

CatalystX v. 3.0.0

File View Tools Help

# dimension

General Orientation Pack Printer Status Printer Services

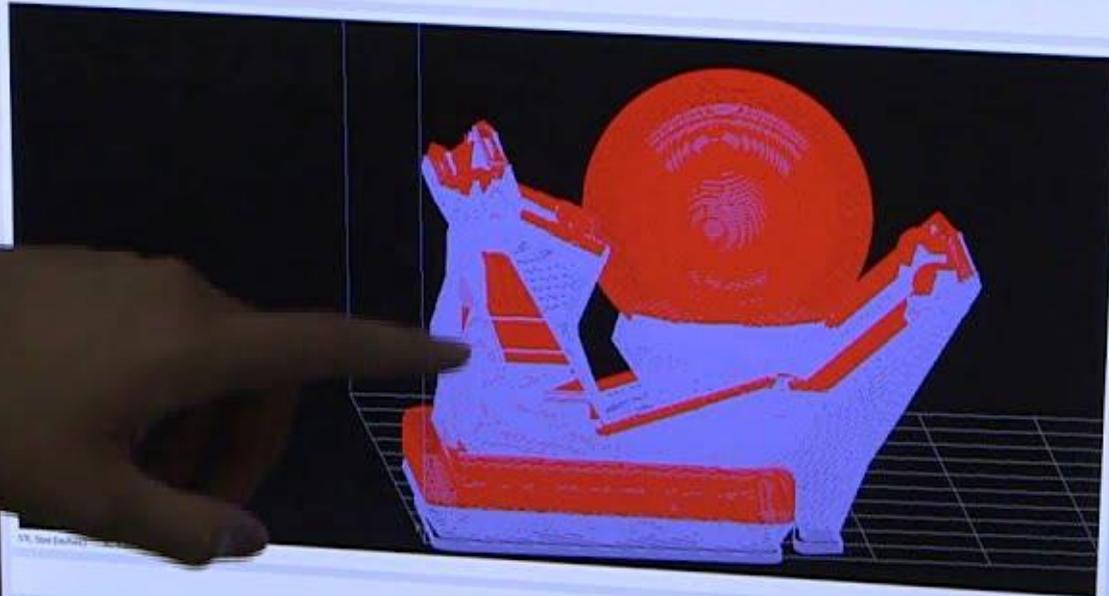
Name: Dimension M1 3.0000in (Dimension M1 3.0000in) [Change 3D Printers...](#)

Material: Model: P430\_775\_3141.stl Support: 6.23.stl

Status: Pause - Robot

Elapsed time: 0:33 (10%) Layer: 34 of 430 (8%)

Time remaining: 3h:46



Properties

Layer resolution: 0.1000

Model status: Sparse - High Density

Support fill: SPARK

Number of copies: 1

STL units: Millimeters

STL scale: 1.0

Dynamic Help

- Basics
- General Tab

**CatalystX**  
Welcome to Dimension and CatalystX

CatalystX is an intuitive, user-friendly application designed to interface with Dimension 3D printers. It allows you to quickly and easily open an .stl file that represents a 3D part, process the file, and print the part.

Click to enlarge

- 1 Main application window.
- 2 Dynamic help window.
- 3 Buttons to Minimize, Maximize (or Restore), and Close the window.
- 4 Left-Click, Hold, and drag a corner to resize the window.

Getting Started

After the CatalystX software is installed and a 3D model is loaded...

Add to Pack Print Cancel

Send CMD to printer: Pause

3:02 PM 6/17/2014

Strataya  
FCU  
3100000000  
P/N: 340-10200

Strataya  
FCU  
3100000000  
P/N: 340-10200

1  
00:00:01,720 --> 00:00:04,660

[Music]

2  
00:00:04,670 --> 00:00:08,260

Hi my name is Victor Ruiz and  
I'm a student intern at Armstrong Flight Research

3  
00:00:08,260 --> 00:00:12,090

Center here at Edwards Air Force Base. I'm  
in the Dale Reed Flight Research Lab where

4  
00:00:12,090 --> 00:00:14,990

where we produce small scale aircraft for flight  
research.

5  
00:00:17,880 --> 00:00:19,180

One of our most useful tools here

6  
00:00:19,189 --> 00:00:24,840

is the 3D printer, it allows to rapidly prototype  
anything we need for any or our small aircrafts.

7  
00:00:24,849 --> 00:00:30,899

The first part of producing a 3D printed part  
is the design. We use any 3D modeling software

8  
00:00:30,899 --> 00:00:36,570

to design anything we need to any design specifications.  
From there we export an .stl file and import it

9  
00:00:36,570 --> 00:00:40,819

into our program that actually prepares the  
file for the 3D printer. As you can see there

10  
00:00:40,829 --> 00:00:46,199

is a blue material that is representative  
of the support plastic that is built around

11  
00:00:46,199 --> 00:00:50,210

the 3D printed part that we are trying to create. So when the part is finished getting

12

00:00:50,210 --> 00:00:54,239

prepared and oriented we actually send it to the 3D printer. So the 3D printer uses

13

00:00:54,239 --> 00:00:58,070

two materials to make the parts. One is the actual material that forms the part and the

14

00:00:58,070 --> 00:01:02,480

other is the support plastic. The support plastic is later dissolved in a base material

15

00:01:02,480 --> 00:01:05,880

that leaves you with a finished product. So the 3D printer actually melts the plastic

16

00:01:05,880 --> 00:01:10,100

that we input into it and lays it out layer by layer until the part is completely built

17

00:01:10,100 --> 00:01:11,720

from the ground up.

18

00:01:11,720 --> 00:01:14,500

So here we can take a look inside.

19

00:01:15,840 --> 00:01:17,340

A 3D printer works much like

20

00:01:17,340 --> 00:01:21,520

a normal printer. Right here on the tray we have the current model that's being produced.

21

00:01:21,530 --> 00:01:25,829

And in the back we have the unit that actually dispenses the melted plastic. And this particular

22  
00:01:25,829 --> 00:01:29,009  
model is going to take about 17 hours to complete.

23  
00:01:31,240 --> 00:01:32,540  
So here are some of the things that we've

24  
00:01:32,549 --> 00:01:38,149  
already made with the 3D printer. One is a  
small scale version of an FRC robot. And another

25  
00:01:38,149 --> 00:01:43,100  
is a servo cover to protect the servos that  
are articulating the wings on one of our