

SIGN token is listed on several token-tracking and informative websites to ease the access to project information.

Here is a comprehensive list of websites where information regarding Signature Chain (SIGN) is available:



## 14.4. Get SIGN token

To use our webapp you needs to aquire the SIGN utility token which is required for each certification features. For that you can trade SIGN in the following exchanges:



BTC PAIR

WAVES PAIR



LTC PAIR

BTC PAIR



# 15. Contact Us

## About us

Signature Chain was developed by Christophe Verdot, Developer and head of Digital Chain LTD.

## Contacts

### **SIGNATURE CHAIN by Digital Chain LTD**

Suite 1701-02, 17/F, FWD Financial Centre, 308 Des  
Voeux Road Central – Hong Kong  
contact@signature-chain.com  
www.signature-chain.com

## Social Media Links

Website: <https://www.signature-chain.com/>  
Twitter: <https://twitter.com/SignatureChain>  
Telegram: [https://t.me/SICA\\_official](https://t.me/SICA_official)  
Discord: <https://t.co/MPQPKDM3ws>  
Bitcointalk: <https://bitcointalk.org/index.php?topic=5026949.0>  
Medium: <https://medium.com/@signaturechain>  
Youtube: [youtube.com/channel/UC6iXoOmaNIXTgZyEy4HCtCw](https://youtube.com/channel/UC6iXoOmaNIXTgZyEy4HCtCw)

## Disclaimer

SIGN token is a cryptographic utility token usable on the Waves blockchain, and allows usage of Signature Chain Certification functionalities on [sign-web.app](#). The SIGN token is not a security or a financial instrument and should not be purchased as such.

By acquiring SIGN token, the purchaser understands the purpose and utility of the token, the possible lack of future adoption within the Signature Chain ecosystem, and the economic results leading to the total or partial loss of value. The purchaser declares awareness of the legal repercussions of token transactions and acquisition in their country and to have conducted their own legal research according to applicable laws where purchaser resides. Finally, the token grants no financial share (income, capital or dividend) nor voting rights in the company. The token is a crypto-asset issued by signature-chain.com through the Waves Platform. The purpose of the token is strictly to avail Signature Chain dApps features.

### **RISK MANAGEMENT**

In the event of any dysfunctionality, security breach or any other event resulting in a potential risk for user's funds and personal information, all servers will be automatically shut down without delay and



will remain close until all risks are eventually cleared. No funds or personal data are or will be stored on any Signature Chain dApps / server unless explicitly stated otherwise.

User's funds will always remain on Waves Blockchain. SIGN dApps is only communicating with the blockchain through the Waves Node API and / or Waves Signer. It will always be user's responsibility to secure their computer and access, including the installation of any unknown applications that could expose Waves Signer to potential malware.

### **TRANSFER OF TOKENS**

All transfer and mass transfer transactions are processed through Waves Signer. Signature Chain has no access to users' funds and accounts, even through Waves Signer.

Signature Chain only calls Waves Signer to prompt a payment window where users are to approve or decline. Users should always verify all data and information, e.g., amount, recipient/s in the Waves Signer prompt prior to the confirmation of transaction.

### **FILE CERTIFICATION**

All transfer for File Certification is processed through Waves Signer. Signature Chain has no access to users' funds and accounts, even through Waves Signer.

Signature Chain only calls Waves Signer to prompt a payment window where users are to approve or decline. Users should always verify all data and information, e.g., amount, recipient/s in the Waves Signer prompt prior to the confirmation of transaction.

File hash is calculated locally on user's computer, and absolutely no copies of the original file are made and stored online. Signature Chain has no access to user's file and its content. Only the Hash and the File Name or Reference are sent to the blockchain.

### **EMAIL CERTIFICATION**

All transfer for Email Certification are processed through Waves Signer. Signature Chain has no access to users' funds and accounts, even through Waves Signer.

Signature Chain only calls Waves Signer to prompt a payment window where users are to approve or decline. Users should always verify all data and information, e.g., amount, recipient/s in the Waves Signer prompt prior to the confirmation of transaction.

Email sent through the user's custom SMTP does not have any retention data period and is not accessible, at any point, to Signature Chain. Email sent using SIGN's open Mailgun SMTP transits through a Mailgun private account, and has a data/log retention period of 5 days for debugging or analysis. (in case of spam etc).

Mailgun is a GDPR compliant 3<sup>rd</sup> service with high level of security. Accounts are 2FA protected and during the 5 days logs, data will only be accessible to Signature Chain's Mailgun account manager.

Information transiting through Signature Chain's Mailgun account remains strictly confidential. No data sent through SIGN's email service is stored online. Only the Title and Message ID are sent to the blockchain.

### **MULTI-PARTY AGREEMENT**

All transfer for multi-party agreement are processed through Waves Signer. Signature Chain has no access to users' funds and accounts, even through Waves Signer.

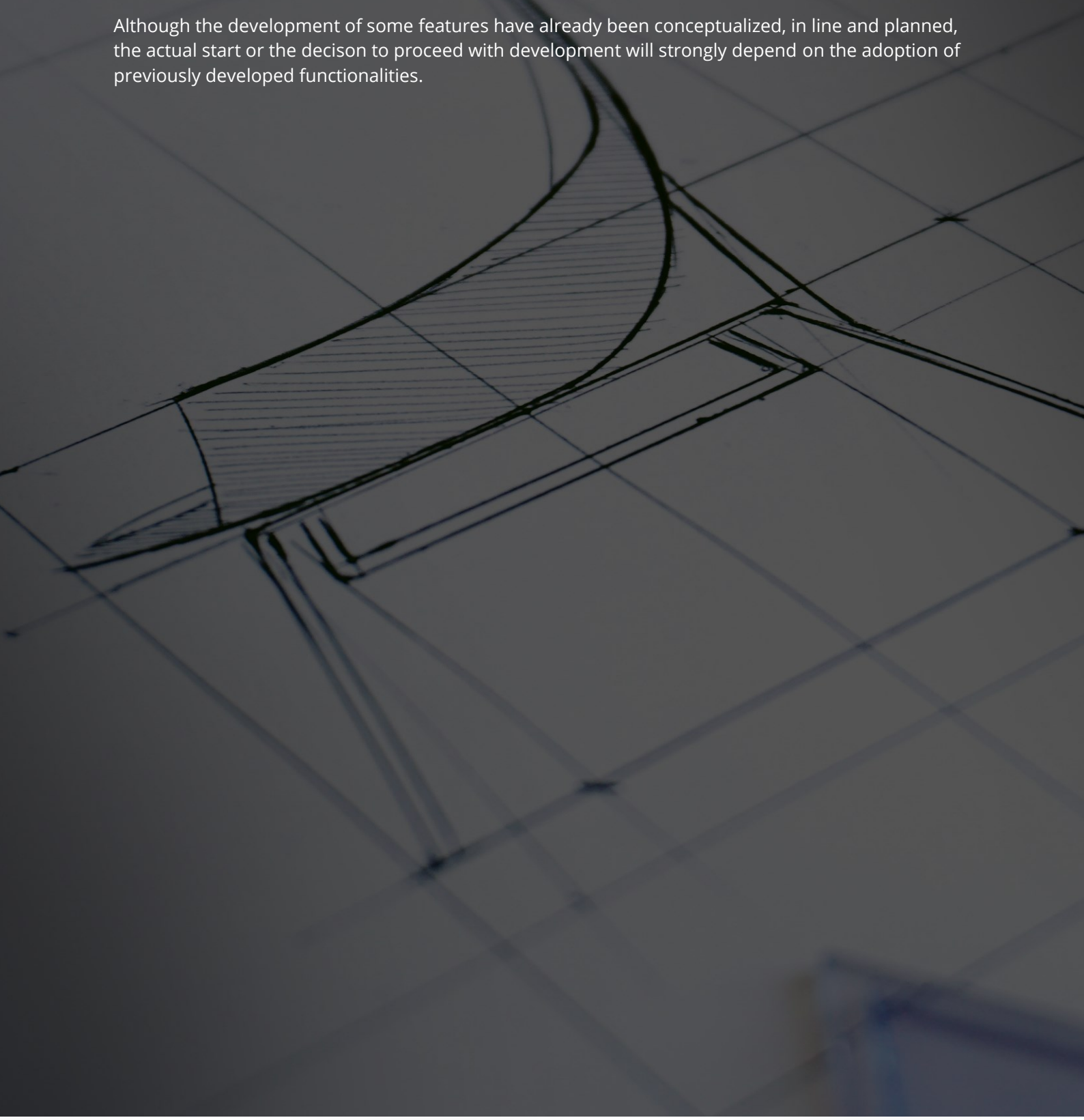
Signature Chain only calls Waves Signer to prompt a payment window where users are to approve or decline. Users should always verify all data and information, e.g., amount, recipient/s in the Waves Signer prompt prior to the confirmation of transaction.

The File Hash is calculated locally on user's computer and absolutely no copies of the Contract File are made and stored online. Signature Chain has no access to user's file and its content. Only the Contract ID is sent to the blockchain..

#### **GENERAL NOTICE**

Signature Chain is currently and constantly developing the SIGN project. Everything described in this White Paper is for the purpose of information only, hence could be adjusted any time based on needs, progression and change of strategy.

Although the development of some features have already been conceptualized, in line and planned, the actual start or the decision to proceed with development will strongly depend on the adoption of previously developed functionalities.





**SIGNATURE CHAIN**