

# PROTOTYPING STEP

OPTION N°: 2 TRIAL N°: 1, 2

WHAT WE HAVE

**OBSERVATION:** drilling tool doesn't stop  
unless the user switches it off

WHAT WE WANT

**OBJECTIVE:** The tool must switch off automatically as soon as finger pressure decreases to avoid safety issues

WHAT WE WANT TO IMPROVE

**PROCESS OPTION:** a limit switch

HOW WE ARE GOING TO IMPROVE YOUR PROTOTYPE

**PROTOCOL:**

STEP 1 customization of drilling tool on 12V apparatus  
STEP 2 power line intercepted on the tool engine  
STEP 3 the cable is connected to a limit switch mounted on the cursor support

WHAT DID YOU LEARN

**FEEDBACKS:** cursor support needs to be modified to host the limit switch

DRAW WHAT YOU HAVE AND UNDERLINE THE CRITICAL ASPECT

DRAW THE RESULT OF YOUR IMPROVEMENT

illicetio lineae in motore e collegato a switch in corrente

31/3/17

# PROTOTYPING STEP

OPTION N°: 2 TRIAL N°: 1.1

## WHAT WE HAVE

**OBSERVATION:** OSB too heavily - drilling tool should be protected to avoid safety issues

## WHAT WE WANT

**OBJECTIVE:** lighter structure - creation of a "cup" to sustain the pocket users cutting tool and

## WHAT WE WANT TO IMPROVE

**PROCESS OPTION:** 3D modelling after manual detecting measures

## HOW WE ARE GOING TO IMPROVE YOUR PROTOTYPE

### PROTOCOL:

STEP 1: Leo HBF 6 mm structural  
STEP 2: production of customised support for the drill  
STEP 3:

## WHAT DID YOU LEARN

**FEEDBACKS:** the structure doesn't fit properly to the drill  
We need more tolerance between structure and drill approx 0,3 mm

## DRAW WHAT YOU HAVE AND UNDERLINE THE CRITICAL ASPECT

see Leo's 3D model

## DRAW THE RESULT OF YOUR IMPROVEMENT

X Leo's screws

20/3/17

# PROTOTYPING STEP

OPTION N°: 1 TRIAL N°: 1.3

WHAT WE HAVE

**OBSERVATION:** The pencil holder produced  
seems not to be perfectly ~~made~~ steady

WHAT WE WANT

**OBJECTIVE:** design and make a new one  
steadier and easier to be assembled

WHAT WE WANT TO IMPROVE

**PROCESS OPTION:** new junction 6 mm

HOW WE ARE GOING TO IMPROVE YOUR PROTOTYPE

**PROTOCOL:**

STEP 1 6 mm junction: fixed with 2 screws to improve fitting  
STEP 2 longer pullover  
STEP 3

WHAT DID YOU LEARN

**FEEDBACKS:** better fitting - more modular  
clued previously easy to use it: only 2 pcs were  
to be removed to assemble for different tracing  
objects

IT WORKS !!!

APPROVED

DRAW WHAT YOU HAVE AND UNDERLINE THE CRITICAL ASPECT

see Nicola's file

DRAW THE RESULT OF YOUR IMPROVEMENT

see Nicola's file

30/3/17

# PROTOTYPING STEP

OPTION N°: 2 TRIAL N°: 1.0

## WHAT WE HAVE

**OBSERVATION:** from the last prototype = issue with the height of the tool / paper always / vibrability of work / flexibility of acceleration.

## WHAT WE WANT

**OBJECTIVE:** rigid acceleration / to see what we are going to draw / to avoid the line between 2 drawing / fix the diameter of the tool.

## WHAT WE WANT TO IMPROVE

**PROCESS OPTION:** rigid and bigger structure

- Maintaining the position of the drawer.
- Transparent ending in order to see

## HOW WE ARE GOING TO IMPROVE YOUR PROTOTYPE

### PROTOCOL:

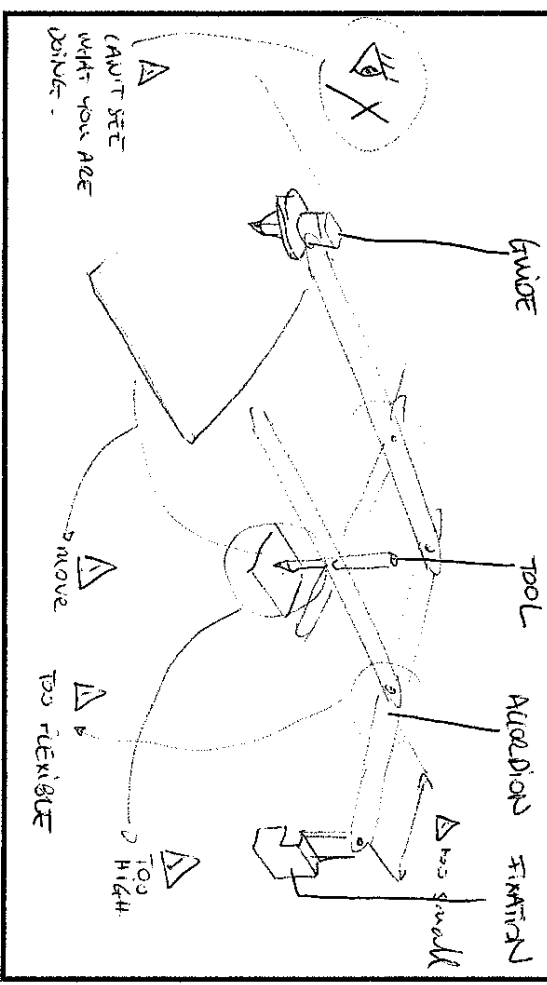
- STEP 1: change the wood → for OSB instead of MDF
- STEP 2: 60 cm instead of 30
- STEP 3: change to solve the tool problem with the rigidity of the structure.

## WHAT DID YOU LEARN

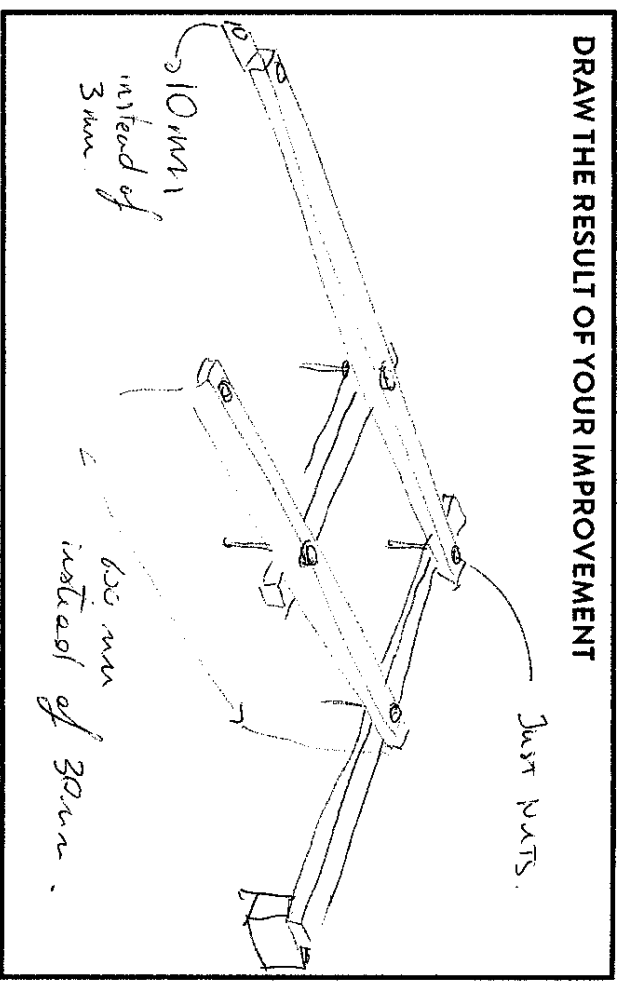
### FEEDBACKS:

- 60 cm should be ok for the deflection
- the structure should be thick enough to support the drill and up the drill when the guide goes up as well

## DRAW WHAT YOU HAVE AND UNDERLINE THE CRITICAL ASPECT



## DRAW THE RESULT OF YOUR IMPROVEMENT



29/3/17



# PROTOTYPING STEP

OPTION N°: 1 TRIAL N°: 1.2

WHAT WE HAVE

**OBSERVATION:** good in site but not thick enough - a problem with tool: need to improve the support - no visibility - too flexible

WHAT WE WANT

**OBJECTIVE:** ~~make~~ something rigid ~~of~~ to make more ~~meat~~

WHAT WE WANT TO IMPROVE

**PROCESS OPTION:** increase the material thickness

HOW WE ARE GOING TO IMPROVE YOUR PROTOTYPE

**PROTOCOL:**

STEP 1 from 3mm to 6mm HD

STEP 2

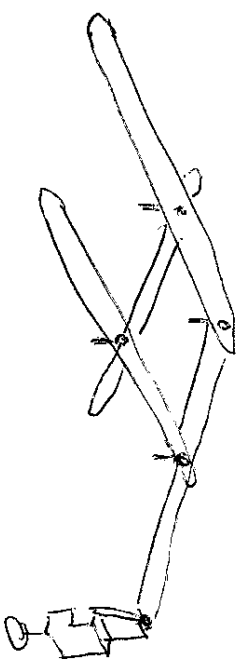
STEP 3

WHAT DID YOU LEARN

**FEEDBACKS:**

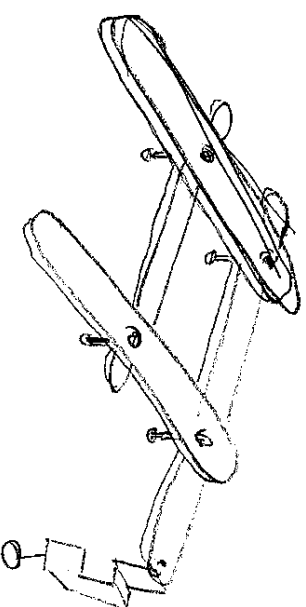
flexible  
moves pretty well: good feelings  
working about children's education:  
need to be supervised by an education

DRAW WHAT YOU HAVE AND UNDERLINE THE CRITICAL ASPECT



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DRAW THE RESULT OF YOUR IMPROVEMENT



29/3/17