



Blockchain Use Cases in Business

Ways Businesses Are Using Blockchain & Digital Assets

Nik Fahrner, James Farley, Tom Haldiman / July 2024

Meet the Presenters



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Agenda

1. What is blockchain?
2. How are businesses using blockchain to encourage growth?
3. How are businesses using blockchain to reduce costs?



Housekeeping Items

- Please ask questions
 - There is no such thing as a stupid question.
 - We will try to answer as many as we can.
- The presentation is not investment, financial, legal, or tax advice.
 - Please consult your advisor.



01

What is blockchain?

According to ChatGPT: Blockchain is a decentralized, distributed ledger technology that records transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the consensus of the network. Each block in the blockchain contains a number of transactions, and every time a new transaction occurs, it is added to the ledger.



What Is Blockchain?

1. Blockchain is a ledger/database

A chronological list of transactions

General Ledger Sheet						
Account:					Sheet No:	
					Account No:	
Date	Description	Journal ref.	Transaction		Balance	
			Debit	Credit	Debit	Credit
		Total				

What Is Blockchain?

2. Blockchain is an append-only ledger/database

You can only add transactions. You cannot remove or alter previous transactions.

- Example: Record entry to pay rent for the month. You recorded the entry as follows:

Account #		Dr.	Cr.
500	Salaries and Wages	2,000	
100	Cash		2,000

- Instead of recording the expense to Rent, it was accidentally recorded to Salaries and Wages. In order to fix it, we must record the following:

Account #		Dr.	Cr.
600	Rent Expense	2,000	
500	Salaries and Wages		2,000

What Is Blockchain?

3. Blockchain is a batch transaction append-only ledger/database

Transactions are batched together in a group called a block.

- Example: Ordering at a restaurant.
- Your waitress generally doesn't provide you with a receipt for each item.
- They tally up each transaction and then you pay at once at the end of your meal.

IKEA Food Place

Ikea Food Fast
89090, Food Ave
Food City, KS, 89989
1-888-888-8888

Table - 05

QTY/ Item Name	Price	Amount
4 Cheese Burger	5.99	23.96
4 Soda	0.49	1.96
2 Cinnamon Bun	1.00	2.00
Net Subtotal		27.92
Food Tax		2.90
Sales Tax		1.28
Total to Pay		32.10
Received		
VISA		32.10
Card Number:	9999	
Remaining Balance:	0.00	
Ref Num:	409751125811	

11/01/2019 18:11
Cashier: Thompson

Take home a bag of meatballs and 2 pkgs. of
cream sauce for only \$9.99 Made from an
authentic recipe!

Visit the Swedish Food Market Take home a
Taste of Sweden today!

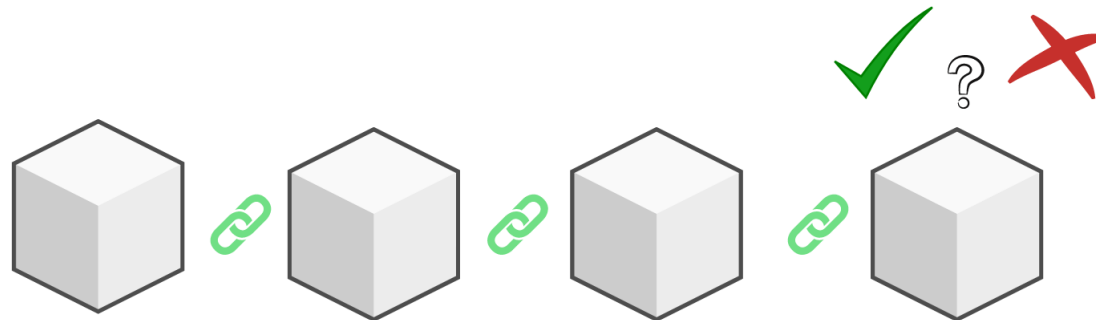
What Is Blockchain?

4. Blockchain is a distributed batch transaction append-only ledger/database

Blockchains are typically decentralized – there is no intermediary or trusted third party validating transactions

- Example: peer-to-peer transactions
 - Sending money internationally is usually costly and slow.
 - Blockchains offer a solution that allows for the transfer of assets in a peer-to-peer manner.

Validating each new transaction



What Is Blockchain?

5. Blockchain is a transparent (sometimes) distributed batch transaction append-only ledger/database

Public blockchains are transparent and transactions can be viewed by anyone

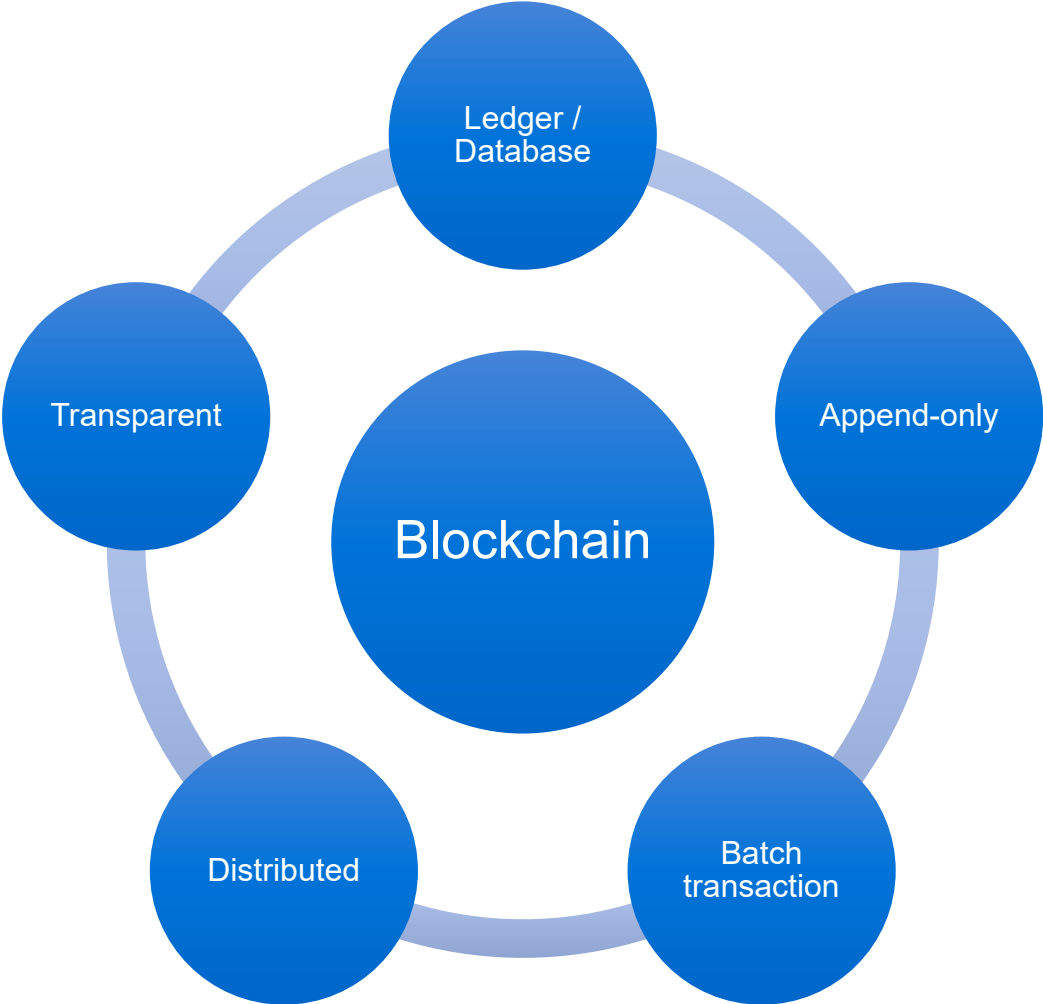
- Example: Bitcoin blockchain
 - The bitcoin blockchain is a public blockchain – all transactions are available.
 - You can use tools like a blockchain explorer to review transactions.

Latest Blocks [Browse blocks »](#)

HEIGHT	TIME	AGE	TTM	MINER	N(TX)	VOLUME	FEE RATES	Σ FEES	% FULL
847,954	23:16 UTC	2m	5:12	ViaBTC	6,653	528 BTC	3, 34, 2717	0.3450 BTC	99+
847,953	23:11 UTC	7m	7:44	ViaBTC	5,783	1,896 BTC	10, 35, 1276	0.3540 BTC	99+
847,952	23:03 UTC	15m	3:51	SBI Crypto	5,726	829 BTC	12, 34, 1351	0.3473 BTC	99+
847,951	22:59 UTC	19m	9:32	AntPool	4,278	1,244 BTC	3, 37, 1497	0.3757 BTC	99+
847,950	22:50 UTC	28m	35:03	AntPool	3,015	6,463 BTC	3, 45, 1645	0.4524 BTC	99+
847,949	22:15 UTC	1h 3m	8:40	SlushPool	5,137	7,195 BTC	3, 35, 1220	0.3573 BTC	99+
847,948	22:06 UTC	1h 12m	17:40	F2Pool	2,803	6,589 BTC	3, 40, 1517	0.4068 BTC	99+
847,947	21:48 UTC	1h 29m	15:02	ViaBTC	4,368	8,486 BTC	7, 39, 1578	0.3963 BTC	99+
847,946	21:33 UTC	1h 44m	10:47	F2Pool	5,209	3,724 BTC	7, 37, 1306	0.3771 BTC	99+
847,945	21:22 UTC	1h 55m	1:11	AntPool	6,115	436 BTC	3, 35, 292	0.3493 BTC	99+

What Is Blockchain?

6. Blockchain is just a fancy word for a ledger/database



02

How are businesses using blockchain to encourage growth?

Five real-world examples over multiple different industries



Example Growth Areas by Industry

Real-world examples in this presentation (there are many more)

- **Financial Services**

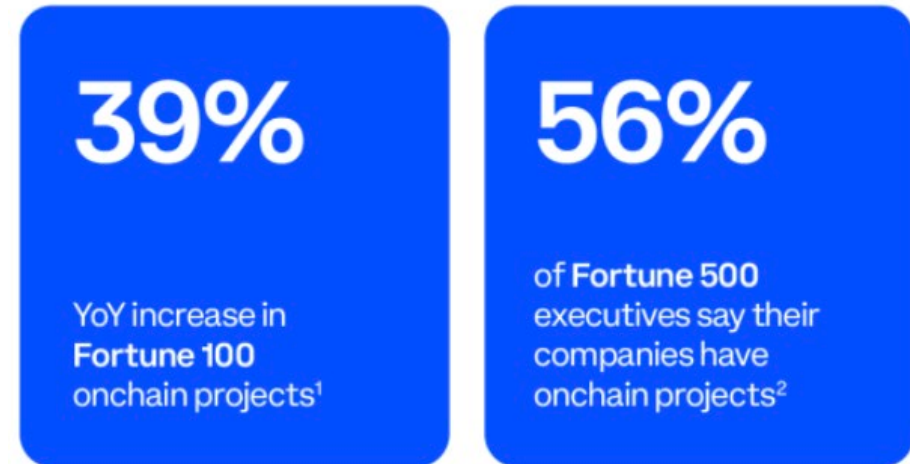
- Blackrock & Franklin Templeton – Tokenized Money Market Funds

- **Retail**

- Disney – Tokenized collectibles
- Boba Guys (Boba Tea) – Loyalty program

- **Healthcare**

- HealthReady – Verification of health data



¹ June 1, 2023 through May 31, 2024 vs June 1, 2022 through May 31, 2023

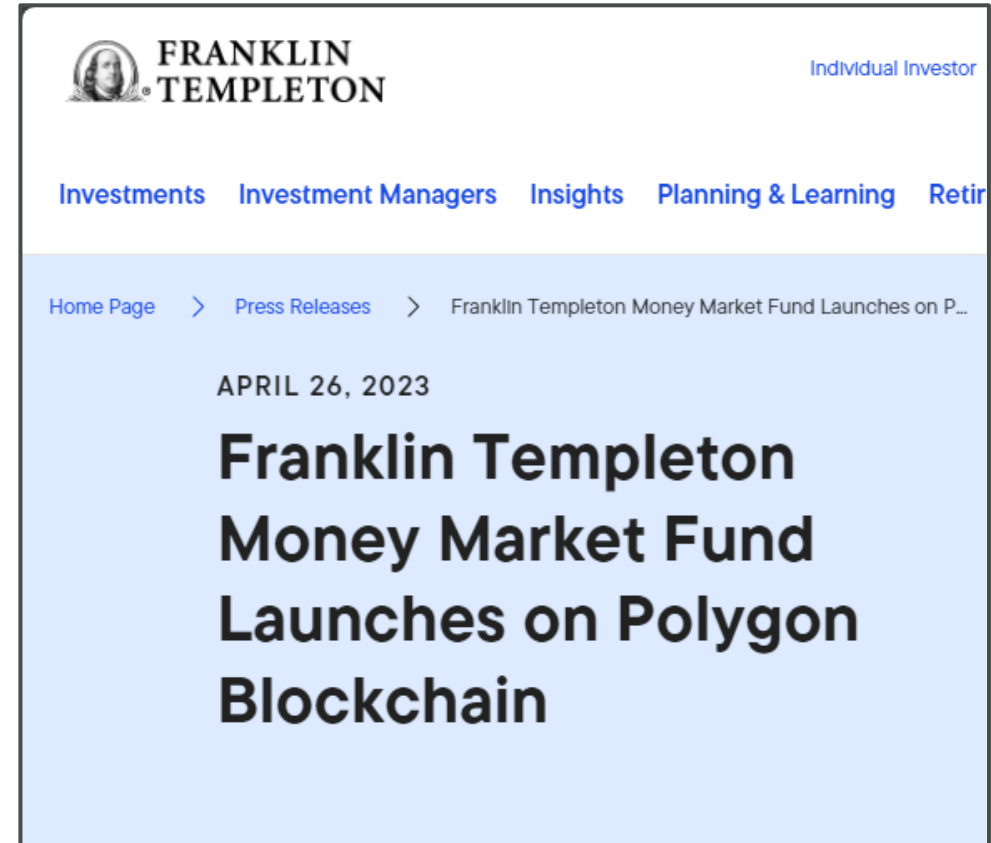
² As of May 31, 2024

Financial Services

Franklin Templeton & Blackrock

Tokenizing Money Market Funds

- **Franklin Templeton – \$368M**
 - Launched in April 2023 – BENJI Token
 - Fully backed by cash, U.S. Treasury Bills
- **Blackrock – \$375M**
 - Launched March 2024 – BUIDL token
 - Fully backed by cash, U.S. Treasury Bills, and repurchase agreements
 - BNY Melon is the custodian
- **Why tokenize money market funds on a public blockchain?**
 - Attract new investors
 - 24/7 near-instant on-chain settlement
 - Increased transparency and capital efficiency
 - Lower cost
 - “Wider design space for interoperability and programmability”



Retail

Disney Pinnacle & Boba Guys

Disney Pinnacle



- There are currently over 100,000 unique Disney pins in circulation, some selling for over \$100.
- Disney tokenized their collectible pins on the flow blockchain for digital collecting and trading.

Boba Guys

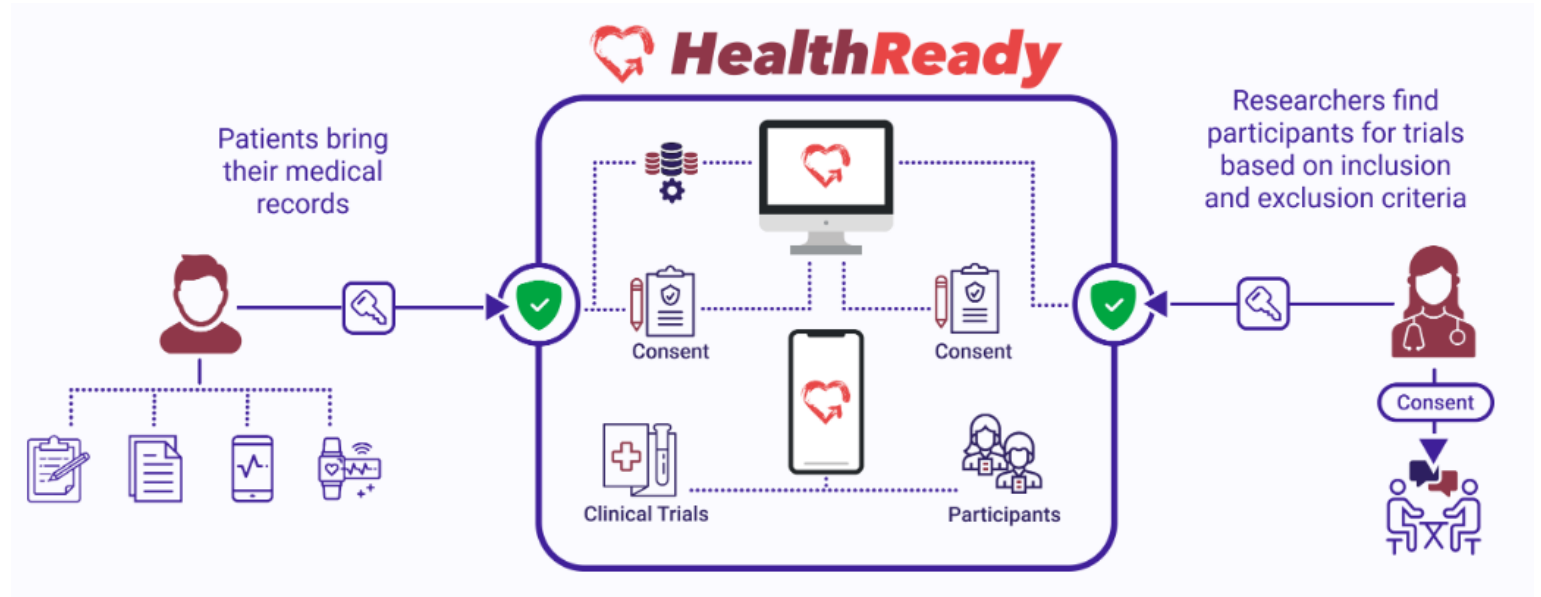


- Boba Guys developed “Passport” a blockchain-based loyalty program that goes beyond traditional models, featuring gamification, exclusive rewards and digital collectibles.
- 15,000 users joined in first 80 days, and one location reported 70% of orders made through the program.

Healthcare HealthReady

Resolving Clinical Research Bottlenecks

- **Problem:**
 - Healthcare data is considered up to 50 times more valuable than financial data
 - It takes substantial cost and time to find a diverse pool of qualified patients for a trial
- **HealthReady** puts the patient in control, allowing them to choose to provide access to their health data and consent to be found
 - Can later decide if they want to pursue the clinical study.
- **With HealthReady:**
 - Patients consent to access their data
 - Patient reports are validated for authenticity
 - HR token is issued to incentivize patient participation



03

How are businesses using blockchain to reduce costs?

Five real-world examples over multiple different industries



Example Cost Reduction Areas by Industry

Real-world examples in this presentation (there are many more)

- **Financial Services (FinTech)**
 - Circle – USDC
- **Retail**
 - Compass Coffee/Felix – Using stablecoins
 - Walmart – Food traceability
- **Public Sector**
 - California DMV – Car titles

Stablecoins

What is a Stablecoin?

Reducing transaction fees and processing times

- “Stablecoins are the killer application for blockchains right now and they are going to be fundamentally important for the status of the dollar as a global reserve currency.” – **Jose Fernandez da Ponte, SVP, General Manager Blockchain, Crypto and Digital Currencies at PayPal**



Stablecoin
[ˈstā-bəl-ˈkoin]

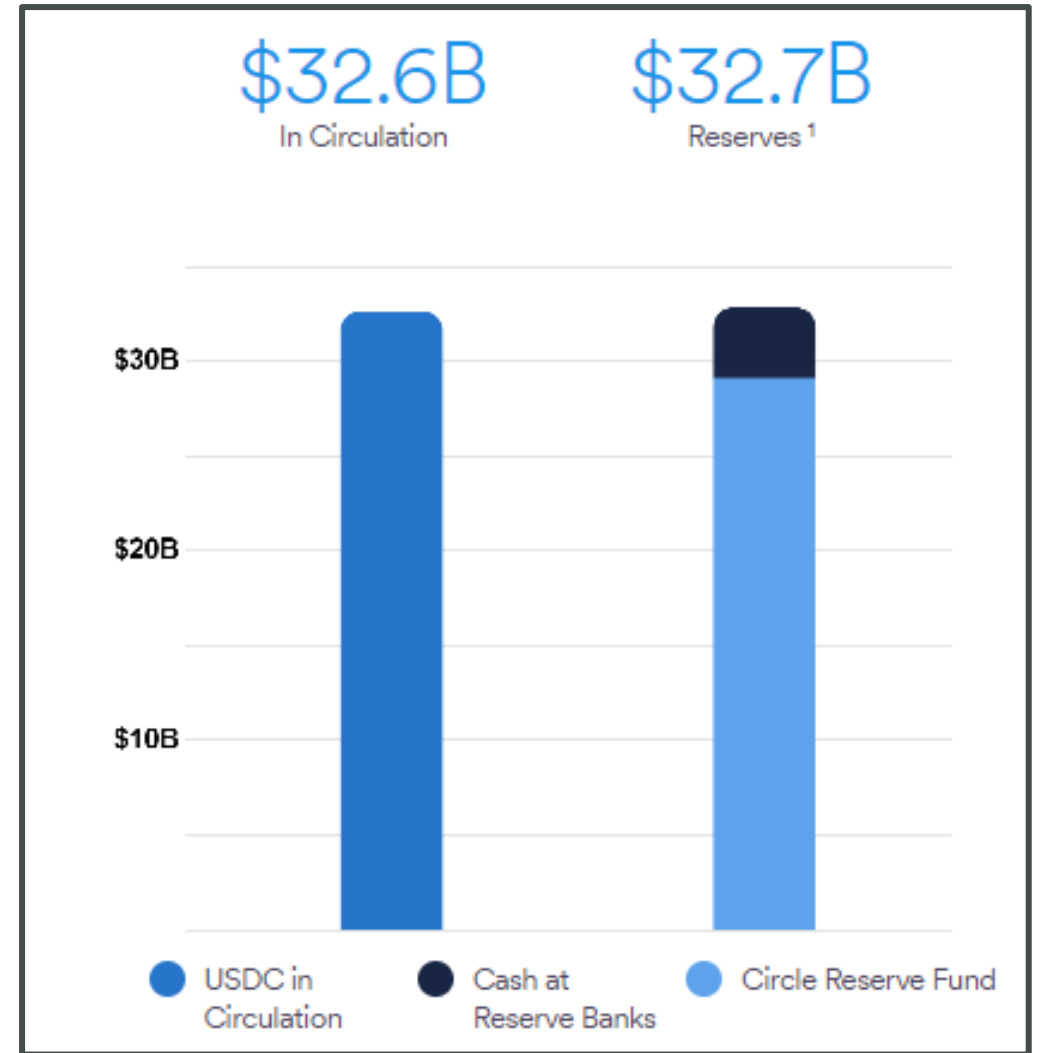
A cryptocurrency which has a value that is pegged, or tied, to that of another currency, commodity or financial instrument.

Financial Services

Circle

USDC issued by Circle

- USDC is a U.S. Dollar stablecoin issued by Circle
- USDC is available on multiple blockchains including:
 - Ethereum
 - Solana
 - Stellar
 - Near
- Why use USDC?
 - Move out of volatile digital assets but remain on-chain.



¹ USDC is backed by the equivalent value of US dollar denominated assets held as reserves for the benefit of USDC holders. Cash is held at regulated financial institutions. The portfolio of the Circle Reserve Fund, which can contain short-dated US Treasuries, overnight US Treasury repurchase agreements, and cash, is custodied at The Bank of New York Mellon and is managed by BlackRock.

Retail

Compass Coffee/Felix

Accepting stablecoins to reduce transaction costs

- Compass Coffee – Veteran-owned coffee brand with 18 stores in the Washington, D.C. area.
- When accepting cryptocurrency, there is generally no transaction fee to the recipient.
- Could accept bitcoin, but there is volatility risk.
- Compass Coffee partnered with Coinbase to accept USDC.

Using stablecoins to reduce cross-border transaction costs and improve settlement times

- Felix – Miami-based company that allows users to send cross-border payments from the U.S. to Mexico.
- Using the SWIFT network, cross-border payments can take 3-5 business days and come with significant costs.
- Using USDC, Felix was able to increase transaction times (near-instantly on the weekends) and reduce their costs up to 40%



\$126
Billion

- Estimated credit card transaction fees paid by merchants in 2022



Retail

Walmart

Food Traceability

- In 2023, there were 506 food recalls by the FDA
- Beginning January 20, 2026, the FDA will require companies to comply with a new Food Traceability Rule.
- In 2016, Walmart's VP of Food Safety asked the team to trace a package of sliced mangoes back to the source.
 - Took 6 days, 18 hours, 26 minutes
- Later in 2016, Walmart started building their own blockchain solution to track the movement of food throughout the supply chain.
- By September 2018, Walmart was able to trace over 25 products and tracking those sliced mangoes took only 2.2 seconds.



Public Sector

California DMV

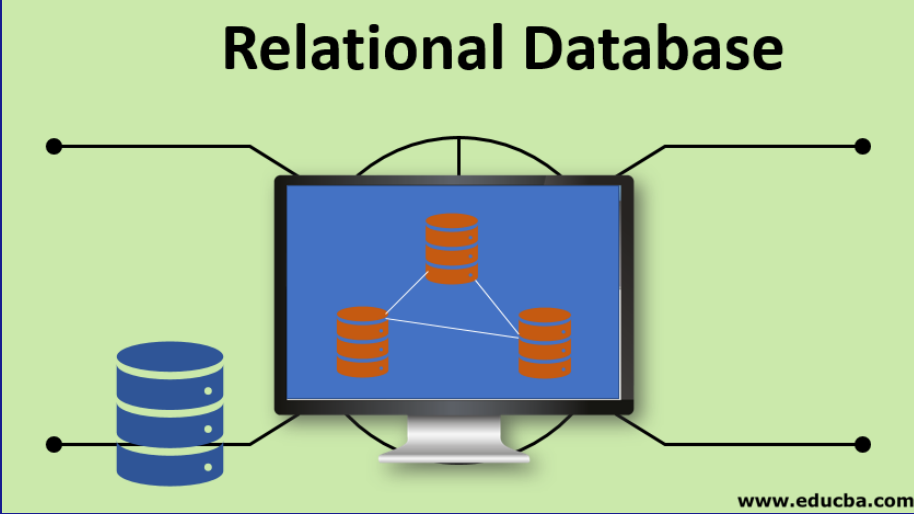
Digitizing Car Titles

- Protecting car buyers presented an opportunity for the DMV to move titles to the blockchain.
- A lemon car is a defective vehicle with manufacturing issues. About 1% of all vehicles sold per year are “lemons.”
- Car manufacturers have a 12-month period to fix the issue. If not fixed, you can file a lemon law complaint.
- In California, when someone buys a “lemon,” it will have a special designation on the title.
- If the car is moved out of state, and then later back into California, the owner can skirt the system and sell the car without the new buyer knowing.
- With California’s new title database on the blockchain, digital wallets will hold car title tokens that are immutable records.



Is Blockchain the Best Thing Since Sliced Bread?

Blockchain is a solution, not the only solution



Blockchain as a Potential Solution

When might you consider blockchain as a solution?

Blockchain

- When transparency is important
 - Public blockchains store a record of each transaction so anyone participating in the network can view them.
- When immutability is important
 - Once a data point is recorded on a blockchain, it generally cannot be altered. This helps prevent tampering.
- When decentralization and resilience are important
 - Even if some participants in the network (nodes) fail, the system typically remains operational.

Relational Database

- Transparency? Eh ...
 - Relational databases are typically centrally managed by a trusted administrator
- Immutability? Not really.
 - Relational databases typically allow for the altering of records after they've been recorded.
- Decentralization? Probably not
 - Relational databases rely on centralized servers

Contact

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