Digital Document Archive with Authenticity Guarantee

DiSA

Group 10 – Construction (Milestone 3)

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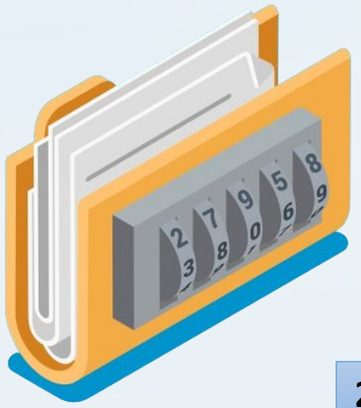

Context & Our Product

Predominance of Digitalization

Growing use of digitalization for document handling.

Store Space Limitations

Public institutions restrict document upload sizes.

Our Product aims to (goals):

- Simplify the document's submission
- Guarantee the document's authenticity
- Remove size restrictions
- Ensure integrity over the time

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State of The Art (SOA)

Document Archive platforms

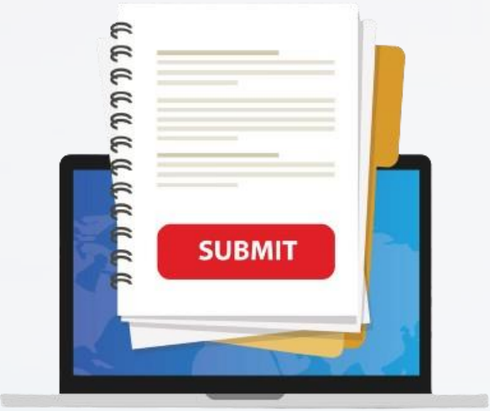
- **DSpace:** open-source repository used by academic institutions to manage and store their documents.
- **Preservica:** paid platform used by institutions to store their documents throughout time.

Digital Signature platforms

- **Blockcerts:** open standard that relies on blockchain to emit and verify digital certificates.
- **Proof of Existence:** platform that allows submission of a document's hash on the bitcoin blockchain (paid transactions).

Functional Requirements

- **Document Submission:** Sets of one or more.
- **Authenticity Guarantee:** Digital Signatures to prevent tampering.
- **Proof of Existence: Receipt Generation** to relate the downloadable document with the submitted one, by the link (using a blockchain).
- **Document Sharing:** Unique link to facilitate sharing and authenticity verification.
- **Document Storage:** Integration with a persistence archive.
- **User Interface:** Trustworthy, intuitive, and user-friendly interface.



Non-Functional Requirements

- **Performance:** Transfer multiple documents while maintaining response times..

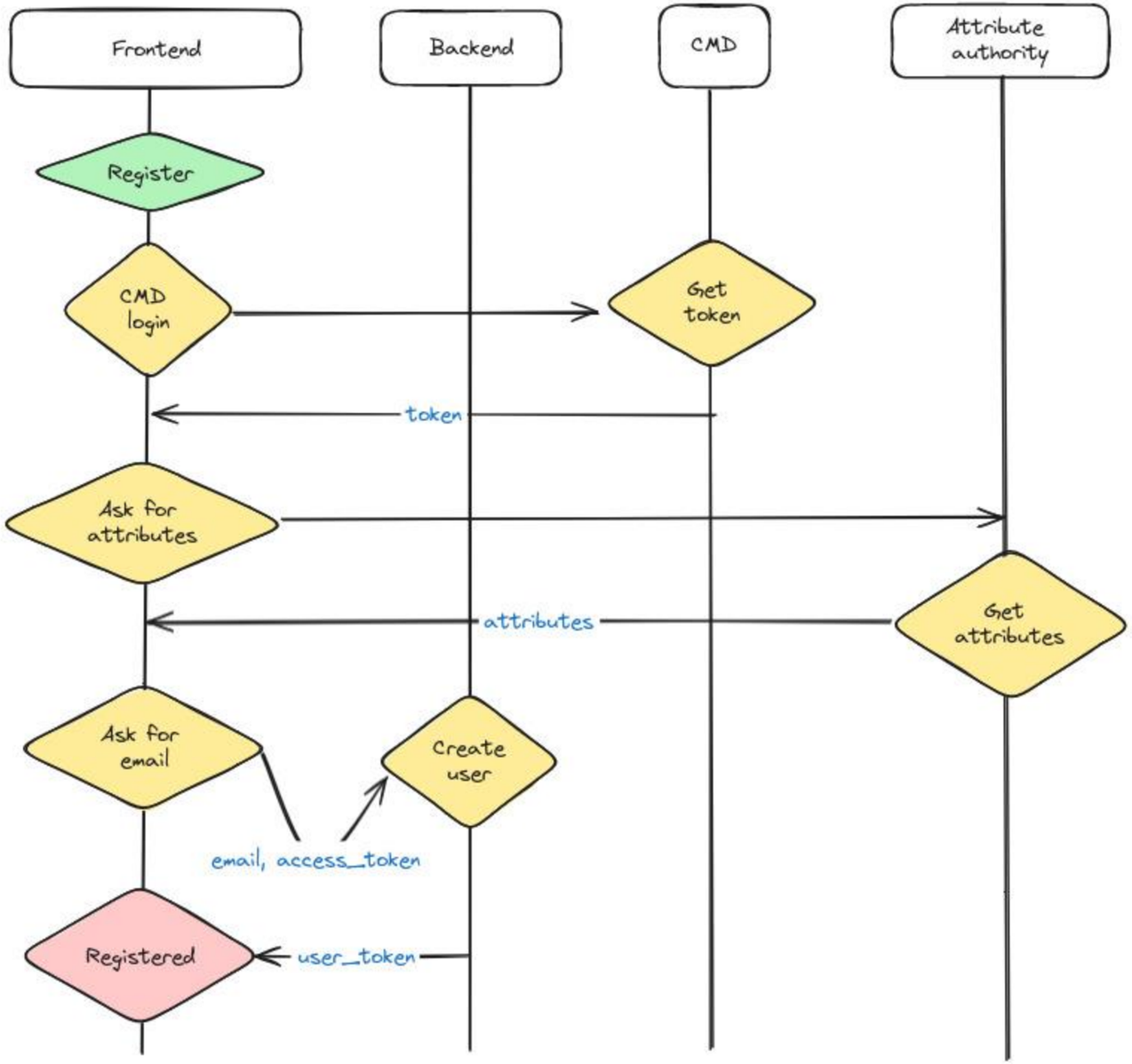
- **Security:** Strong ciphers, authentication, and authorization mechanisms.

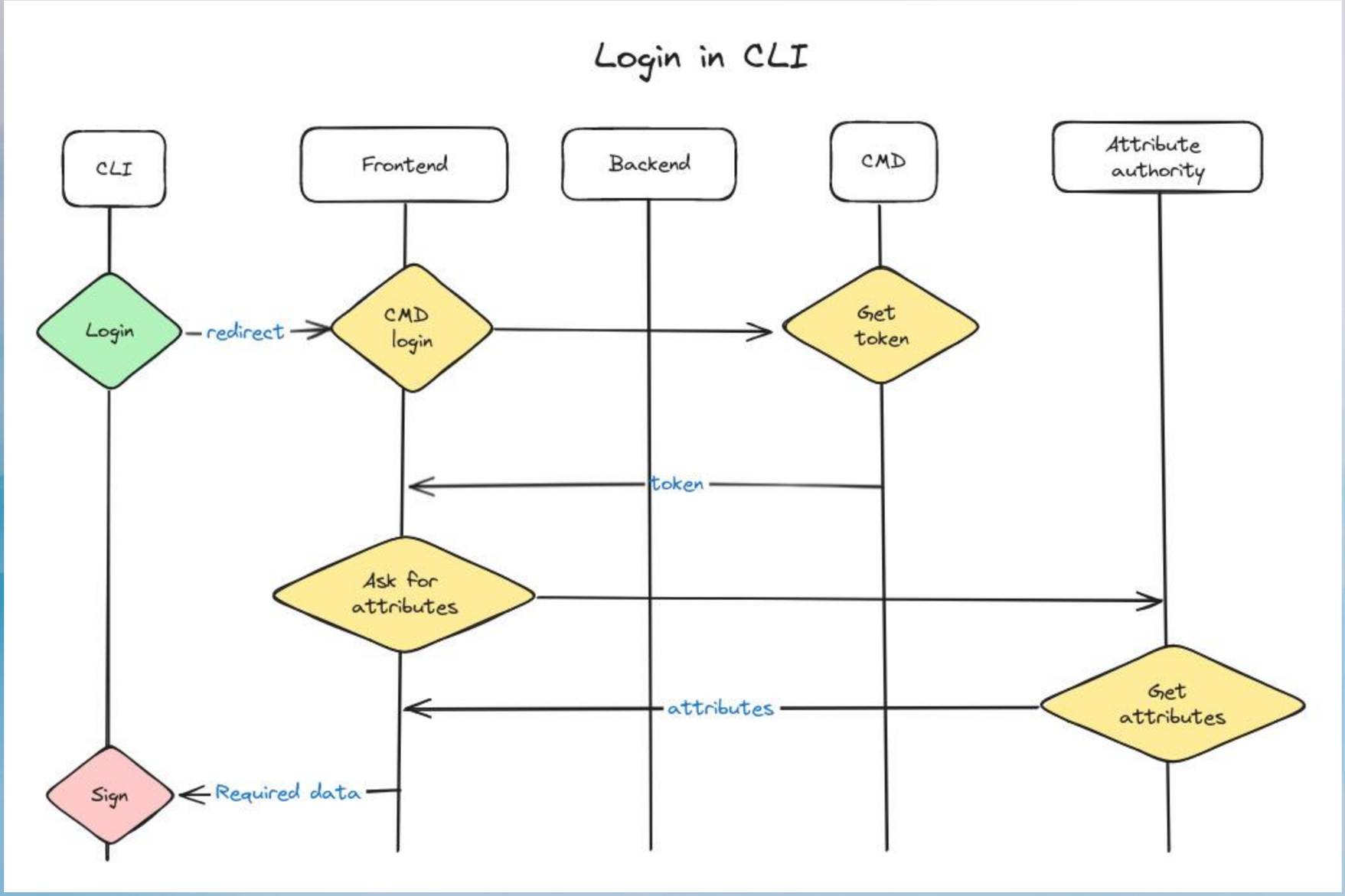
- **Usability:** Easy to use interface with clear feedback.

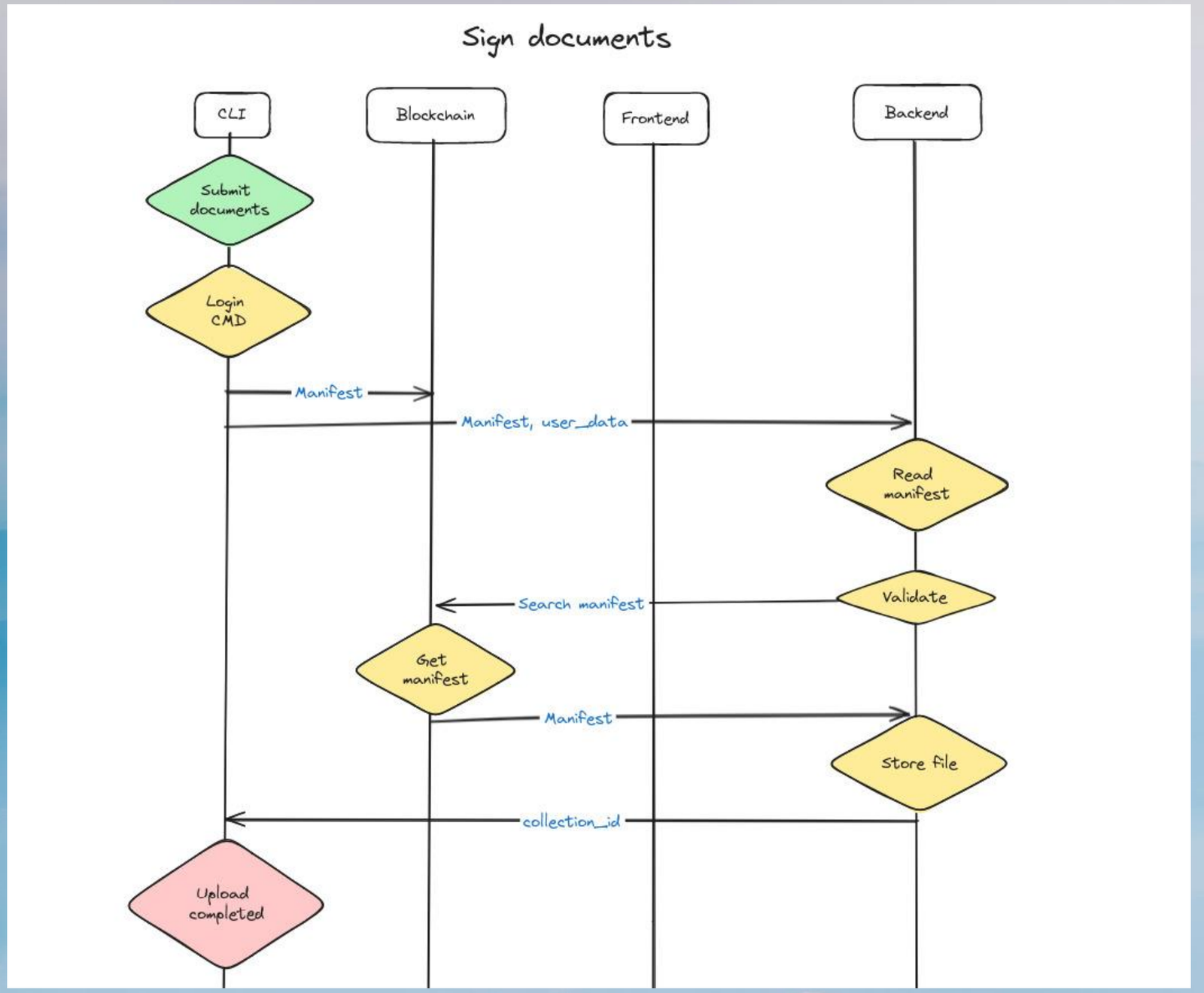
- **Compatibility:** Compatible with most browsers and operative systems.

- **Maintainability:** Extensive documentation for future upgrades/maintenance.

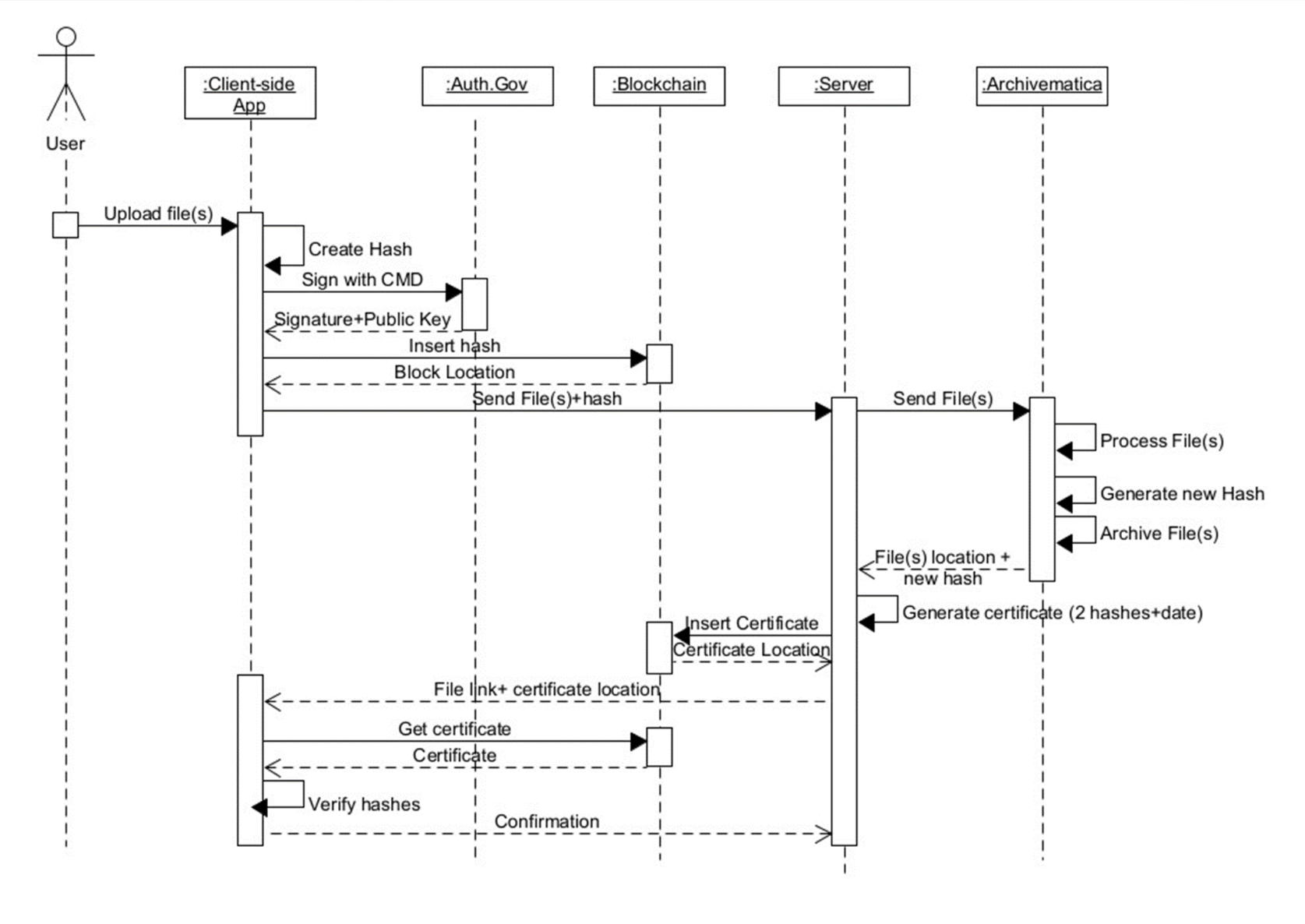
Register in Frontend



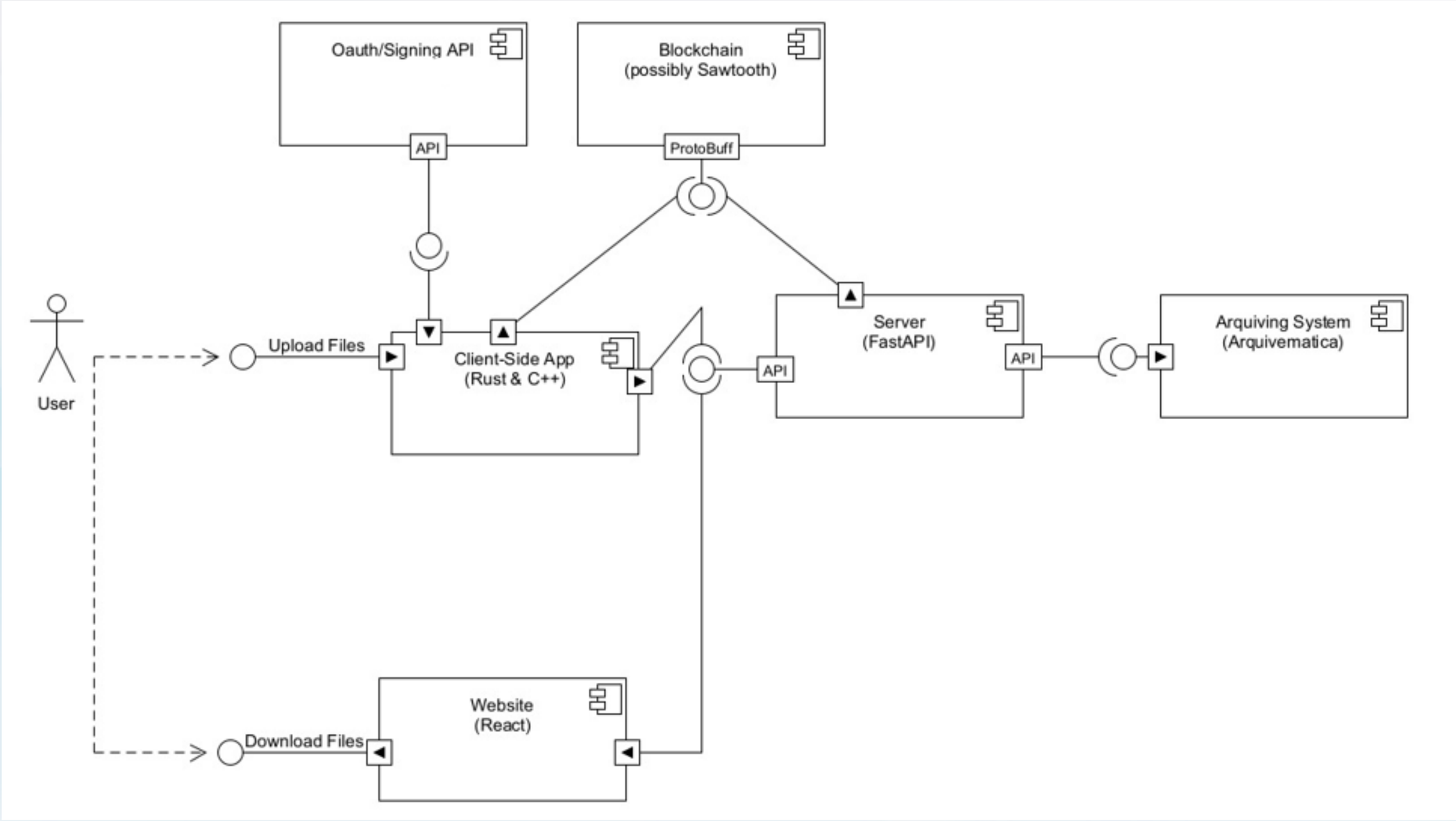

Login in CLI
CLI
Frontend
Backend
CMD
Attribute authority
Login
redirect
CMD login
Get token
token
Ask for attributes
Get attributes
attributes
Sign
Required data


Sign documents
CLI
Blockchain
Frontend
Backend
Submit documents
Login CMD
Manifest
Manifest, user_data
Read manifest
Validate
Search manifest
Get manifest
Manifest
Store file
collection_id
Upload completed

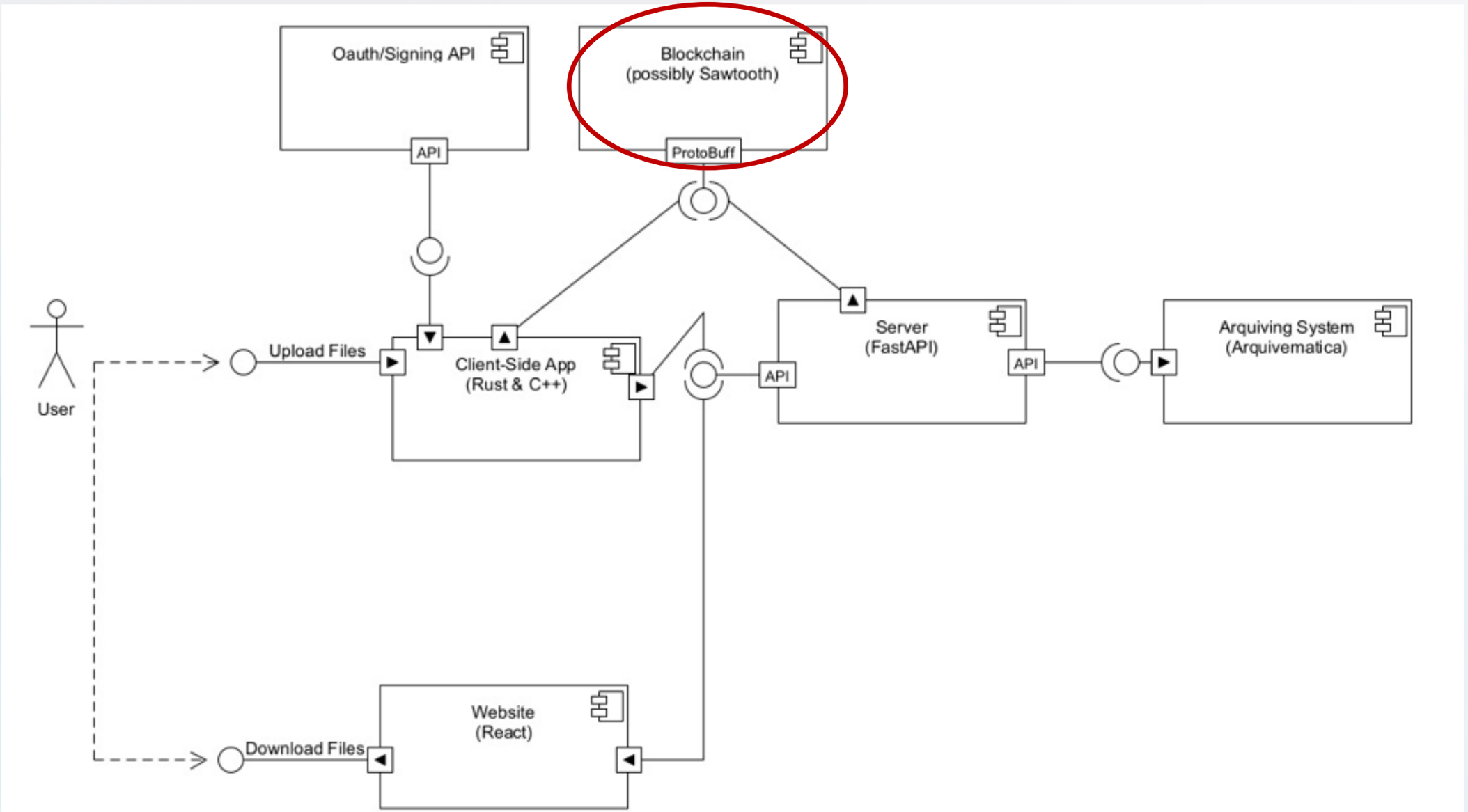
Architecture - Sequence Diagram



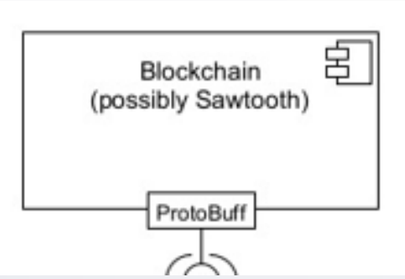
Architecture – Deployment Diagram



Tasks Overview



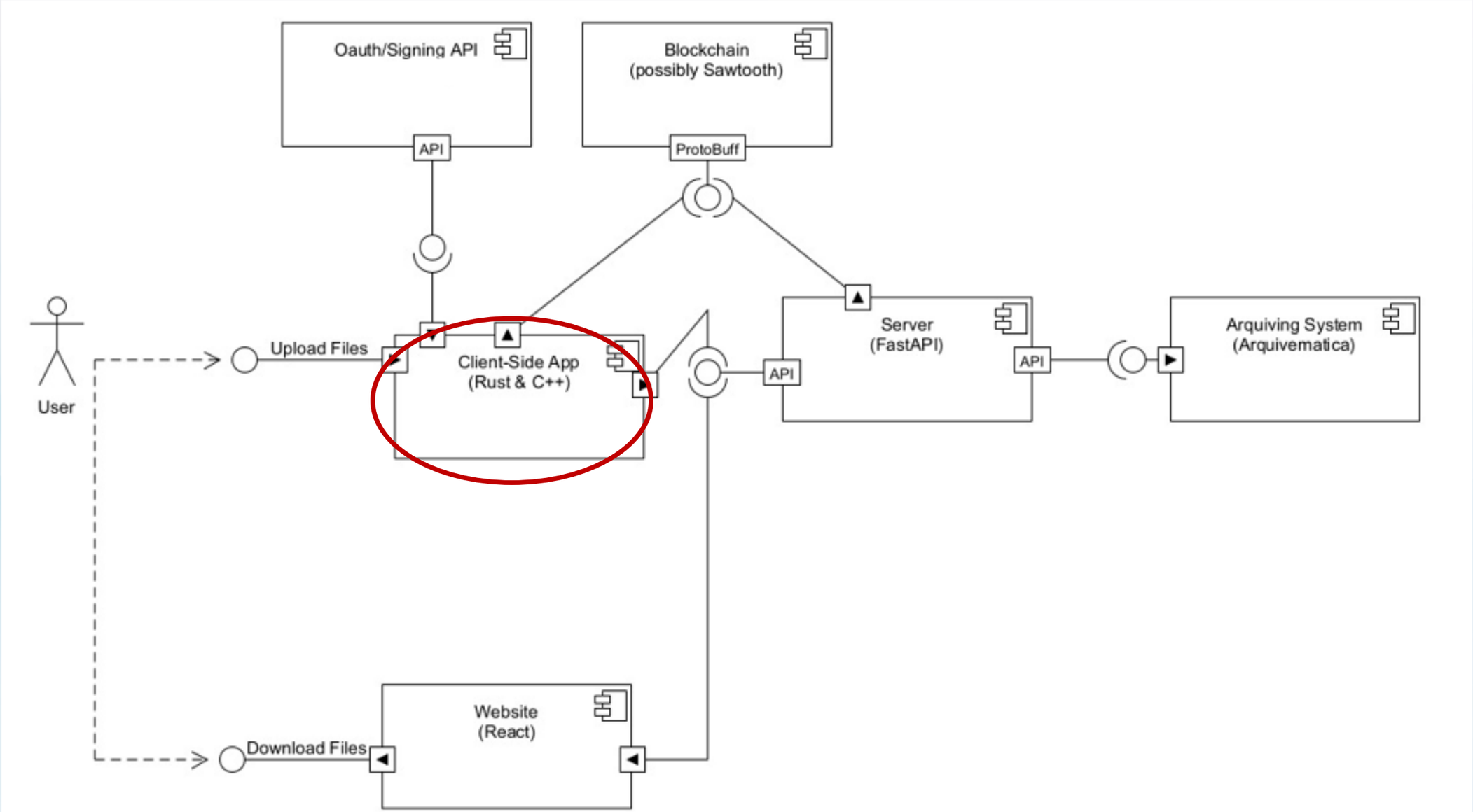
Tasks Overview



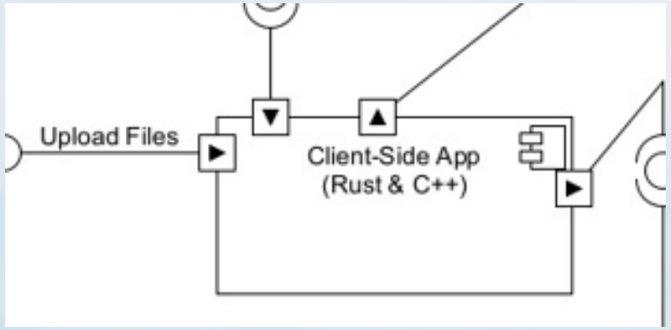
What is done:

- Smart Contract is currently developed and deployed on the polygon testnet.

Tasks Overview



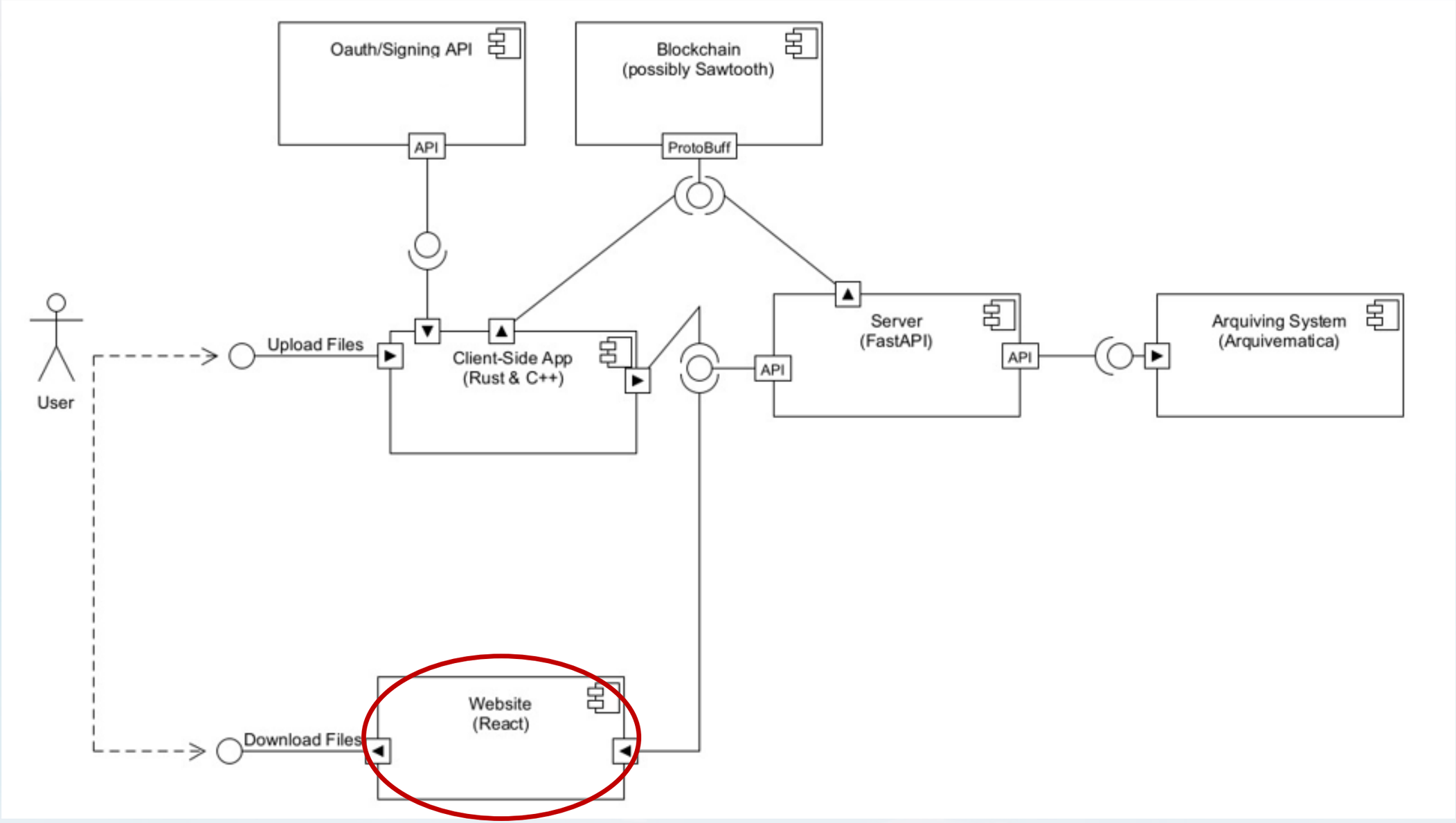
Tasks Overview



- **What is done:**
  - Sign with citizen card.
  - Compile in different Operative Systems.

- **What is next:**
  - Download files directly with a link.
  - Integrate with the blockchain.
  - Send files to the backend.

Tasks Overview



Tasks Overview

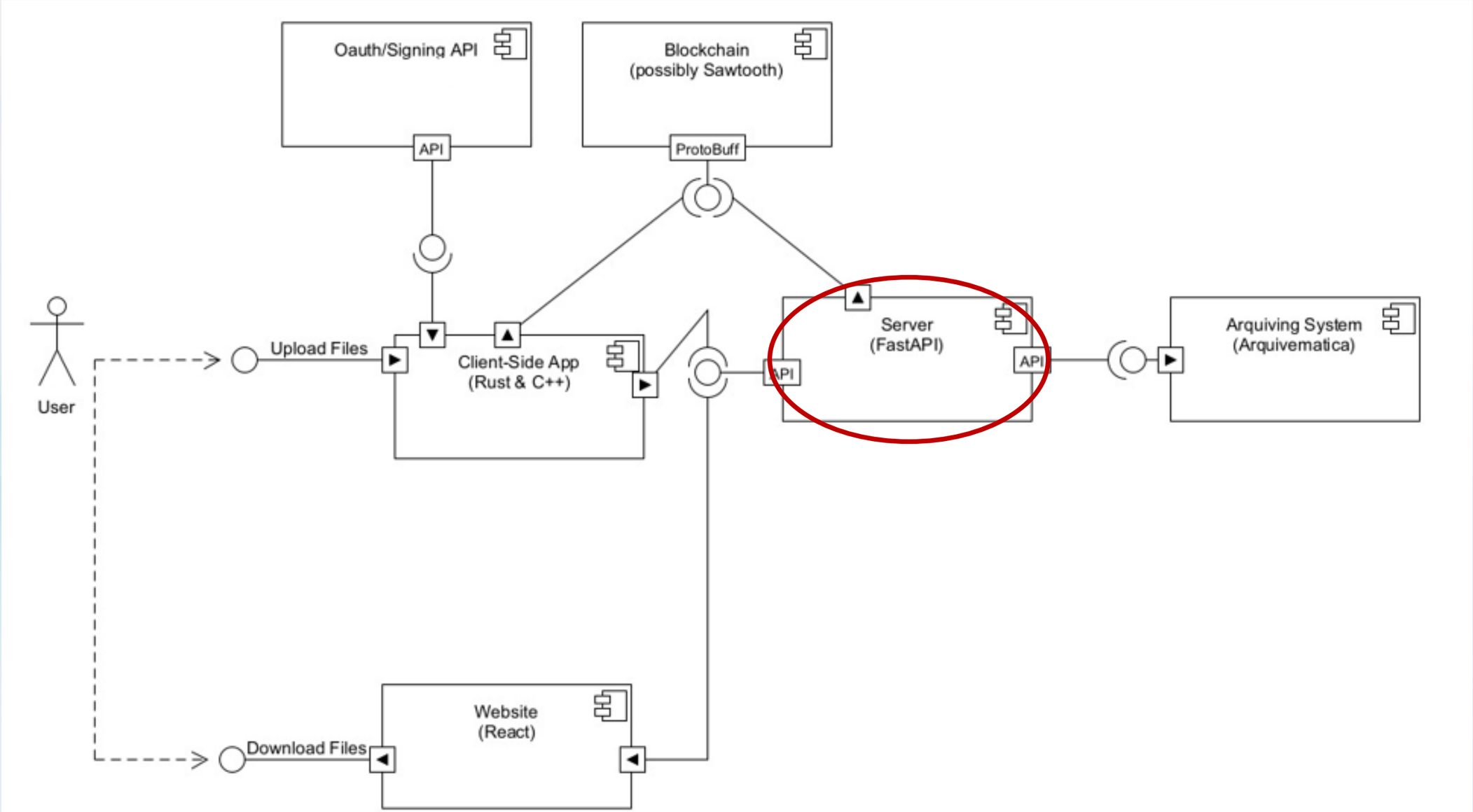
What is done:

- Simple Login & Register (demonstration purposes)
- Document Visualization (metadata)
- Document sharing

What is next:

- Login with Autenticacao.gov
- Permission control
- Document management
- Usability tests
- Document URL generation.

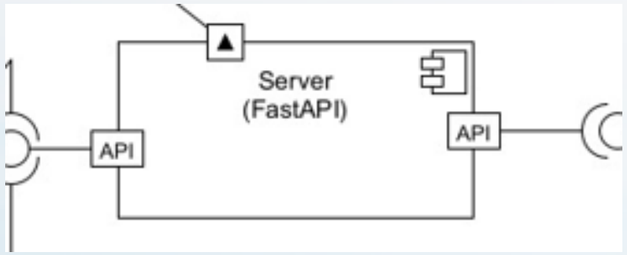
Tasks Overview



Tasks Overview

What is done:

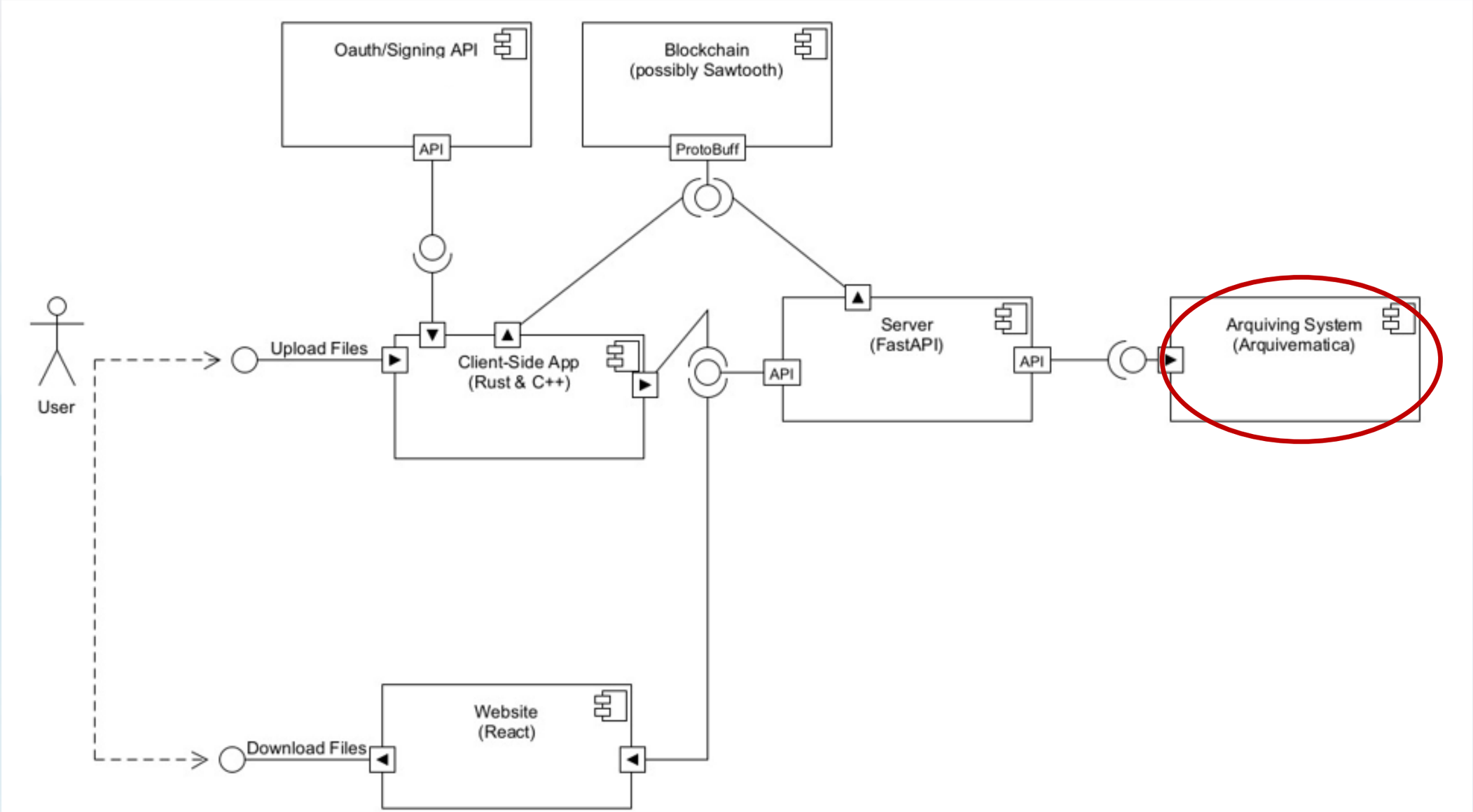
- Document Management
- Login Management



What is next:

- File verification with Blockchain
- Archivematica Integration

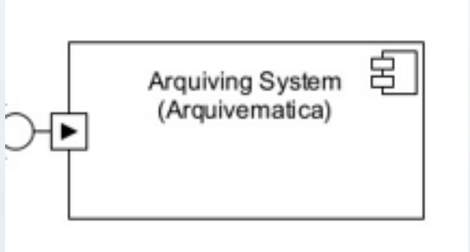
Tasks Overview



Tasks Overview

What is done:

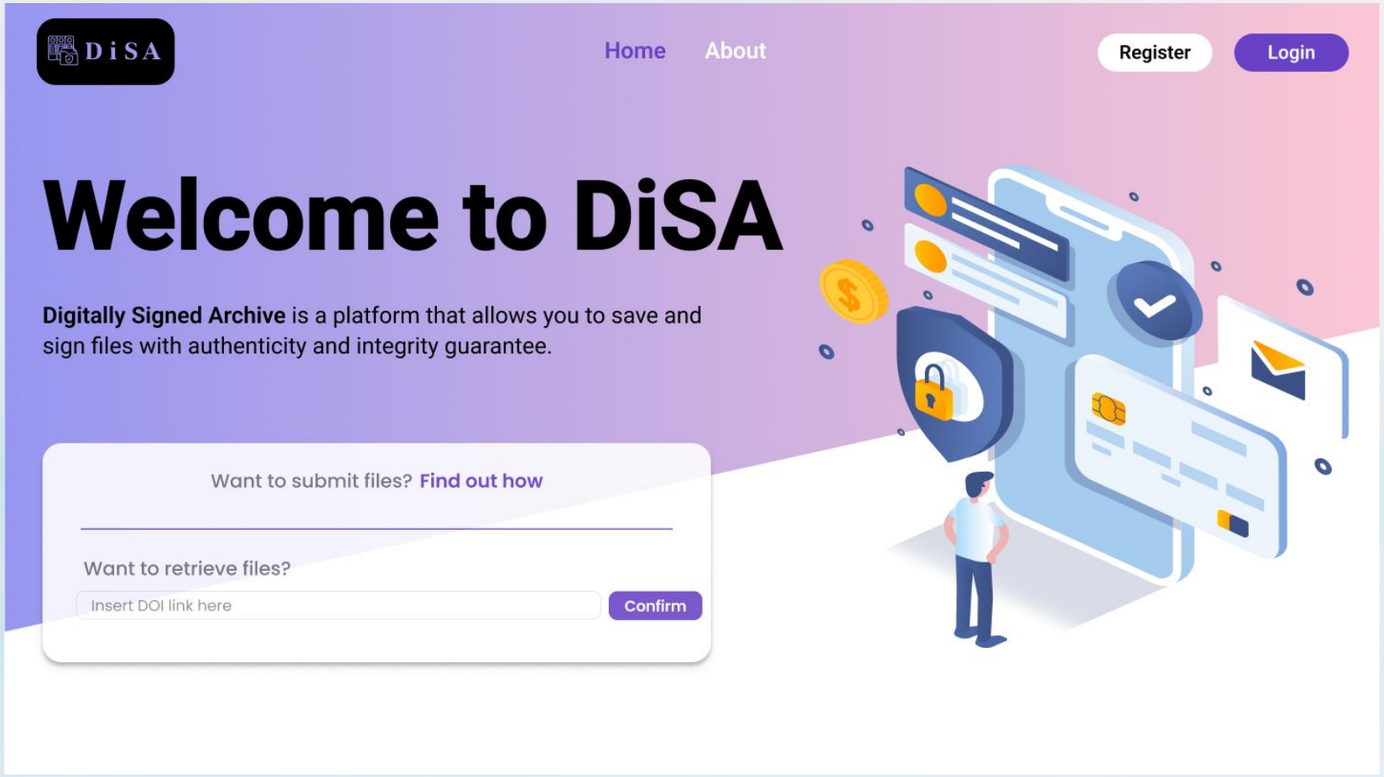
- Processing pipeline
- Deployment



What is next:

- Integration with Server

Mock-up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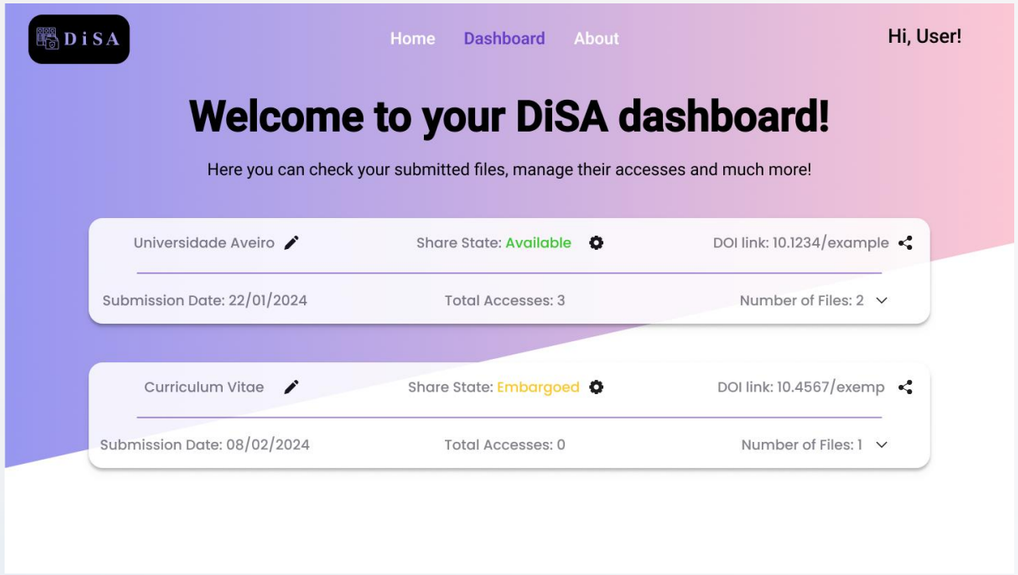
Insert DOI link here
Confirm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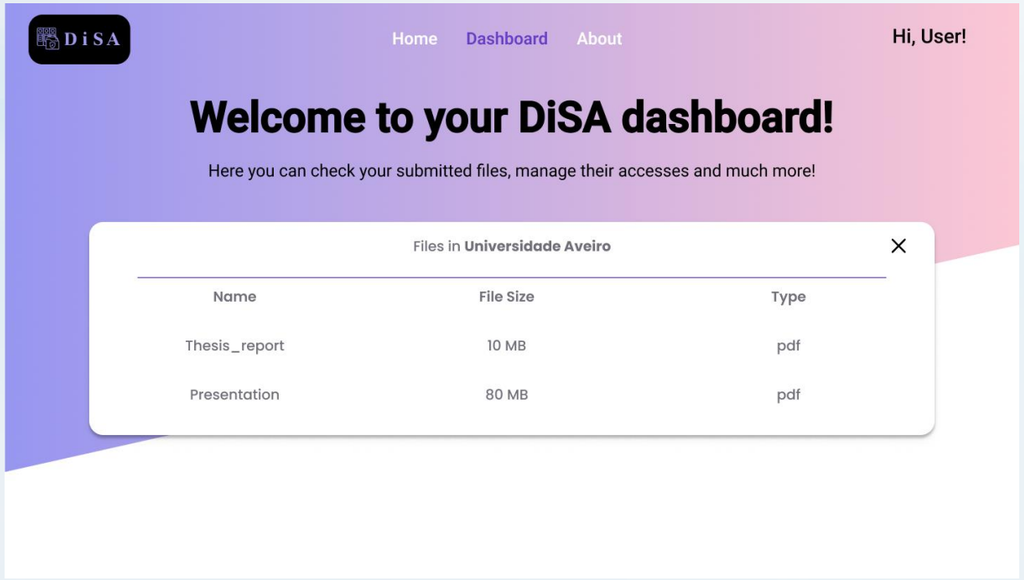
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Presentation
80 MB
pdf

Questions