
REPRAP

The Next Industrial Revolution



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REPRAP

Hvordan jeg tilbragte 300+ timer i OSAA

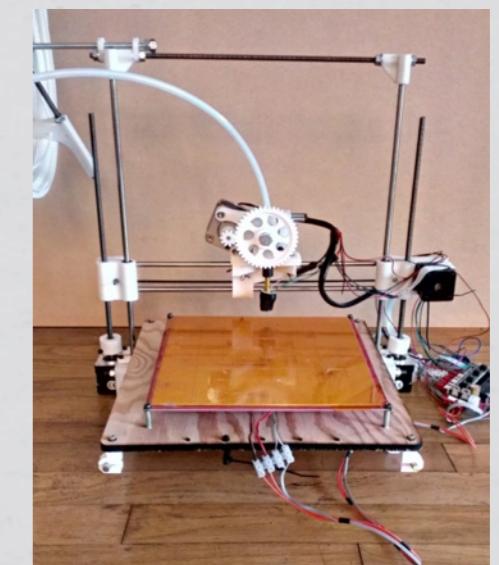
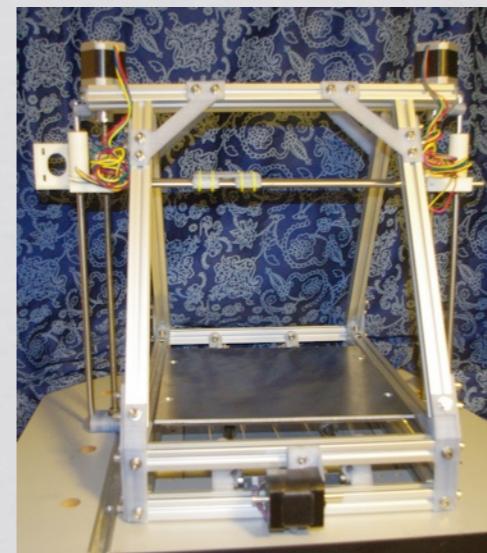
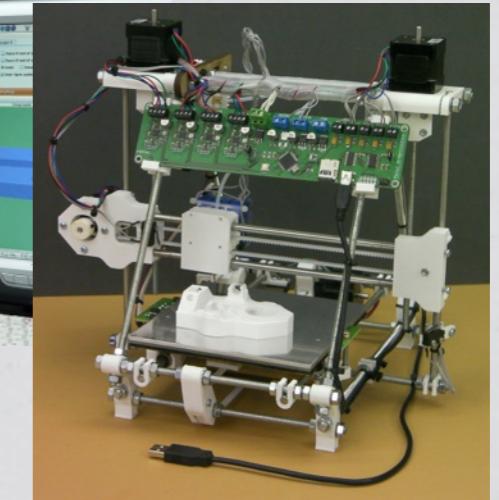
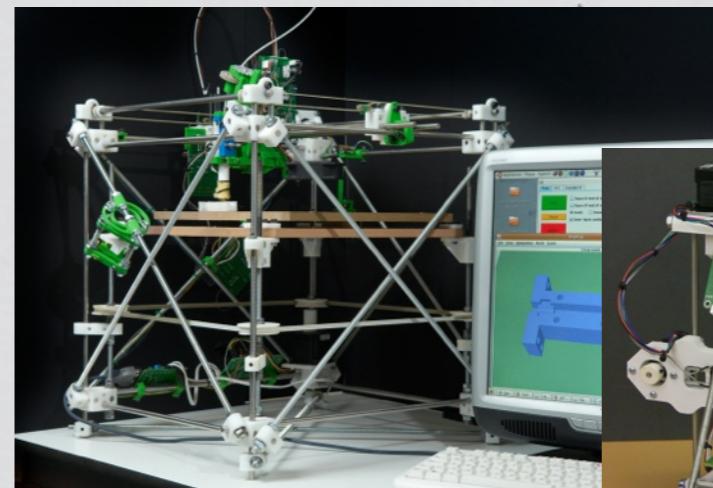


RepRap?

- * Replicating Rapid Prototyper
- * Additiv fabrikationsteknologi
- * Fused Filament Fabrication (not Fused Deposition Modeling™)
- * Open Design (OSS, OSHW, ...)
- * Startet i 2005 af Adrian Bowyer, University of Bath, UK

Kunstig selektion

- * 2006 - 2008: Darwin
- * 2009: Original Mendel
- * 2010: Huxley
- * 2010: Prusa Mendel
- * 2011: RepRapPro Huxley,
MendelMax, Wallace, ...
- * 2012: Prusa Mendel i2



(Elektro)-Mekanikken



- * Kartesisk robot (X, Y, Z + E)
- * Printede dele (RP Parts)
- * 500g plastik + RepRap + en stor portion tålmodighed
- * Vitaminer
- * Skruer, møtrikker, skiver, gevindstænger, glidestænger, stepmotorer, tandremme, varmeelementer, ...
- * Kalibrering af akser, endstops

Elektronikkken

- * AVR ATmega-baserede boards
- * Generation 6 Electronics
- * Generation 7 Electronics
- * RAMPS (RepRap Arduino Mega Pololu Shield)
- * Sanguinololu
- * Kalibrering af stepmotordrivere

Firmware

- * Typisk Arduino-baseret (Marlin, Sprinter, ...)
- * Kalibrering
- * Steps/mm
- * Max-hastigheder
- * Accelerationsparametre
- * Temperaturer



Softwareen

- * CAD-værktøjer (OpenSCAD, Inkscape, MeshLab, ...)
- * Slicer
- * Slic3r, (Skeinforge, SFACT, ...)
- * Indstilling af materiale vs. figur vs. printer
- * Kommunikation
- * Printrun, (RepRap Host Software, ReplicatorG, ...)

Materialer og præcision



* Materialer

* Termoplastik (PLA, ABS, ...)

* Præcision

* Dysestørrelse

* Lagtykkelse

* Opløsning

Hvad bringer fremtiden?

- * Mad-printere, keramik-printere, multi-materiale-printere, ...
- * PCB-printere
- * DLP-baserede RepRaps
- * Søgsmål?
- * The Next Industrial Revolution?
- * ...



Lidt læsestof...

- * <http://www.reprap.org/wiki/Prusa>
- * http://reprap.org/wiki/Arduino_Mega_Pololu_Shield
- * <https://github.com/ErikZalm/Marlin>
- * <http://www.openscad.org/>
- * <http://slic3r.org/>
- * <https://github.com/kliment/Printrun>