Knowledge Aggregation and Propagation

Cryptoeconomic Systems Summit
MIT Media Lab
October 2019

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Agenda

- Short talk about history & activities as a Bitcoin scribe
- Meta-talk: Conference talks
- Overcoming journal paywalls (scihub, etc)
- Knowledge preservation & dissemination (don't blink)
whoami

- Bryan Bishop
- Bitcoin Core contributor
- Bitcoin developer
- ex LedgerX (4 years!)
- Biotech
- Follow me: https://twitter.com/kanzure
Conference talk transcripts

- IMHO, all talks should have transcripts
- Text is more convenient for mass consumption, and takes up less of a busy professional's time
- Real-time, publish immediately after
- Immediate transcripts are much more valuable
- Not everyone can attend conferences (travel costs, logistics, etc.), they don't scale.
- Let's get to the fun part...
Conference Coverage

Texas Bitcoin Conference
Coindesk Consensus 2016
AGI 2016
W3 Blockchain Conference 2016
Baltic Honeybadger 2018

IARPA-MIST
Magical Crypto
SF Bitcoin Devs
Dallas Bitcoin Symposium

Building On Bitcoin 2018
London Bitcoin Devs
Bitblockboom

Austin Bitcoin Devs

L2 Summit 2018
Biohack The Planet 2018-2019

Bitcoin CoreDev Tech 2017-2019

Bitcoin Optech Taproot workshop

Bitcoin Devcore 2015

BPASE 2017-2018

grincon

Breaking Bitcoin 2017-2019

Open Science Summit 2011-2012

H+ Summit 2009-2011

Real World Crypto 2018

Rebooting Web of Trust 2019 Prague

Bitcoin Edge Dev++ 2018-2019

Startup Science 2012

Stanford Blockchain Conference

Scaling Bitcoin

Singularity Summit 2009

FBI-DIYbio 2011-2012

gp-write 2016-2017
Scaling Transcripts

- 2016 - https://diyhpl.us/wiki/transcripts/scalingbitcoin/milan/
Bitcoin Edge Dev++ Transcripts

I thought it was impossible to transcribe @roasbeef live. I was wrong.

@kanzure's hands should be banned as a fully automatic weapon

Replying to @kanzure @roasbeef and @ScalingBitcoin
Adam Back @adam3us · Nov 4, 2017
Replying to @lightcoin @kanzure and 3 others
we want to see video of @kanzure typing fingers as he transcribes @roasbeef talking at full speed!

Bryan Bishop @kanzure · Nov 4, 2017
here you go

Johnathan Corgan @jmcorgan · Nov 4, 2017
Replying to @peterktodd @kanzure and 3 others
As usual, @kanzure is doing an AMAZING job capturing the text the talks & presentations live from @ScalingBitcoin diyhpl.us/wiki/transcrip...

Christopher Allen @ChristopherA · Nov 4, 2017
Replying to @ChristopherA @kanzure and @ScalingBitcoin
Watching @kanzure transcribing @roasbeef is like watching a race between two thoroughbreds! Who will win?

Pieter Wuille @pвуille
Thanks @kanzure for another transcript (including references!) of a talk of mine!

Bryan Bishop @kanzure · Jul 24, 2018
Transcript: @pвуille on taproot, Schnorr signatures and SiGHASH_NOINPUT diyhpl.us/wiki/transcrip...

twitter.com/SFBtcinDevS/...

Kalle Rosenbaum @kallerosenbaum
Is transcribing also on your spare time? Your work is amazing.

2:46 PM · Oct 22, 2017 · Twitter for Android
Adam Gibson @waxwing__ · Jan 25, 2018
Replying to @kanzure
@kanzure is hoping to provide a single transcript to act as witness for all of @pwuille 's talks, but unfortunately this requires relying on the one-more-kanzure assumption which academics consider dubious at best.

Bryan Bishop @kanzure · Jan 25, 2018
Instead of transcribing talks, I simply write down what @pwuille is going to say, and then gmaxwell sends me the difference between what I expected him to say and what was actually said (like an efficient block xfer scheme). It's really quite trivial, if you don't think about it.

Bryan Bishop @kanzure · Feb 8, 2018
i am going to ask Andrew Poelstra to invent a way for me to do transcriptless transcripts, similar to his scriptless scripts technique. There's nothing there, that's the magic.
The process of transcribing

• Goal: type very, very quickly
• Developed this skill by years of arguing over the Internet
• Started in high school, wanted to prove how much of a waste of time all the classes were.
• Markdown formatting, headings
• Publish to web via Git + Ikiwiki
• Rapid bookmarks using jotmuch/buku
Transcripts are funny
Reseacher who edited babies' genome retreats from view as criticism mounts

O Dyer - BMJ, 2018 - bmj com
jiankui-he-human-genome-editing. 2 Slides from presentation of He Jiankui. Second international summit on human genome editing, Hong Kong. Nov 2018 ...

Is an FBI agent a DIY biologist like any other? A cultural analysis of a biosecurity risk

S Tocchetti, SA Aguilon - Science, Technology, & Human ..., 2015 - journals.sagepub.com
Biotechnology's promises has been widely recognized as a major enterprise accelerating the commodification of the biological. After the 9/11 events and the subs...

3.10 Scalable Funding of Blockchain Micropayment Channel Networks

R Wattenhofer, C Decker, C Burchert - Opportunities and Risks of ... - research.aalto.fi

The FBI and biohackers: an unusual relationship

H Wolinsky - EMBO reports, 2016 - embopress.org
... in microbiology, told the FBI-sponsored “bridges” meeting in 2012: “[We] want to show the international community that this model [of cooperation between the FBI and DYbio] is safeguarding your practice, and that's to our mutual benefit” (http://diyhpl.us/wiki/transcripts/fbi ...

Analysis of the Bitcoin UTxO set

S Delgado-Segura, C Pérez-Sola ... - ... Conference on Financial ..., 2018 - Springer
Stats on transcripts

https://diyhpl.us/wiki/transcripts

Stats on transcripts stored at diyhpl.us/wiki/transcripts

- years: 2009-2019
- words: 1,555,921
- talks/transcripts: 642
- filesize: 10 MB

Sent: 9:17 AM - Apr 14, 2019
Scribe Fund?

Bryan Bishop
@kanzure

I'm having trouble keeping up with transcripts for all the bitcoin conferences. Recently that includes @advbitcoin, @LDNBitcoinDev and Munich Bitcoin Techday. Is there any interest in a funding pool for transcripts? 3rd party service would be retained for this.

7:17 PM - Feb 13, 2019

22 people are talking about this

Bryan Bishop @kanzure · Feb 13, 2019

Replying to @kanzure
I estimate that there's about 20 good talks per month. This works out to maybe 240 talks/year. On average, 1 hour each. Most online transcripting services charge around $1-2/minute, so this works out to maybe $30k/year.

Bryan Bishop
@kanzure

I think part of the magic is fast transcripts, which are harder to get. Most of these services have turnaround time of like 3 days. Having a historical record is useful, but I think even better to have something immediately done.

7:20 PM - Feb 13, 2019

See Bryan Bishop's other Tweets
Scribe Fund?

- I have other stuff going on.
- I can't type everything. Well, I could. But I won't.
- It would be great if the community could get together to pay for a scribe to travel around (or engage remotely) to type transcripts at conferences.
- Stenographers, easily $200k/year salaries (for court stenographers)
- Most likely, needs to be a developer or technical editor who can absorb bitcoin knowledge and knows how to spell UTXO (hint: it's not "You tea ecks oh").
Transcripts via machine learning?

- Train on audiobooks
- Attempted an implementation in tensorflow based on Baidu's DeepSpeech
- Mozilla eventually made a better implementation
- My implementation had a ~20% error rate
- Seems like this isn't quite viable..... yet.
Conference quality

- Has anyone actually studied this? Use surveys before/after.
- Talk selection on easychair is not ideal
- Conference talks should be commissioned (or invited) and designed by 1 to 3 technical subject matter experts.
- Small improvements have large effects (considering total number of attendees and time spent at conferences in our industry)
- Conference talk aggregator service?
Bridge for Academia (resources)

- bitcoin-dev mailing list (lists.linuxfoundation.org)
  - Disclosure: I am part of the moderator team (usually the most active)
- IRC logs: #bitcoin-wizards, #bitcoin-core-dev, etc.
- bitcointalk.org
Bookmarks

- Use jotmuch/buku for command line, tagged bookmarks
- ~8 years ago lost 50,000 bookmarks in data loss event
  - Learned my lesson about backups
  - Slowly working my way back up
Manuscripts

- (hosted collection)
- timestamps! (opentimestamps)
Meetlog

- An entirely speculative exercise.. the following is 100% fictional and absolutely does not exist.
- Homebrew CRM system
- Record all conversations since January 2009
  - Date, time, conversation topics (tags), contact info
- If it existed, this would amount to a 6 MB yaml file
- Algorithm for sharding knowledge across a certain number of individuals, also contact frequency reminders
- Trace origin of ideas, their frequency and contagion
Academia is broken

- Academic publishing, in particular, is broken
- What to do about this?
  - Prediction markets? Derivatives markets?
- SciHub, piracy
- I Am nOt aCtIvElY SoLiCiTiNg a complete copy of scihub (not necessarily libgen); nobody has one and this is not good. This is an extremely important data set and we should make sure we have as many copies as possible.
- In 2013, accidentally deanonymized scihub creator because I remembered her photo from a Harvard conference where we both spoke in 2010
  - Sorry about that... I was just excited and it blurred out.
- … Aaron Swartz …
Disconnect between academic publishing & bitcoin developers

- Old concepts posted on forums and mailing lists only sometimes get cited.
- Situation has been improving over the past few years
- But it's very strange to see papers get written that don't cite prior work from the developers
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