

Era-Drilling Robot

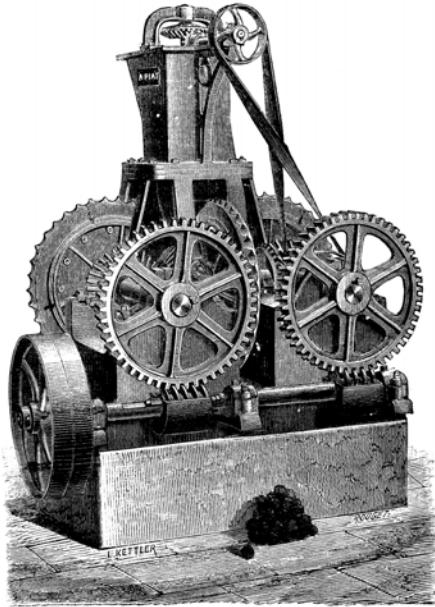
Interface Design Master Projektmodul

Winter semester 2014

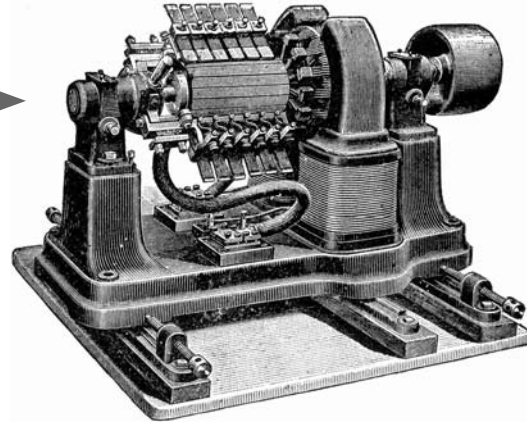
Prof. Jens Geelhaar, Bauhaus University Weimar

Project by Wang Yana, Qiu Jie, Florian Wittig

From Mechanical to Digital Era



The Mechanical Era
(the middle of 18th Century
- the middle of 19th Century)



The Electric Era
(the late 19th Century
-the early 20th Century)



The Digital Era
(after the late 19th Century)

Base: Hand Drilling machine



CHARACTER

Simple, analog, robust, durable

FOUNDATION

Tangible, haptic, familiar

MEANING

Represents mechanical era

THEME

Drilling through different eras



How it works

Base: Mechanical drilling machine

Electric components: Motor and LED

Digital element: Barcode projection

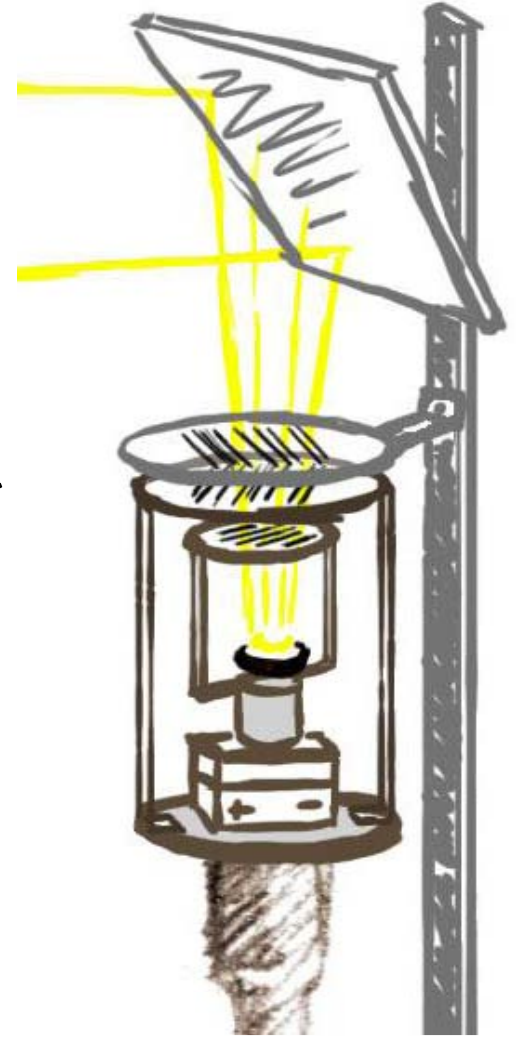
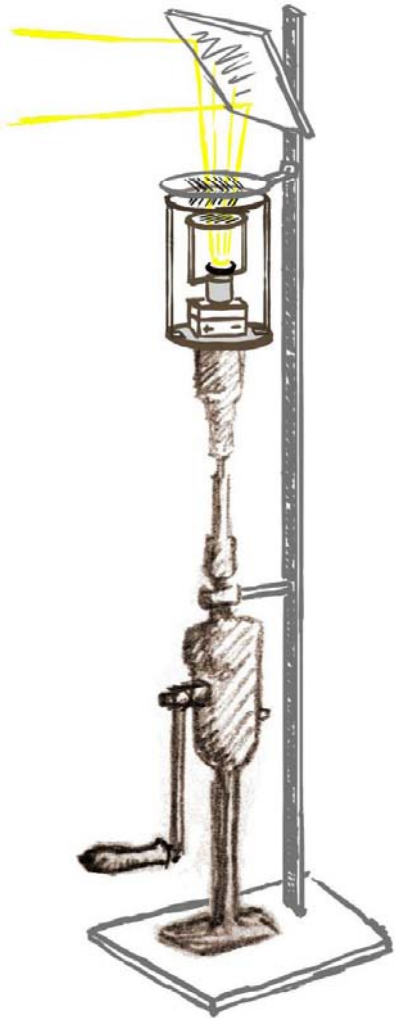
The three elements will lead to
a playfully combined projection.

The user will create his or her own shapes.

How it works

The three layers have to be combined playfully by using the machine to project the bar code.

Which then can be scanned with a mobile device.



Structure

fixation platform

Arduino Uno

light source

layer 2

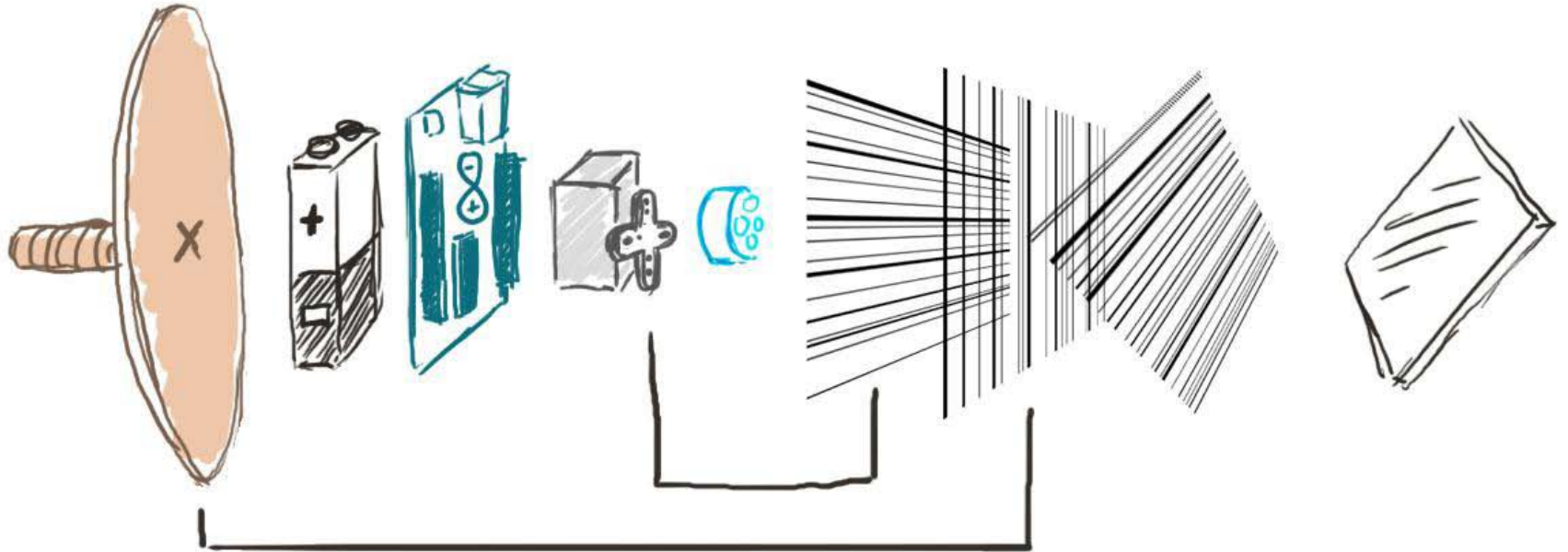
mirror

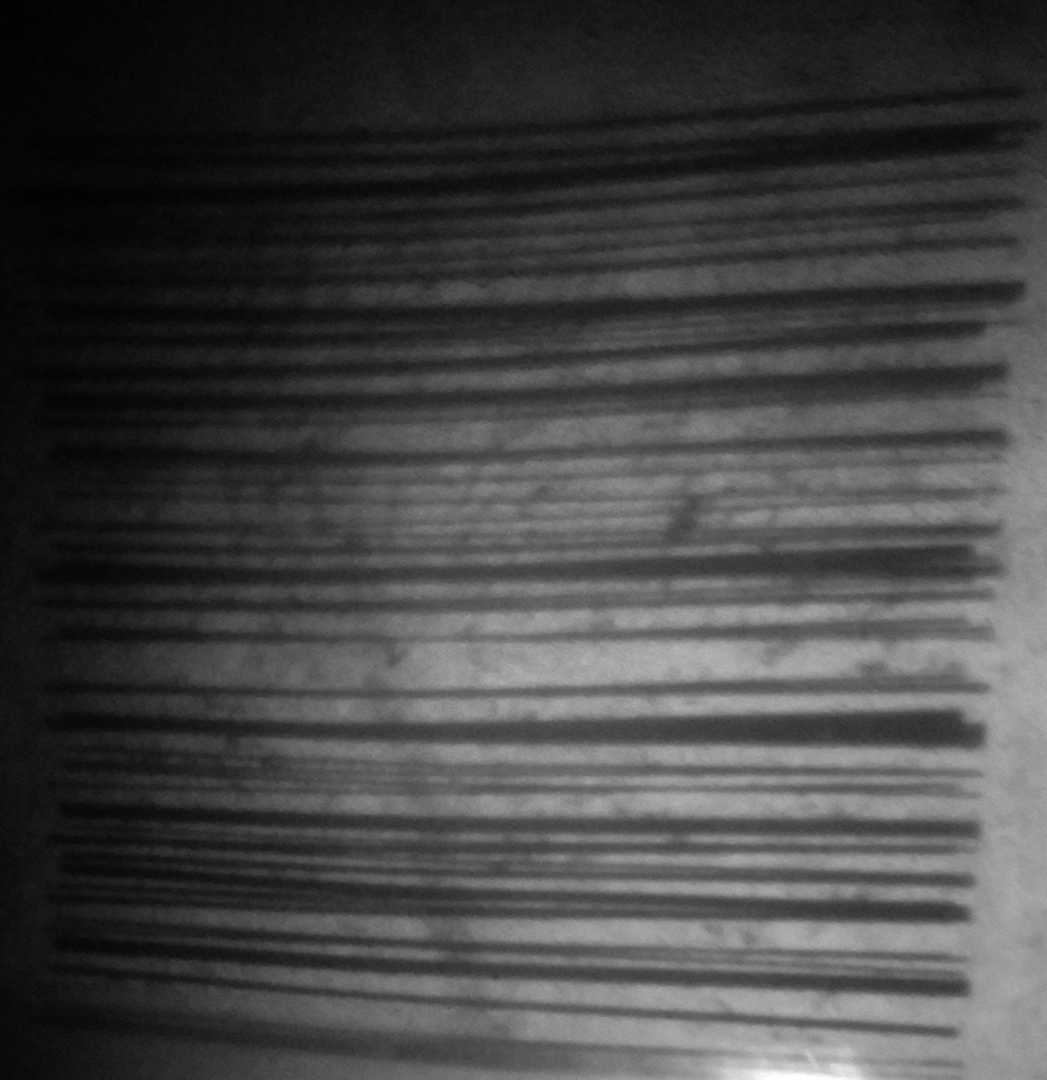
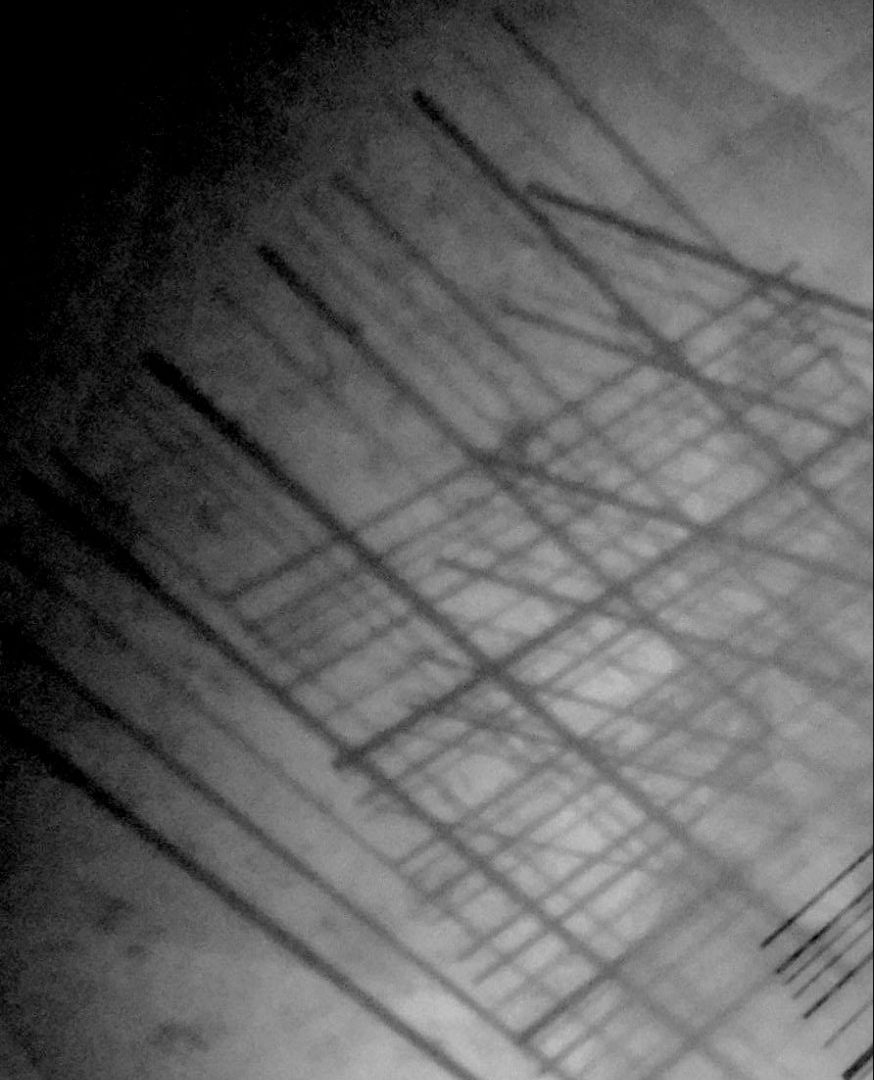
energy source

servo motor

barcode layer 1

layer 3





Digital part

Similar to a game the user has to combine the three layers to be able to scan the code.

The code can lead to:

- Another associated robot/project
- An information web page
- A new step within the project (e.g. usage of camera)

Installation

- Portable
- Overall appearance should fit the aesthetics of the drilling machine
- Fit into different environments:
e.g. exhibition, fair, installation
- Material used: wood and metal

Further development

1. Adjustable layers and mirror
to have better control over the projection
2. Possibly controllable motor speed
3. Different web page or project
for the actual bar code