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# SECURE CREDIT SCORE

Based on Self-Sovereign Identity



Capstone Project at George Brown College, April 2023 Instructor, Dave McKay



#### Who am I?

"Hi, I'm Nader Fathzadeh,
I am a Blockchain Developer with 33 years of
experience in software industry. My interest
and focus are Blockchain, Self-Sovereign
Identity, Decentralized Identity and Zero
Knowledge Proof. I can play a role in adoption
and implementation of blockchain projects.
Catch me up in LinkedIn!"



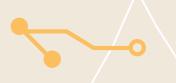
Blockchain Specialist 3 years experience in Blockchain







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#### OI CREDIT SCORE

What is the Credit Score, Which Credit Rating Agencies are and Who check you score?

#### O2 PROBLEM?

What is the issue of revealing your credit score?

#### O3 solution

ZKP and SSI bring the solution for prevent revealing the secret data!

#### **04** Benefits!

what are the benefits of preventing to reveal of the credit score?

#### 05 Implementation

Requirements for implementing this idea



#### **CREDIT SCORE?**

Is a numerical expression based on a level analysis of a person's credit files, to represent the creditworthiness of an individual. Secret Number

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#### **Credit Rating Agencies**

**Equifax and Trans Union** 

#### Who checks the CREDIT SCORE

Banks, Creditors, Student loan providers, Service Provider Companies, Insurance Companies, Landlords, Government organizations and institution with a court order



## PROBLEM?

**Privacy:** Your credit score is a personal and sensitive piece of information, and revealing it to others may compromise your privacy.

Scams: Revealing your credit score to others may make you more vulnerable to scams or fraudulent activity.









## SOLUTION

#### Zero Knowledge Proof

ZKP is a cryptographic method that allows one party to prove to another party that a statement is true, without revealing any other information beyond the validity of that statement.

#### Self-Sovereign Identity

SSI is a concept in which individuals, rather than organizations or governments, have complete ownership and control over their digital identity.





#### Prover

Or **Holder** is the owner of Credit-Score-Credential.

#### **Solution Process**



#### Verifier

Is the service provider that ask holder to proof it's identity by it's credential.



#### **Trusted Third Party**

Or **Issuer** is the trusted organization that issue Credit-Score-Credential for Holder.

i.e. I am a Holder

i.e my Landlord

i.e. CSC Org.

#### **Benefits!**



#### Privacy Preserving

Your credit score is a personal and sensitive piece of information, and by preventing its disclosure, you can protect your privacy and limit the amount of personal information that is available about you.

## Maintaining Control

By keeping your credit score private, you maintain control over who has access to your personal information.

## Preventing <sup>1</sup> Discrimination

By keeping it private, you can avoid potential negative consequences like being denied employment, housing, or other opportunities based on your score.

## Avoiding Misunderstandings

By keeping it private, you can avoid potential misunderstandings or misinterpretations of your financial situation.

## Reducing the risk of fraud

Fraudsters may try to obtain your credit score in order to steal your identity or commit other crimes.

#### Tell me more?

Let me know what is the next BENEFIT you think?

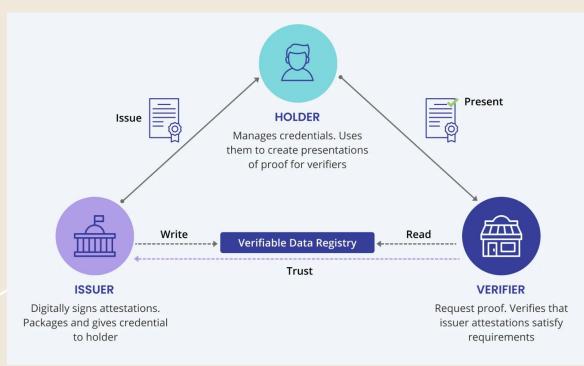




#### Implementation

#### **Hyperledger Aries and Indy**





The relationship which exists between Issuer, Holder and Verifier is called a Trust Triangle. It is established through the secure protocols created with Aries and Indy.



## THANKS!

Please contact with me on LinkedIn

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