

Blockchain-Based Transparent Vehicle Insurance Management

A blockchain solution for improving vehicle-based information and communication

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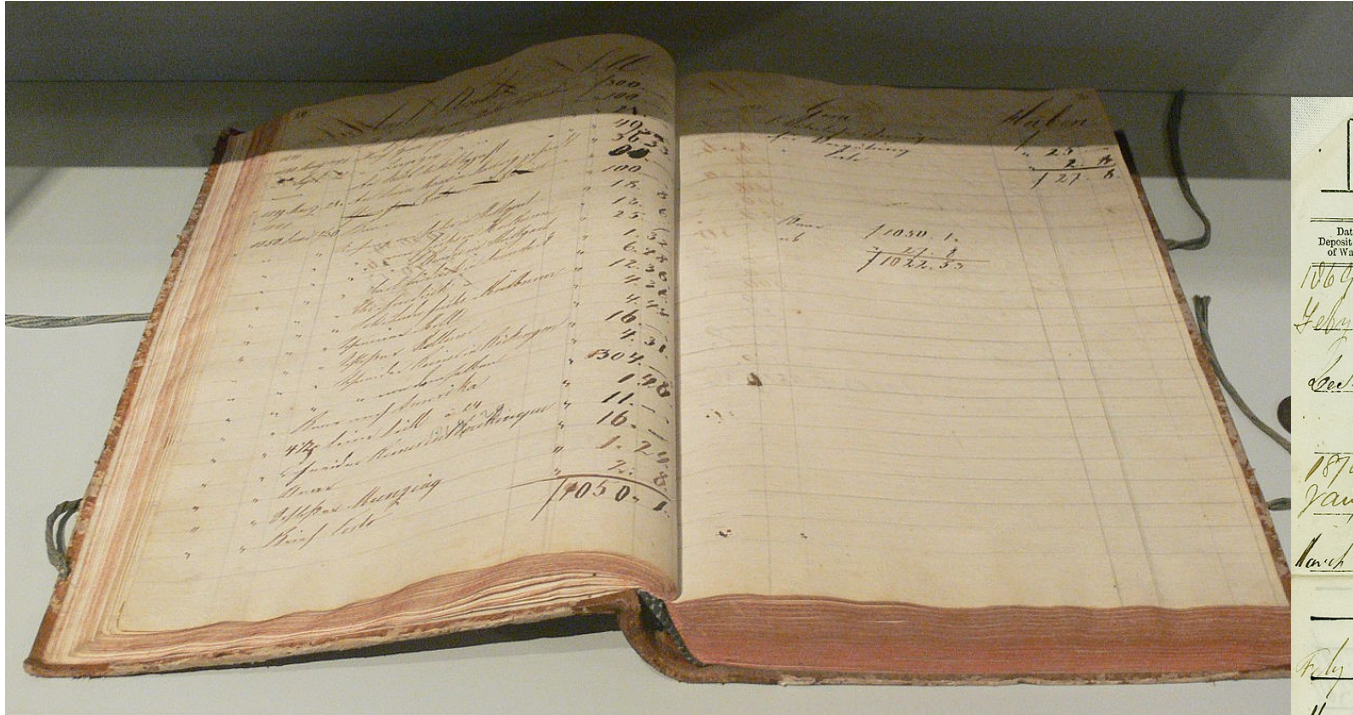
Blockchain

- I am interested in
 - Social impact of blockchain technology
 - How it will **change society**.
 - How it can **improve quality of life**.
 - How can it **change the interaction** between people as well as organizations?
 - Industry impact:
 - How blockchain technology can **increase the quality of services**?
 - How can organizations **improve processes** with blockchain or due to blockchain?
 - How can businesses **increase revenues or save on costs** with blockchain?

Outline

- Basics of the Vehicle Industry
- Challenges of the Vehicle Industry
- Blockchain technology benefits
- What can Blockchain technology do for Vehicle Industry?
- Blockchain based vehicle insurance

Ledger



LOUGHTON
No. 229

Name of Depositor, of
Club or Friendly Society,
Penny Bank, &c.

Ally Rebecca Mary Knewitt

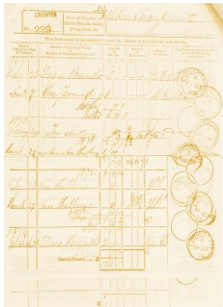
This Book must be produced whenever any Money is deposited or withdrawn.

Date of Deposit or Issue of Warrant.	Amount of Deposit in Words, or Number of Withdrawal in Figures.	Amount of Deposit.	Amount of Withdrawal.	Officer's Signature.	The Fiscal Stamp of the Office to be affixed against each entry.
1864 Feb 23	Five Pounds	5		J. Knewitt	LOUGHTON FEB 23 69
Dec 7	One Pound	1		J. Knewitt	LOUGHTON DEC 7 69
1870 May 24	Ten shilling	10		J. Knewitt	LOUGHTON MAY 24 70
March 29	One Pound Ten shilling	1 10		J. Knewitt	LOUGHTON MAR 29 70
1872 Feb 22	Ten shilling	10		J. Knewitt	LOUGHTON FEB 22 72
March 27	Ten shilling	10		J. Knewitt	LOUGHTON MAR 27 72
1874 March 25	Two Pounds	2		J. Knewitt	LOUGHTON MAR 25 74
Carried forward.....		122 11			

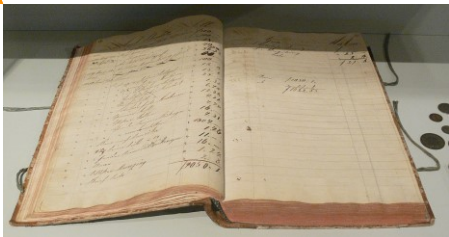
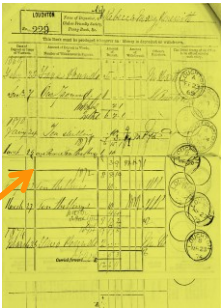
Record keeping has been a factor to facilitate cooperation between people in large groups and eventually contributed to the formation of large-scale societies

Centralized Ledger

Person A



Person C



Authority

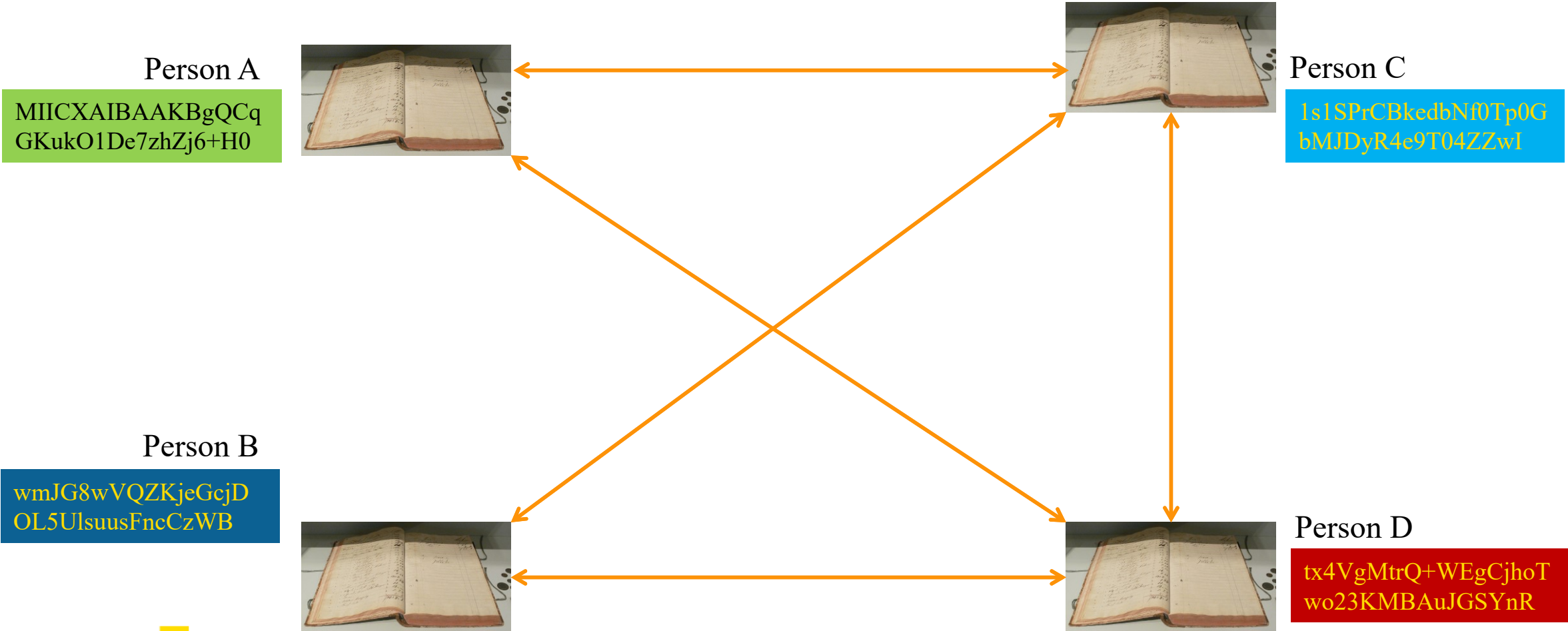
Person B



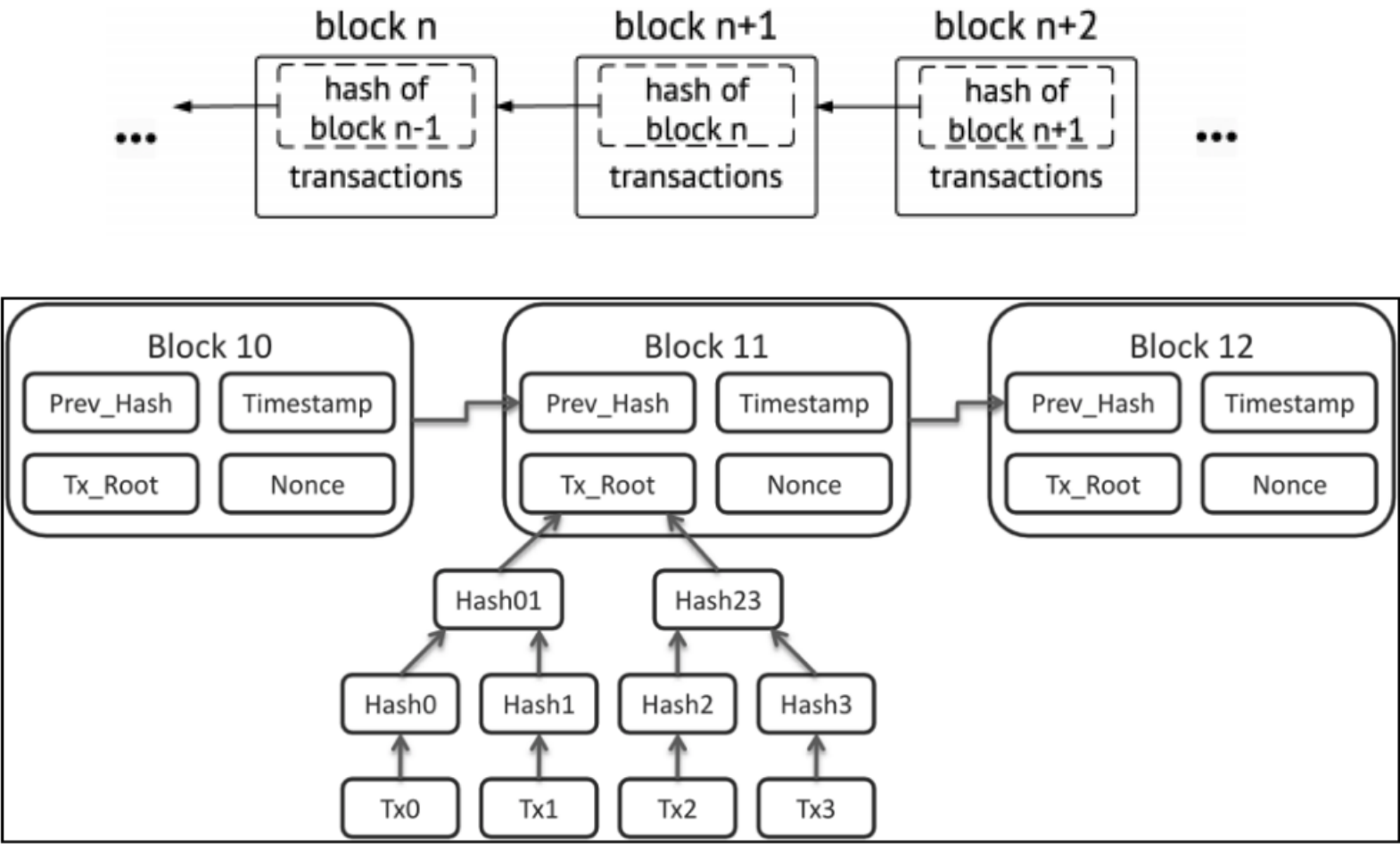
Person D



Distributed Ledger – P2P



Blockchain



Smart Contract

- Involves parties
- Computer code
- Added to blockchain
- Triggered by ledger event(s)
- Execute transactions

Get (\$5) from (Mehmet)
When Event (Pizza boy delivered)
Give (\$4) to PizzaX
Give (\$1) to PizzaBoy

If $deliveryTime > requestTime + 30 \text{ min}$
Return (\$4) to Mehmet
Give (\$1) to PizzaBoy

If no delivery in 60 min
Return (\$5) to Mehmet

Blockchain technology benefits

- Peer to peer interaction
- Distributed/replicated database
- Tamper proof (falsification proof) with immutable records
- Traceable with full transaction history
- Disintermediation with smart contract automation
- Possible data transparency and interoperability

What is the role of blockchain technology in a system?

Shared Database

+ distributed computing

Distributed Database

+ validation of transactions

Validated Immutable Transaction Database

+ multi party, processing transactions on a flow

Validated immutable Integration Platform

+ Automation, contracts, monetary integration

Immutable Business Process Management System

Vehicle industry

- Automobile manufacturer (Volkswagen) to be the top R&D investor in the world in front of Microsoft, Intel and Apple.
- Eight of the top 23 R&D investors in the world
- The volume of collected data on vehicle-related interactions is also increasing
- Mobility Open Blockchain Initiative (MOBI)



Blockchain technology benefits for Vehicle industry

- Payments
 - Wireless charging
 - Autonomous vehicles
- Data Protection
 - Odometer reading
 - Vehicle ownership
 - Re-VIN-ning
- Communication
 - Vehicle-to-Vehicle
- Forensics
 - Speeding & break patterns
 - All IoT sensor information
- Sharing Economies
 - Uber like car rental

New Usecase :Insurance records and Vehicle sales process

- Mandatory insurance
 - Document
 - Proof
- Needed frequently
 - Accidents
 - Buying a car
 - Pulled over by police
 - Registering a car
 - Renewing license plate stickers
- Forged frequently

Insurance Company name

NAME AND ADDRESS OF INSURANCE COMPANY / NOM ET ADRESSE DE LA COMPAGNIE D'ASSURANCE
ANY NAME INSURANCE

NAME AND ADDRESS OF INSURED / NOM ET ADRESSE DE L'ASSURÉ
JOHN PUBLIC
123 Sample Street
Whitehorse YT Y1A3X3

Expiry Date

INSURED VEHICLE - YEAR, MAKE, SERIAL NO. / VÉHICULE ASSURÉ - ANNÉE, MARQUE, SÉRIE
2001 Dodge 1B8CG4AP6YS493213

Effective Date

EFFECTIVE DATE / DATE D'ENTRÉE EN VIGUEUR (YY/MM/DD)
03/11/20

DATE OF EXPIRY / DATE D'EXPIRATION (YY/MM/DD)
04/11/20

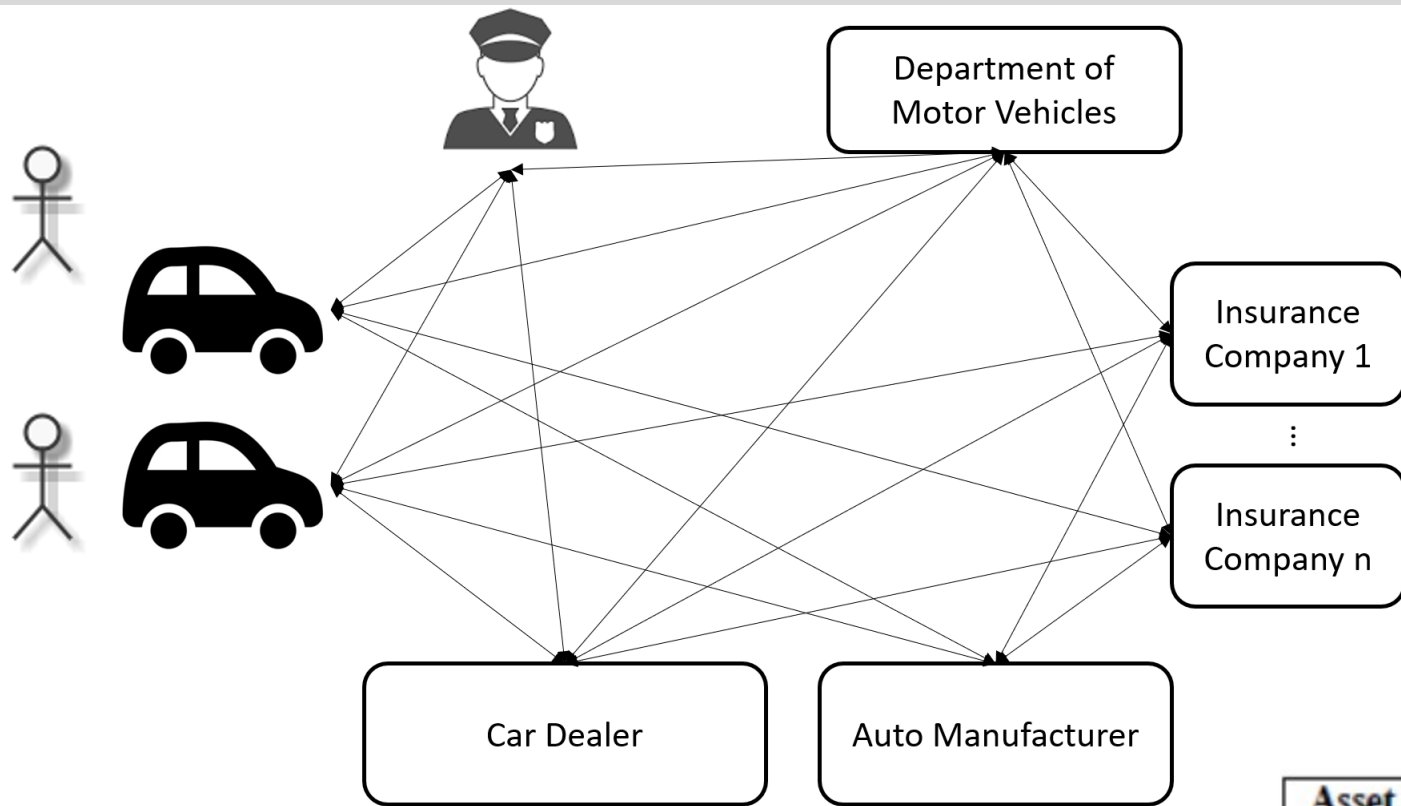
Policy Number

POLICY NUMBER / POLICE NUMERO
AX123890

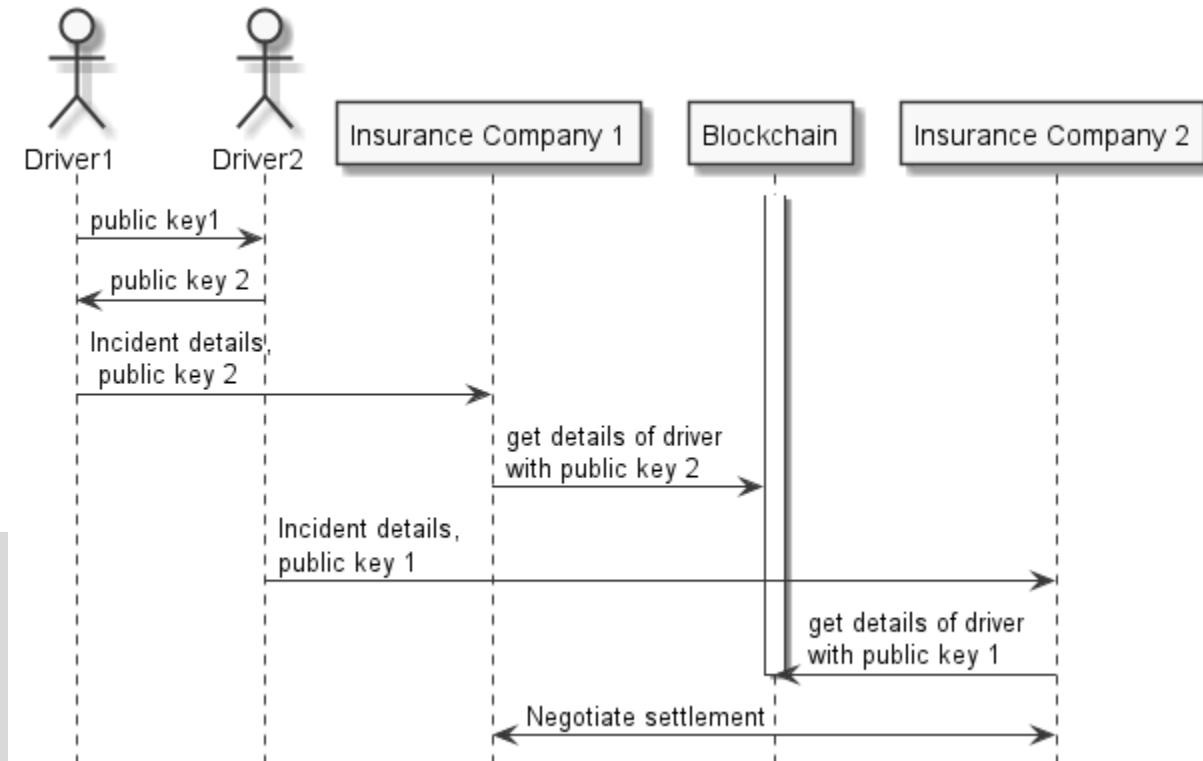
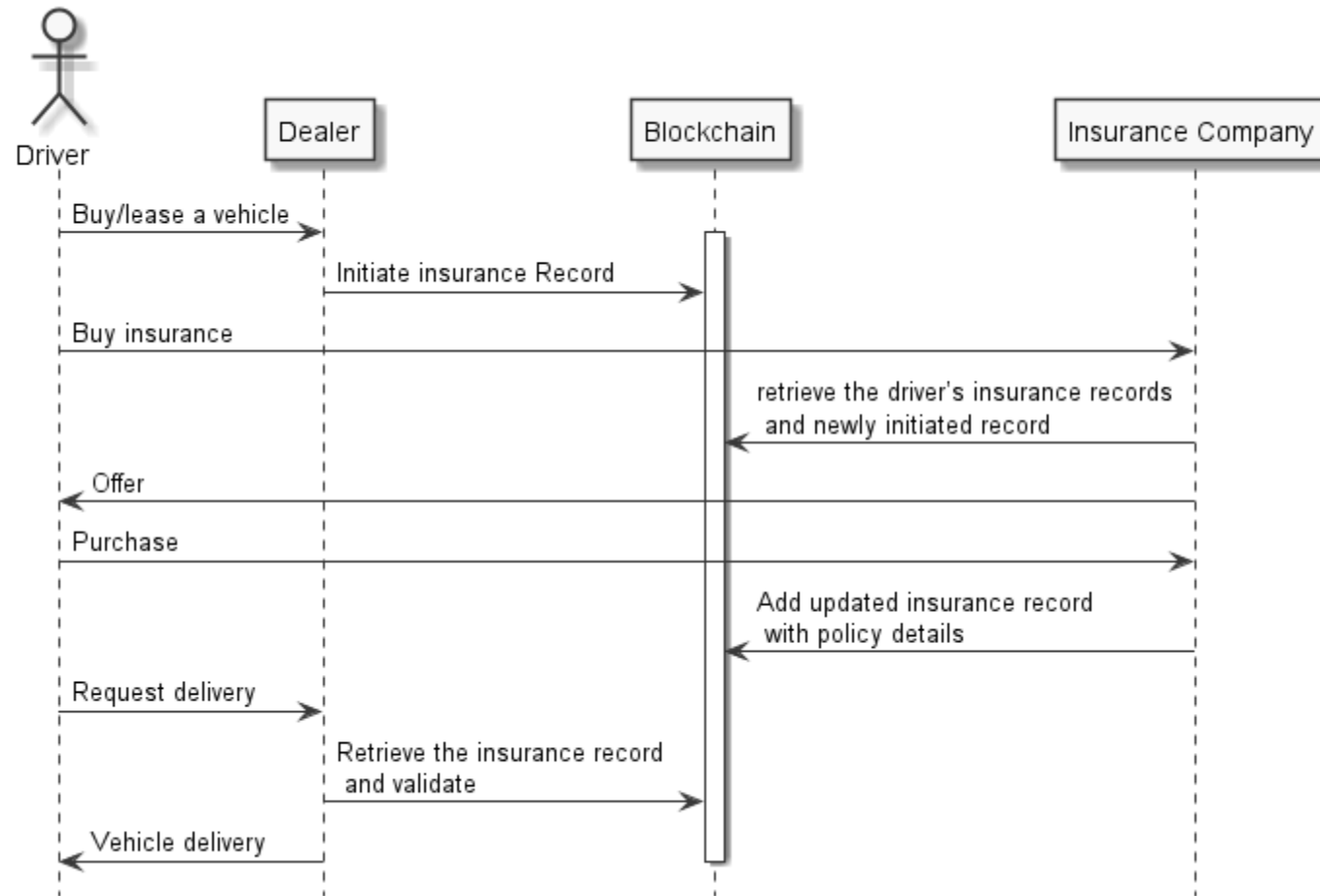
AGENT or BROKER / AGENT ou COURTIER

MOTOR VEHICLE LIABILITY INSURANCE CARD
CERTIFICAT D'ASSURANCE - AUTOMOBILE RESPONSABILITÉ
CANADA INTER-PROVINCE
APPLICABLE WITHIN CANADA AND THE UNITED STATES OF AMERICA
EN VIGUEUR AU CANADA ET AUX ÉTATS-UNIS D'AMÉRIQUE

eservices.gov.yk.ca



Asset Name	Attributes
Insurance Record	Insurance Company, Policy Number, Driver Public Key, Status, Start Date, Expiry Date, VIN, Make, Model, Year, Dealer Signature, Insurance Company Signature
Insurance Sharing Record	Driver Public Key, Shared-With Key, Incident Code, Expiry Date



Challenges

- Collaboration
 - How to make all these companies work together?
- Data Privacy and Security
 - What is private information ?
 - Would all stay private?
 - How to protect privacy?
 - Would benefits outweigh the privacy concerns?
- Transaction Fees
- Scalability Issues

Conclusion

- Blockchain is a promising platform
- New use cases will emerge, and efforts will unite
- Communication technologies will improve (5G) connectivity
- There will be need for more communication
- There will be demand for much better service from
cars, roads, government, police, insurance, payments, ..

Questions?

Contact

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Linked 

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