

# improvements

recent and upcoming

context **2024** meeting

# Development

- The LuaMetaTeX engine converges, we do a lot of experiments that can lead to extensions.
- The code base gets cleaner and we keep optimizing rendering and fixing issues.
- No (for the user) visible fundamental changes are expected but never say never.
- Stepwise more documentation gets added and existing manuals get extended.
- We try to report as much as possible on developments (ontarget, musings, articles).
- Quite some time goes in accommodating what is out of our sphere of influence.

# Interfacing

- We support nested brackets in parameters.
- We have some new (user) units, for example (see low level manuals):
  - columns : cw and cd
  - page : ph and pw
  - text : th and tw
  - size : hs and vs
  - fonts : fs (bodyfont), fa (asc), fd (desc) and fc (cap)

# Typesetting

We (Mikael and Hans) show some recent additions and experiments (small demo files):

- rivers
- skylining
- vz (vertical hz)
- limiting stretch
- fixing box stretch
- rule options (like dashes)
- stacking
- hanging left & right verbatim
- fitness, twins
- excepts
- more widow & club control

*Note: there were accompanying talks by Mikael and Keith that went into more detail about the par builder.*

# Languages

- Team Tomas has added and will add support for more languages (labels etc).

# Data

- The character database (`char-def.lua`) gets better over time (as side effect of Mikael and Hans working on math).
- Wolfgang updated and interface setups and did some quality control in the process.

# Fonts

- We try to handle the more obscure cff (older Type1 fonts).
- We have cleaner support for (two sided) italic correction.
- We added control over punctuation spacing (think uppercase in names)
- We have some extra checks for messy (math) fonts.

# Lua

- We went from 5.4 to (upcoming) 5.5 (beta).
- Intermediate changes in the bytecode can be an update challenge.



# pdf

- In LMTX we have basic signing.
- We try to accommodate validating but validators change.
- We upgrade(d) tagging but within reasonable bounds.

# MetaPost

- There are various new mechanisms, primitives, and helpers.
- We improve (also performance wise) existing features.
- Support for svg has been upgraded, like nasty shading; triggered and tested by Hraban.
- We finally moved from cweb to C only.
- More in Mikeals LuaMetaFun update talk.

# Math

- All useful mechanisms have been checked (with Mikael).
- We're confident that we did a pretty good job.
- We have better rendering, linebreaks, fonts, etc.
- Ton and Wolfgang have updated the math setups.
- There is a quite extensive manual (everyone present gets a 'first' print).

# Manuals

- The low level manuals get extended in sync with development.
- Experiments and outcomes get reported in ontargets and musings
- An engine specifications, e.g. primitives, is in the making.
- We have and will come with manuals on tagging and export.
- There is a pdf embedding manuals.

## From discussion:

We need to have a better distinction between the different versions of Con- $\text{T}_{\text{E}}\text{X}$ t but the Wiki has a good section on that. However, the MkII examples on the wiki need to move.

# Todo

- semi protected macros
- decide on some defaults, like overload protection
- decide on lowering maximum number of registers
- maybe drop old school delimiters
- maybe stop sharing with MkIV code (not sure)
- (we keep italic based math for articles on the matter)
- columnsets, columns, floats in relation to page builder

And in the pipeline are the chemistry manual, basic csl support, some more tagging support. We might also port  $\text{T}_{\text{E}}\text{X}$ util (MkII) to Lua. And how about Luajit $\text{T}_{\text{E}}\text{X}$ ?