HOW IT STARTED

Long ago I ran into a funny font called Funk made by Don Knuth.
At it is a MetaFont, and therefore is a bitmap font.
Nowadays . . . who uses bitmap fonts.
I once made an outline variant using glyph containeds in pdftex, but that's not workable.
When mpplib showed up I decided to give it another try using virtual fonts.
Taco converted the MetaFont file into something more MetaPost.
I wrote a virtual font builder . . . and here we are.
HOW IT WORKS

The MetaPost file is processed using the mpplain format.
We generate some ten random instances of this font.
The pictures are converted to PDF and stored in the McKV font cache.
At runtime a font is assembled from these pictures.
As a bonus we add missing glyphs (composed characters like ½ and ⅓).
We use an attribute to signal that some text has to be punked.
One of the node parsers picks up this signal and randomly chooses a font.
The shades end up in the stream as inline PDF code as result of the virtual font.
WHAT WE OBSERVE

Virtual fonts have great potential.
But this way the resulting file is rather big.
Using xforms saves bytes but is dead slow.
The types options of LaTeX are rather minimal (read: absent).
We need a proper PDF text stream that also can be searched.
WHAT HAPPENS NEXT

The font needs some subtle finetuning.
The font needs more characters, symbols and math.
So at some point Punk Nova may show up.
The MetaPost library needs to be made suitable for making fonts (kerning and such).
LuATeX has to be extended with proper automatic type3 handling (Hartmut is already working on it).
At some time in the future Ttaco will look into charstring generation.
This kind of trickery will be present in the Context MkIV kernel.
Eventually we can apply this mechanism to handwritten (script) fonts.
THE DETAILS

- The font itself: PUNKFONT.MP.
- The code: M-PUNK.TEX.