3D Printing

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Class: 9D

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3D Printing

3D printing is a process of creating a three-dimensional solid object of any shape through an additive process, where successive layers of material are laid down in various forms.

Prusa I3 MK3S printer

- 3D printers create rapid prototypes, 3D print objects of small and large sizes, or scan 3D objects.
- For creating 3D objects, we used the Prusa I3-MK3S printer.

Features of the Prusa I3 MK3S printer.

- The most important new features of the Prusa i3 MK3S+ printer are:
  - Frame stability: The Y-axis of the printer is reconstructed using extruded aluminum, providing the same rigidity and preventing the printer from shifting during the printing process.
  - Quieter and faster printing: The printer operates at 99% less noise compared to other printers on the market, even in the standard operating mode. It can achieve print speeds of up to 200mm/s.
  - Filament sensor: An integrated optical sensor detects the presence and movement of filament during printing. The MK3S+ recognizes when the filament runs out and pauses the print so the user can replace it with a new filament spool. Additionally, the MK3S+ can detect filament jams and alert the user to clean the nozzle.
  - Removable bed: The Prusa i3 MK3S+ has a removable spring steel sheet replaced with a PEI surface. It offers two types of surfaces for different levels of adhesion: a classic surface and a powder-coated surface that ensures enhanced adhesion during printing.

Software used.

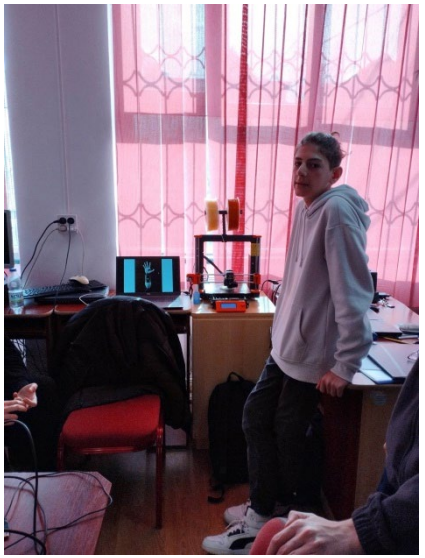
- **Autodesk Fusion 360 is a software used for 3D design.**

Fusion 360 is a cloud-based 3D modeling software platform for professional product design and manufacturing. It allows you to design products as you desire to ensure aesthetics, form, fit, and functionality.

- **Ultimaker Cura is used for converting STL files to GCode.**

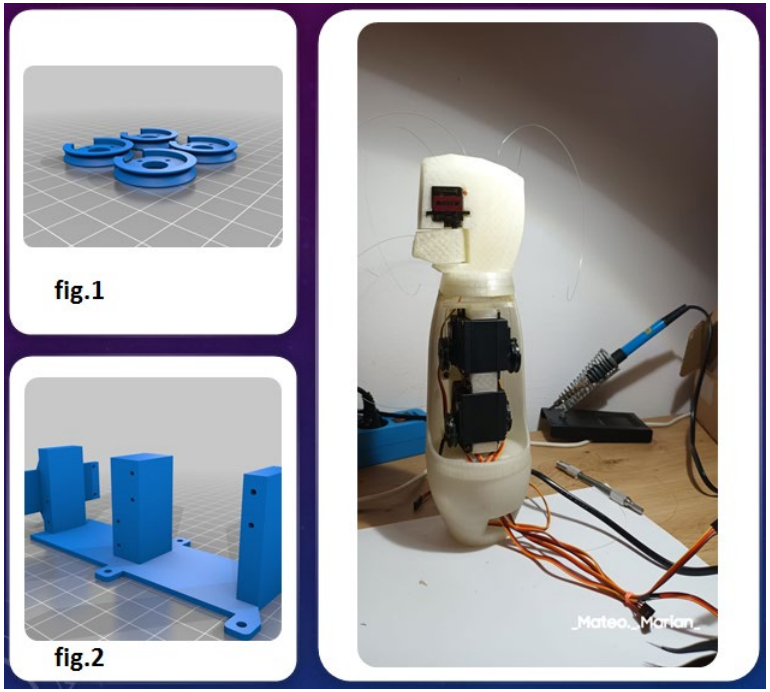
https://ultimaker.com/software/ultimaker-cura

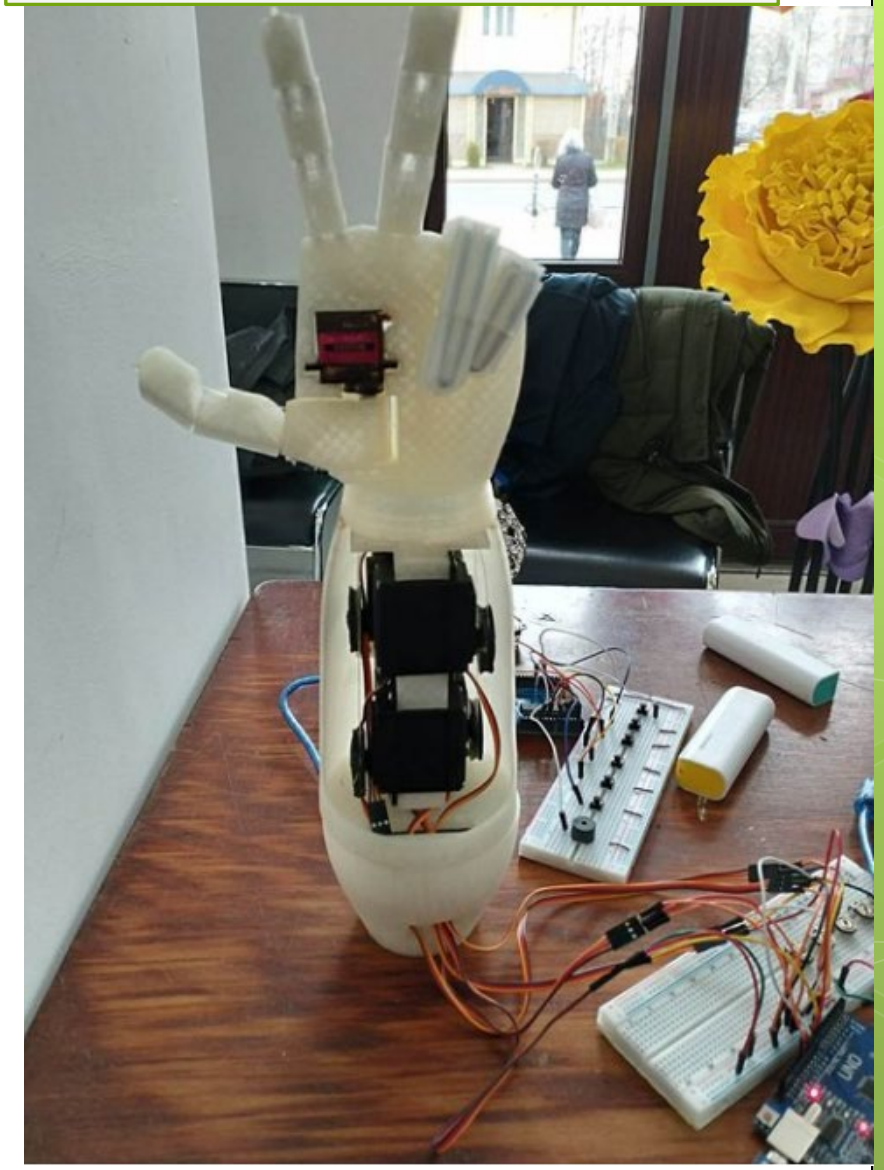
Created products



- Robotic arm
- Keyrings
- Toys
- Arduino experimental components

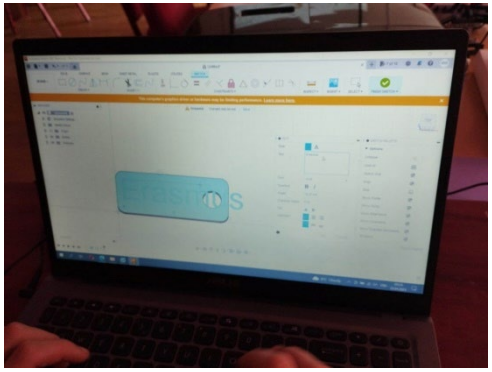
Robotic arm

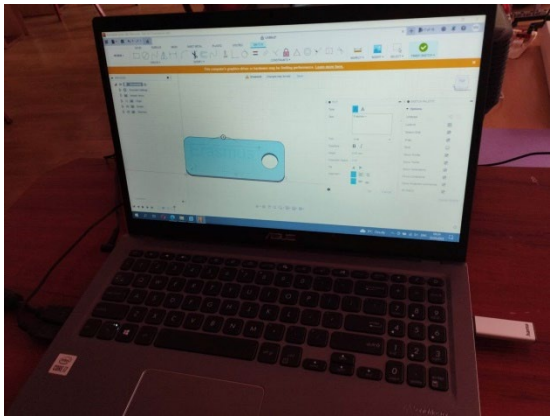




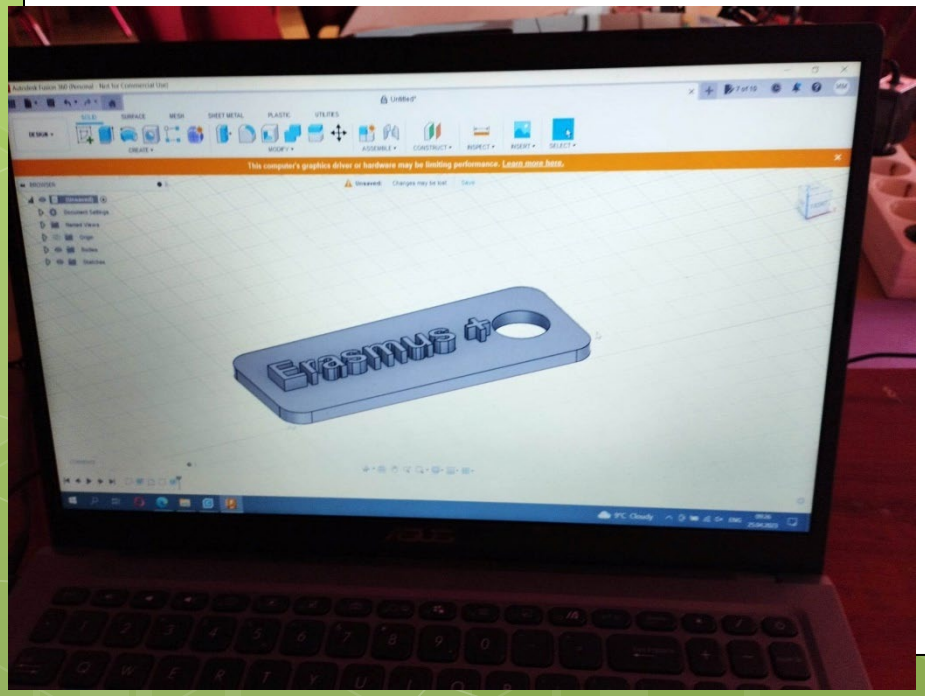
Keyrings

I have made Keyrings that we offer with joy to the visitors of the school



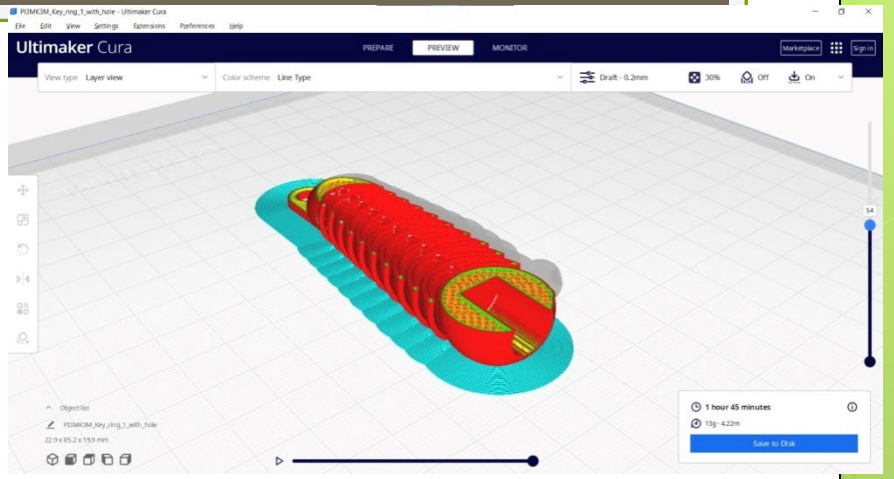


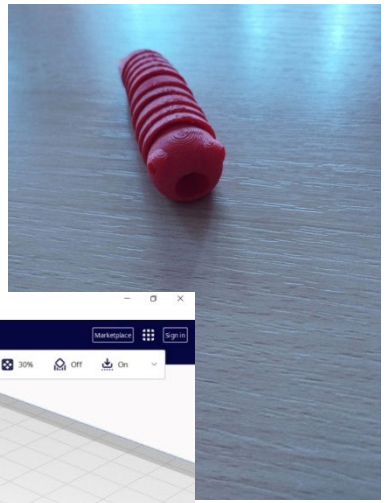
Keyrings

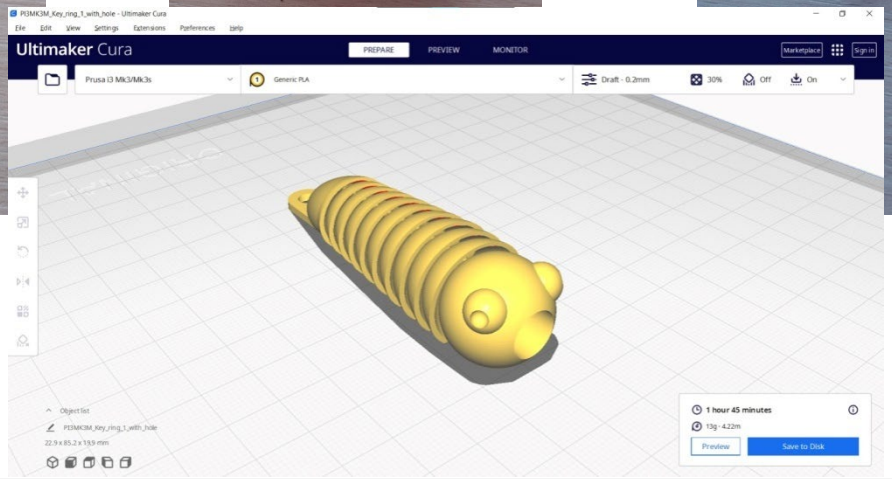

This computer's graphics driver or hardware may be limiting performance. Learn more here.

Erasmus +

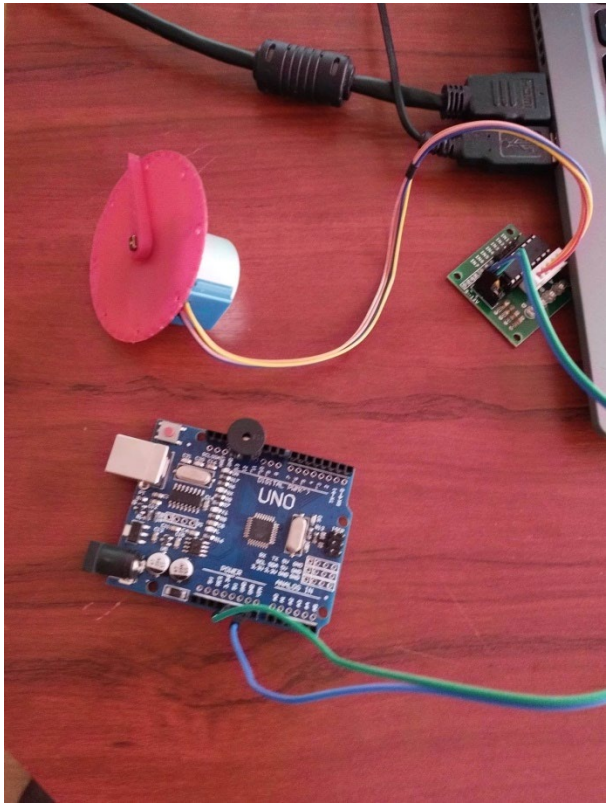
Toys - snail


Ultimaker Cura
PREPARE
PREVIEW
MONITOR
1 hour 45 minutes
Save to Disk




Ultimaker Cura
PREPARE
PREVIEW
MONITOR
Prusa i3 Mk3/Mk3s
Generic PLA
Draft - 0.2mm
1 hour 45 minutes
Preview
Save to Disk

Arduino experimental components



Thank you for your attention!