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first at @pygotham today, we have "The Automatic Computer and You: A Meditation Upon The History And Future Of Software Development". yes, it's a @glyph keynote! #pygotham

"in the words of wiktionary, where desperate keynote speakers go to find out what they're supposed to be doing…" — @glyph #pygotham

"computers are both religious and philosophical, as anyone who has debugged something for more than two hours will tell you" — @glyph #pygotham

Out of all the words in this talk's title, Glyph wants to talk the most about the history and the future. Says we don't learn enough from the former and don't think far enough about the latter enough. #pygotham

Glyph is at the age where he might be expected to have a midlife crisis, and thinks the software industry might be doing one of those as well ■ #pygotham

We as software people are affecting the world in a massive way and starting to realize this, and therefore asking some uncomfortable questions. #pygotham

"But we're okay, right? I mean, prominent people in the software industry aren't out there buying and wrecking expensive sports cars… [SLIDE OF ELON MUSK'S ROADSTER IN SPACE]" — @glyph #pygotham

We should take this opportunity to expand the *scope* of the questions we're asking about our collective midlife crisis, rather than turning inward and focusing solely on ourselves. What's the bigger picture? #pygotham

Midlife crisis trope: "What can I do to feel young again?" aka "What new industries can I go disrupt with software?"

Stop doing that. We have more understanding of our impact and should be more responsible with how we apply software to a field. #pygotham

So instead: "What did I learn from my youth?"

Glyph suggests we, at this point, go check out James Mickens' talk "Technological Manifest Destiny", which questions the idea that Technology Is Always A Good Thing And Adding More Of It Makes Things Better™ #pygotham

With our motivation and framing set up… let's go look at history!

What are computers good for, anyway? "Video games." #pygotham

You might know that @glyph basically got famous for Twisted. Why is it called Twisted, anyway? Well, originally it was a thing called Twisted Reality, a video game which needed a networking library! #pygotham

[correction: video game engine]

But this was an example of a pattern that has happened a lot in software: an originally-minor component of a little-used product garners much more interest than the thing that spawned it. See: Slack, Flickr… #pygotham

Ken Thompson wound up writing an operating system to support his projects… and oh look it's UNIX.

Way before that… @glyph tells us that Alan Turing wanted to make a chess game, but had to invent computers first. #pygotham

But what are video games? @glyph's definition: interactive software that provides experiences that users enjoy.

Therefore… computers aren't good for anything else — just video games. #pygotham

The universal symbol of video games (in emoji, etc) is the controller. Fundamentally centered on the interface.

#pygotham

But surely there is a lot of software that doesn't provide an enjoyable experience!

Well, broaden your perspective. "The boringness of spreadsheets is a cliché." [ed: SPREADSHEETS ARE NOT BORING EXCEL RUNS THE WORLD] #pygotham

"What's more tedious than spreadsheet? Well, you could do it by hand."

So spreadsheets are, relatively speaking, more enjoyable. #pygotham

Seems like we should ask whether the software we're building provides a more-enjoyable experience than the alternative.

Automation is enjoyable! #pygotham

People do quite amazing things like art projects with spreadsheets.

Creativity is also enjoyable! #pygotham

So "computers". Before World War II, "computing" was a menial job, done by women. [Ed: If you want a deep look at the history of sexism and discrimination in computing starting from WW2 on, I *highly* recommend "Programmed Inequality" https://t.co/JSnBrqCzjc] #pygotham

[catching up after getting that book link…]

Early computers were used to design and test the first atomic bombs. Which, oh hey, another piece of massively disruptive technology. #pygotham

Even with the advent and use of The Bomb, the 1950s and 1960s were a period of wild-eyed optimism towards nuclear power. This came to a crashing halt in the 1970s with Three Mile Island and Chernobyl disasters. #pygotham

It would have been better for just about everyone involved had the nuclear energy industry been better about safety *before* the disasters, and this crisis was ultimately something that the industry never recovered from. #pygotham

Glyph is being an optimist now, but even so feels that we are certainly headed for the software industry's version of these disasters. Yahoo? Heartbleed? Software-induced airplane crashes? Equifax? #pygotham

And then there was 2017, in which we found out about Facebook (and Twitter, and Google…) being used to corrupt US elections.

Everywhere you look, software is causing massive incidents. What can we do to stop this and do better? #pygotham

We need to look at other engineering industries and learn from their safety and reliability processes. Not just for our sake, but our own, because they are now writing software and paying attention to what the open-source community is doing. #pygotham

What if we look at construction? Cathedrals, for example. "Here's Liverpool Cathedral, which took 75 years to build and has not fallen over even once." #pygotham

We don't know what a software project that would take 100 years to build looks like.

Twisted, though has an example of what a software project that would take All Eternity to build. #pygotham

Twisted tracks count of open and closed bugs over time, and there is… faster growth in one than the other. #pygotham

Software projects, of course, eventually get abandoned. They go from under-construction to ruins without ever having been open for business!

How do you do a thing that takes 100 years? Your kids and even their kids won't be around to enjoy it. #pygotham

Well, if you want a cathedral, you build a town full of people who want a cathedral, around the place you want a cathedral.

#pygotham

So it's about community. Community isn't a thing you can do strictly with hierarchy or management — we have to talk to our peers and establish the links with the people who want our cathedrals around. #pygotham

Back to the metaphor of midlife crises — the mistake people tend to make in these is to focus too much on themselves instead of their connections and community. So do that second thing instead. ~fin~ #pygotham