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# FreeCAD for Newbies

(Cuz I'm one too)

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Terry Howald

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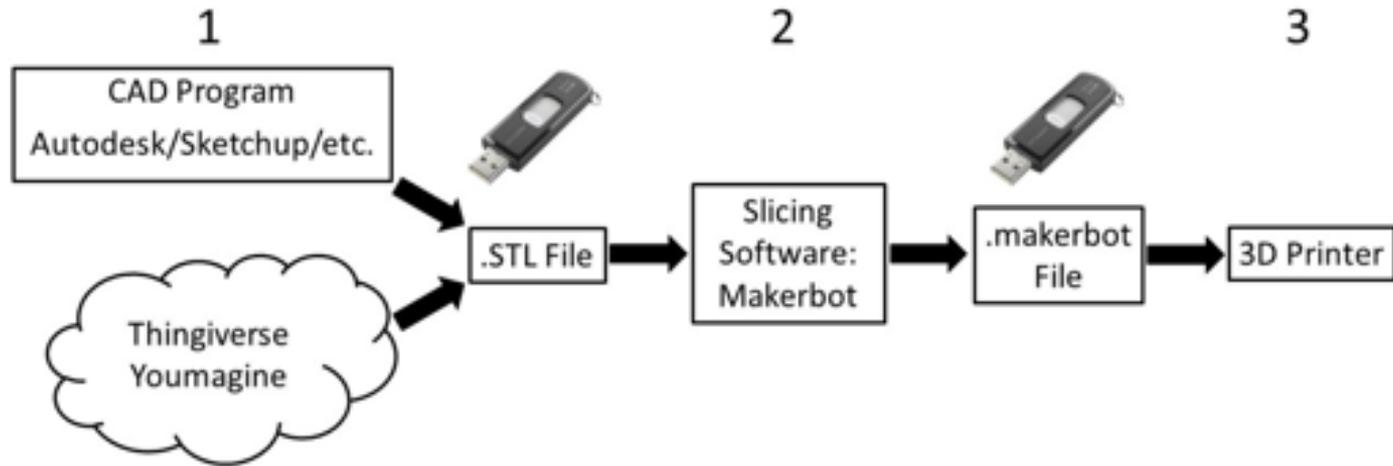
# Midwest RepRap Festival

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# 3D Printing Workflow

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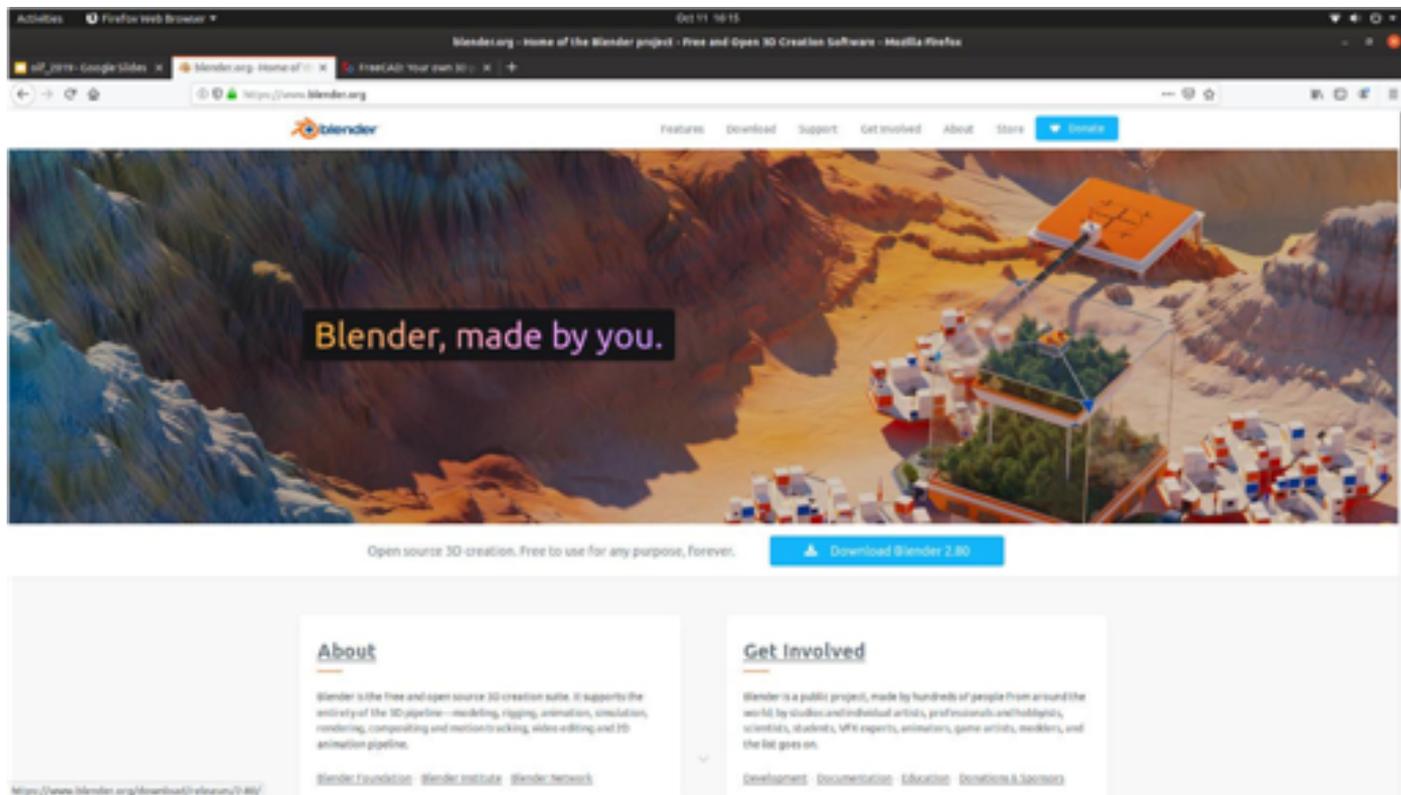


# Thingiverse

The screenshot shows the Thingiverse website homepage. The browser window title is "Thingiverse - Digital Designs for Physical Objects - Mozilla Firefox". The address bar shows the URL "https://www.thingiverse.com". The navigation menu includes "Dashboard", "Explore", "Education", "Create", a search bar, and "Sign In / Join". The main content area features a large image of two 3D printed dragons, one green and one yellow. A "Featured" section highlights "Flexi-Dragons" by Beachy4Life, with a "Learn More" button. Below this, there are sections for "Global Feed" (showing a post by zafiro liked Alice) and "Featured Collections" (showing various 3D models).

Activities Firefox Web Browser Oct 11 20:09  
Thingiverse - Digital Designs for Physical Objects - Mozilla Firefox  
Thingiverse - Digital Designs for Physical Objects  
https://www.thingiverse.com  
Thingiverse DASHBOARD EXPLORE EDUCATION CREATE Search Thingiverse SIGN IN / JOIN  
Thingiverse Featured  
FLEXI-DRAGONS  
Where are my dragons? Maybe they're here.  
Designed by Beachy4Life  
Learn More  
Global Feed Latest Thingiverse Activity  
zafiro liked Alice  
Featured Collections Download and print today  
see more

# Blender 2.8



The screenshot shows the Blender 2.8 homepage in a Firefox browser window. The browser's address bar displays "https://www.blender.org". The page features a large hero image of a desert landscape with a futuristic structure and the text "Blender, made by you." Below the hero image is a blue button labeled "Download Blender 2.8". The page is divided into two main sections: "About" and "Get Involved".

**About**

Blender is the free and open source 3D creation suite. It supports the entirety of the 3D pipeline—modeling, rigging, animation, simulation, rendering, compositing and motion tracking, video editing and 2D animation pipeline.

[Blender Foundation](#) [Blender Institute](#) [Blender Network](#)

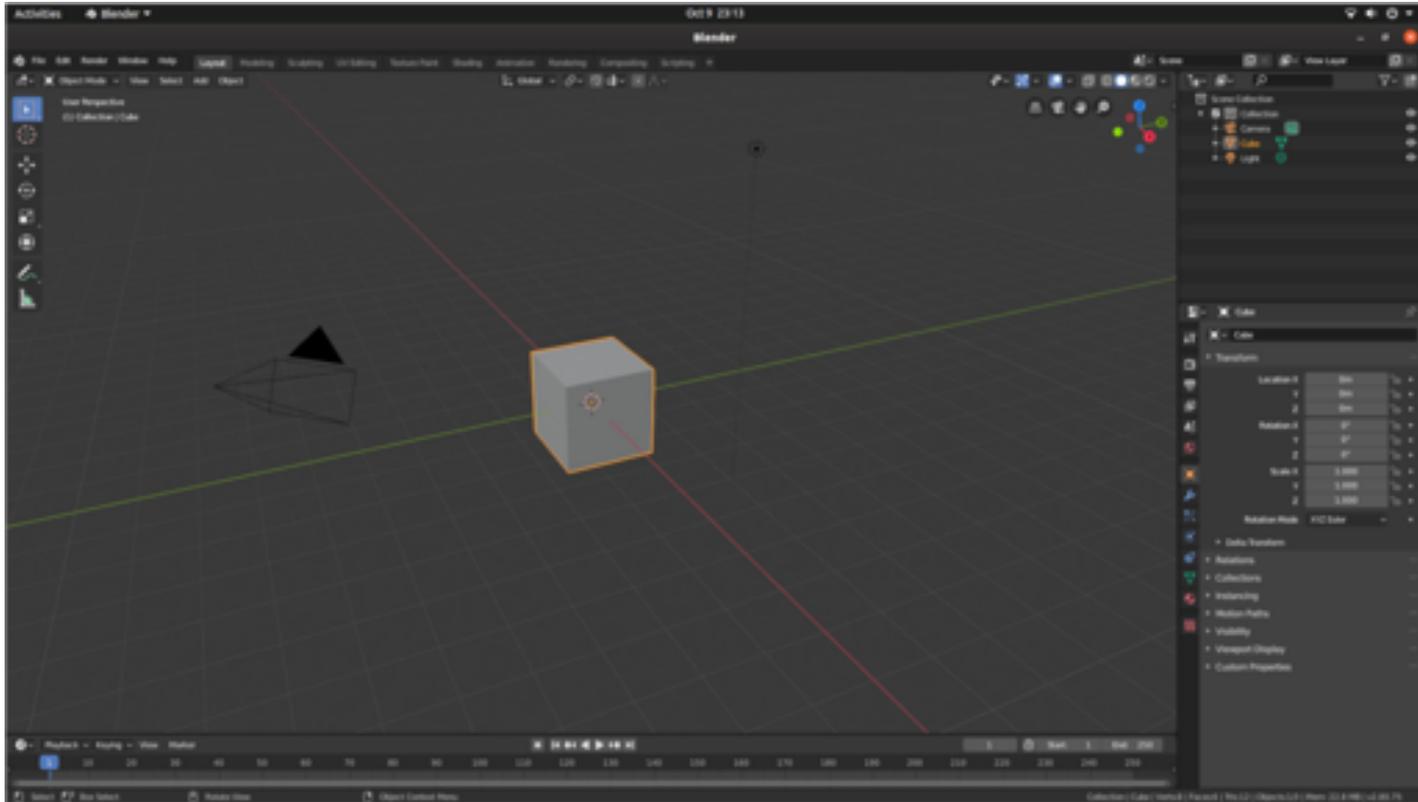
**Get Involved**

Blender is a public project, made by hundreds of people from around the world: by studios and individual artists, professionals and hobbyists, scientists, students, VFX experts, animators, game artists, modders, and the list goes on.

[Development](#) [Documentation](#) [Education](#) [Donations](#) [Security](#)

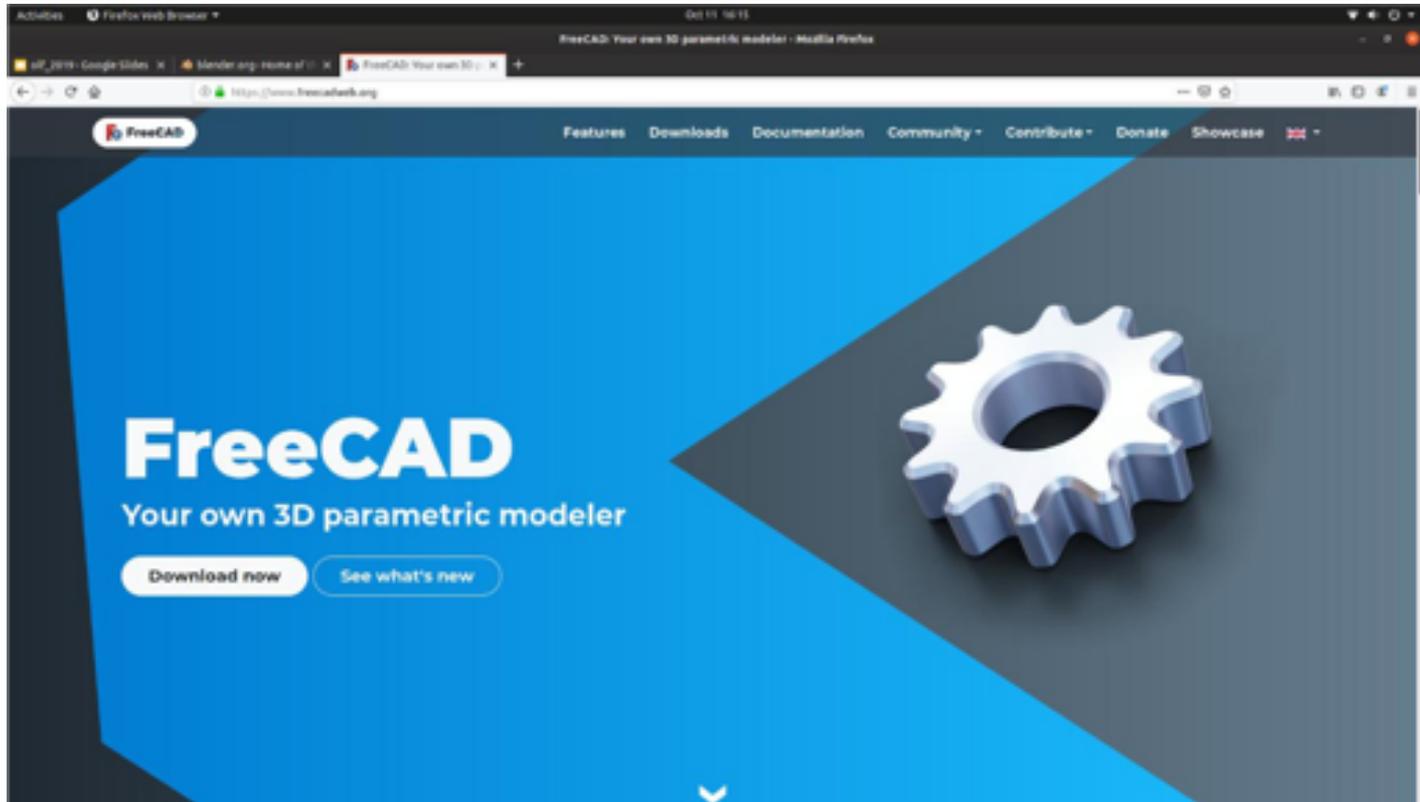
Footer: <https://www.blender.org/download/#release/2.80>

# Blender 2.8

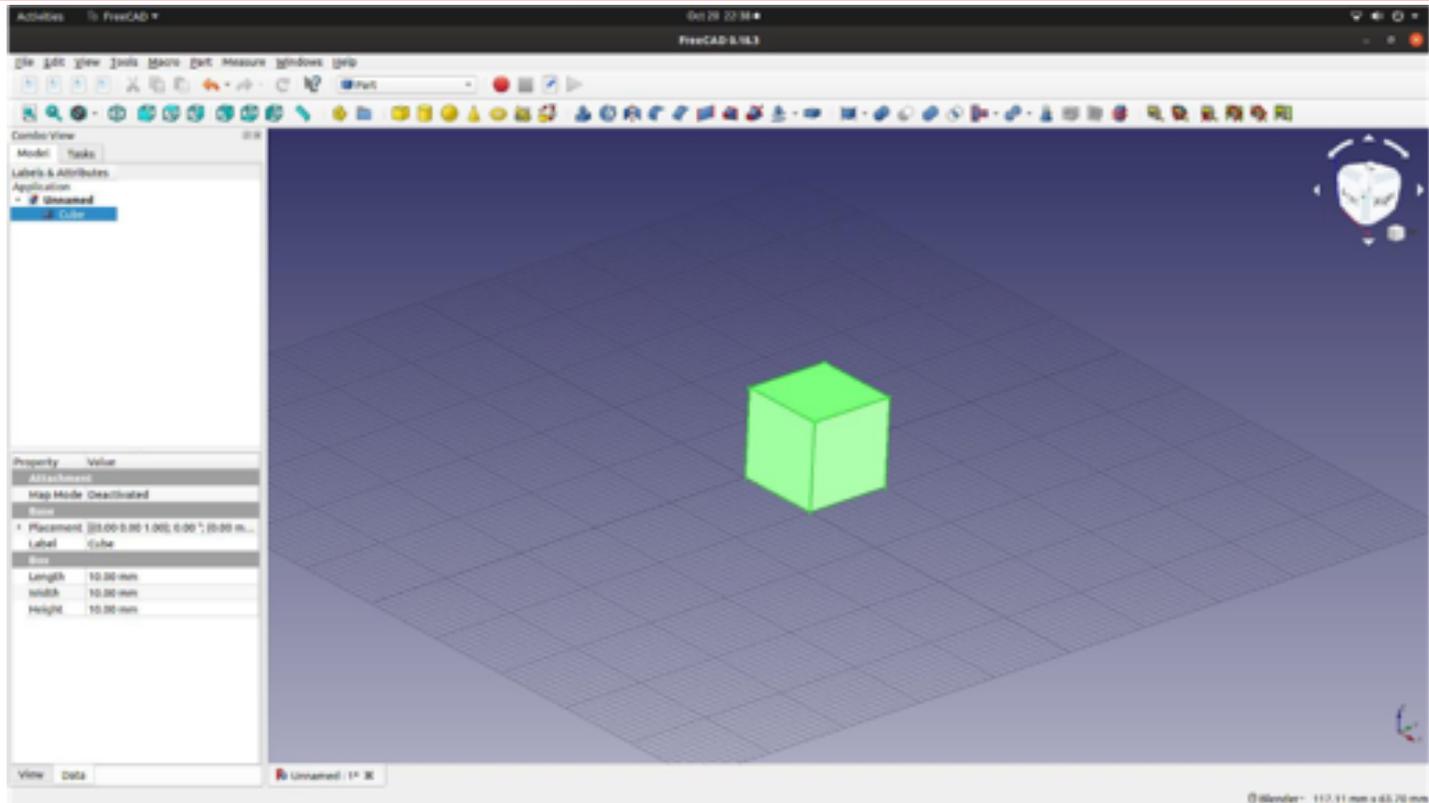


# FreeCAD 0.18

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# FreeCAD 0.18



# Blender vs FreeCAD

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## Blender

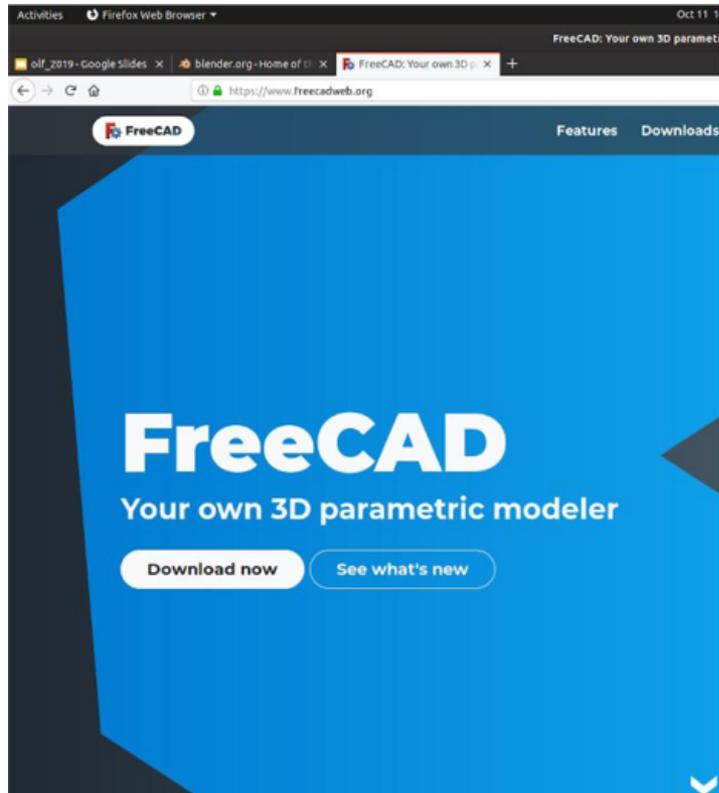
- Direct modeler
- Mesh model
- Shell represents 3D
- No mass or volume
- Organic designs
- Animations

## FreeCAD

- Parametric modeler
  - Solid model
  - Volume represents 3D
  - Has mass and volume
  - Geometric designs
  - Technical parts
-

# FreeCAD - 3D Parametric Modeler

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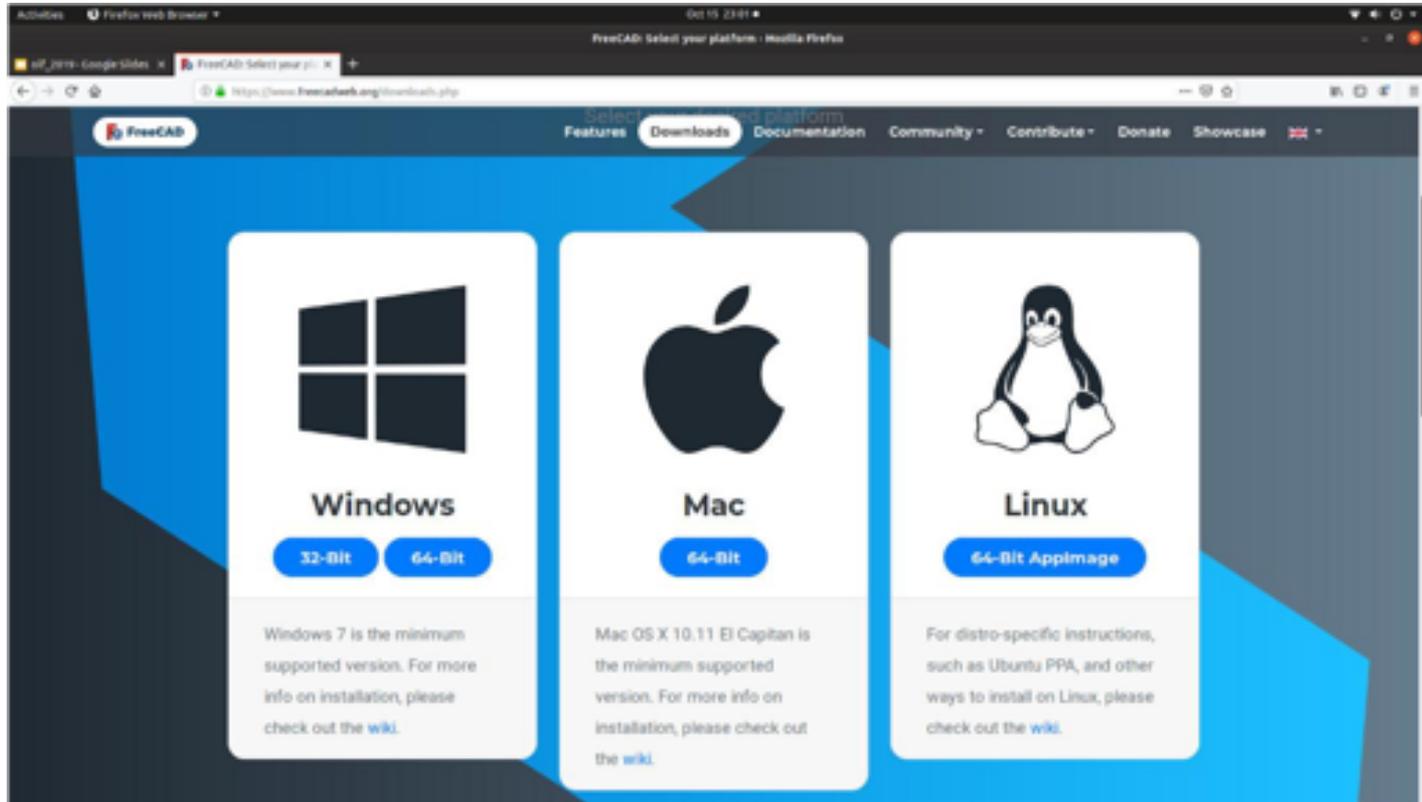
- Parameters determine size and shape of models
- Modifying parameters directly changes the model
- Modifying parameters in the model's history

# Ubuntu 19.10 (Eoan Ermine)

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# Install via AppImage

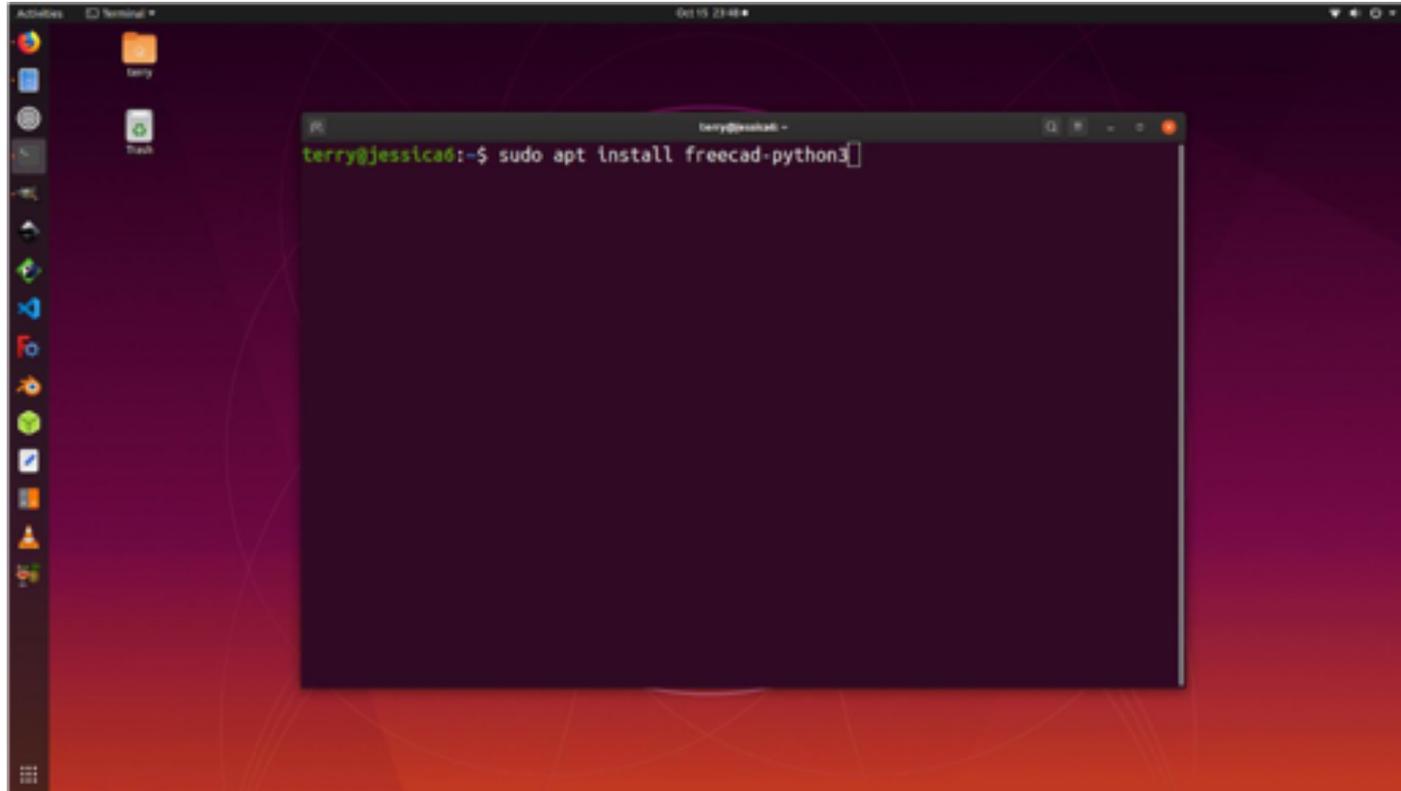


The screenshot shows the FreeCAD website's download page. The page is titled "FreeCAD: Select your platform" and features three main columns for different operating systems: Windows, Mac, and Linux. Each column contains a logo, the OS name, and a button for the download option. Below each button is a paragraph of text providing minimum system requirements and a link to the wiki for more information.

Platform	Download Option	Minimum System Requirements
Windows	32-Bit / 64-Bit	Windows 7 is the minimum supported version. For more info on installation, please check out the <a href="#">wiki</a> .
Mac	64-Bit	Mac OS X 10.11 El Capitan is the minimum supported version. For more info on installation, please check out the <a href="#">wiki</a> .
Linux	64-Bit AppImage	For distro-specific instructions, such as Ubuntu PPA, and other ways to install on Linux, please check out the <a href="#">wiki</a> .

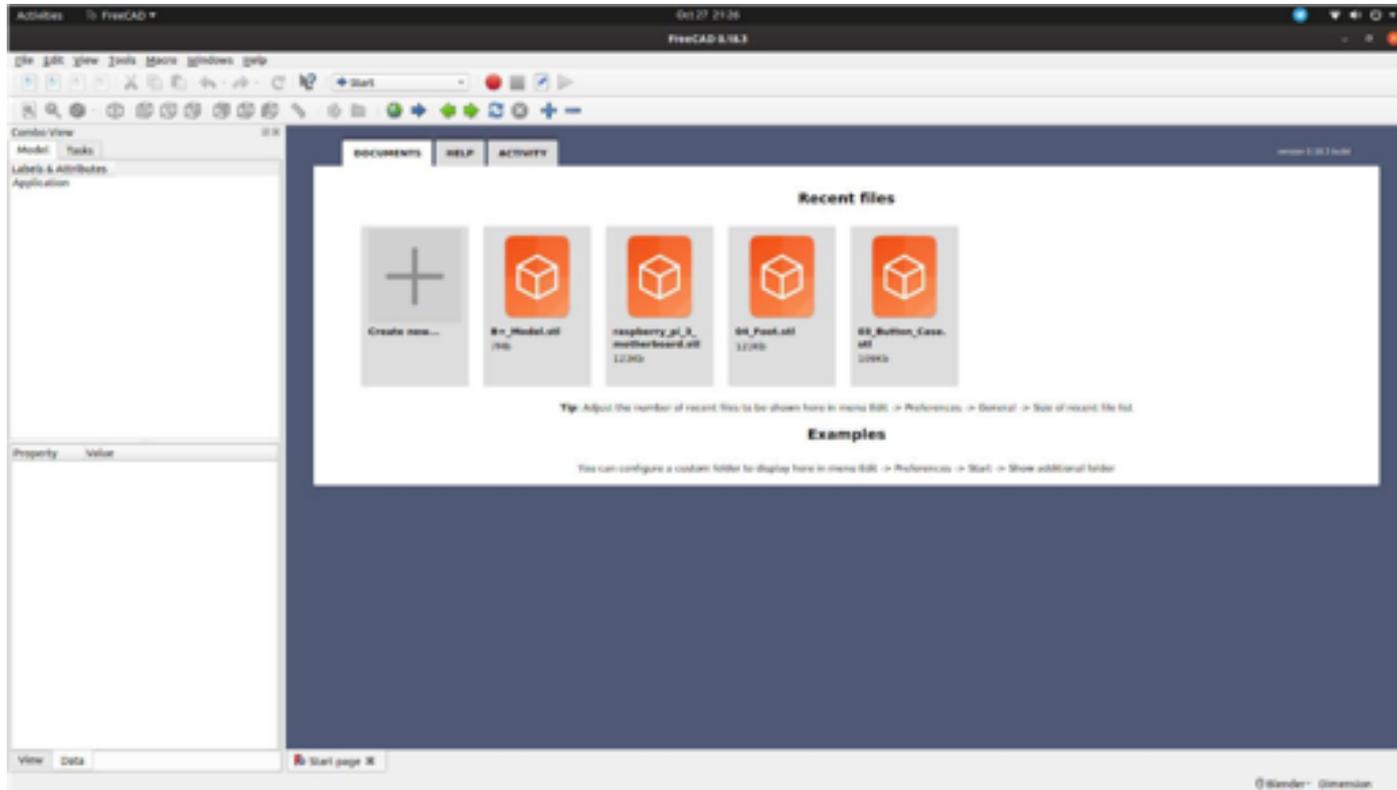
# Install via Binary Package

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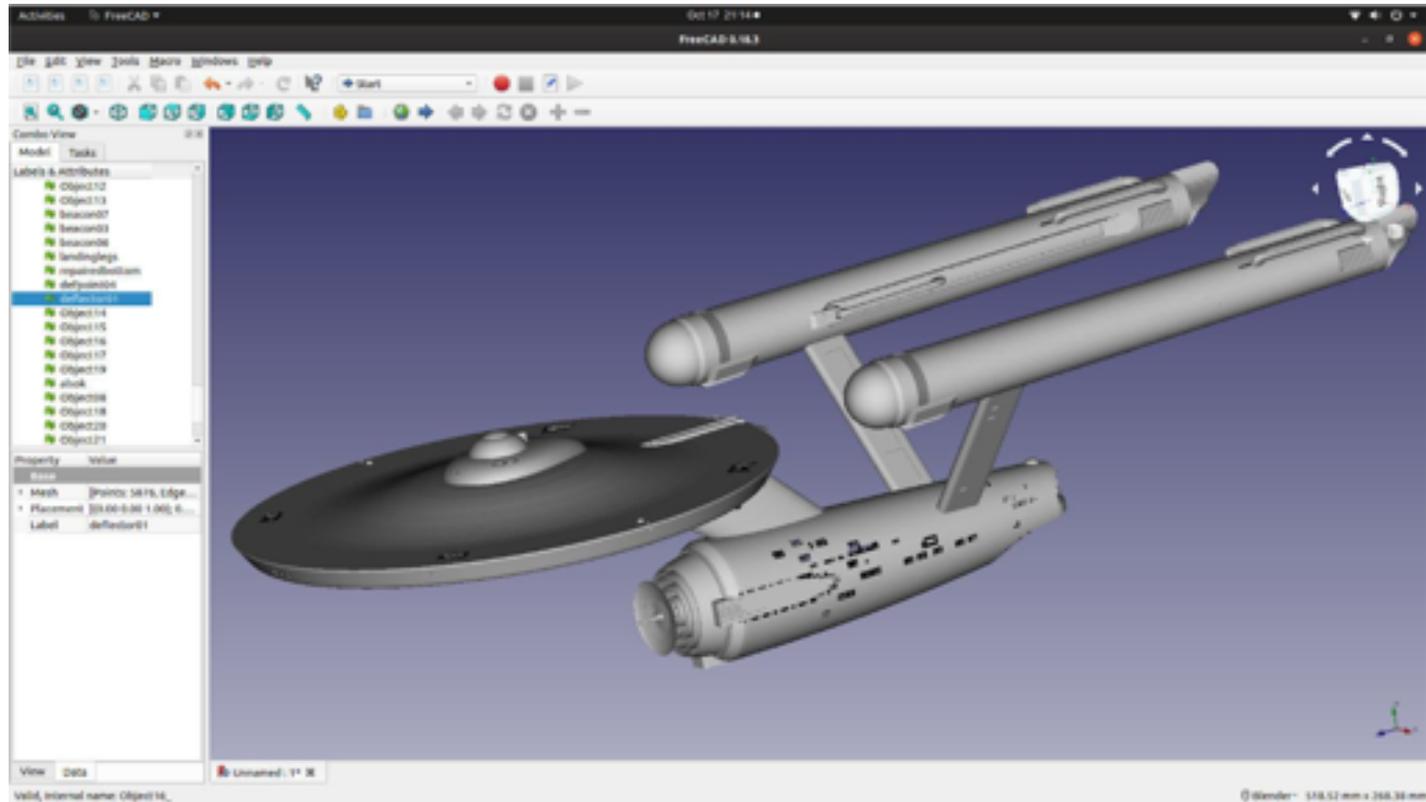
A screenshot of a Linux desktop environment. The desktop background is a dark purple and red gradient. On the left side, there is a vertical dock with various application icons. In the center, a terminal window is open, displaying the command `sudo apt install freecad-python3` at the prompt `terry@jessica6:~$`. The terminal window title is `terry@jessica6 -`. The system clock in the top right corner of the terminal window shows `Oct 15 23:48`.

```
terry@jessica6:~$ sudo apt install freecad-python3
```

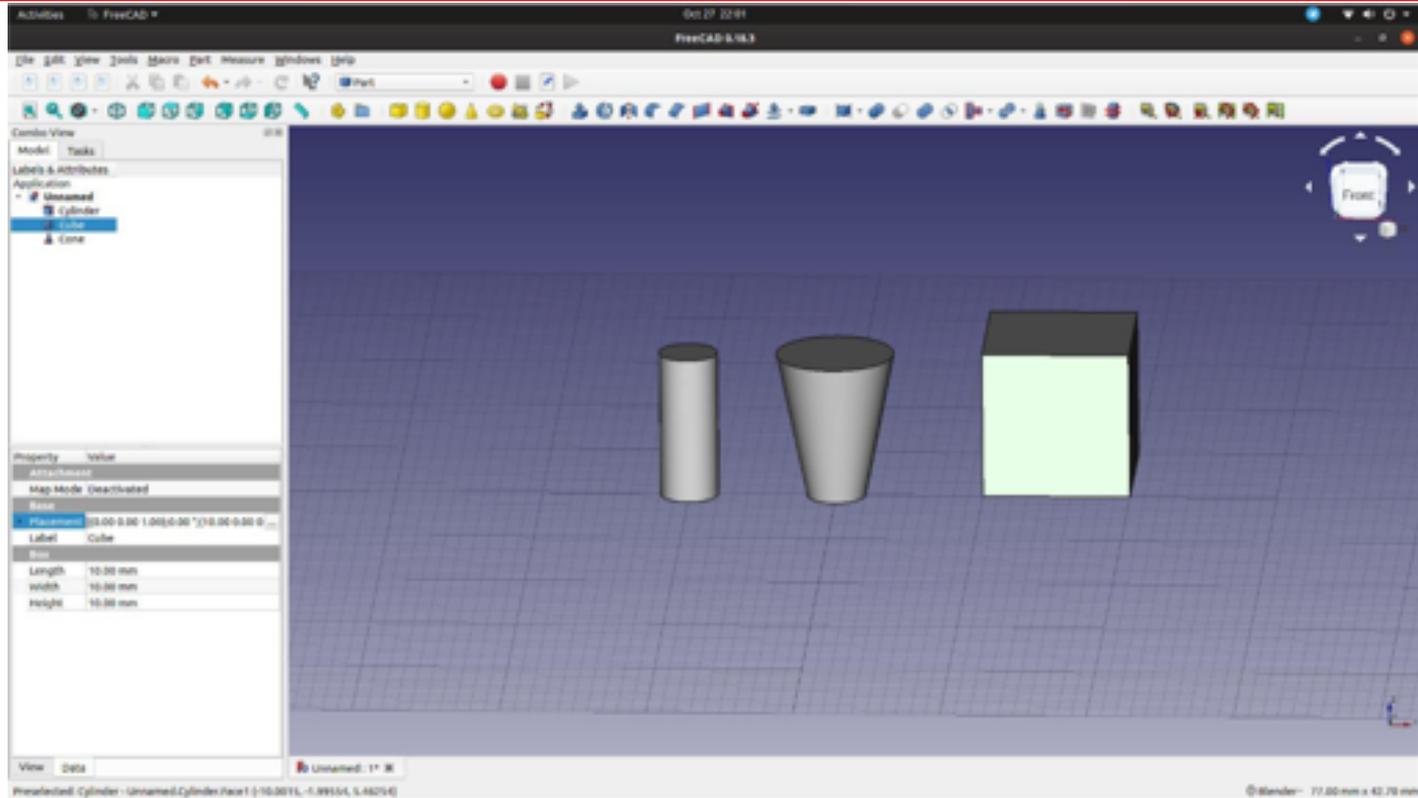
# Start FreeCAD



# Thingiverse Model Import



# Part Workbench

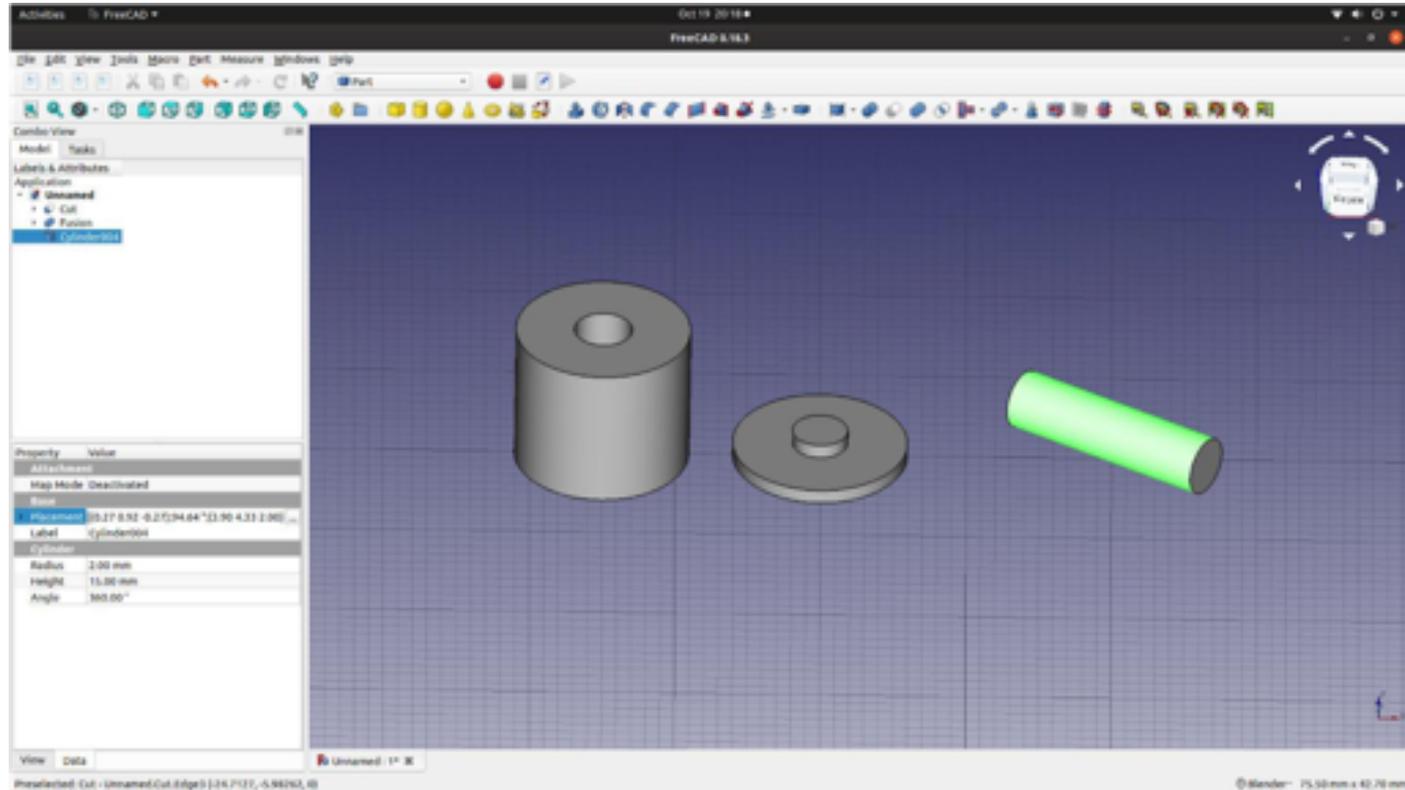


# Punch/Die Set

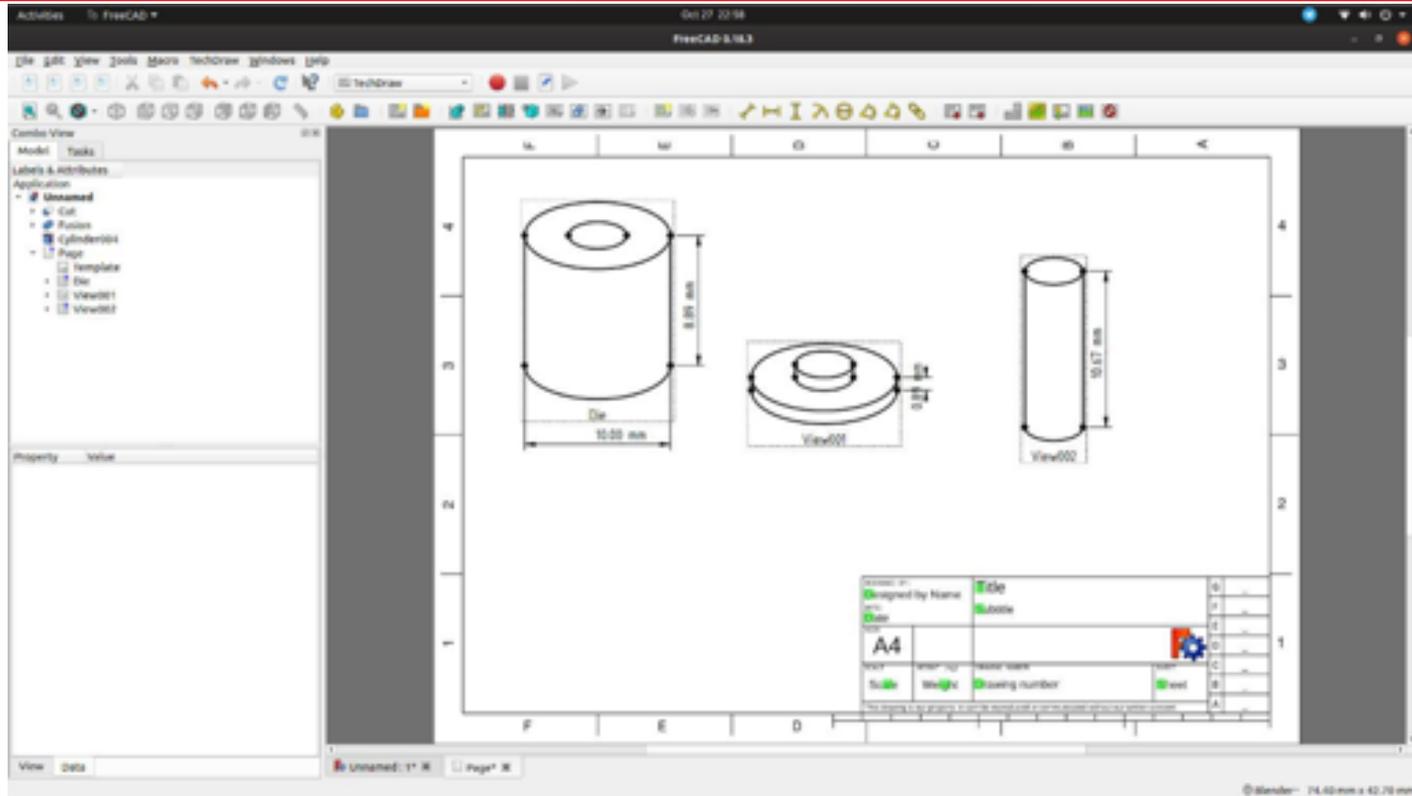
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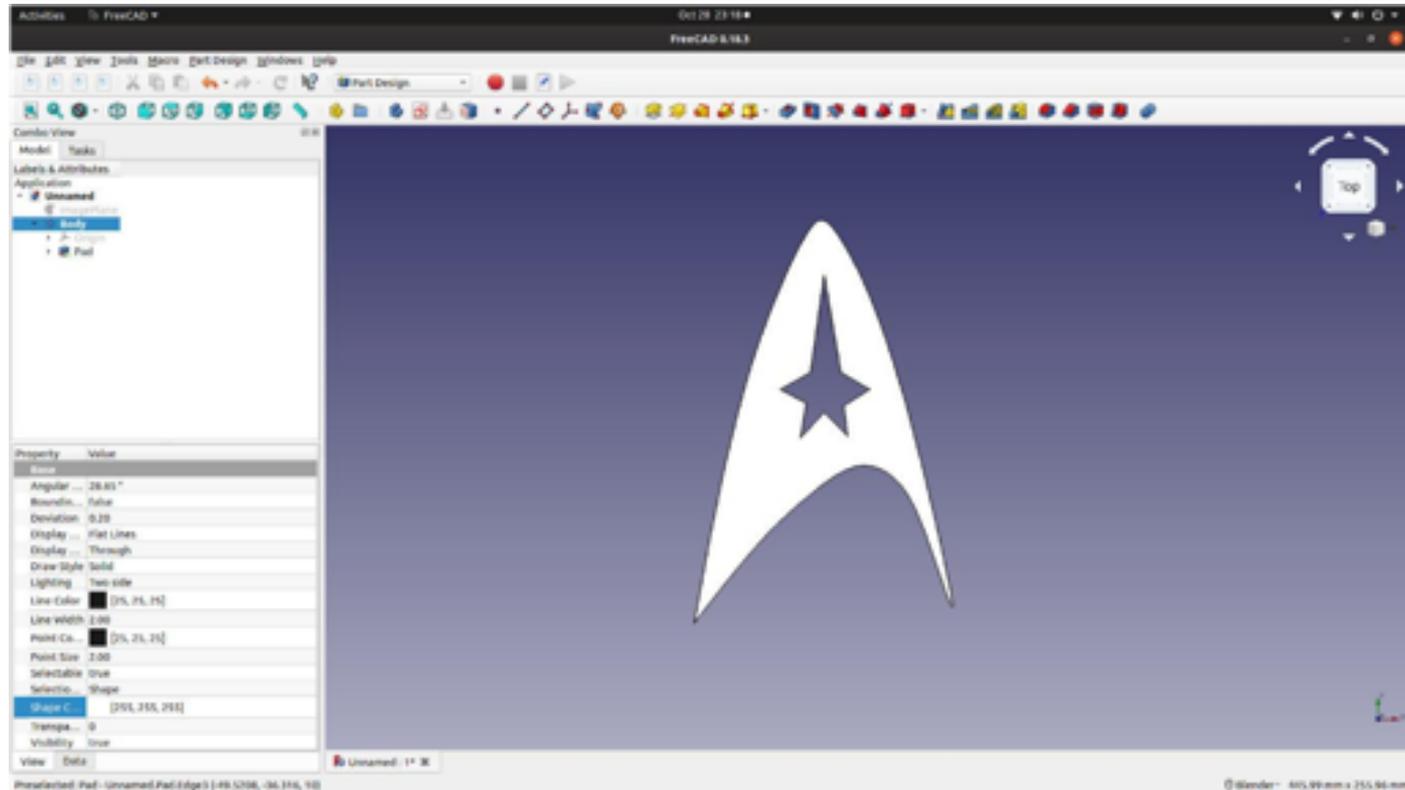
# Punch/Die Modeling



# Mechanical Drawing



# Part Design Workbench



# Questions and/or Comments

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FreeCAD for Newbies

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