Science labs & mini-fablabs in schools
Personal & Digital Fabrication
in education

FabLab Maastricht

Frits Hoff

Founder & director FabLab Maastricht

Boardmember foundation FabLab Benelux

Past:

Director foundation OpenWijs.nl, open education

Senior Projectmanager, Open University NL

Senior Projectmanager at Expertisecentre ICT

Manager Academic Services at European Association of Distance Teaching Universities (EADTU)

Teacher physics, IT & biology

Evolution of FabLabs

2005: Neil Gershenfeld, MIT, workshop How to make almost anything / book FAB

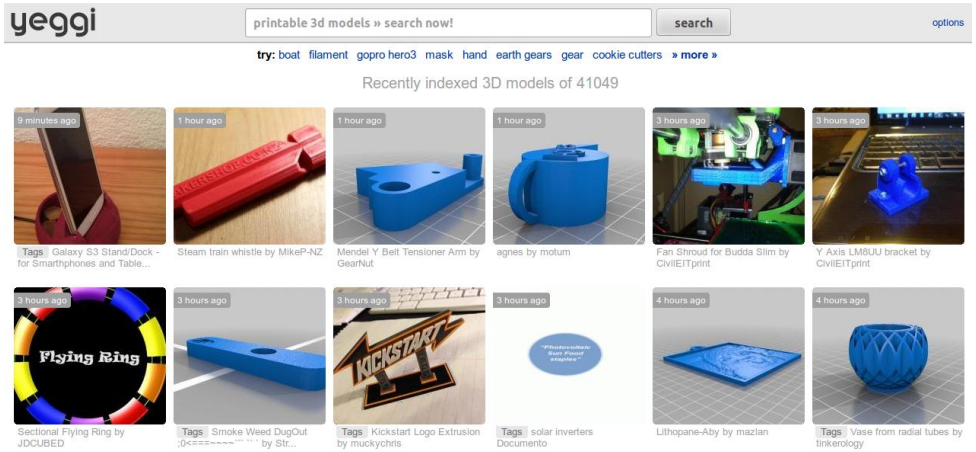
2010: 30 FabLabs worldwide

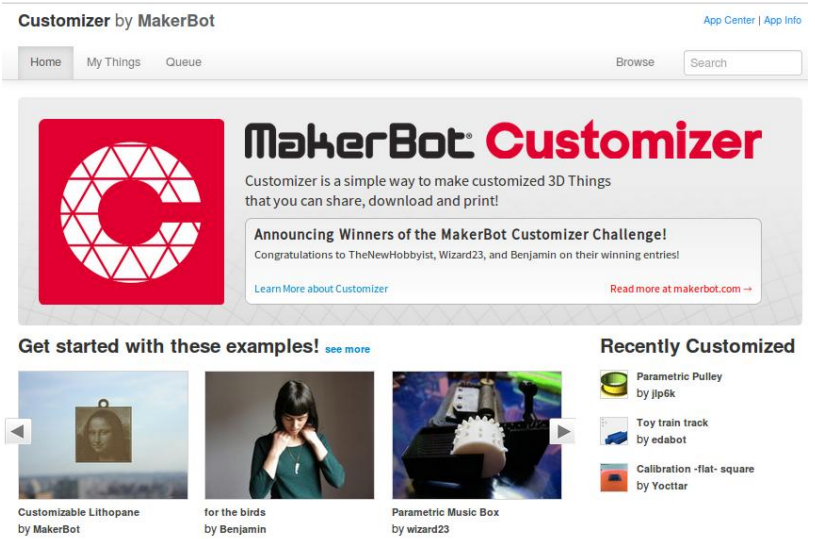
2013: 250? FabLabs worldwide

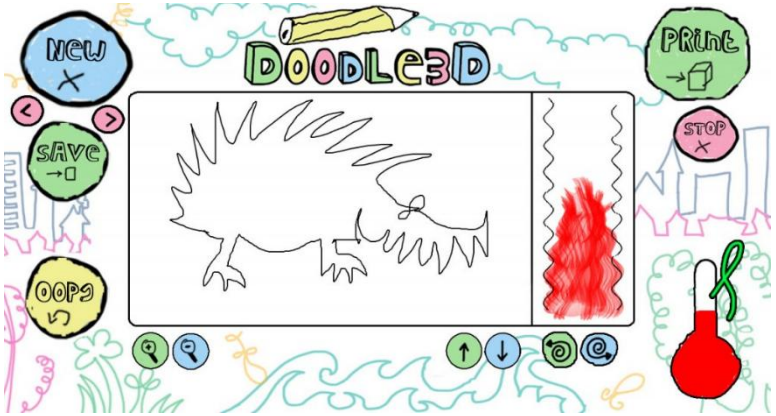
Competitors

Schools visiting FabLabs

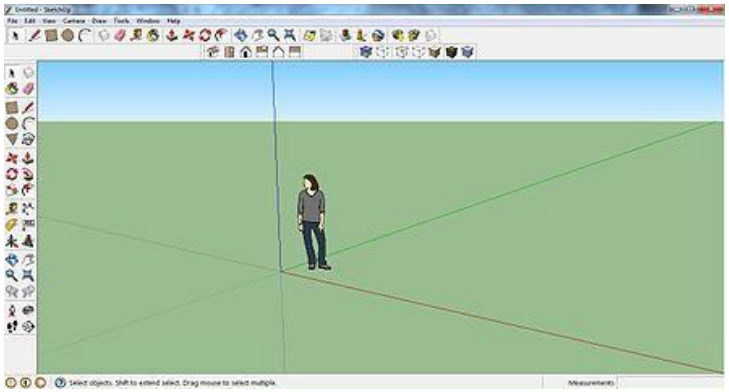
Workshops at schools







SketchUp



Workshops at schools

Benefits

Learn to download, draw 2D and 3D, scan 3D

Learn to produce: print 3D, lasercutting, vinylcutting, 3D milling etc

Learn to program software

Learn to share knowledge and collaborate

Learn to publish designs and to earn money

Benefits

History class: historic artifacts

Geography class: printing / lasercutted maps

Cooking class: printing food / molds for ices etc

Chemistry class: print molecules

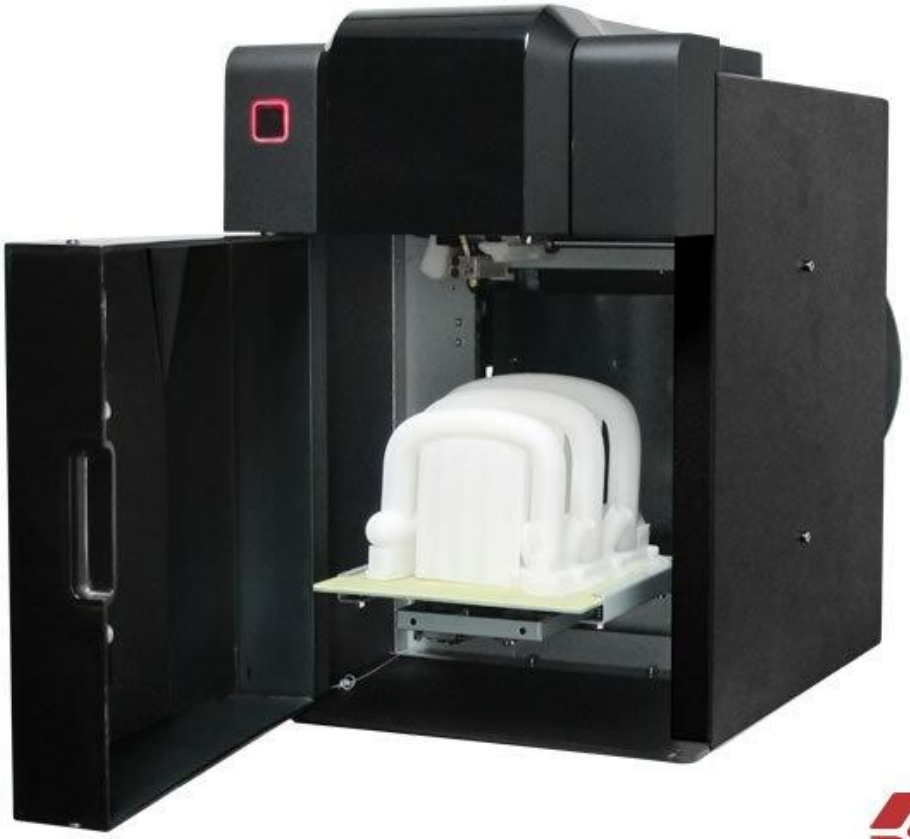
Biology class: printing organs to study

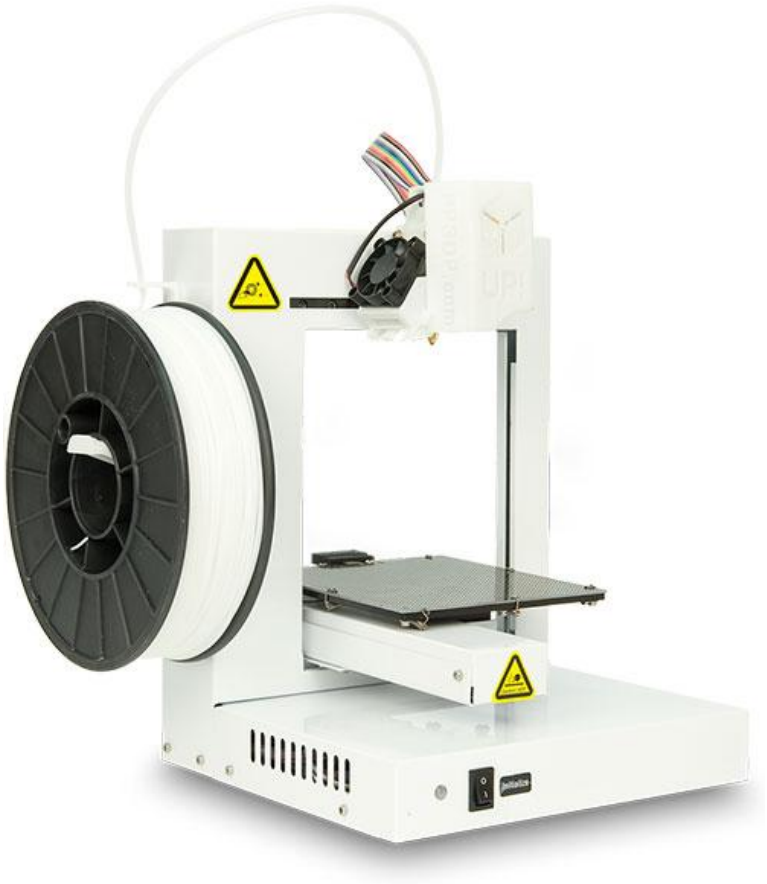
Professions of the near future

- 3D printing architect
- Augmented reality engineer
- Traffic engineer
- Robot engineer
- Smart energy expert
- Cross-data analyst
- Knowledge Manager
- Life cycle technologist

Schools buying 3D-printers for science & IT

Plug & Play 3D-printers for culture class etc.





Science labs & mini FabLabs

Complete equipment

Pupils training pupils and teachers

Part of normal curiculum

Research for curiculum topics

Research for SME´s

Produce prototypes for SME´s

New role of FabLabs

Not anymore / less: raise awareness / train children

Still: support innovation, train people 20+

More: central knowledge institute, supporting science labs, more complex research in collaboration with universities / polytechnics

Needed: professional training of employees / funding of central government / share knowledge