

# BLOCKCHAIN-BASED SMART CONTRACT

FOR RECRUITMENT



## PROJECT OVERVIEW

Businesses that rely on temp staff for day-to-day operations invest a significant amount of time and effort in functions such as candidate verification. A Blockchain-based verification system ensures that personal information is stored securely and accessible by anyone with permission. The digital verification process would be factual, trusted, and objective, preventing candidates from falsifying information. The platform also serves as a repository to rehire temp staff during peak seasons, reducing ramp-up time.

## CLIENT PROFILE

Based in the U.S., our client is a global professional services company offering domain expertise in technologies that promote customer engagement. With over 65,000 employees and a presence in 25 countries, the client offers expertise in industries such as Financial Services, Healthcare, Pharmaceutical, Technology, Consumer Electronics, Retail, Automotive, and Tourism.

## BUSINESS CHALLENGES

As a leading professional services provider, the client maintains a large employee database that includes details pertaining to skill sets and domain expertise. However, there was:



No mechanism to identify discrepancies in job profiles



Difficulty in validating skills claimed by shortlisted candidates before onboarding

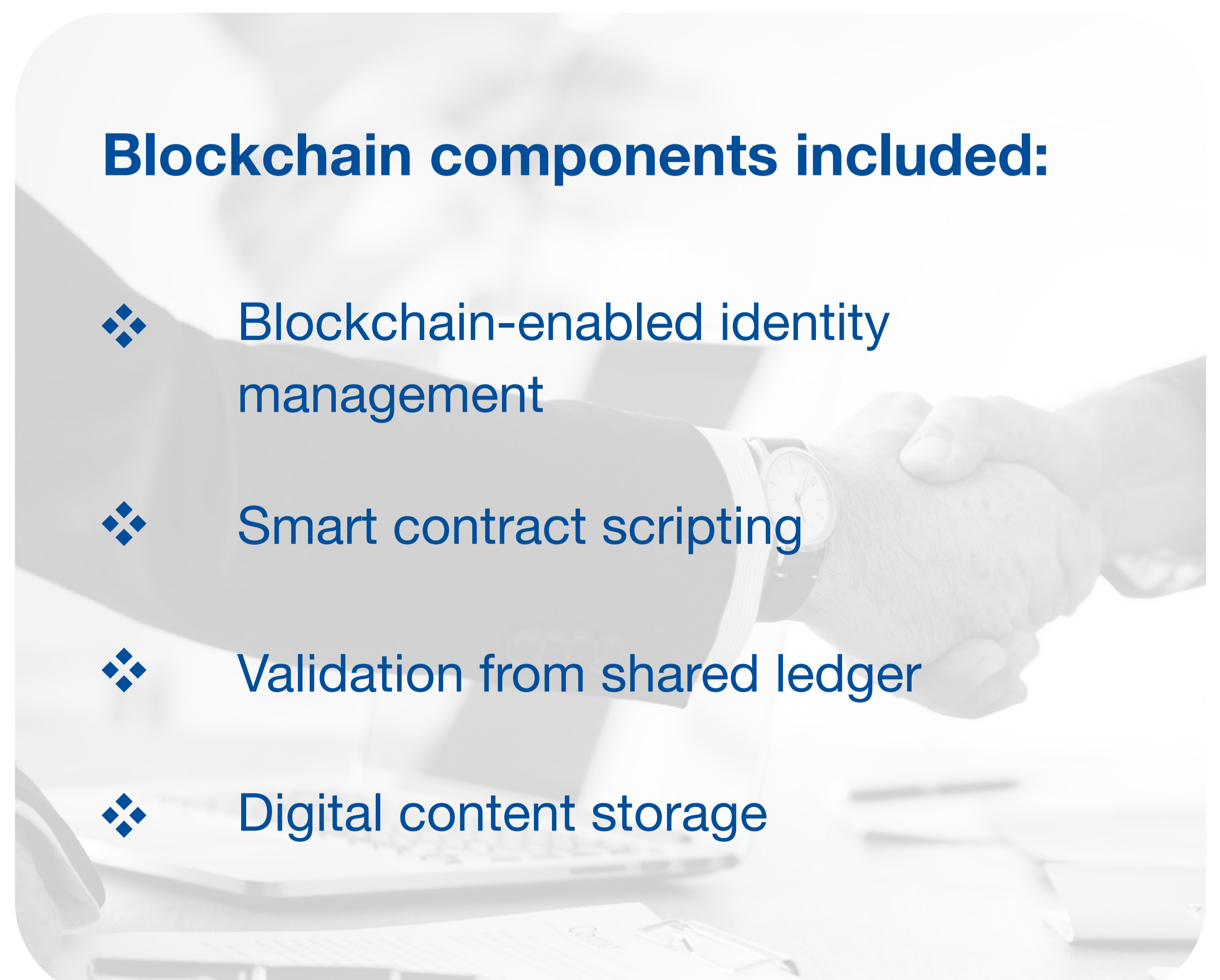
## BUSINESS REQUIREMENT

The client envisaged a solution that would provide the following:

- ❖ Enhance the current employee database with authentic and trusted information
- ❖ Prevent possibility of fake professional profiles
- ❖ Serve as workforce identification with transparency and flexibility on resources
- ❖ Serve as inputs for the larger gig economy in the long term

### Blockchain components included:

- ❖ Blockchain-enabled identity management
- ❖ Smart contract scripting
- ❖ Validation from shared ledger
- ❖ Digital content storage

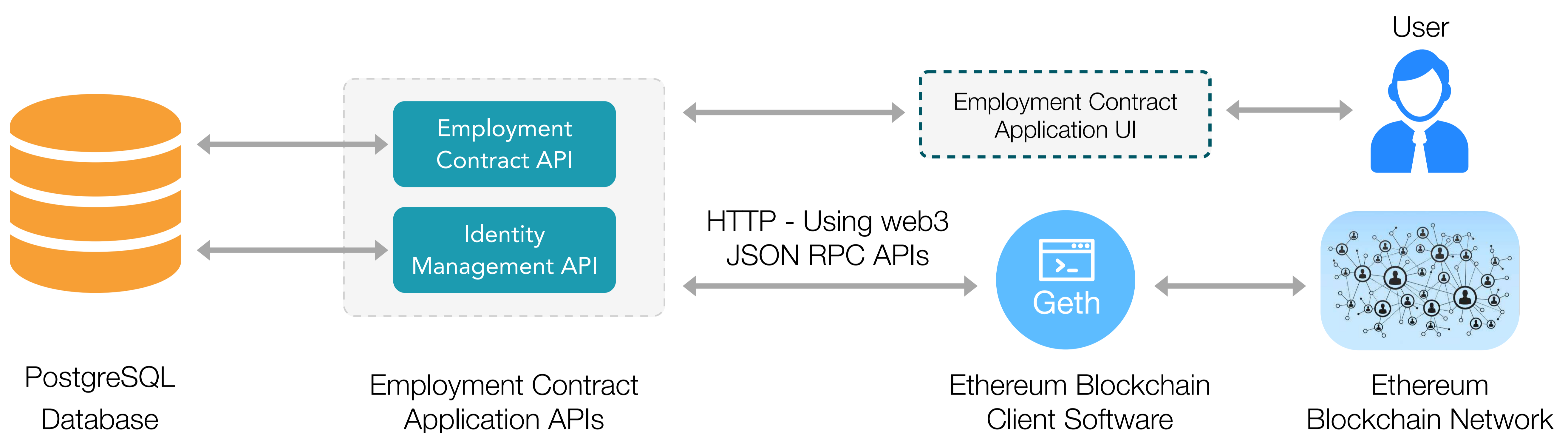


## QBURST SOLUTION

After a comparative study of Blockchain platforms, we suggested Ethereum blockchain, based on factors such as implementation method, use case applicability, availability of development tools, technical community support, and cost.

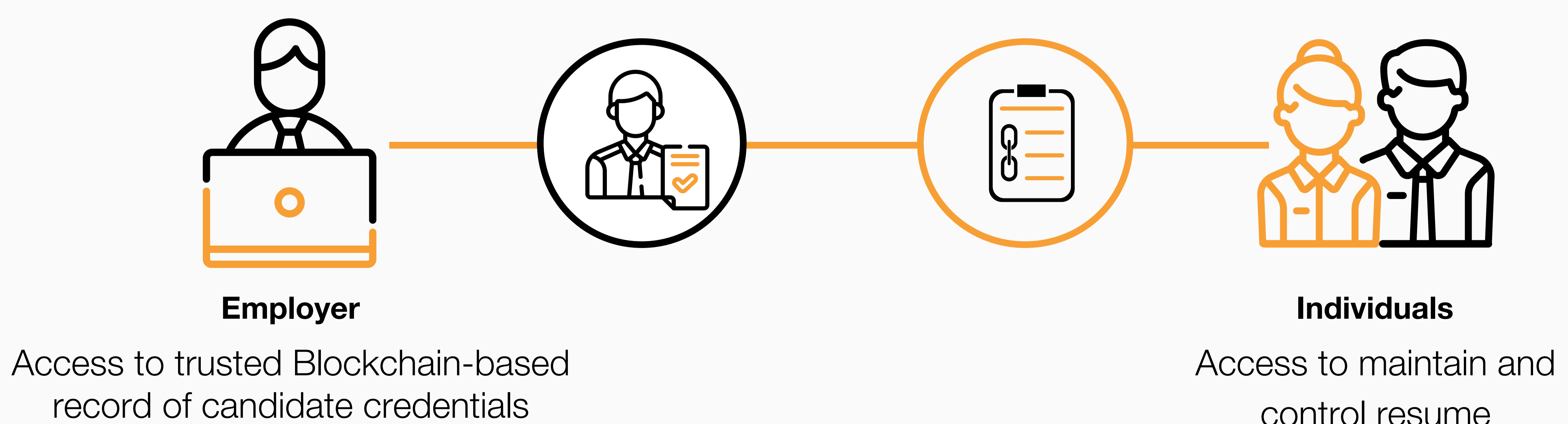
The blockchain application stores prevalidated information such as past employers, certifications, and compensation data. This decentralized database of resumes is owned and controlled by candidates and authenticated by the relevant stakeholders on the blockchain.

The smart contract and identity management functions were developed using Solidity scripts and deployed in Ropsten Network of Ethereum Blockchain. The backend APIs were developed in Python Django. The Python Django application interacts with the Blockchain using Web3 APIs. The responsive frontend (web) application was created using VueJs. The identity management module is implemented as a reusable Django app which can be installed in other Django applications.



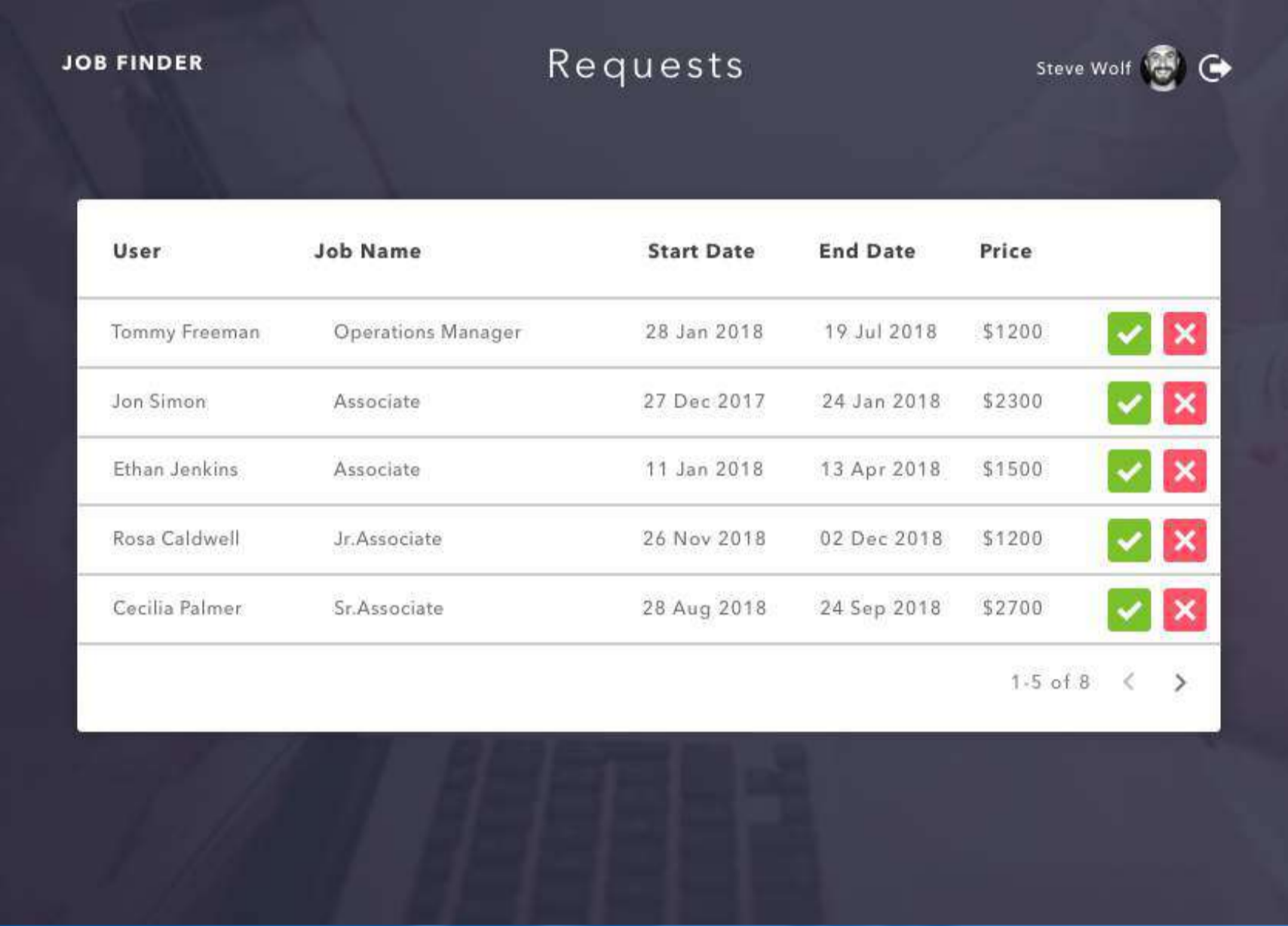
## SOLUTION COMPONENTS

- ❖ Web interface for business users (HR) and end users (job seekers)
- ❖ A reusable Django app for identity management involving Blockchain interaction, keeping information public and easily verifiable
- ❖ Smart contract written in Solidity (contract-oriented programming language for Ethereum)



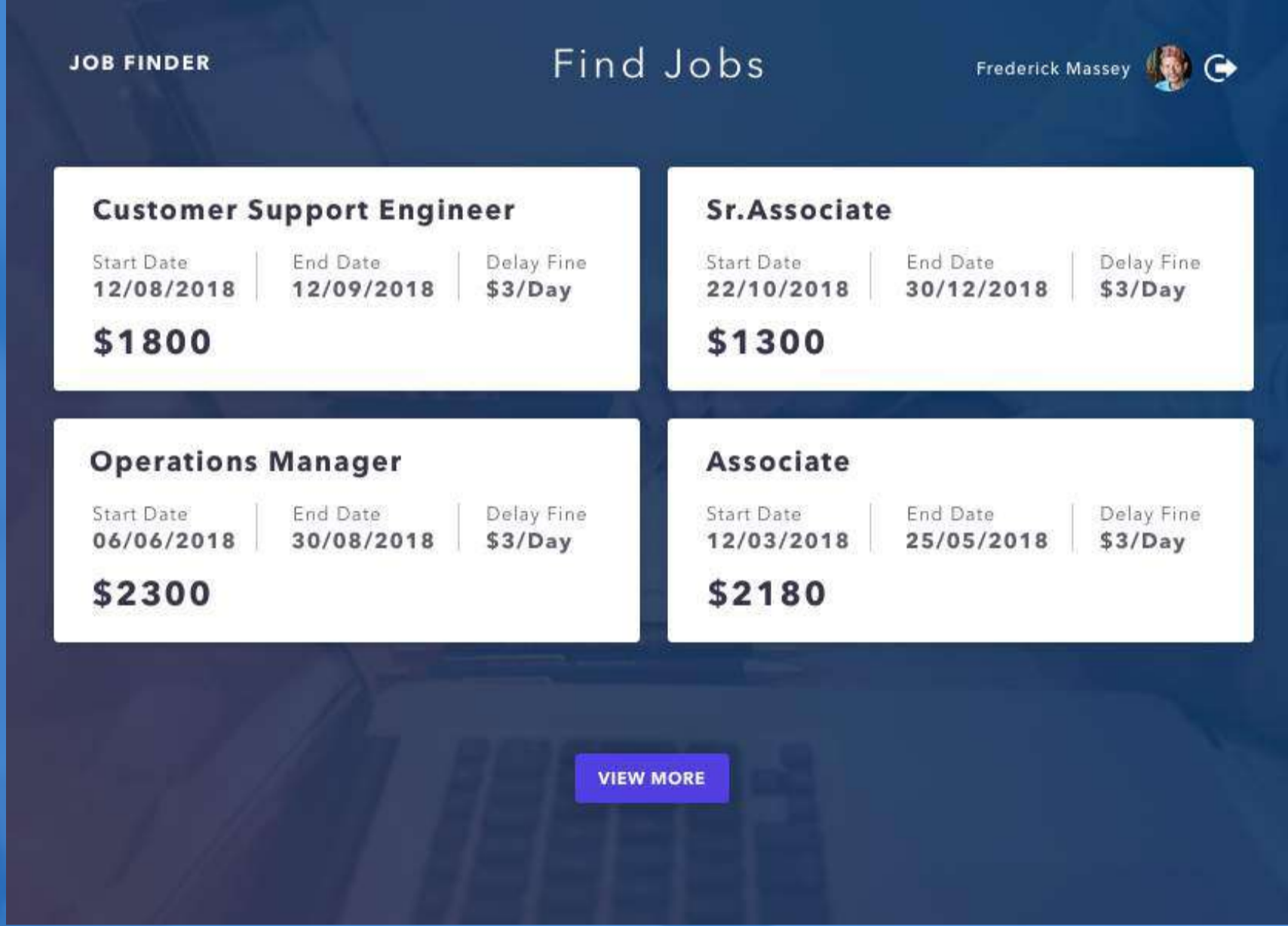
## HIGHLIGHTS

- ❖ Document upload in IPFS (InterPlanetary File System) and verification for identity management module
- ❖ Ability to retrieve transaction history from blockchain which is transparent and incorruptible
- ❖ API-driven approach using REST services to handle core business logic
- ❖ Event-driven architecture minimizes direct dependency between features and functionalities, while providing a higher level of automation



**EMPLOYER CAN**

- 1 Post job
- 2 Approve job request
- 3 Assign job
- 4 View active jobs
- 5 Close contract

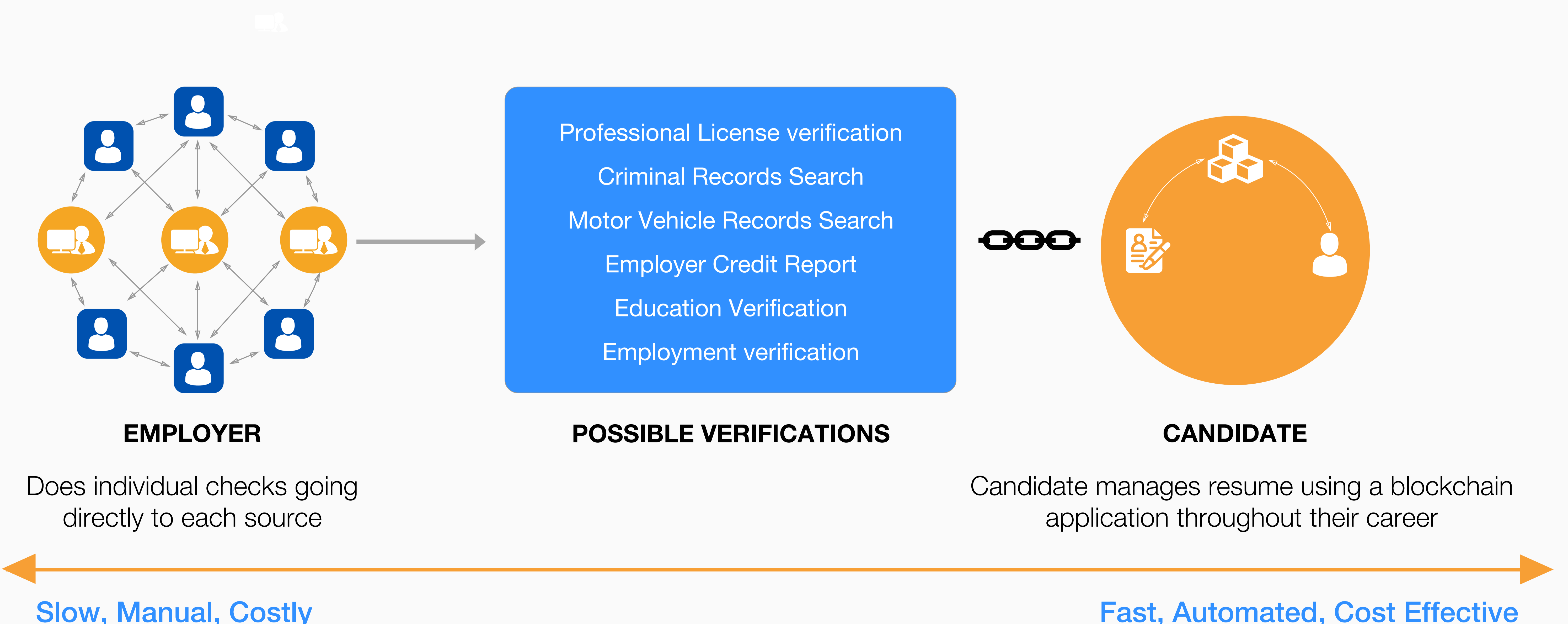


**EMPLOYEE CAN**

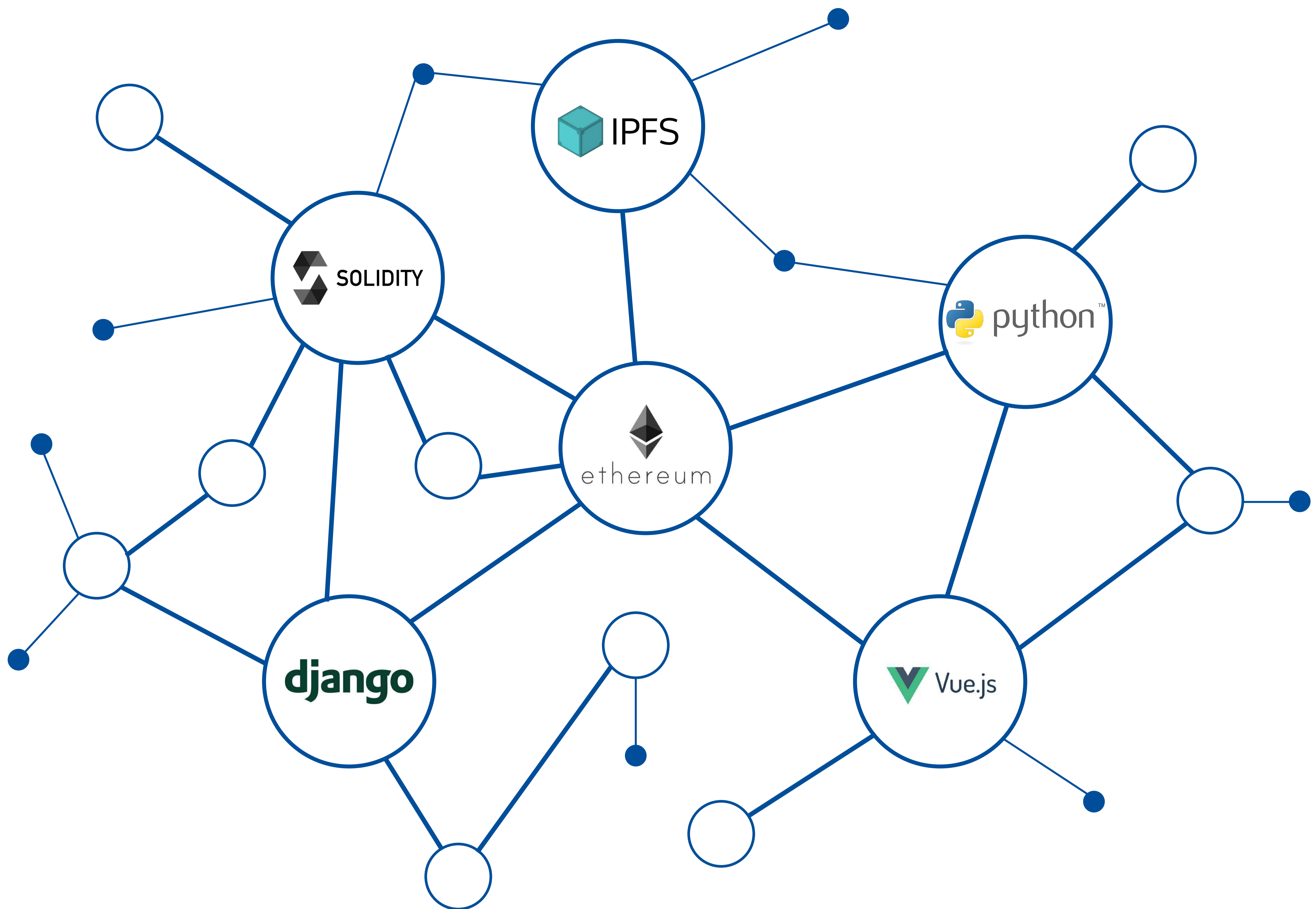
- 1 View available jobs
- 2 Apply for job
- 3 Submit job completion status

## BUSINESS BENEFITS

- ❖ Authentic and tamperproof data embedded within a huge network preventing fraud
- ❖ Decentralized online identity that is easily verifiable for swift hiring and onboarding
- ❖ Candidates with genuine skills sets are easily identified and assigned
- ❖ Efficient workforce planning as a result of blockchain-based centralized repository of employees



## TECHNOLOGIES USED



USA | UK | UAE | INDIA | SINGAPORE | AUSTRALIA

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