BLOCKCHAIN-BASED SMART CONTRACT

FOR RECRUITMENT

Industrials



FRANCI DIGH. CH.

0 1 10101 10101 01 01101 010101 01100 01100 010101 01011

01100111 0111 0110011 1 1 10 00 1100110

and plant of the testar

CONTRACTOR 1 1010 1101 10 0100 - 110 01010001 1 110 01010 22.60% Henromeness Henromeness Heller 101 01 0101001 10 10 100100701 1 0101001 01 101 01 101011011011981 年,40% e securities securitie Nuclear energy 917775 10101 10101 01 91101 010101 00 0101110 1010 10 0101010 10111010 Industry

0110011001101 10 00 1100110 100 1 0110101 0001111001 111001 11100



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

Blockchain components included:

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-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.



PostgreSQL Database

Employment Contract Application APIs

Ethereum Blockchain Client Software

Ethereum Blockchain Network

SOLUTION COMPONENTS

Web interface for business users (HR) and end users (job seekers)

A reusable Diango app for identity management involving Blockchain interaction, keeping information public and easily verifiable

Smart contract written in Solidity (contract-oriented programing language for Ethereum) •



Employer

Access to trusted Blockchain-based record of candidate credentials

Individuals

Access to maintain and control resume

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

	Price	End Date	Start Date	Job Name	User
 × 	\$1200	19 Jul 2018	28 Jan 2018	Operations Manager	Tommy Freeman
 × 	\$2300	24 Jan 2018	27 Dec 2017	Associate	Jon Simon
 × 	\$1500	13 Apr 2018	11 Jan 2018	Associate	Ethan Jenkins
 × 	\$1200	02 Dec 2018	26 Nov 2018	Jr.Associate	Rosa Caldwell
X	\$2700	24 Sep 2018	28 Aug 2018	Sr.Associate	Cecilia Palmer

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

JOB FINDER Find	Jobs Frederick Massey 🦃 🕞	EMPLOYEE CAN
Customer Support EngineerStart DateEnd DateDelay Fine12/08/201812/09/2018\$3/Day\$1800	Sr.Associate Start Date 22/10/2018 End Date 30/12/2018 \$3/Day \$1300	 View available jobs Apply for job
Operations Manager Start Date End Date Delay Fine 06/06/2018 30/08/2018 \$3/Day \$2300	Associate Start Date End Date Delay Fine 12/03/2018 25/05/2018 \$3/Day \$2180	 3 Submit job completion status
View	MORE	

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 •



Professional License verification Criminal Records Search

Motor Vehicle Records Search



Employer Credit Report

Education Verification

Employment verification

EMPLOYER

Does individual checks going directly to each source

POSSIBLE VERIFICATIONS

CANDIDATE

Candidate manages resume using a blockchain application throughout their career

Slow, Manual, Costly

Fast, Automated, Cost Effective

TECHNOLOGIES USED



USA | UK | UAE | INDIA | SINGAPORE | AUSTRALIA



14150 Newbrook Drive, Suite 115, Chantilly, VA 20151

www.qburst.com | info@qburst.com

