

BLENDED LEARNING GONE TO FAR?

OR

INGENIOUS DIGITAL EDUCATION MACHINE





Michael L Mathews, VP of Technology and Innovation, ORU

Passed the Senate the 16th day of April, 2019.

Presiding of the Senate

Trusted Global Commerce

Oklahoma Virtually Everywhere Act



MICHAEL L. MATHEWS
VP OF TECHNOLOGY
INNOVATION





Blockchain defined in one paragraph

"Blockchain should be viewed as the next generation of the Internet that designs trust, personalization, security, and integration to <u>all</u> worldwide data. It has the sophistication to blend the best of Artificial Intelligence, Mixed Realities, Machine Learning, Deep Learning, fluidity, and the Internet of things for full personification of intelligence." ~Michael L. Mathews





Time, Invention, and Innovation



The guy who invented the first wheel was an idiot.
The guy who invented the other three, he was a genius.

(Sid Caesar)

izquotes.com

Blockchain defined in one paragraph

"Blockchain is a GeoVision for what the Internet was intended to be – the Internet of freedom, the internet of dignity, the Internet of light, the Internet of people – not the Internet of Things."

~ Michael L. Mathews, United Nations, April 2016

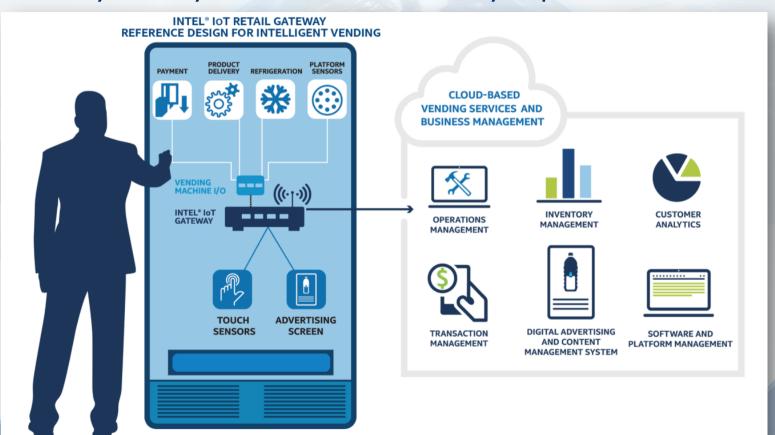
"No army can stop an idea that has come its time."

~Victor Hugo



Blockchain is like a digital vending machine

That allows you to buy all cloud-based services on your phone without a middle-person



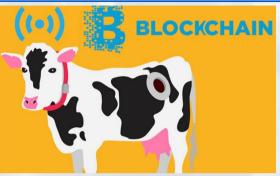
It's about the 'Chain'



FedEx's Smith Sees Blockchain as `Next Frontier' for Logistics



Coca-Cola, U.S. State Dept to use Blockchain to combat forced labor



Blockchain for better food systems

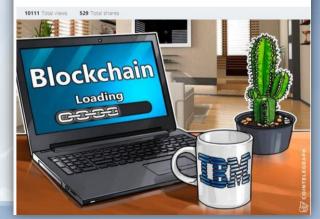


Bermuda's deeds registry to go on blockchain

UNITEDHEALTH GROUP®

Humana, MultiPlan, Optum, Quest Diagnostics and United Healthcare Launch Blockchain-Driven Effort to Tackle Care Provider Data Issues

Sony Partners With IBM to Use Blockchain in Student Data Management



The chain has become personal

Home → Blockchain news → Walmart Makes Blockchain a 'Business Requirement' for Produce Suppliers

Walmart Makes Blockchain a 'Business Requirement' for Produce Suppliers



According to a new press release, the world's largest retailer Walmart and subsidiary Sam's Club – a membership-only warehouse club - will be forcing suppliers of green leafy vegetables like lettuce and spinach to use blockchain for better transparency and traceability.

What is that idea that has come its time?

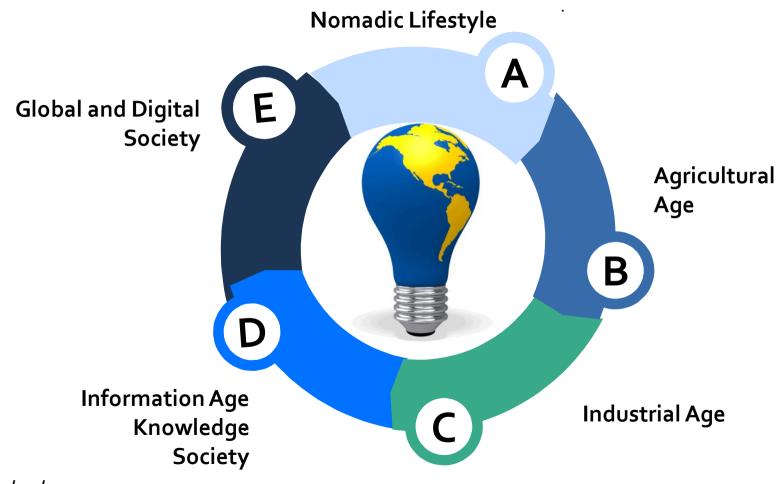


What is that idea that has come its time?



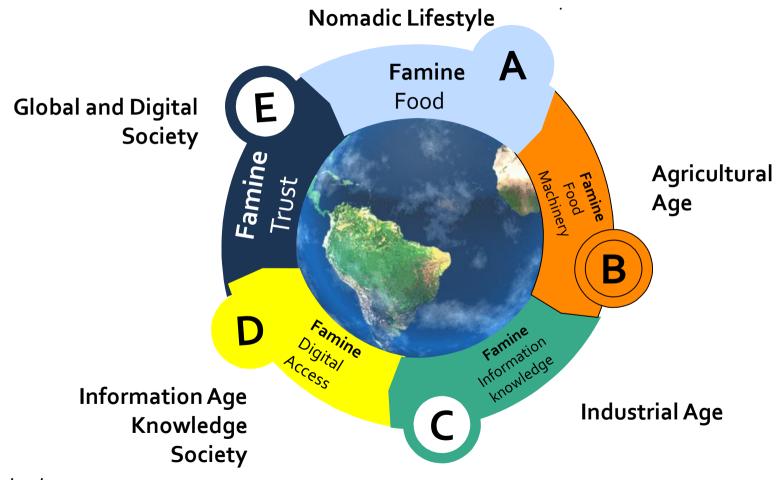






10/21/2019

Kastech Services and Solutions



10/21/2019

Kastech Services and Solutions

Trust Famine

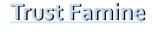
How does \$18B in credit card fraud happen annually, 43% of adults have their personal records hacked, and 47% of companies hacked?

Trust Famine

How did the best accounting practice of a 'double ledger' become the means for corporate corruption.

Trust Famine

How did major sex scandals exist with the ability to hide predators in church databases?



How did Hillary Clinton have access to a data server with email -- and did she really delete the emails with no backup?

Trust Famine

Did Russia plant data, take data, both or did nothing.

Trust Famine

Is the news 'Fake' and how would we know the source of true or fake news sources.



10/21/2019

Kastech Services and Solutions

Passed the Senate the 16th day of April, 2019.

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	OFFICE OF THE GOVERNOR
	Received by the Office of the Governor this
day	of april , 20 19, at 4:17 o'clock p. M
ву:	Sumullusy
	Approved by the Governor of the State of Oklahoma this 22
day	of capil , 20 19 , at 2:01 o'clock p. M
	Governor of the State of Oklahoma
	Governor of the Beate of Oktaholik

OFFICE OF THE SECRETARY OF STATE

Received by the Office of the Secretary of State this 22 20 19 , at 2:56 o'clock P. M. **Trusted Global**

Commerce



Oklahoma Virtually **Everywhere Act**

What is Blockchain

- A framework with technology that allows a globalized and central and 'trusted' system across all lesser 'untrusted' databases.
- A universal and central database that distributes all data across all the systems to date. Could be thought of as a global metalevel database.
- A reality that has come its time due to the global success and dependence on the Internet.

Trusted
Global
Commerce





Metaphoric Description

- Bitcoin is to Blockchain what Mosaic was to the Internet.
 - Mosaic and Netscape disappeared, but the Internet lived-on.
 - · Bitcoin will disappear, but Blockchain will live on.
- Cryptocurrency is to Blockchain what DarpaNet, HTML or Cyber Security is to the Internet.
 - DARPA-Net, HTML, and cybersecurity is a methodology of using the Internet and changes regularly. Cryptocurrency is merely playing off the stock market – and will constantly change.
- Blockchain is to the world of digital data what the U.S. Library of Congress is to all books, journals, periodicals. One central system run by ISBN numbers tracks and secures the legacy of all written content.

What Blockchain is <u>not</u>

- It is <u>not</u> cryptocurrency!
- It is <u>not</u> bitcoin!
- Bitcoin will disappear over time.
- The product Bitcoin uses Blockchain technology to transfer between systems.
- Cryptocurrency will continue on with newer versions that all operate on Blockchain. There are about six versions of cryptocurrency.
- Cryptocurrency makes up about 10% of what Blockchain is used for – but receives 99% of the attention.

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Blockchain is the Center of the Future

- All digital works will leverage the Blockchain infrastructure
 - Contracts
 - Health records
 - Legislative bylaws and laws
 - Information that leads to legislative laws
 - Archives
 - Banking records
 - Shopping and retail documents and receipts
 - Educational transcripts
 - News records
 - Voter registration
 - Oklahoma Virtually Everywhere Act

The chain has become personal

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Walmart Makes Blockchain a 'Business Requirement' for Produce Suppliers



According to a new press release, the world's largest retailer Walmart and subsidiary Sam's Club – a membership-only warehouse club - will be forcing suppliers of green leafy vegetables like lettuce and spinach to use blockchain for better transparency and traceability.

The chain has become personal and social



The chain has become personal, social, just



The chain has become personal, social, just









to monitor carbon

offset trading.

Microsoft Azure













legally landed.

Department of

has been using

captured from its

security cameras

In a bid to boost its

Hawaii is examining

tourism economy.

blockchain-based

throughout the US

cryptocurrencies can

ways in which

be adopted

TOURISM

Homeland Security

blockchain to record

and safely store data

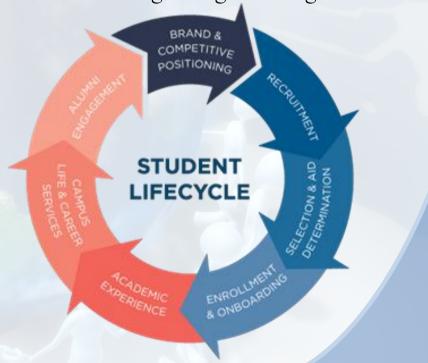


Companies Collaborate Around the Supply Chain

Real World Value — Supply Chain

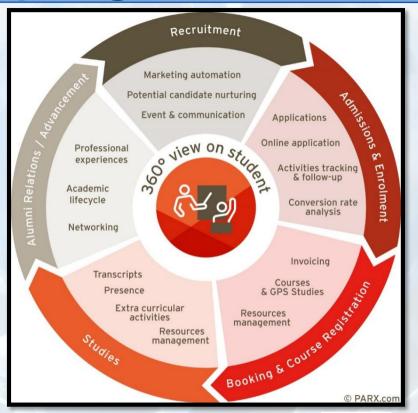


An inclusive design of recruiting, training, retaining, and graduating students



Student cycle geared toward single unit

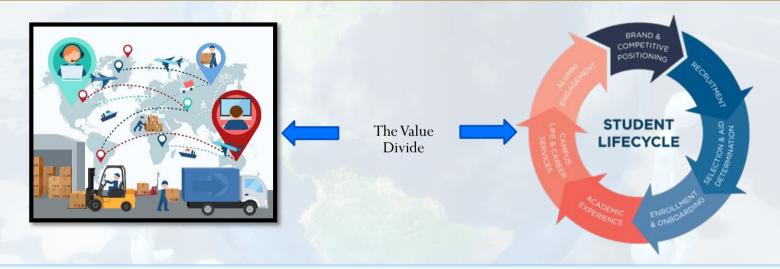
In the past education student information systems were designed and sold to allow college and universities to be independent and inward focus.



The 'value' of designing a 'student cycle' was in the students staying and succeeding within the education system.

Companies Collaborated Around the Supply Chain

All the distance learning, virtual delivery, and MOOCs could not fix the value divide



A student information system created to keep people inside one piece of the value never allowed education to dream of being in a larger ethos of value. The administrative cost of the design would eventually bankrupt educational institutions

Everything has now changed

What makes this possible?

- Digitized courses
- Internet of Things
- 3. Blockchain
- 4. Smart
 Contracts on the chain
- 5. Career
 Postings on the chain
- 6. Transcripts on the chain



Education Vending Machine

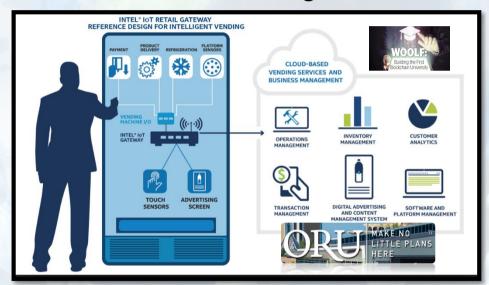
- 1. Enter your ID for Blockchain transcripts and assessment and evaluation transfer.
- 2. Choose career objective
- 3. Choose Job Salary requirements
- 4. Check your email to verify security code.
- 5. Enter your credit card
- 6. Select University or College
- 7. Select first course and yoru degree plan will be emailed to your credit care email.
- 8. Don't' forget to use our online mobile app for ordering your next degree planned course.

Everything has now changed

What makes this possible?

- Digitized courses
- Internet of Things
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EVM – Education Vending Machine



Education Vending Machine

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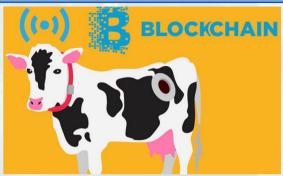
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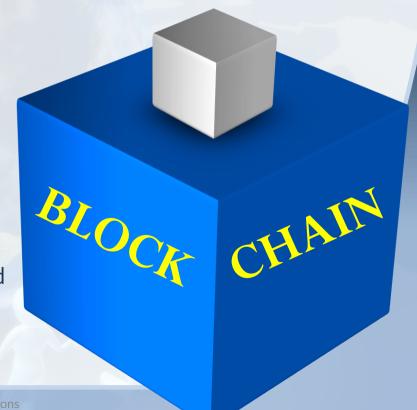
The Global Education Value Chain

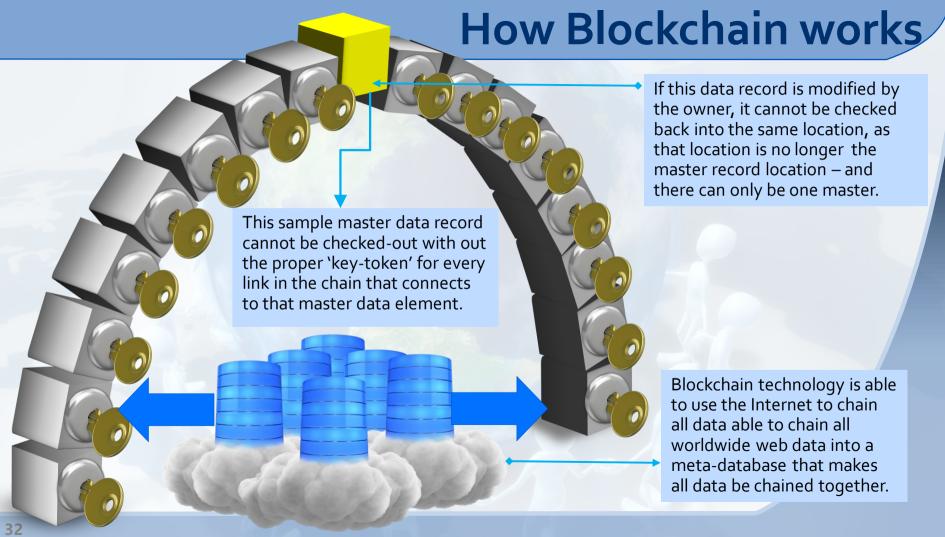
Accessible and Neutral for all Peoples - Trusted

U.S. Library of Congress, The Internet, and now Blockchain

Each entity is non-threatening, neutral, and accessible – and thus the meta-layer of data above all untrusted entry points makes it all extremely useful and heads toward 'trusted' by checking 'data in and all'.

Blockchain is the neutral framework that acts like U.S. Library of Congress for all data, records, and documents – whereby people need to check-in-and check-out the documents as there is only one master in the future.





If this data record is modified by the owner, it cannot be checked back into the same location, as that location is no longer the master record location – and there can only be one master.

Blockchain technology is able to use the Internet to chain all data able to chain all worldwide web data into a meta-database that makes all data be chained together.

Education Meta-data Schema – Proposal



"The White House Office of Science and Technology and Department of Education continues to challenge the public to get creative to solve some of the most difficult decisions in education. We appreciate the creative submission on meta-data schemas by thought leaders like Michael Mathews at the national level. It will be thought leaders like this that continue to help solve the future student success issues for future generation." ~2015

Nick Sinai
United States Deputy Chief Technology
Officer at the White House

UT – Austin using Blockchain

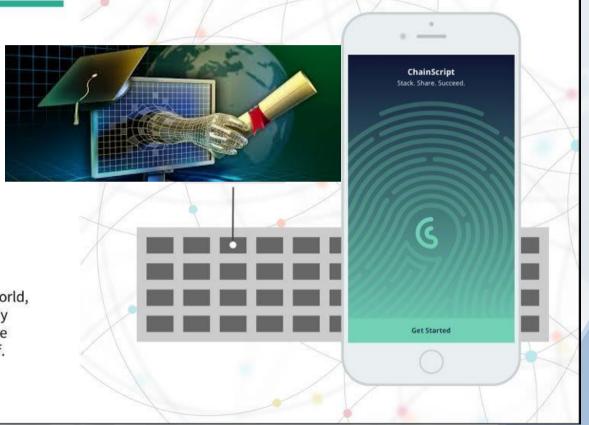
Transcript + Blockchain = ChainScript

- Immutable.
- Verifiable.
- Secure.

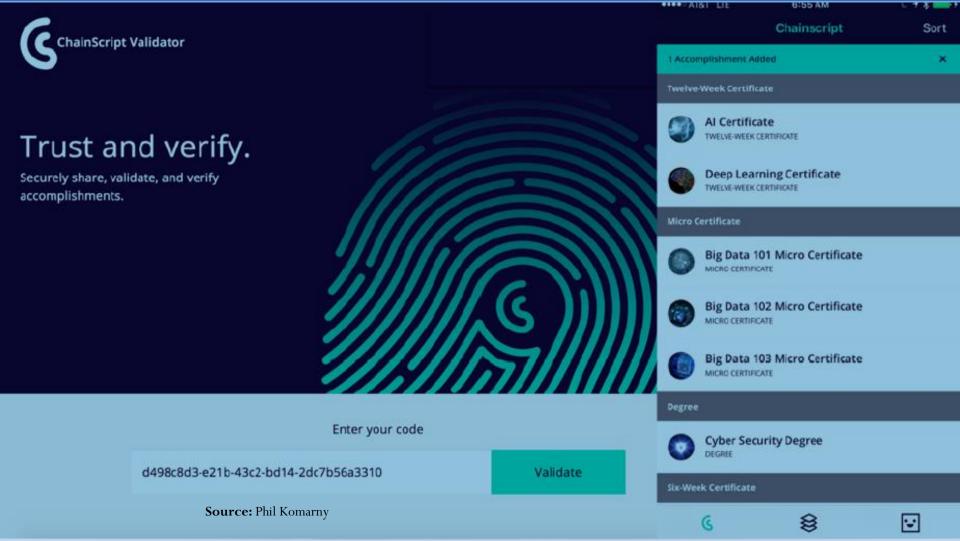
CHAINSCRIPT

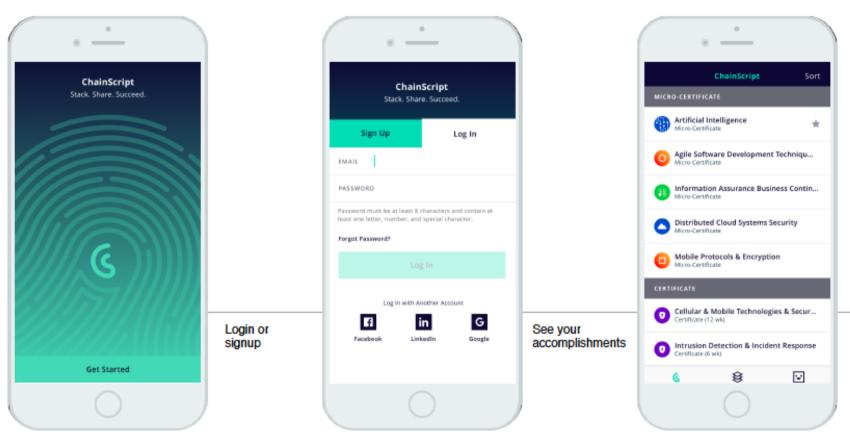
- Distributed.
- Ownership.
- Shareable.

Credentials for a mobile world, where learning increasingly occurs when and where the opportunity presents itself.



30 UTX







Source: Phil Komarny

Educational Uses

"What will be the most important technology to change higher education? In our view, it's not big data, the social web, MOOCs, virtual reality, or even artificial intelligence. We see these as components of something new, all enabled and transformed by an emerging technology called the Blockchain." ~ **EDUCAUSE**

Four Main Changes for Education

<u>Identity and Student Records:</u> How we identify students; protect their privacy; measure, record, and credential their accomplishments; and keep these records secure. Blockchain Universities will be 'Trusted Agents'.

<u>New Pedagogy:</u> How we customize teaching to each student and create new models of learning. Give each student their personal education and career ledger with credible evidence of success.

Links Augmented Reality, Virtual Reality, and Artificial Intelligence to students Blockchain.

<u>Costs (Student Debt):</u> How we value and fund education and reward students for the quality of their work.

<u>The Meta-University:</u> How we design entirely new models of higher education so that former MIT President Chuck Vest's dream can become a reality^{1.}

(1) https://er.educause.edu/articles/2006/1/open-content-and-the-emerging-global-metauniversity

Use Case Explanations

Blockchain Explained by William Mougayar

What it enables



- * Creation and real-time movement of digital assets
- * Embedding trust rules inside transactions and interactions
- * Time-stamping, rights and ownership proofs
- * Identity ownership and representation
- * Resistance to single points of failure or censorship
- * Creation of crypto-currency markets
- * Self-execution of business logic with self-enforcement
- * Running decentralized services
- * Selective transparency and privacy



Meta technology on the Internet Decentralized database Decentralized computers Peer to peer network Shared, distributed ledger Trust layer for the Web Software development environment

Its impact... 📥



- Reengineering processes
- 2. Rethinking roles of intermediaries
- 3. Bundling of services
- 4. New flows of value
- 5. Decentralized governance
- 6. New legal and regulatory frameworks

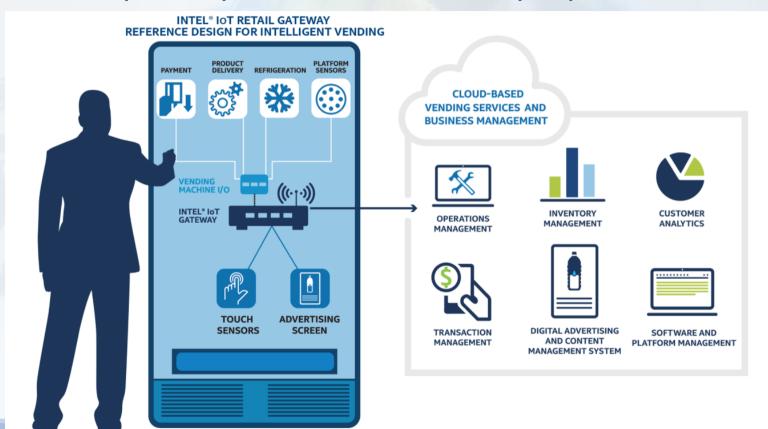


...across industries

Financial services **Government services** Healthcare **Energy markets** Supply chains **Smart things** World trade

Blockchain is like a vending machine

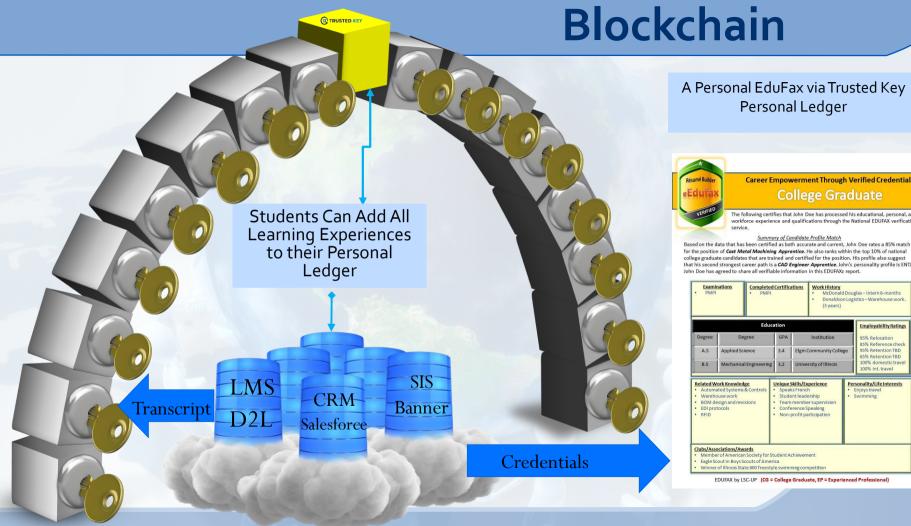
That allows you to buy all cloud-based services on your phone without a middle-person



Greatest Transformations with Blockchain

Prioritizing where the greatest gains can be made

- Any area/process where distrust exists and the 'middlelayers' can be cut out to increase efficiency and reduce costs.
- Areas that are most controlled by legislation and funded by the State.
- Any area where technology is broken, outdated, or can be consolidated.
- 4. Area where 'public-eye' sees transformation as long overdue.



A Personal EduFax via Trusted Key Personal Ledger

Career Empowerment Through Verified Credentials

The following certifies that John Doe has processed his educational, personal, and workforce experience and qualifications through the National EDUFAX verification

Summary of Candidate Profile Match

for the position of Cast Metal Machining Apprentice. He also ranks within the top 10% of national college graduate candidates that are trained and certified for the position. His profile also suggest that his second strongest career path is a CAD Engineer Apprentice. John's personality profile is ENTJ. John Doe has agreed to share all verifiable information in this EDUFAXz report.



McDonald Douglas - Intern 6-months

Donaldson Logistics - Warehouse work.

Educa	ition	Employability Ratings	
	GPA	Institution	95% Relocation 85% Reference check
	3.4	Elgin Community College	95% Retention TBD 65% Retention TBD
ineering	3.2	University of Illinois	100% domestic travel 100% Int. travel

Unique Skills/Experience

- Personality/Life Interests • Swimming Student leadership
 - Team member supervision Conference Speaking Non-profit participation
- Member of American Society for Student Achievement

EDUFAX by LSC-UP (CG = College Graduate, EP = Experienced Professional)



Career Empowerment Through Verified Credentials

Experienced Professional

The following certifies that Jane Doe has processed her educational, personal, and workforce experience and qualifications through the National EDUFAX® verification service.

Summary of Candidate Profile Match

Based on the data that has been certified as both accurate and current. Jane Doe rates a 98% match for the position of Certified Manufacturing Engineer. She also ranks within the top 2% of national candidates that are qualified to apply for the position. Her profile also suggest that her second strongest career path is operations plant manager, Jane's personality profile is ENTJ. Jane Doe has agreed to share all verifiable information in this EDUFAX report.

Fxa	am	iin	0	ti	^	r

- Six Sigma
- Lean Bronze CMfgT
- EET

Completed Certifications

- Six Sigma Lean Bronze
- CMfgT
- PMI

12 Year - Work History

- Cummins-Plant Manager (5 years)
- Hamilton, Int.- Design Eng. (3 years)
- Siemens-CAD Eng. (2 years)
- Manitowoc- Welder (2 years)

Education					
Degree	Degree	GPA	Institution		
A.S	Applied Science	3.5	Madison Technical College		
B.S	Chemical Engineering	3.7	University of Madison		

Employability Ratings

85% Relocation 95% Reference check 95% Retention >2 vrs 65% Retention >4 yrs 55% domestic travel 10% Int. travel

Related Work Knowledge

- Automated Systems & Controls
- Manufacturing Management
- Manufacturing Process Application

& Operation

- Math, Applied & Engineering
- Product, Process Design & Development
- Production System & Equipment

Unique Skills/Experience

Supervision

Team facilitator

Conference Speaking

Non-profit leadership

· Teaching at college level

- Personality/Life Interests Speak French and Spanish Enjoys business travel
- Union Negotiation Training co-workers

 - Conference Speaking
 - · Teaching at college level
 - Non-profit leadership
 - Machine shop hobby

Clubs/Associations/Awards

- Member of college math club that placed third in nationals
- Member of Project Managers
- Toastmasters int. five year member with Able Toastmaster rating.
- 10 year member of the boys and girls club of America



Career Empowerment Through Verified Credentials Skills Gap Analysis

This Skills Gap Analysis (SGA) is prepared for John Doe who is interested in a career as a manufacturing engineer. The SGA for manufacturing related careers utilize the National Association of Manufacturers (NAM) endorsed Manufacturing Skills Certification System, which uses stackable credentials applicable to all sectors in the manufacturing industry. These nationally portable, industryrecognized credentials validate what is needed to be productive and successful in entry-level positions in any manufacturing environment

Summary of Candidate Profile Match

The analysis indicates that John Doe is 65% complete with the credentials, certifications, education, and experience to be qualified for a successful career as a manufacturing engineer.

Work Experience Status 55% complete

Remaining Gaps

 Need 400 hours of related work experience

Recommendations

· Focus on PT job or Internship in manufacturing related environment

Education Status 75% complete (Junior Status)

Remaining Gaps

- Senior year completion
- One team/club participation Recommendations
- Focus on Chemistry and shop related classes as electives.

Grades

- HS 3.95
- · Cert-exam A+ · College 3.65

Assoc./Club

- · Honors Society
- Brazil student business trip

Certifications Status 75% complete for entry level

Remaining Gaps

CMfgT

Recommend completing attached Body of knowledge (BOK) assessment

Assessment/Testing Information and Review ACT Score

- WorkKeys profile
- The National Career Readiness Certificate
- · National Assessment of Ed. Progress
- State Academic profile report

Summary Report

Overall 65% Complete

- Based on your current education and credential exam trends you will be rated in the top 10% of qualified manufacturing engineers.
- Based on your past pace, you will be qualified and ready for a manufacturing engineer position in 10-12 months.
- There are current 50,000 Manufacturing Engineers job openings
- The Bureau of Labor Statistics projects that Manufacturing Engineers are estimated to increase by 20% over the next 12 months

Recommendation - Keep up the great work and focus on internship opportunities.



Career Empowerment Through Verified Credentials

College Graduate

The following certifies that John Doe has processed his educational, personal, and workforce experience and qualifications through the National EDUFAX verification service.

Summary of Candidate Profile Match

Based on the data that has been certified as both accurate and current, John Doe rates a 85% match for the position of *Cast Metal Machining Apprentice*. He also ranks within the top 10% of national college graduate candidates that are trained and certified for the position. His profile also suggest that his second strongest career path is a *CAD Engineer Apprentice*. John's personality profile is ENTJ. John Doe has agreed to share all verifiable information in this EDUFAXz report.

Exar	nin	ati	on
PM	PI		351,886

Completed Certifications PMPI

Work History

- McDonald Douglas Intern 6-months
- Donaldson Logistics Warehouse work.
 (3 years)

	Educa	Employability Ratings		
Degree	Degree	GPA	Institution	95% Relocation 85% Reference check
A.S	Applied Science	3.4	Elgin Community College	95% Retention TBD 65% Retention TBD
B.S	Mechanical Engineering	3.2	University of Illinois	100% domestictravel 100% Int. travel

Related Work Knowledge

- Automated Systems & Controls
- Warehouse work
- BOM design and revisions
- EDI protocols
- RFID

Unique Skills/Experience

- Speaks French
- Student leadership
- Team member supervision
- Conference Speaking
- Non-profit participation

Personality/Life Interests

- Enjoys travel
- Swimming

Clubs/Associations/Awards

- · Member of American Society for Student Achievement
- Eagle Scout in Boys Scouts of America
- Winner of Illinois State 800 freestyle swimming competition

EDUFAX by LSC-UP (CG = College Graduate, EP = Experienced Professional)

Sources





The Blockchain Revolution for Education

https://er.educause.edu/articles/2017/3/the-blockchain-revolution-and-higher-education

https://er.educause.edu/articles/2017/4/credentials-reputation-and-the-blockchain

 $\underline{https://www.youtube.com/watch?v=85MgX1idyZ8\&feature=youtu.be\&t=28m48s}$

10/21/2019



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