

TSD 2022 Demonstration :: Digital Primer version 1

The ultimate aim of the “Digital Primer” (DP) project is development, optimization and deployment of digital education instrument (*Bildungsinstrument*) for fostering of acquisition of basic literacy in primary school pupils. DP has two sub-projects: a “physical” Personal Primer (π^2) branch focuses on design of a post-smartphone open hardware artefact based on “Raspberry Pi Zero” [BSH21; HSK20] technology. The “Web Primer” sub-project provides extended functionality in browser. Both sub-projects provide audiotext support, implement human-machine peer learning curricula [Hr22] and use Mozilla’s DeepSpeech acoustic models and our own exercise-specific language models.

At TSD, we aim to provide first international demonstrations of both sub-projects.

0.1 Personal Primer



Fig. 1: Solar-powered prototype of π^2 version 1 displaying folio from *Orbis Pictus* of Jan Amos Comenius.

of the original roadmap presented in [Hr19].

Video: fibel.digital/demo0

Personal Primer (π^2) is a physical, do-it-yourself (DIY) book-like (*embooked*) *Bildungsinstrument* for fostering of reading skills in younger pupils and informatic skills in older pupils. The idea is simple older ones strengthen their informatic competences by making the device; younger ones (9-12 yrs.) pupils strengthen their media competence by producing the (audiotext) content and youngest (6-8 yrs.) pupils use the device to strengthen their basic literacy (e.g. reading) competence. As of July 2022, there are five unique π^2 prototypes in circulation currently implementing seven out of 23 properties

0.2 Web Primer

Web Primer allows wider public to benefit from our own collection *audiotext* open educational resources (OERs) without necessity to build an own π^2 . Coupling of auditive, graphemic and haptic sensory modalities which enables creation of audiotexts imitates the “finger-pointing” technique used by parents when reading to their pre-school children. Creation of sub-title like audio-textual couplings on sentence-, lexical- or even sub-lexical (i.e. syllabic) level is as simple as moving one’s finger on a touchscreen.

Aside the audiotext collection, the Web Primer contains a growing amount of exercises, some of them using STT. The German version of the primer available at fibel.digital is soon to be extended by English, Turkish and Slovak components.



Fig. 2: Fast & frugal browser-based methodology for audiotext annotation.

Literatur

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