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CSCD71 Blockchain and Decentralized Applications

Privacy, Regulatory Compliance and Adoption

UNIVERSITY OF
TORONTO
SCARBOROUGH

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Our Agenda

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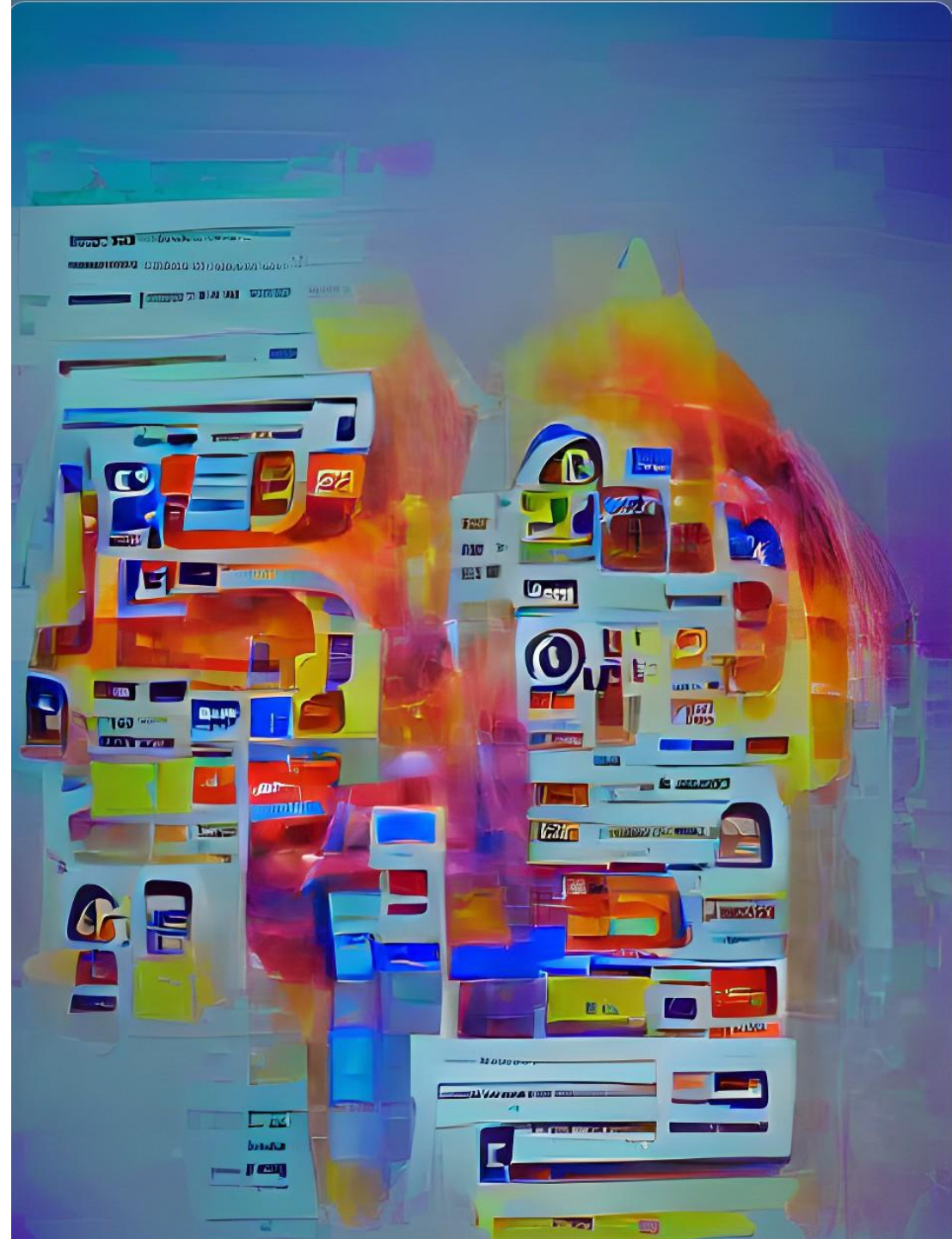
A Brief History of Blockchain: Industry Perspective

1991 Chain to secure blocks

1992 Merkle Trees

1993 PoW

1994 Hal Finney's RPoW

2008 BTC whitepaper

2009 BTC live

2013 Silk Road

2014 Mt. Gox

2017 ICO Boom

2018 Crypto Winter

2019 Libra & Global Regulatory Changes

2020 DeFi + COVID

2021 NFT Boom, BTC ATH, El Salvador

2022 Crypto Carnage

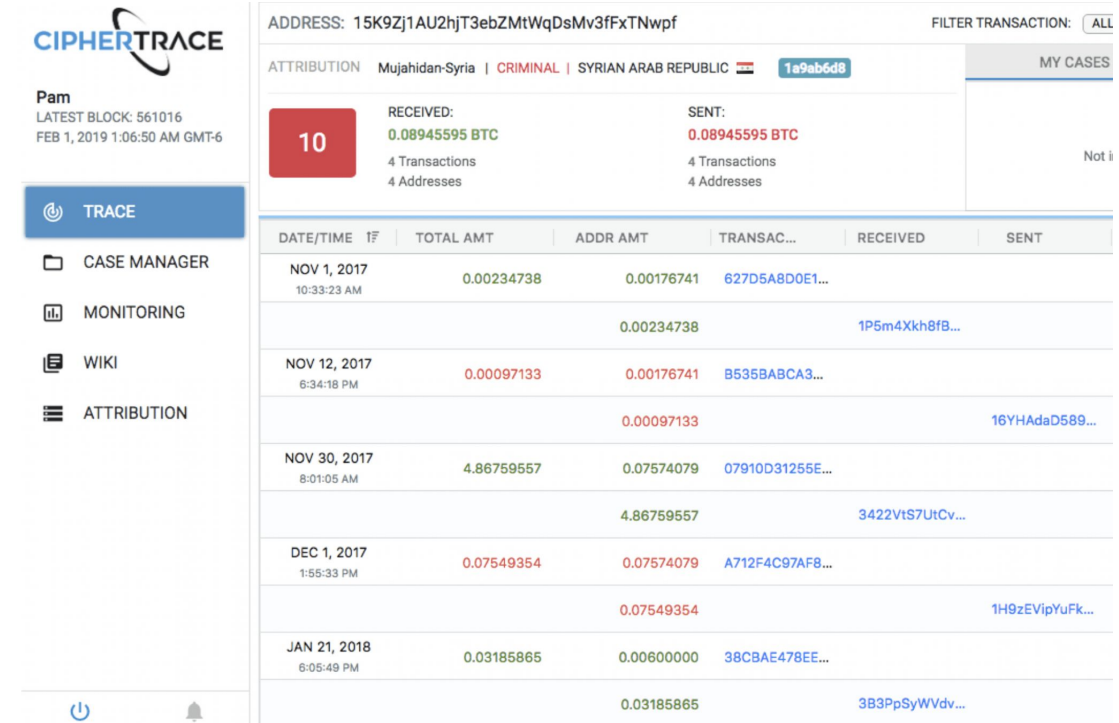collisionless

Current Regulatory Landscape

- VASPs globally are *starting* to be scrutinized like banks although regulatory compliance happening at different paces ("sunrise issue")
  - application and licensing requirements
  - transaction monitoring and reporting obligations
  - compliance obligations

- Regulatory frameworks differ in robustness across jurisdictions (Bruce Fenton on Twitter: "*Stocks are the lifeblood of all companies and [the US government has] made it so scary that industry players will work in every country in the world except North Korea, Iran and the USA.*")

- Slow or non-existent regulation or lazy regulation is partially to blame for FTX collapse

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Current Regulatory Landscape

- Disagreement about what should be regulated
  - Tornado Cash (OFAC sanctioned code, 2022)
  - DeFi

Considerations for Builders: Privacy

- Blockchain analytic firms attribute blockchain addresses to contextualize risk, controlling entity (not PII), entity type, entity location, counterparty interactions and gather IP intelligence from SVP devices

- Private companies are building tools in the spirit of existing AML regimes, which question the desire for privacy
    - KYC dependencies
    - ie. use of mixers constitute high risk
    - ie. use of coin joins or privacy-focused wallets constitute high risk

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Considerations for Builders: Privacy

- Transaction graph analysis builds out the entire blockchain ecosystem, attributing counterparties throughout the transaction flows

- Will on chain transparency give rise to a surveillance machine?
- NFTs - forming a web of all digital interactions
- Connecting metadata to reveal individuals
- Is privacy important in the digital age?
- Secrecy vs privacy?

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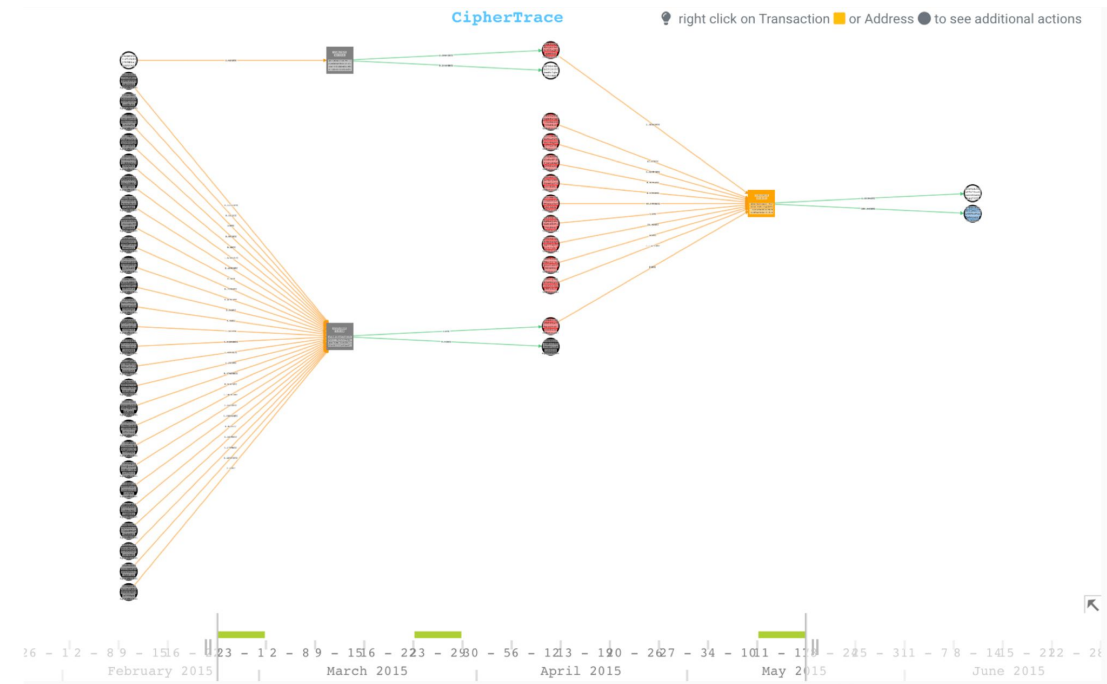
Considerations for Builders: Regulatory Compliance
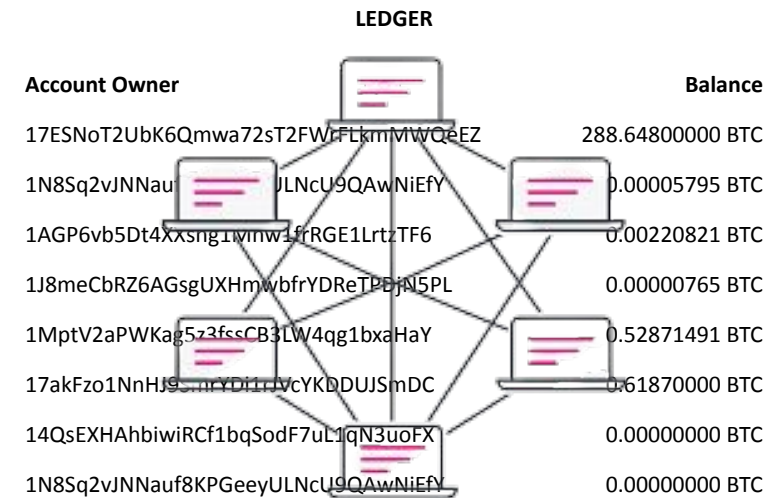
- Developers and engineers must participate in, and stay abreast of the regulatory discussion

- What should be regulated? Businesses? People? Code?
  - Where is the line in the sand?
- Is code speech and if so, should it be protected?
- Should developers be held accountable for malicious use of their code?
  - What implications would this have on innovation?

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Considerations for Builders: Adoption

- privacy-enhanced protocols
- user friendly non-custodial wallets
- end-user education
- security best practices
- inheritance planning (https://twitter.com/brucefenton/status/1593069948523646978)
- criticality of code reviews
- exchange transparency: proof of reserves, liabilities, cash flow transparency
- macro-picture: how will what we build affect global politics, financial stability, the sovereignty of a nation-state and its people?

LEDGER

Account Owner		Balance
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1N8Sq2vJNNau...ULNcU9QAwNiEfY		0.00005795 BTC
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1J8meCbRZ6AGsgUXHmwbfrYDReTPEjN5PL		0.00000765 BTC
1MptV2aPWKag5z3fssCB3LW4qg1bxaHaY		0.52871491 BTC
17akFzo1NnHJ9S...rYDi1rJvcYKDDUJSmDC		0.61870000 BTC
14QsEXHAhbiwiRCf1bqSodF7uL1qN3uoFX		0.00000000 BTC
1N8Sq2vJNNauf8KPGeeyULNcU9QAwNiEfY		0.00000000 BTC

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Where are we Headed

- 2022 Contagion Fallout
  - bankrupt projects
  - regulatory wrath
  - constricted funding
  - loss of trust
- Banking
- Insurance
- Legal

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