into the current landscape

context 2024 meeting

Over 30 years of TEX

The 1995 4allTEX dvd shipped with ConTEXt and (last week) installing it on the old ibm 380 Laptop was still possible. A simple “hello world” document processed surprisingly fast (a few seconds). We're talking of 223 pages with standard layout and fonts.

This is huge EmTEX, some dvi bitmap output turned PostScript, viewed with Ghostscript. Around that time we used dvipsone and outline PostScript fonts already with dviwindo and Acrobat on msdos. Replicating that nowadays is non trivial. A 386 cpu, 640 KB memory and a 512 MB disk.

Some 10 years later

A 2005 version of ConTEXt on an old Dell Inspiron 8000 laptop processes 1000 'tufte in a macro' samples in 7.5 seconds. We're talking pdfTEX, TEXexec and TEXutil.

```
\def\Tufte{We live ...}

\starttext \dorecurse{1000}{\Tufte\par} \stoptext
```

Again about 20 years later

The same test on my Dell 7520 laptop (Xeon 1505M v6) takes:

1.2 seconds	pdfTEX	MkII	
5.7 seconds	XETEX	MkII	
3.3 seconds	LuaTEX	MkIV	
2.9 seconds	LuaMetaTEX	MkXL	aka LMTX

On a slightly newer Dell 7540 laptop (i7 9750H) it takes 2.2 seconds with an August 2024 LMTX.

Today 2024

Feel free to benchmark:

```
\starttext
    \dorecurse{1000}{\samplefile{tufte}\par}
\stoptext
```

Run it a few times in order to populate the OS file cache. It runs the same speed on a similar linux laptop (also a 7520 with Xeon).

It can't be worse than on a QEMU RiscV emulator which takes 46.1 seconds on that same 7520 laptop (15 times slower).

Some things stay

- A fifteen year old car is just as comfortable as a modern one.
- Next years mobile phone is not substantially better than last years.
- My more than 5 year old laptop feels quite okay in 2024.
- Books evolved into perfection and are still valued.
- Decent ePub devices will eventually arrive, real digital paper.

Some things change purpose

- Wood and brick windmills are monuments but still occasionally used.
- Church towers still are landmarks.
- Water towers are obsolete although on top of buildings . . . (USA).
- Castles are obsolete but still impress tourists and serve history.

Some things disappear

- Huge companies seldom age well.
- Semaphores populated the landscape for a while but disappeared fast.
- Programming languages become obsolete.
- Programs disappear, technology is ditched.
- Ice cellars and stores are solidly replaced by refrigerators.
- Fossil fuel cars will be replaced by battery powered ones.

Some things remain or adapt

- Horizontal windmills for electricity become obsolete for vertical ones.
- Tomorrows batteries will make today's batteries look ridiculous.
- The last few years TEX hasn't changed that much and has demonstrated adaptation.
- Usage of TEX behind the scenes is definitely usage.
- This also depends on long term commitment, dedication to quality, and a wish for control.
- (And let's not forget the fun part.)

Some observations

- In the meantime TEX and installations are quite stable and usable.
- What was once large is now small. System demands are rather low.
- There are plenty of examples around to get one going.
- There are enough alternatives to keep those who dislike it happy.
- We don't need to catch up with every temporary web driven ‘innovation’.
- The users of ConTEXt are dedicated to quality and flexibility.
- Instead ‘making TEX great again’ we can focus on ‘keeping TEX little’.

Example

If we have time: The hidden change in fundamentals from MkII to MkIV to MkXL: parameters, performance, etc. Did anyone (except the few involved in dealing with it) notice it?

The roadmap

- We now have the extended TEX engine that we always wanted.
- There is not much that needs to be added and it's opened up anyway.
- The (now) third major ConTEXt upgrade is probably as good as we can make it.
- We can and will play with the builders in the engine to see where we can improve and add.
- We can however focus on the tricky bits of automated rendering.
- We can try to squeeze out some performance but we also want to keep the design.

But:

- It are the users who have to come up with demands. We anyway have some.