

DIGITAL TRUST

HOW *THE ORGBOOK*
ENABLES THE DIGITAL ECONOMY



VON

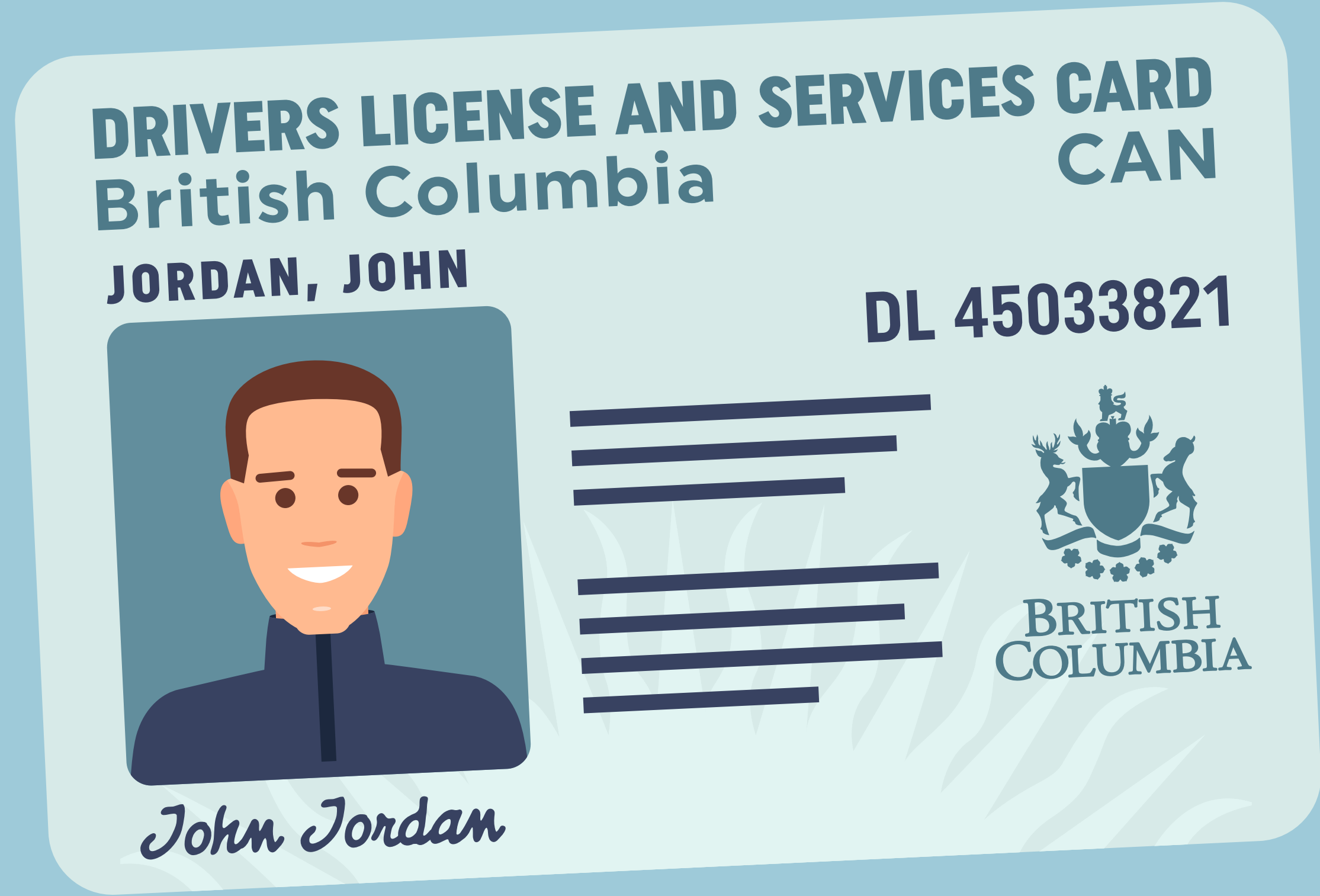


BRITISH
COLUMBIA



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Registries & Online Services**



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Executive Director, Services
Strategy, Office of the CIO

A *proof of concept* was developed in Fall, 2016.



BC Registry
Services



Corporations

List of corporations and the status retrieved from the blockchain.

Filter by Corporate Name:

Address	Status
uzzum BC	Active
victoria BC	Dissolved
vancouver	Dissolved



Corporate Registries

Blockchain Proof of Concept

The Corporate Registry Blockchain Proof of Concept is a 'shadow ledger' that captures an audit trail of Corporate Registry transactions within and across jurisdictions. The POC records Corporate Registry transactions such as registration, a name change or a dissolution into a Blockchain. The intention of the POC is to demonstrate how Blockchain technology can benefit Corporate Registries across jurisdictions by providing valuable insight into Corporate Registry transaction history.

[REGISTRY SIMULATOR](#)[REGISTRY VIEWER](#)

Developed by IBM using
Hyperledger Fabric





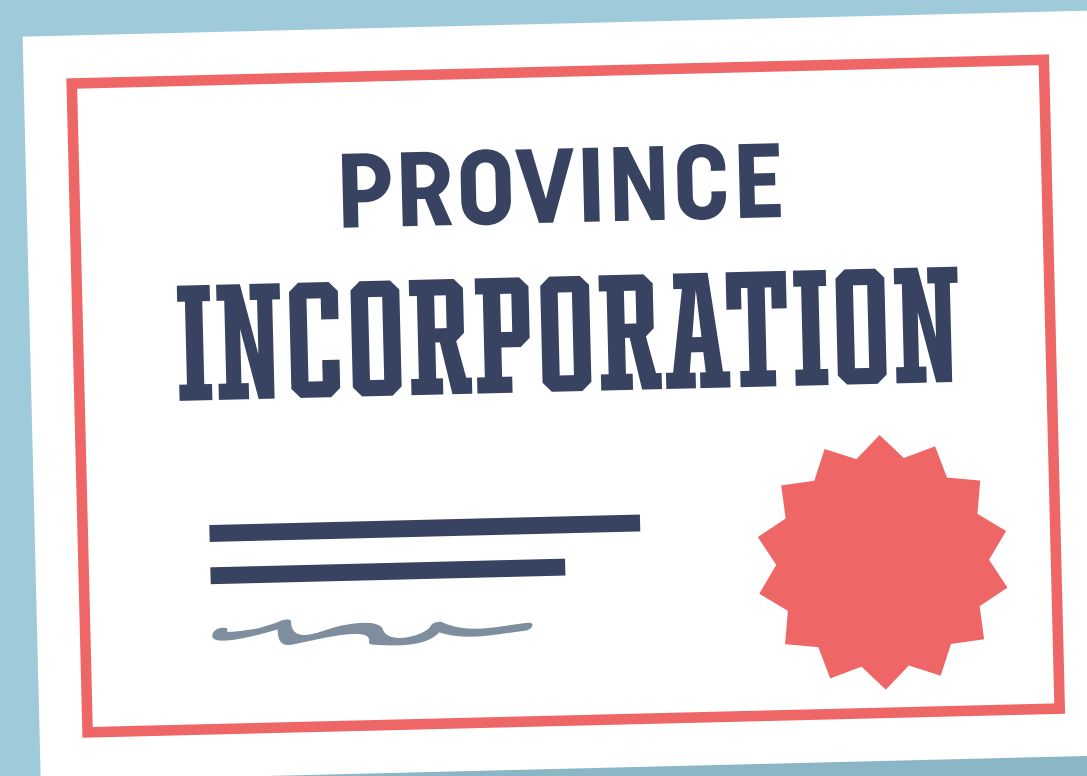
Paper documents are cumbersome as proof of legal compliance and permission.



MARY'S
Bakery
Decorative floral and swirl element

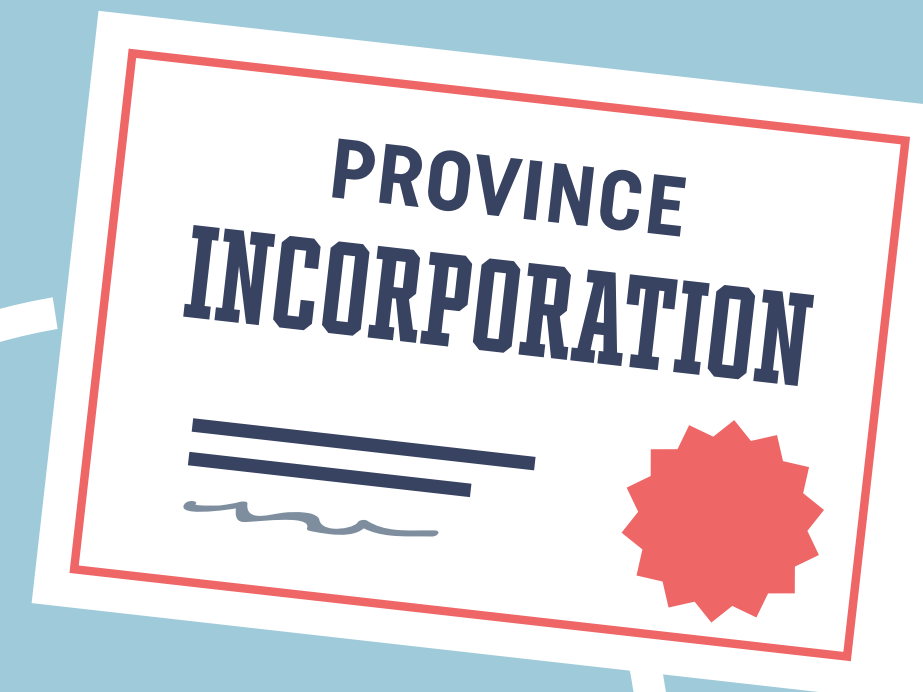
Let's look at an example

Mary requires a variety of documents in order to establish her bakery.



Some requirements are not obvious, so she'll have to do her homework.

This journey involves multiple sources ...



... and modes of service delivery.



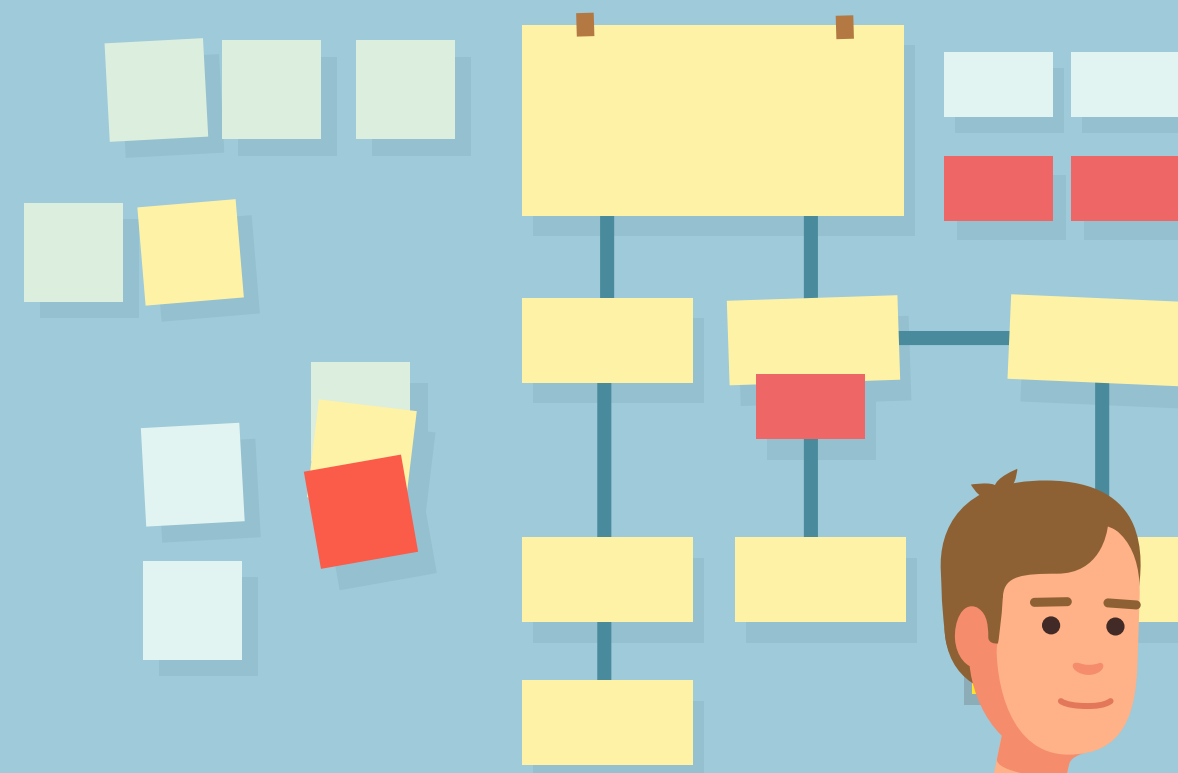
All of this activity
is a major burden
for all involved.

So, how do we create this?

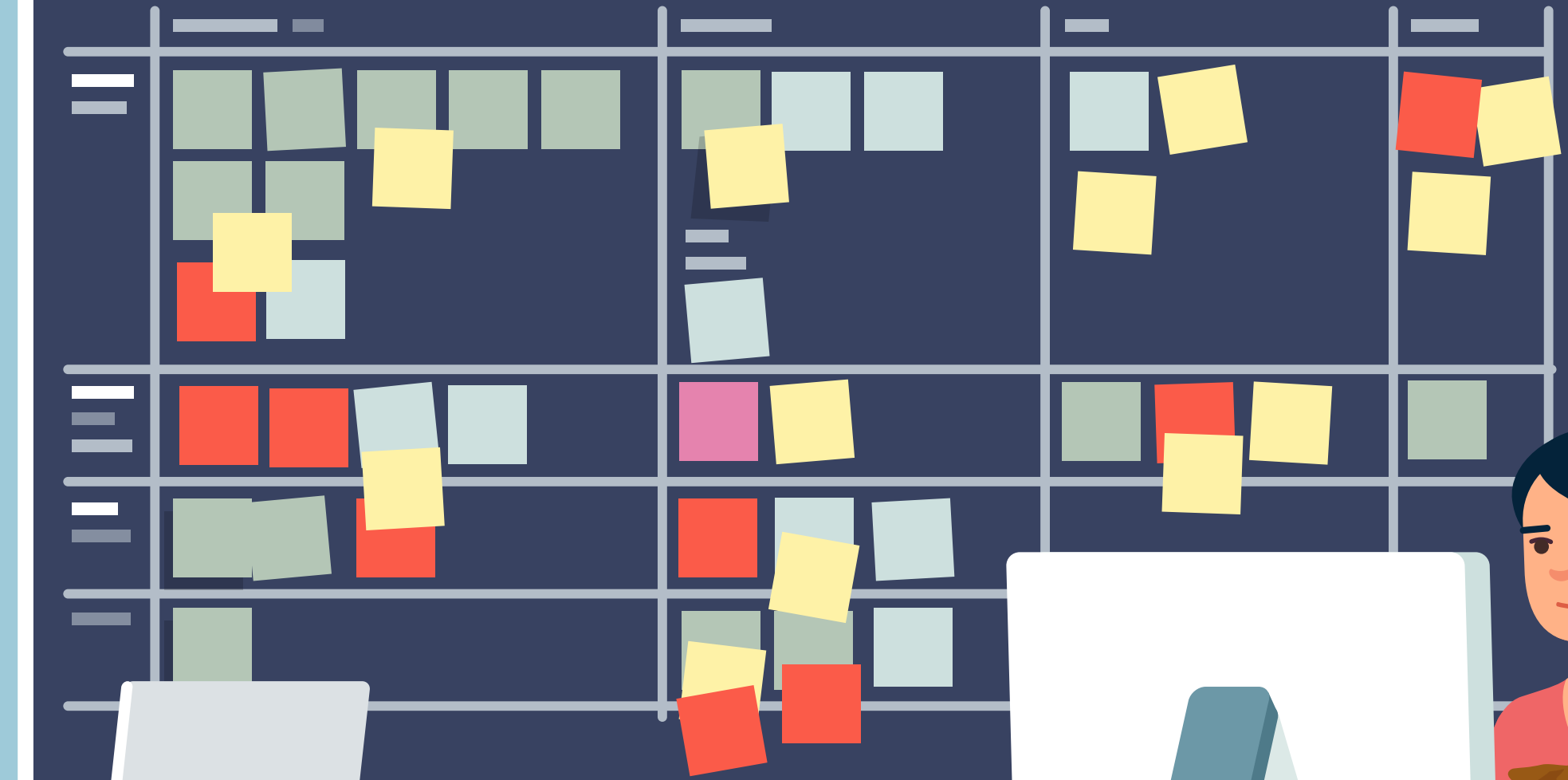


We have been developing *technical capacity* ...

SERVICE DESIGN



AGILE TASK BOARD



CLIENT EXPERIENCE



... we are collaborating ... and generating interest ...

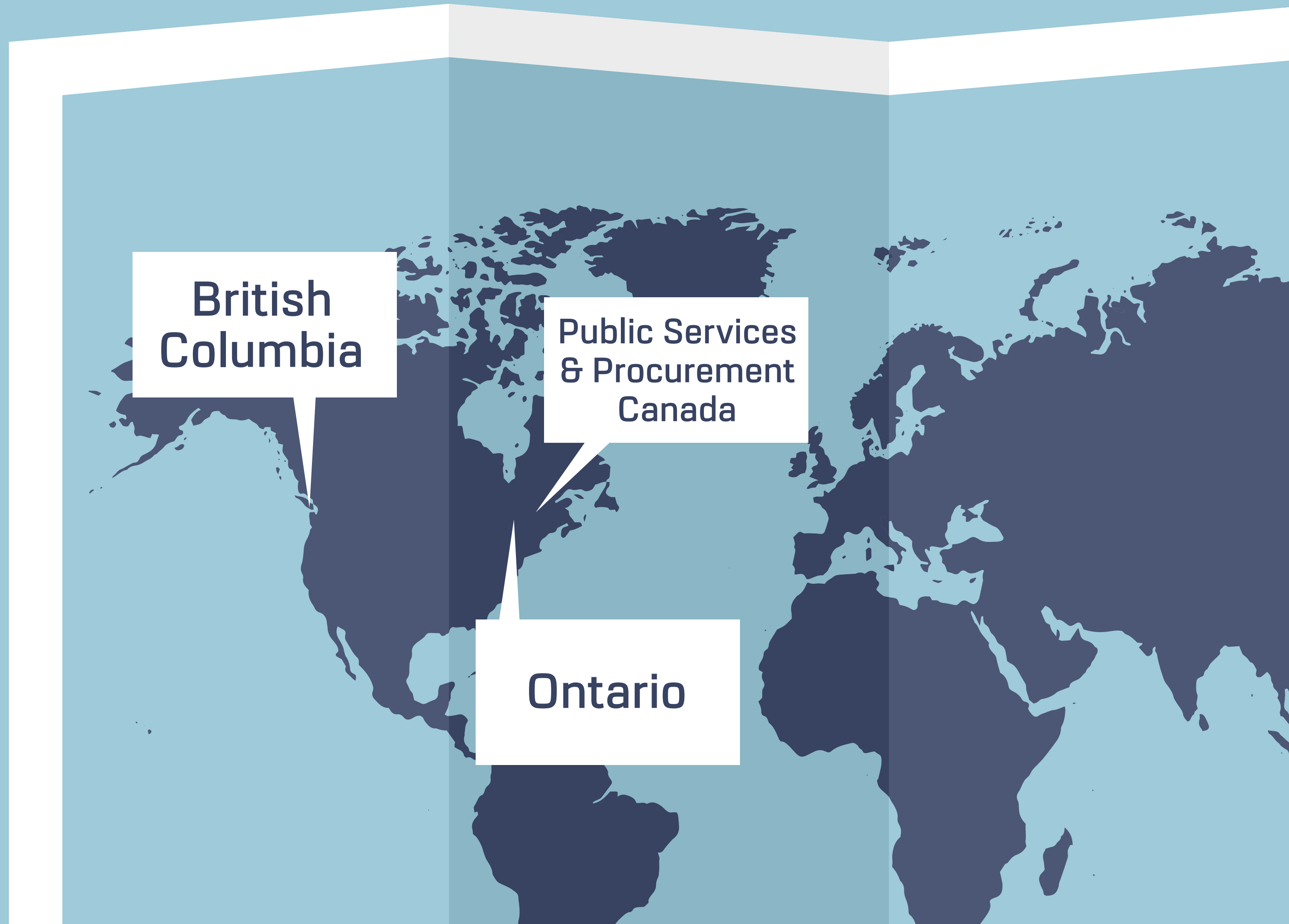
Sprint Item #1
install
auto-complete
module

Sprint Item #2
fix bugs
in the new
scripts

British
Columbia

Public Services
& Procurement
Canada

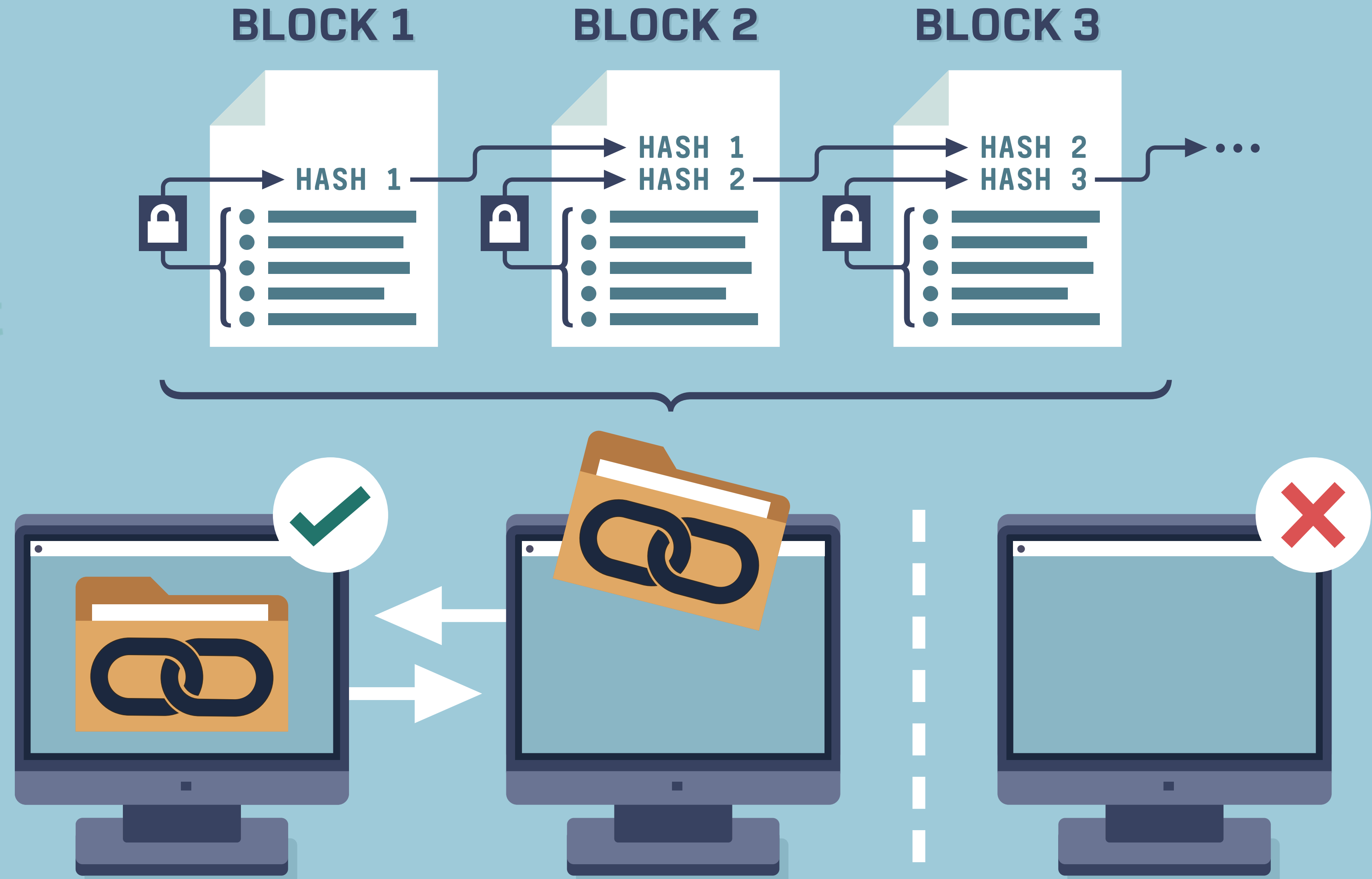
Ontario



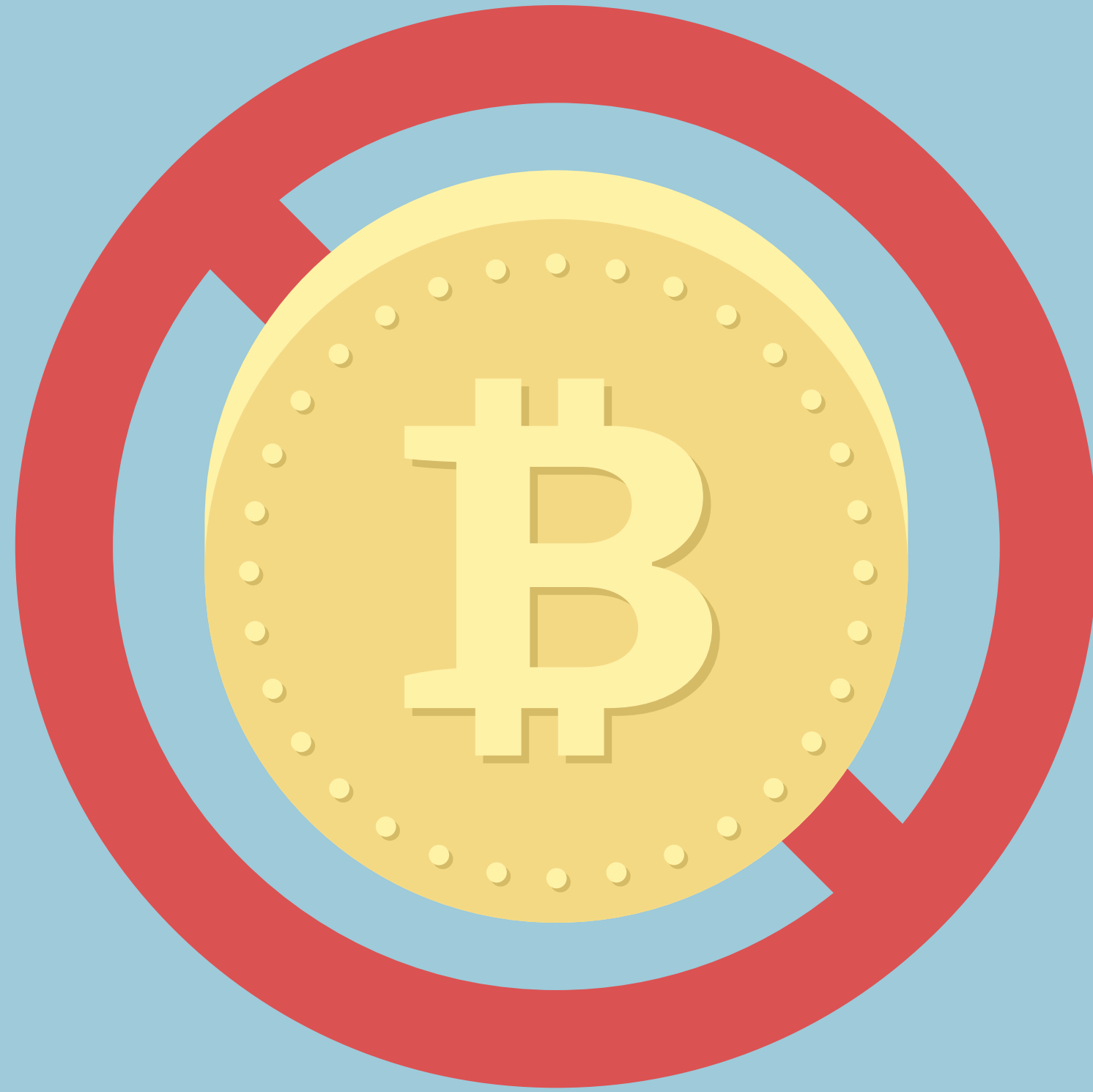
... and exploring *blockchain* as a decentralized ledger.

Blockchain uses cryptographic codes (hashes) to prevent undue manipulation of a sequence of text records.

Decentralized record keeping is possible once privacy, security, and permissions are settled.



Contrary to the hype, blockchain is not about ...



Crypto-
currencies



Ransomware
Scams

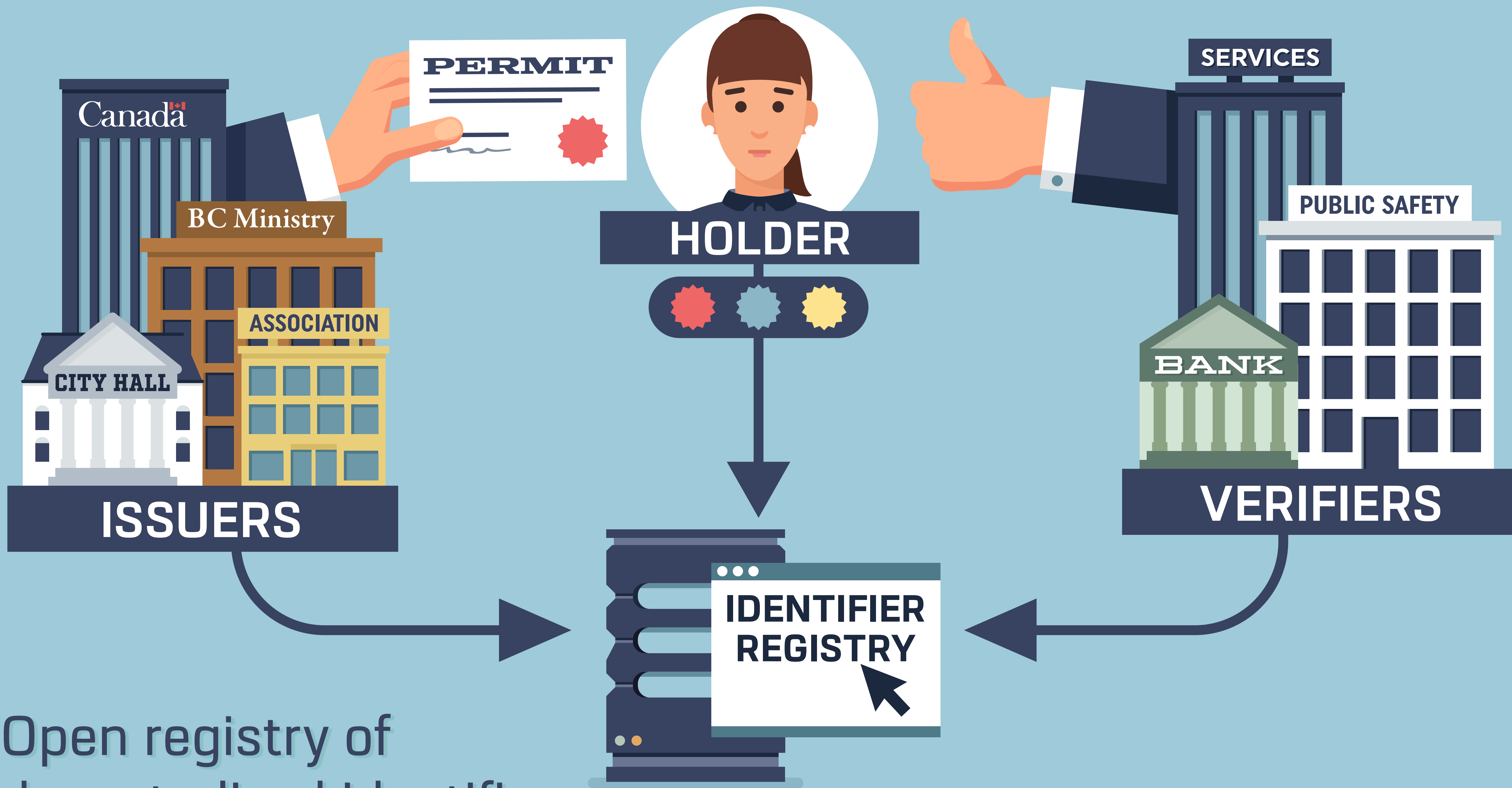


Trustless
Anarchy

What if ... businesses could provide verifiable proofs about qualifications when transacting online?

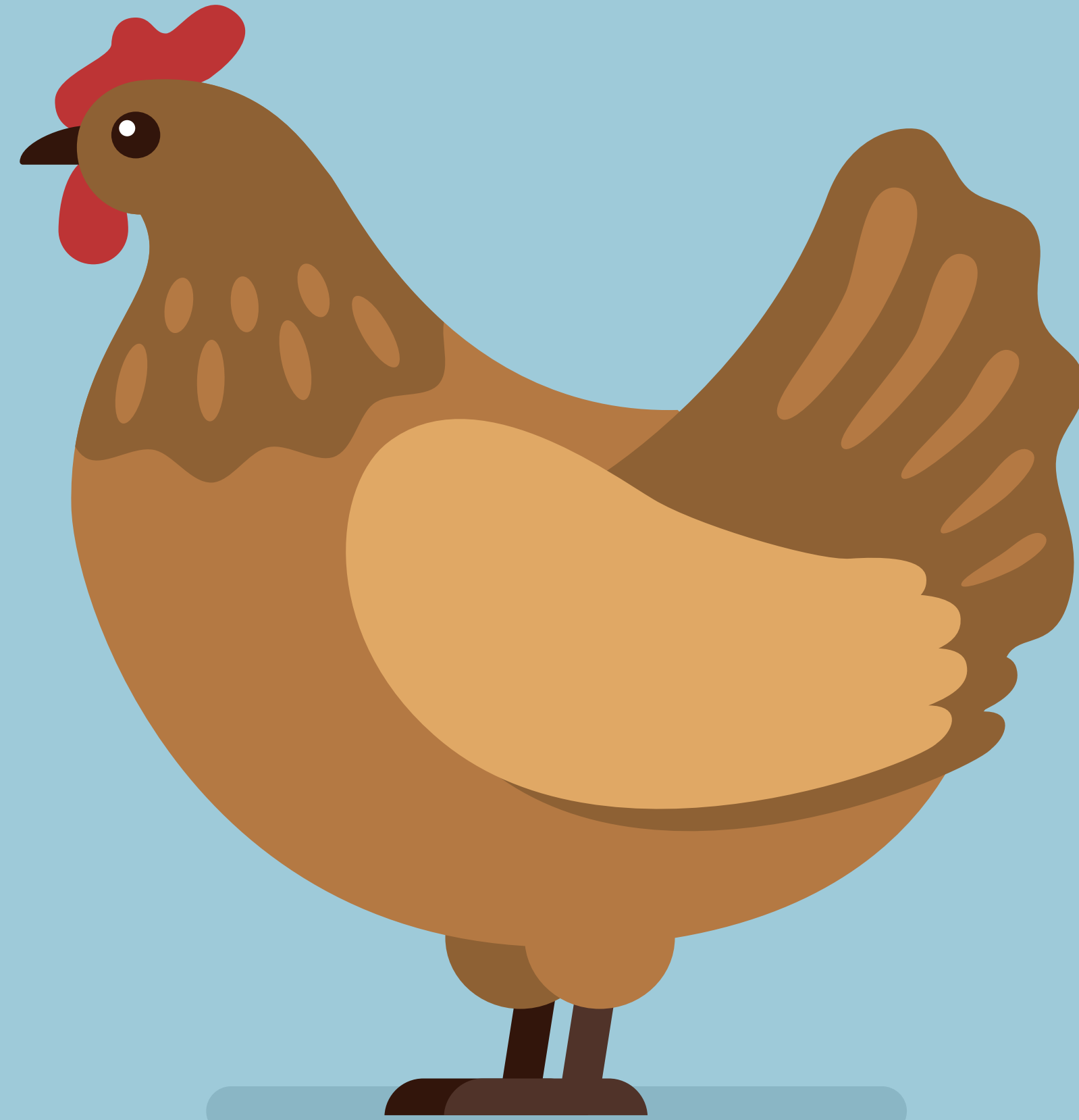
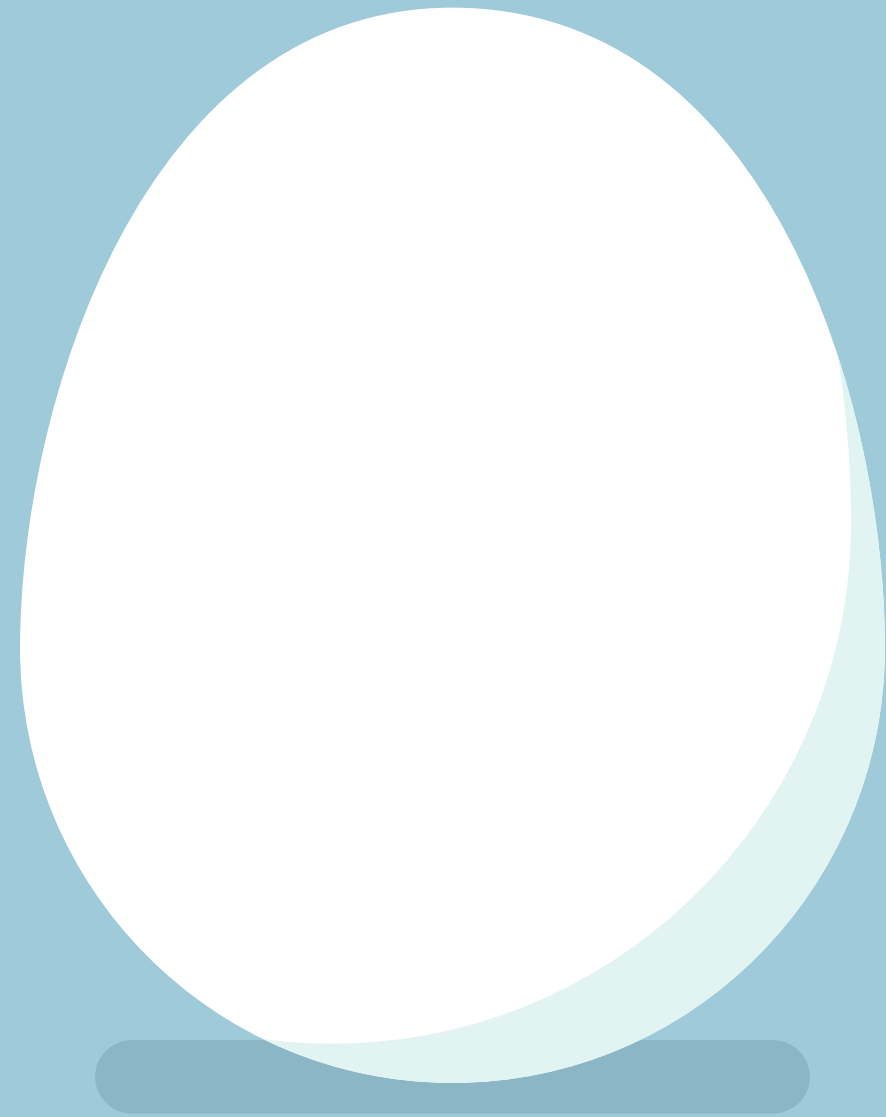


Mary *owns* this proof-of status for her business



Open registry of
decentralized identifiers.

We have a *chicken-or-egg dilemma*.



How do we kickstart one side of the market?

What can services plug into to get things rolling?

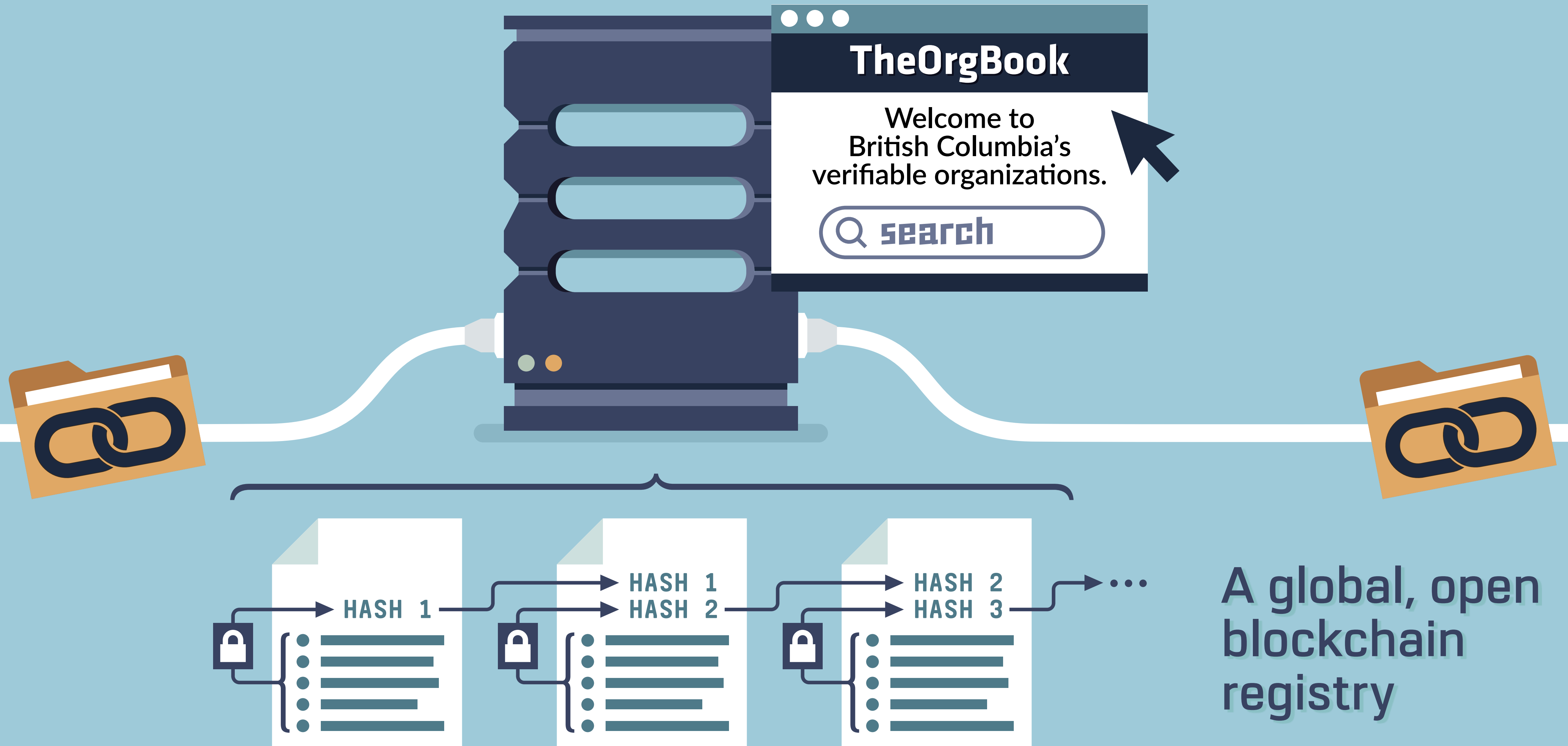


TheOrgBook fills that role and *unlocks* the hidden value of BC Registries data.

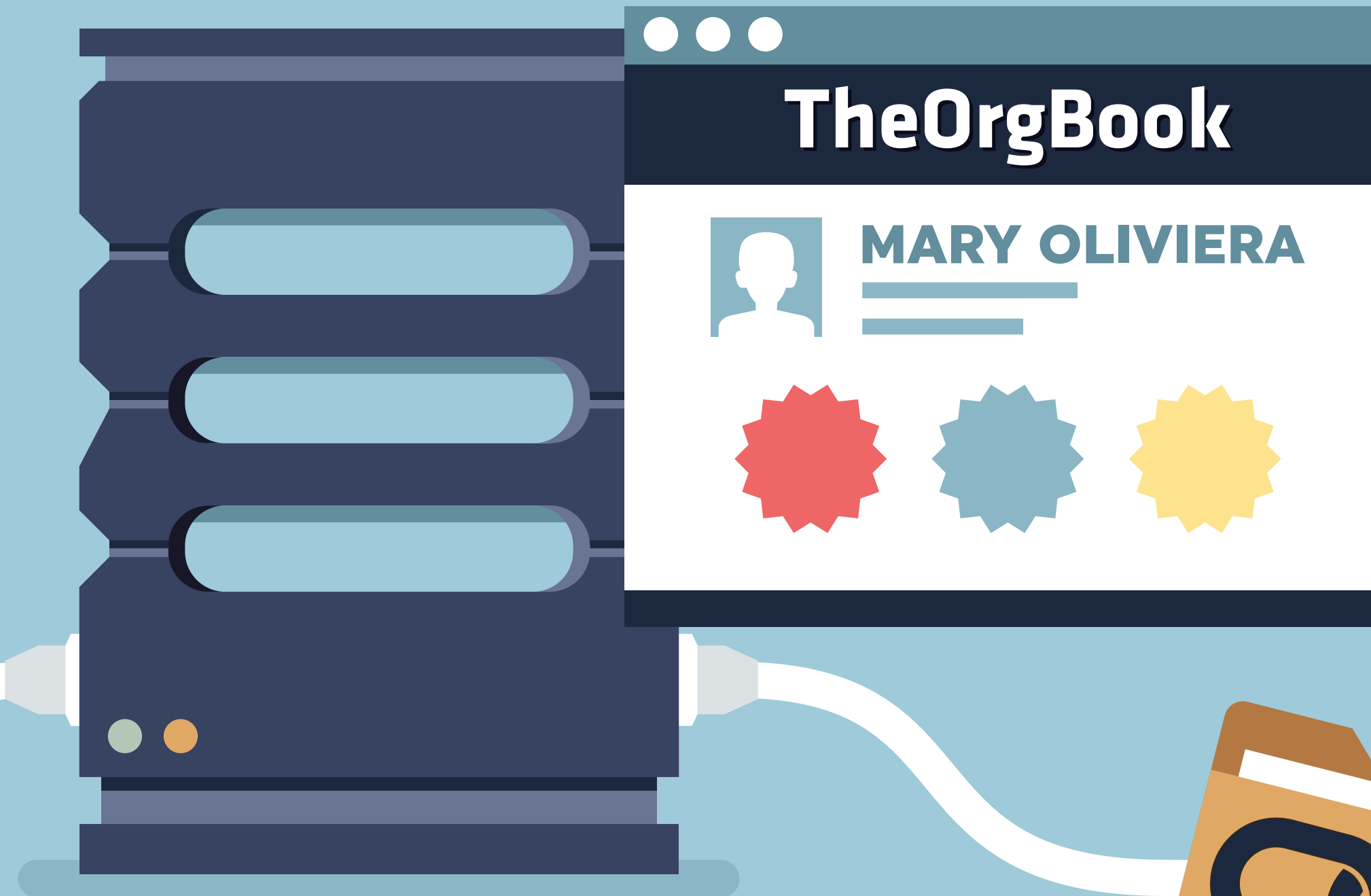


Registration, permit, and license services can plug into incorporated businesses.

Digitally signed and sealed *verifiable claims*



The new enrollment experience is more convenient ...



... with a global, open
blockchain registry.

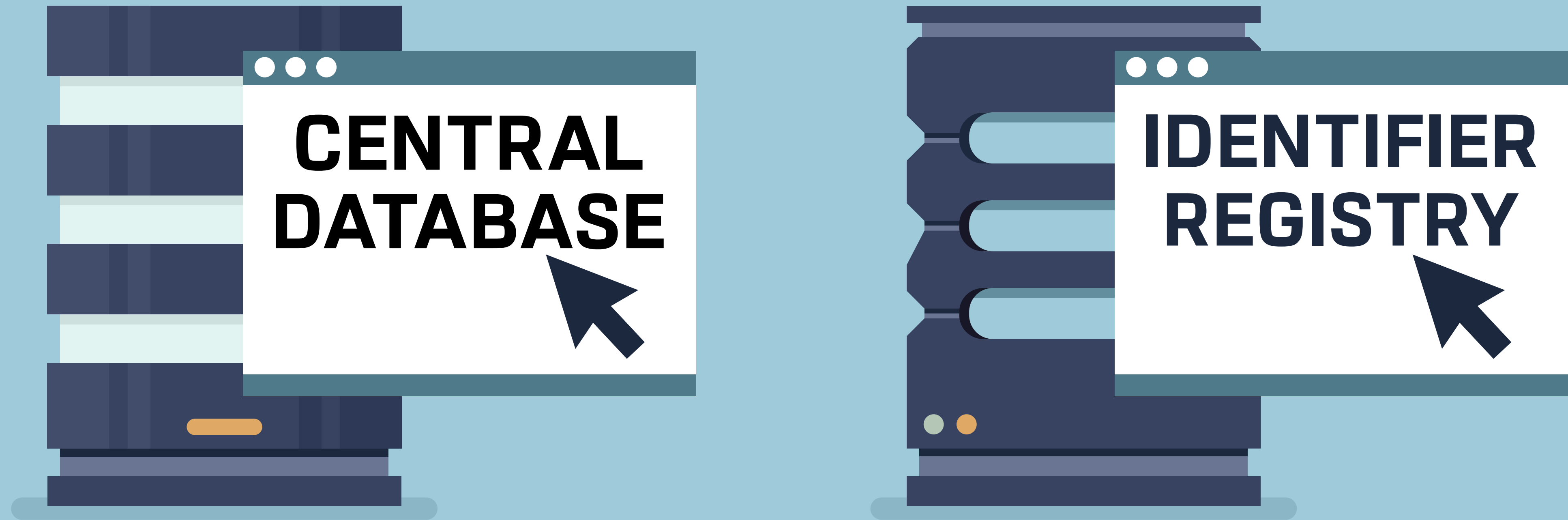


Mary will ultimately own her proof-of-status
and store it in her own *digital wallet* ...



... which opens up even more
service possibilities ...

So what is the difference?

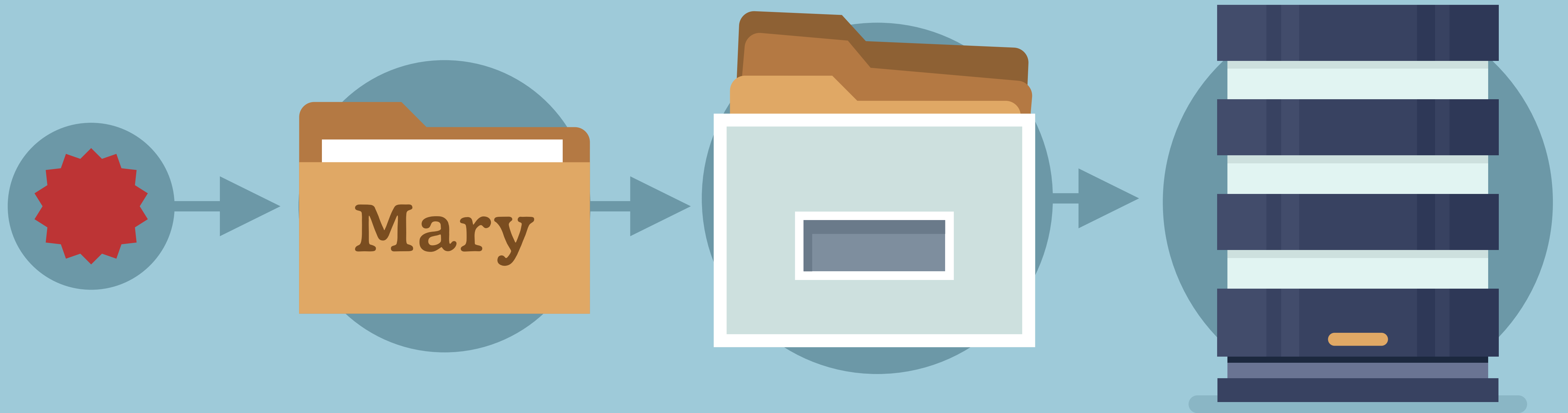


And what is different about the role of government?

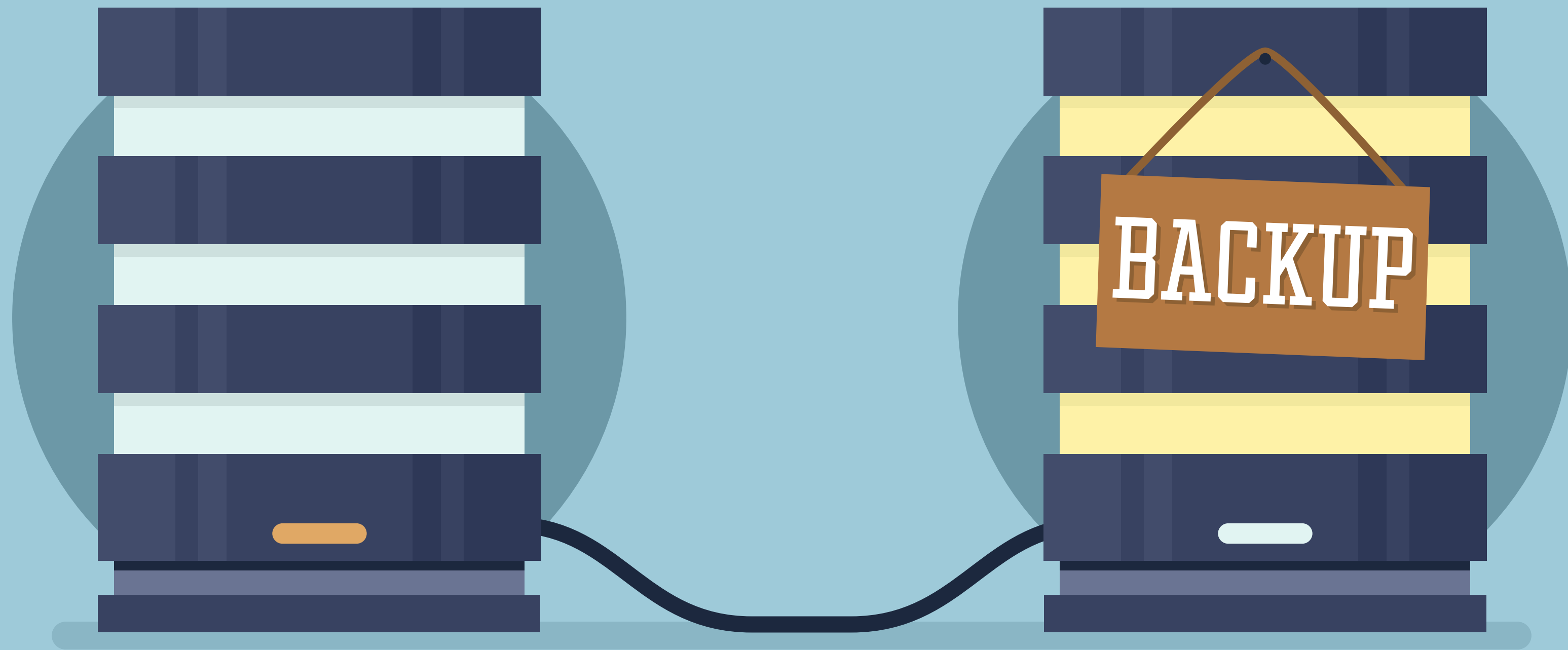
And in what
sense is the
credential
“owned” by
each person?



In the *centralized model*, the credential is stored in a record in a database on a server.

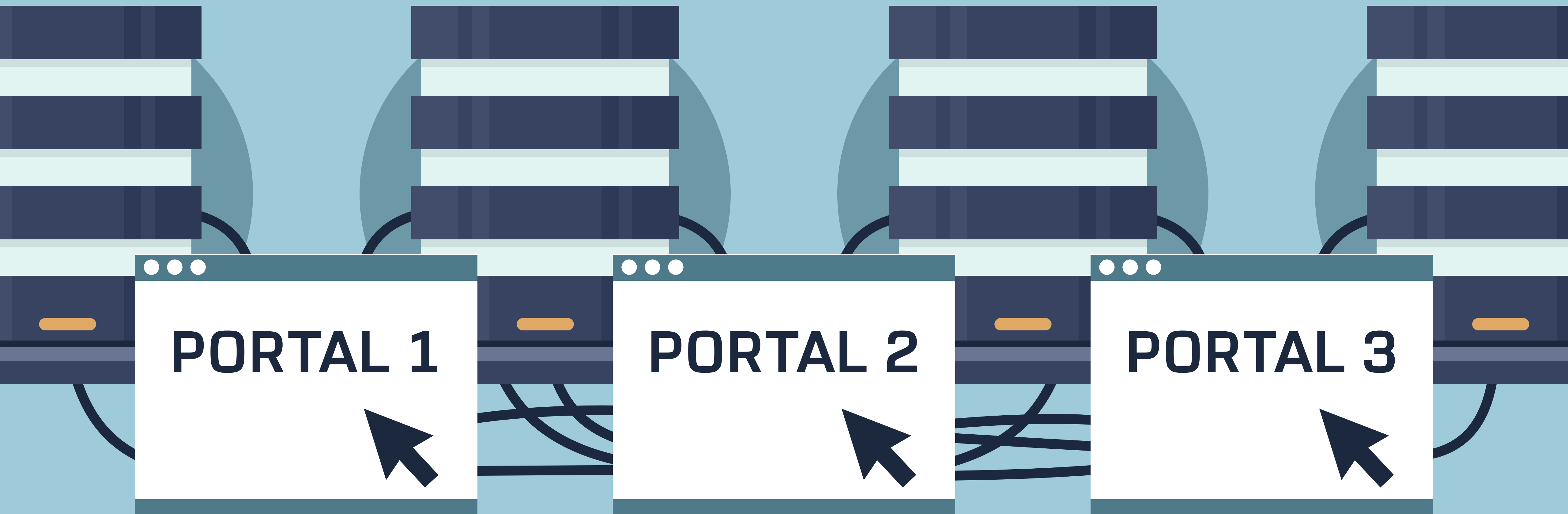


Well-managed databases are backed up routinely ...



but still pose a *single point of failure* that is vulnerable to corruption or security threat.

Database coordination is a logistical headache ...

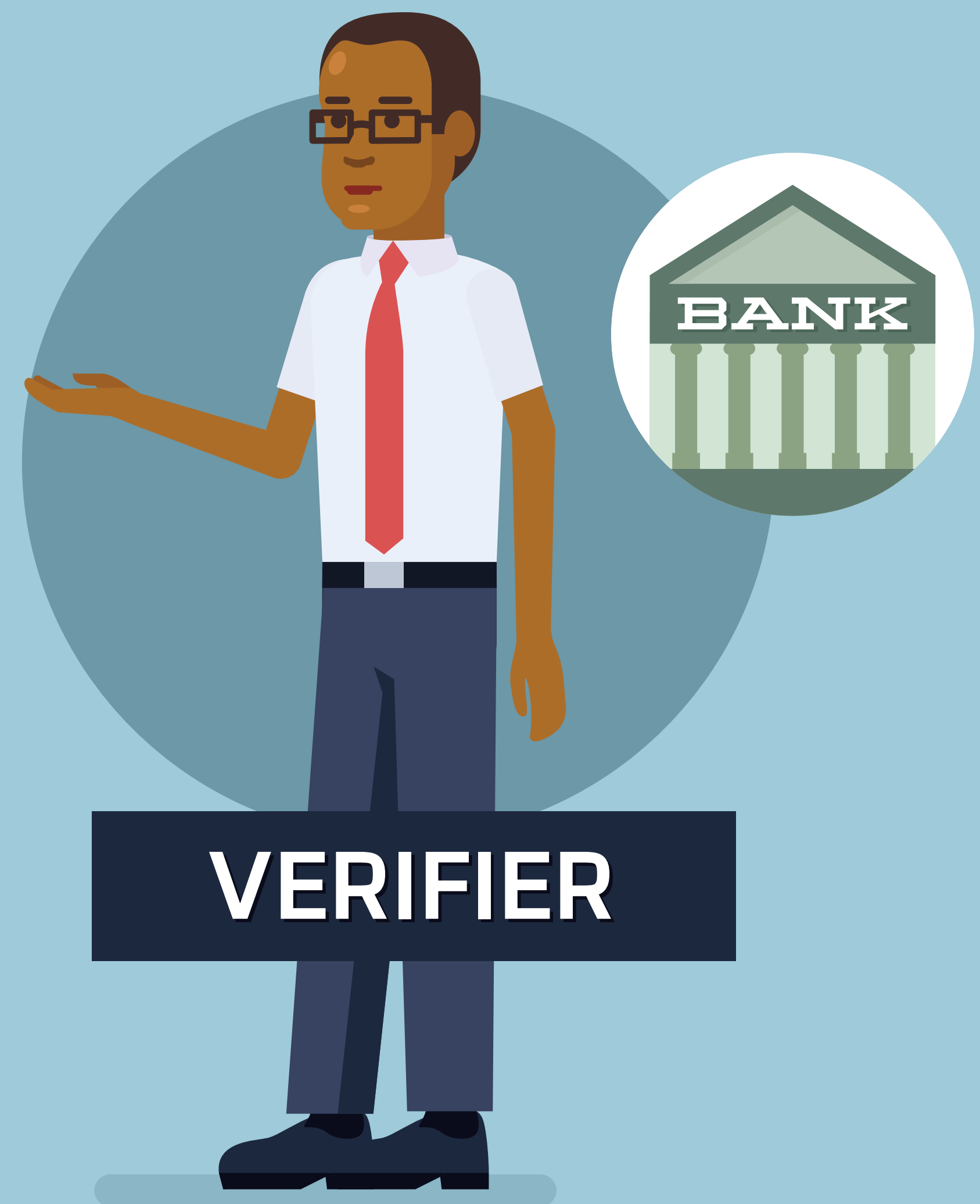


and create access and verification complexities.

Centralized databases
also create gatekeepers
who act as bottlenecks
in the system.



When a credential is shown to a verifier with a proof of ID, verification is highly fallible.

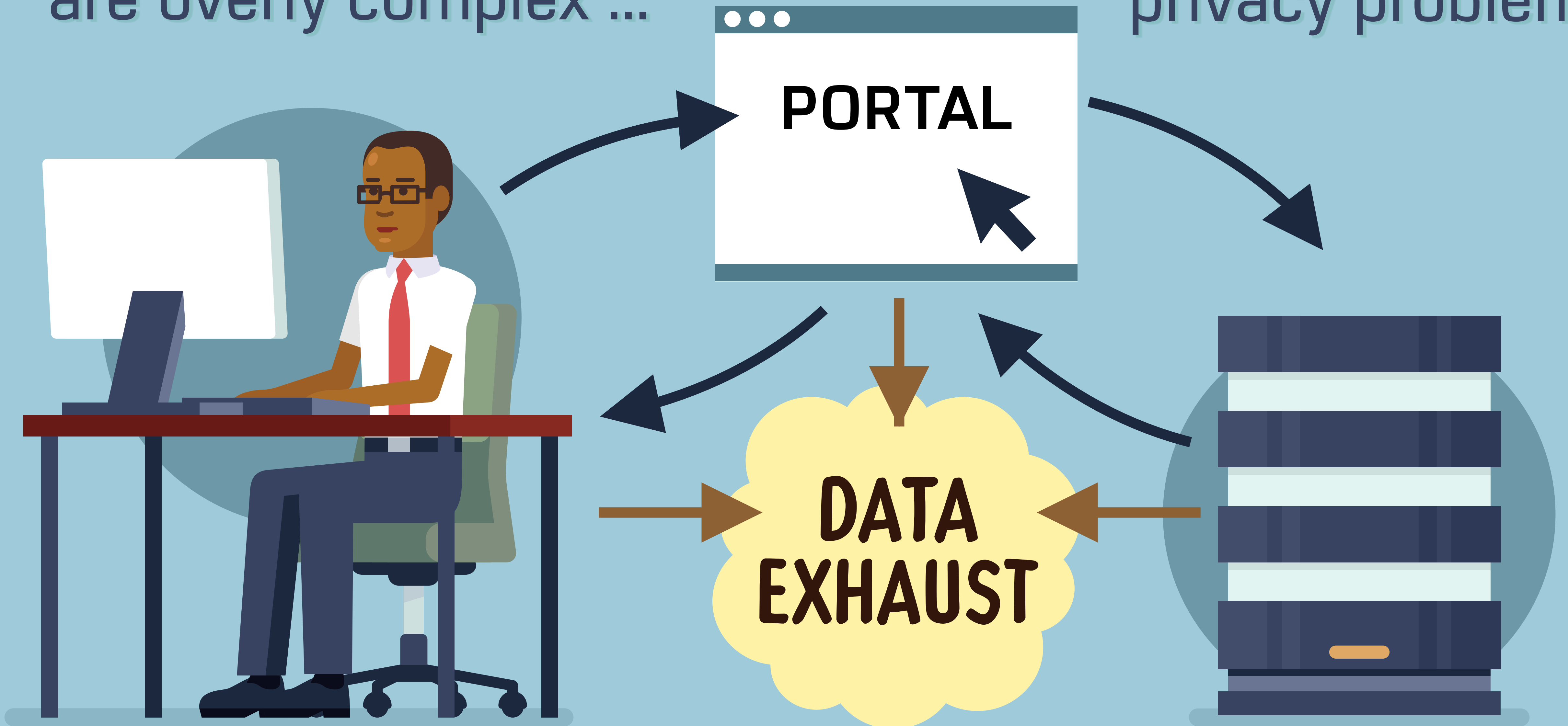


Fancy print gimmicks might make a credential seem authentic but these are easy to forge these days.



Systems for verification
are overly complex ...

and create
privacy problem.

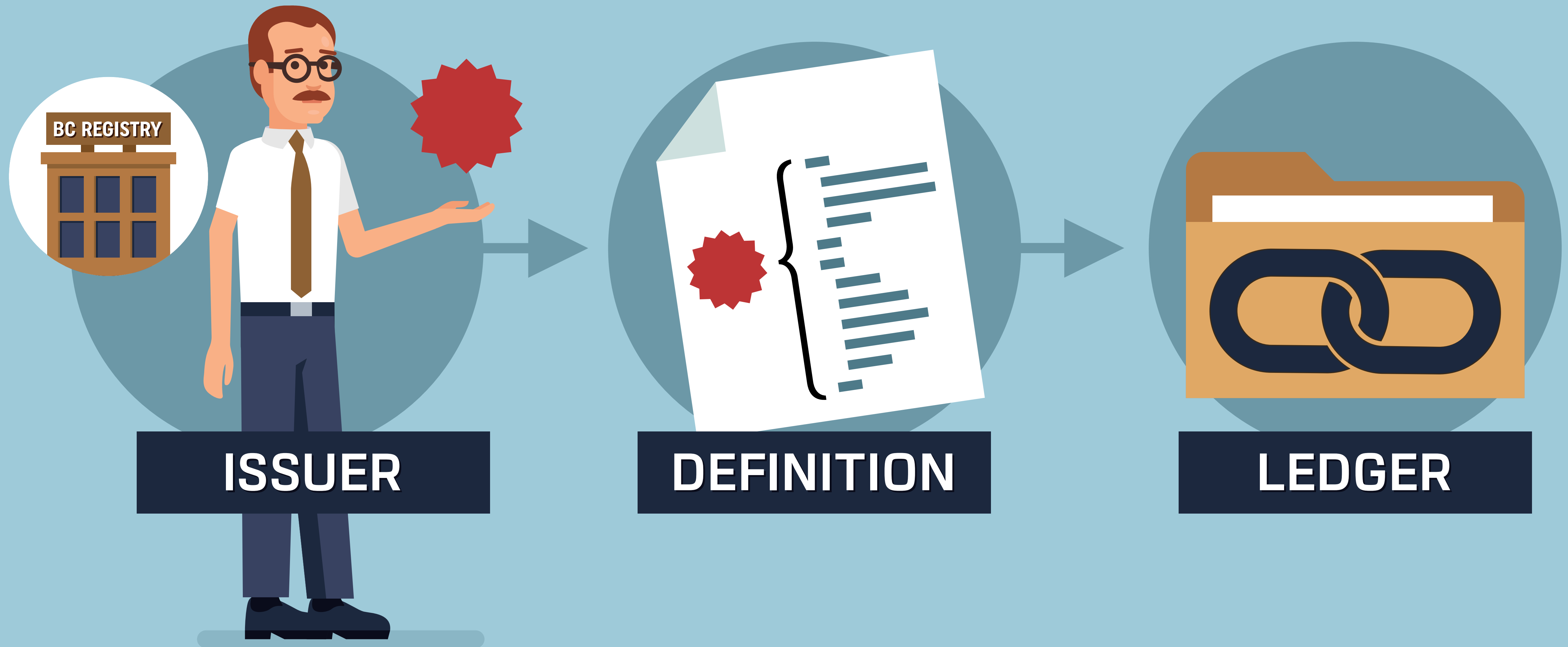


A decentralized verifiable credential is carried by the holder on a smart phone or other computing device.



The phone does
a lot of the work
as the holder's
agent.

The credential definition is *created* and published on the blockchain (ledger) by an issuer.



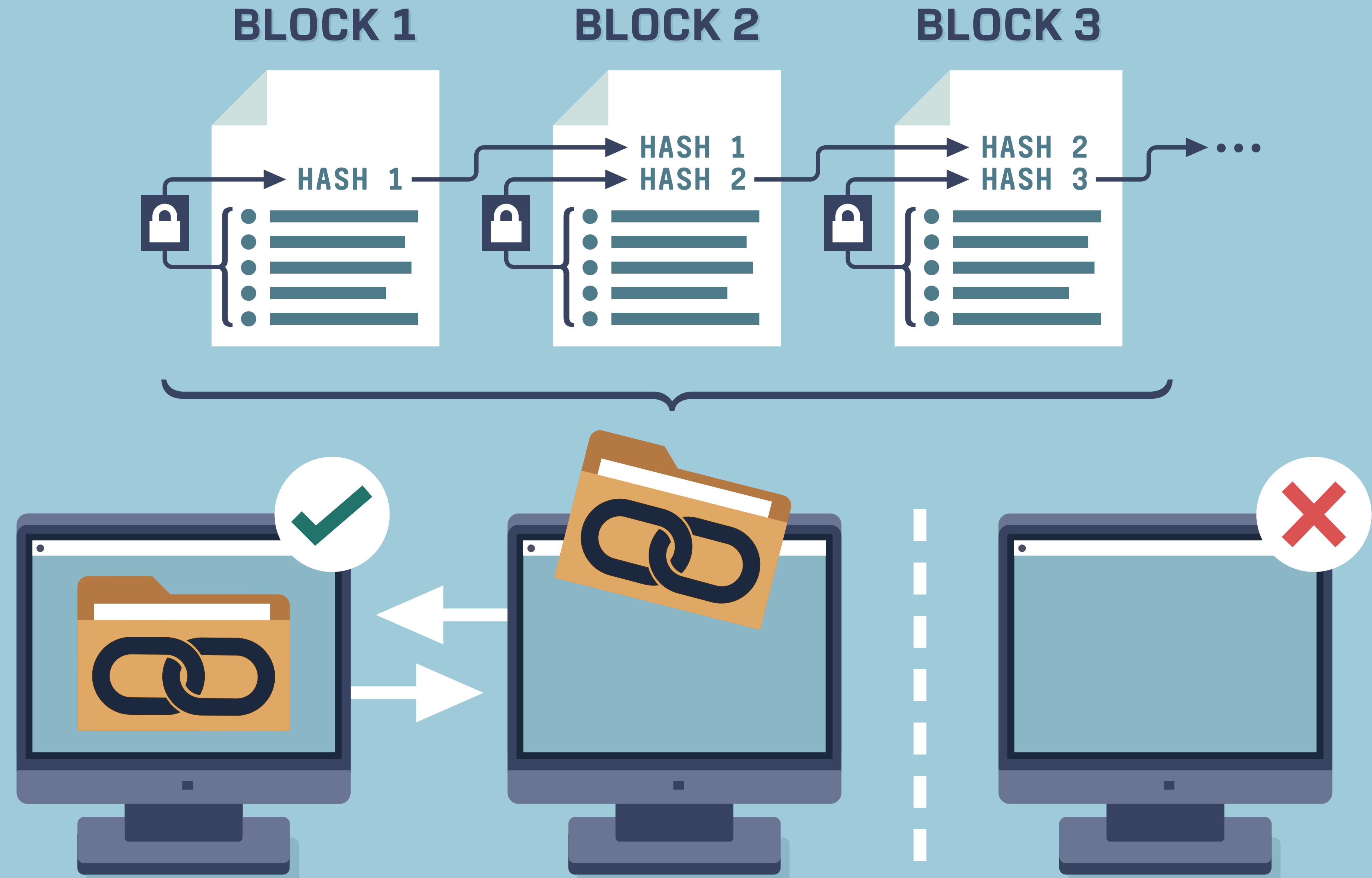
The blockchain is just a folder full of text files.

The folder is public.

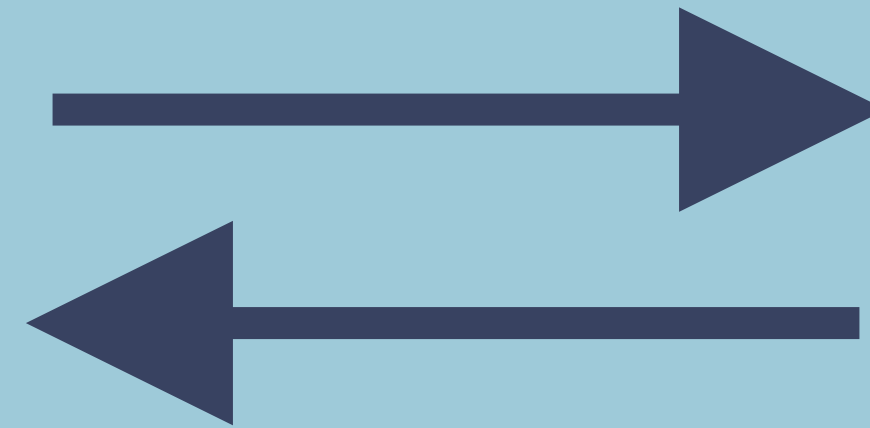
No sensitive information is put on the blockchain.

Once written, cryptographic codes (hashes) prevent changes.

The blockchain is permissioned: only authorized entities can add to it



Getting a credential is back-and-forth *ceremony*.



***HI ... I'D LIKE TO ESTABLISH
A RELATION.***



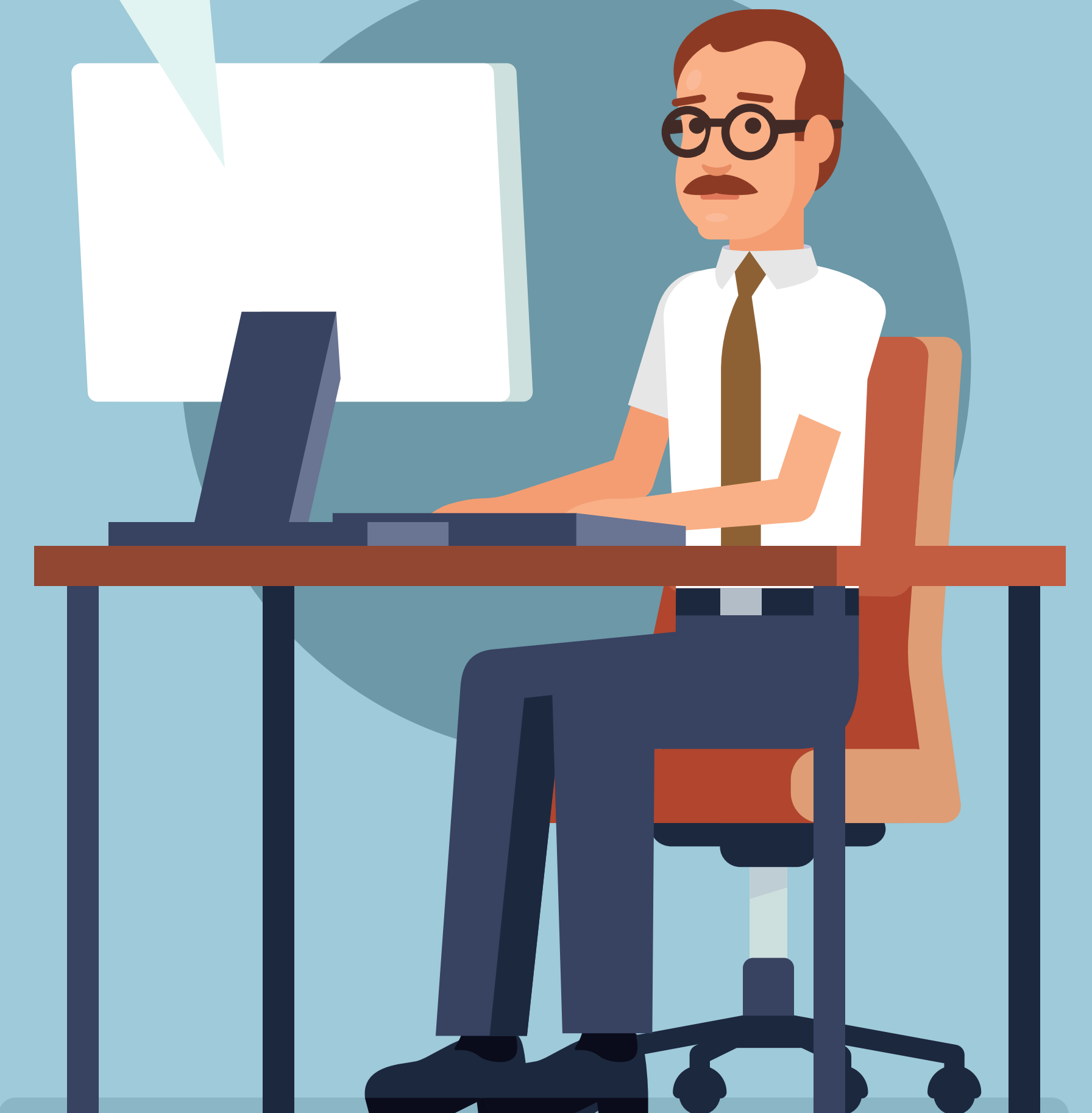
HOLDER



OKAY ... WHO ARE YOU?



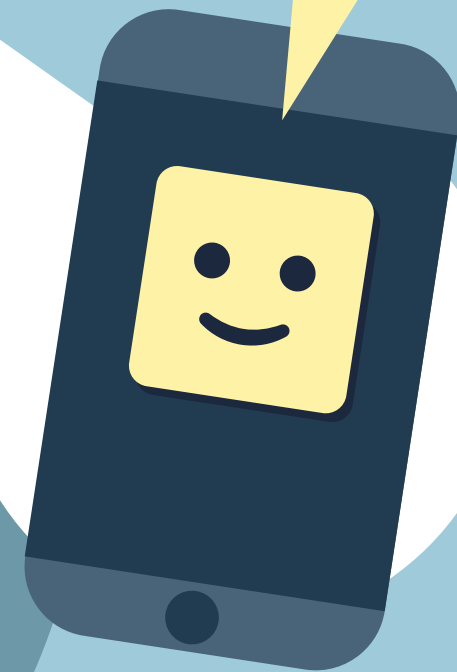
HOLDER



***I'M MARY ... HERE IS A CREDENTIAL I
ALREADY HAVE TO PROVE WHO I AM.***



HOLDER



***CONFIRMED ... HERE ARE SOME
QUESTIONS FOR OUR OWN RECORDS.***



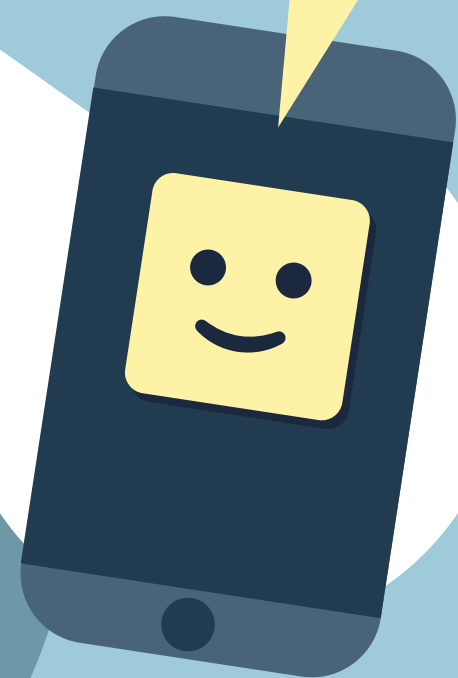
HOLDER



***OKAY ... HERE ARE
THE ANSWERS.***

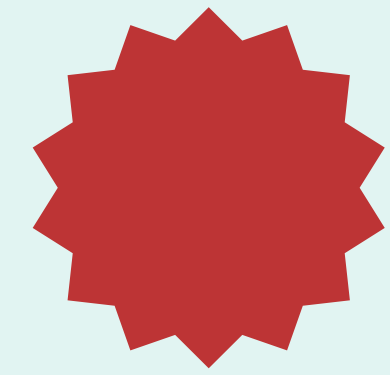


HOLDER

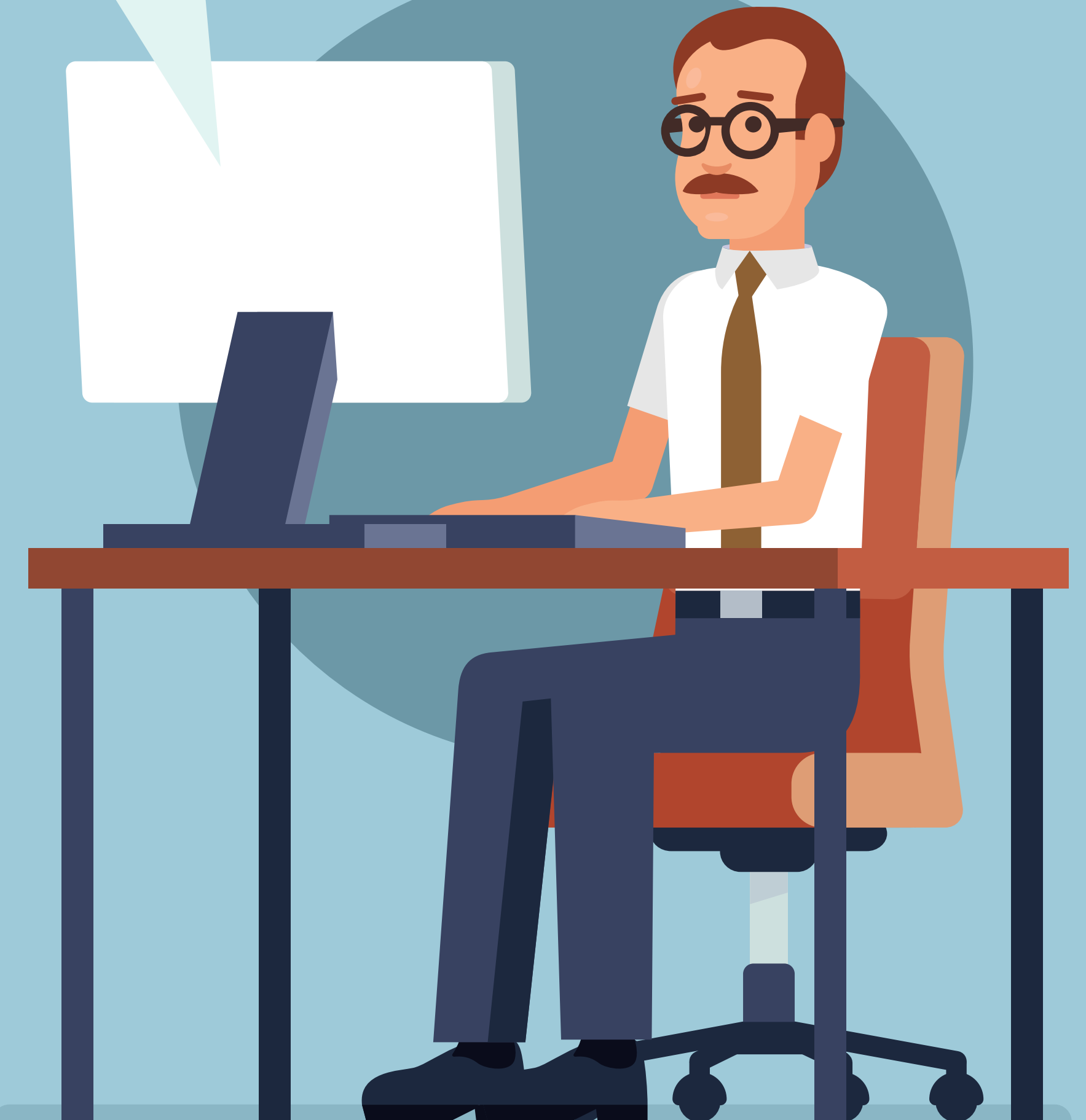


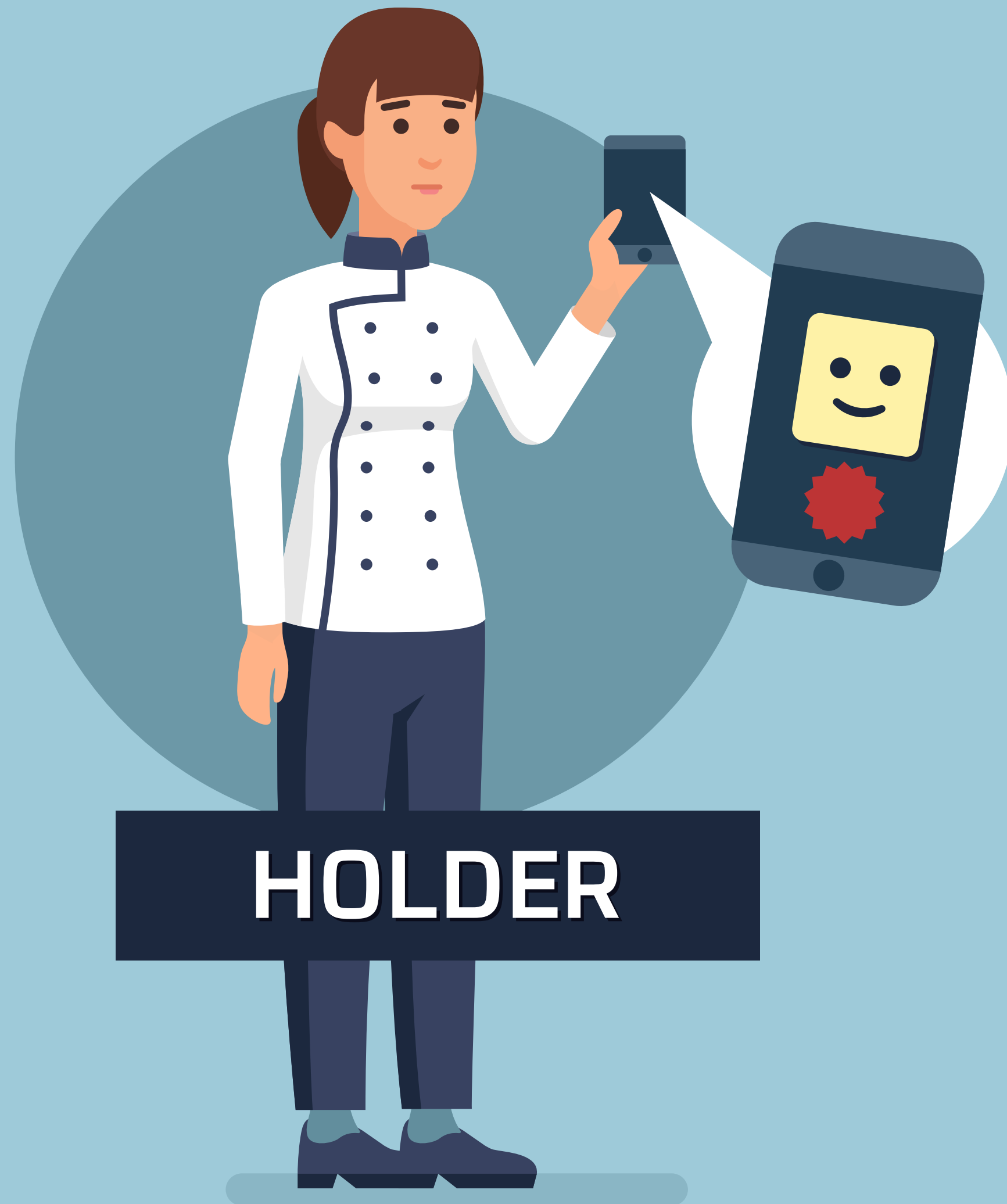
***GREAT! YOU
QUALIFY.***

***HERE IS THE
CREDENTIAL.***



HOLDER

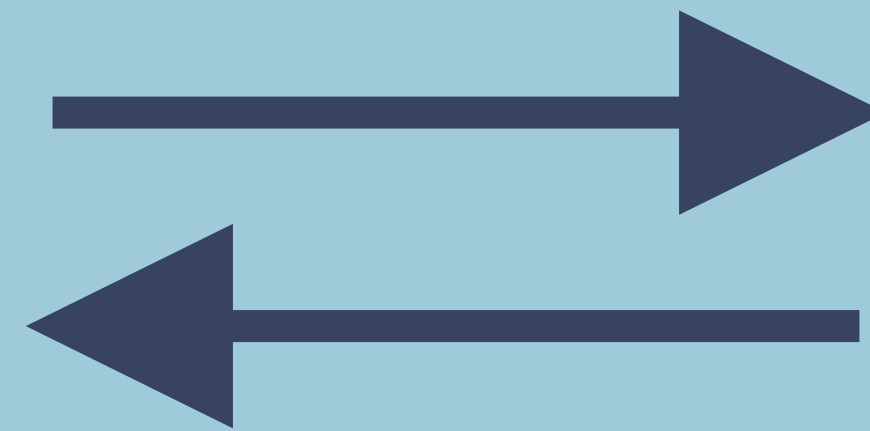




The credential is
a package of data
that is now on the
phone.

The credential is
given directly to the
holder by the issuer.
No data was put on
the blockchain.

A similar *ceremony* happens with the verifier.



***I WOULD LIKE PROOF
YOU HOLD THE CREDENTIAL.***



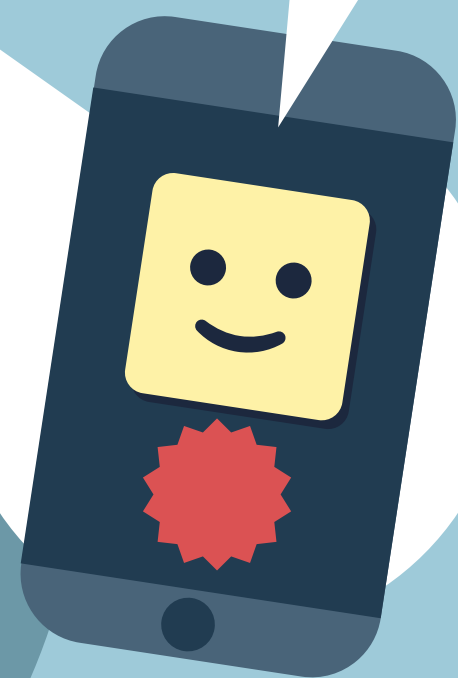
HOLDER



***HEY, MARY ... HE WANTS PROOF.
DO I HAVE PERMISSION TO SEND?***



HOLDER



YES.



HOLDER



***HERE IS
THE PROOF.***



HOLDER

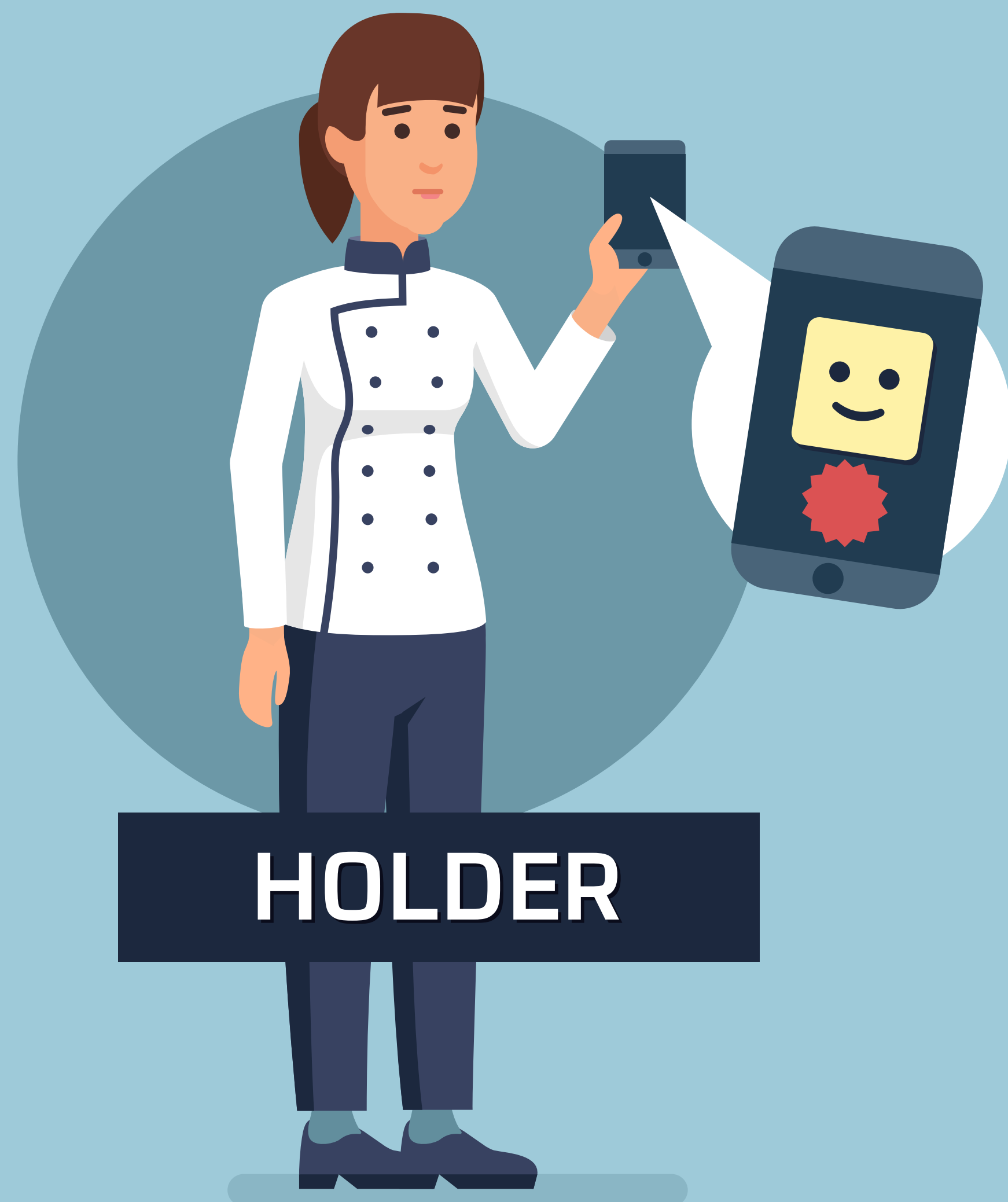


***ONE MOMENT ... I AM CHECKING THE
CREDENTIAL DEFINITION ON THE
BLOCKCHAIN***



HOLDER



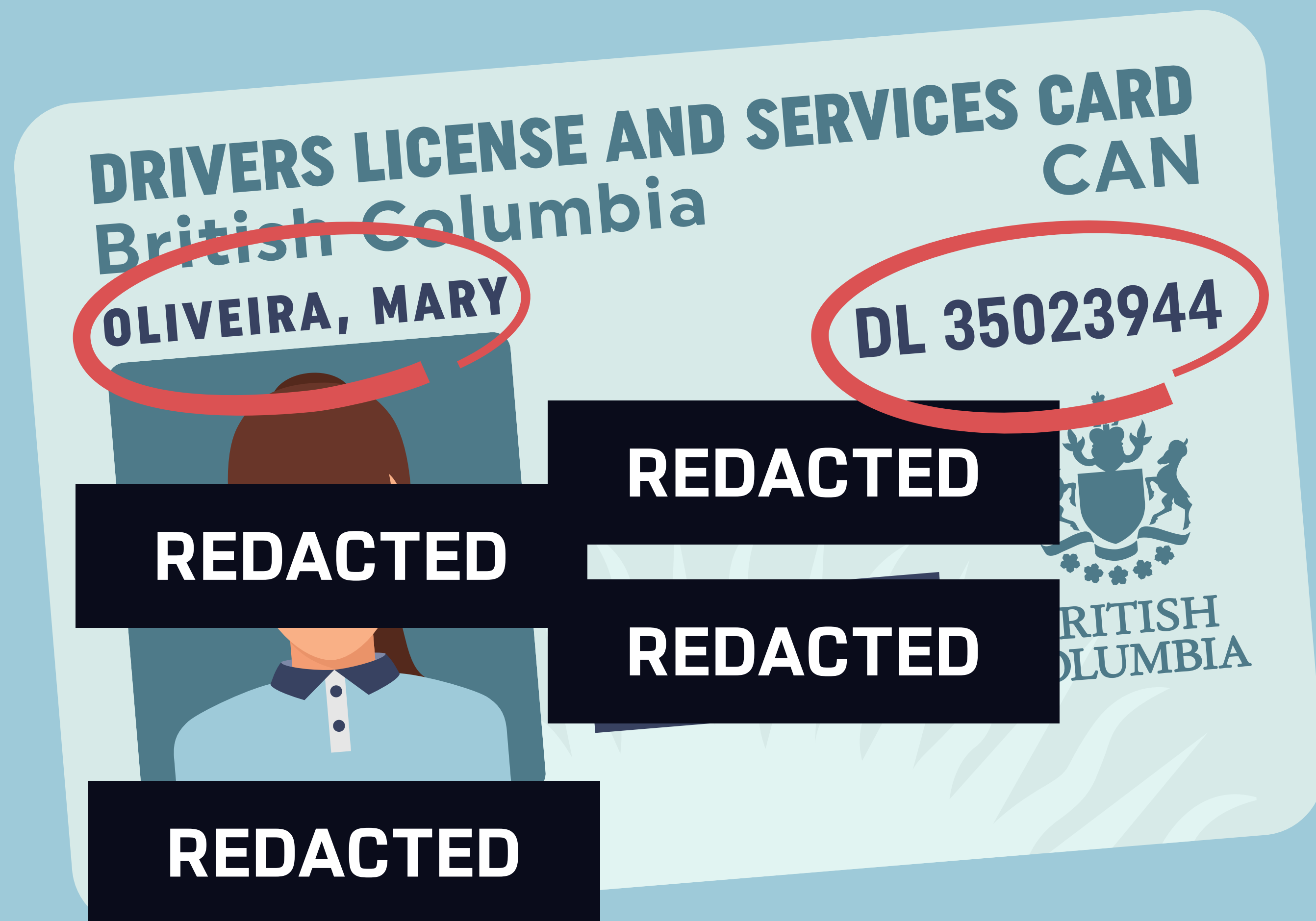


***CONFIRMED! YOUR
CREDENTIAL IS VALID.***



HOLDER





In this scenario, the identity information can be the minimum required, with no extra *“data exhaust”* divulged.

It is like showing an ID card with parts redacted.



... so that Mary can
focus on what she
does best.