

A 3D rendered scene of a modern building with orange and beige facades and dark blue windows. A large, stylized hand graphic is superimposed on the left side of the building. The hand is composed of several colored segments: green for the palm, yellow for the fingers, and blue for the wrist. The background shows trees with autumn foliage and a clear blue sky. A white vertical line is positioned to the right of the main title.

3D GRAPHICS

Eduso (CZ)

Eliška Brabencová, Laura Kotková, Matyáš Nejedlý, Patricie Rymarová, Jiří Zeman

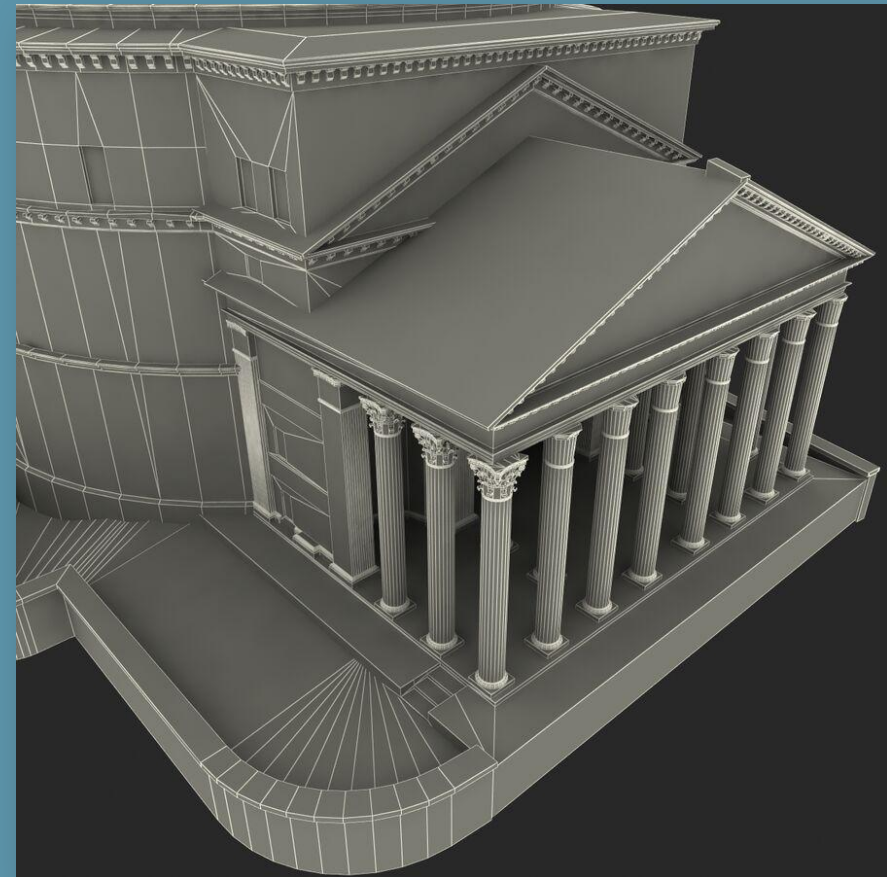
THE INDUSTRY

Gaming

Movie CGI

Engineering

3D printing

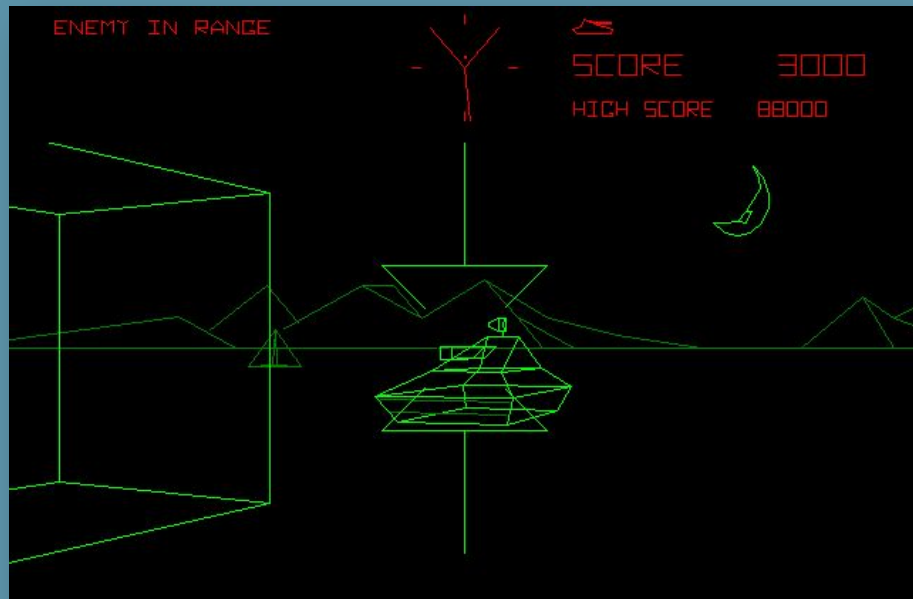


3D modeling in architecture

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Gaming

Battlezone (1980) – first video game with 3D elements



Jumping Flash! (1995) – first true 3D video game



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Gaming

A virtual model of the Notre-Dame cathedral for the video game **Assassin's Creed Unity** took two years to make

It's so precise that it can help with the reconstruction of the famous building



Virtual model from the game

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Movie CGI

= Computer-generated imagery

It most commonly refers to the usage of 3D computer graphics for creating characters and special effects in movies

CGI software is now widely available and individual artists can produce professional-grade films of their own



Gollum from **The Lord of the Rings**

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Movie CGI

Visual effects (VFX) is a method to intergrate unreal digital elements into live action movies.

VFX and CGI requires lot of preparations and planning ahead in filmmaking



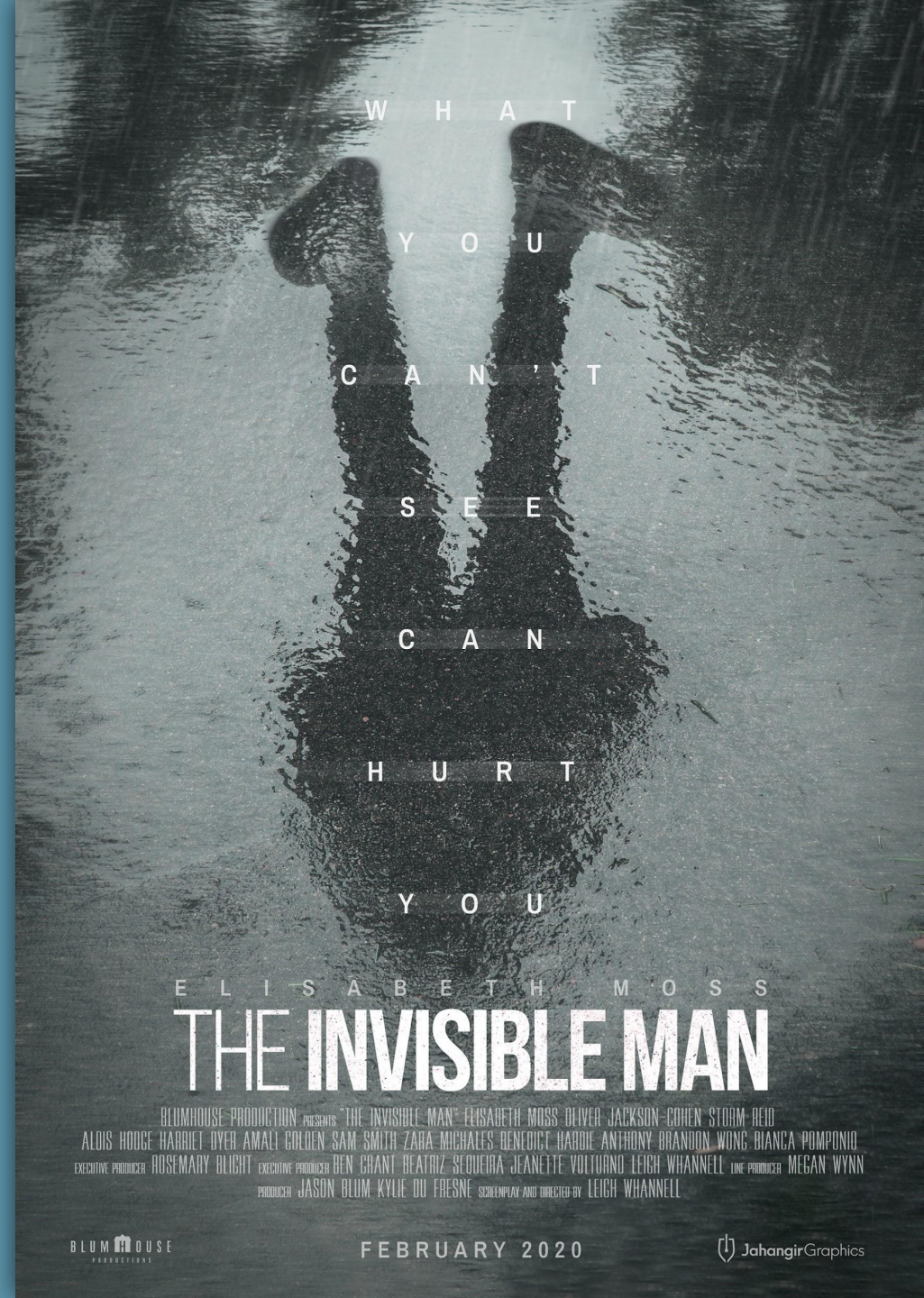
MISSION ANTICOID
(2020)

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Movie CGI

In the film **The Invisible Man**, which is a remake of the original from 1988, it is almost never known that the main character of this film is completely modeled in a 3D program

The movie has won several awards for 3D modeling



ELISABETH MOSS

THE INVISIBLE MAN

BLUMHOUSE PRODUCTION PRESENTS "THE INVISIBLE MAN" ELISABETH MOSS DELIVER JACKSON-COHEN STORM-REID
ALDIS HODGE HARRIET DYER AMALI GOLDEN SAM SMITH ZARA MICHAEL BENEDICT HARDIE ANTHONY BRANDON WONG BIANCA POMONIO
EXECUTIVE PRODUCER ROSEMARY BLIGHT EXECUTIVE PRODUCER BEN GRANT BEATRIZ SEQUEIRA JEANNETTE VOLTURNO LEIGH WHANNELL LINE PRODUCER MEGAN WYNN
PRODUCER JASON BLUM KYLIE DU FRESNE SCREENPLAY AND DIRECTED BY LEIGH WHANNELL

BLUMHOUSE
PRODUCTIONS

FEBRUARY 2020

JahangirGraphics

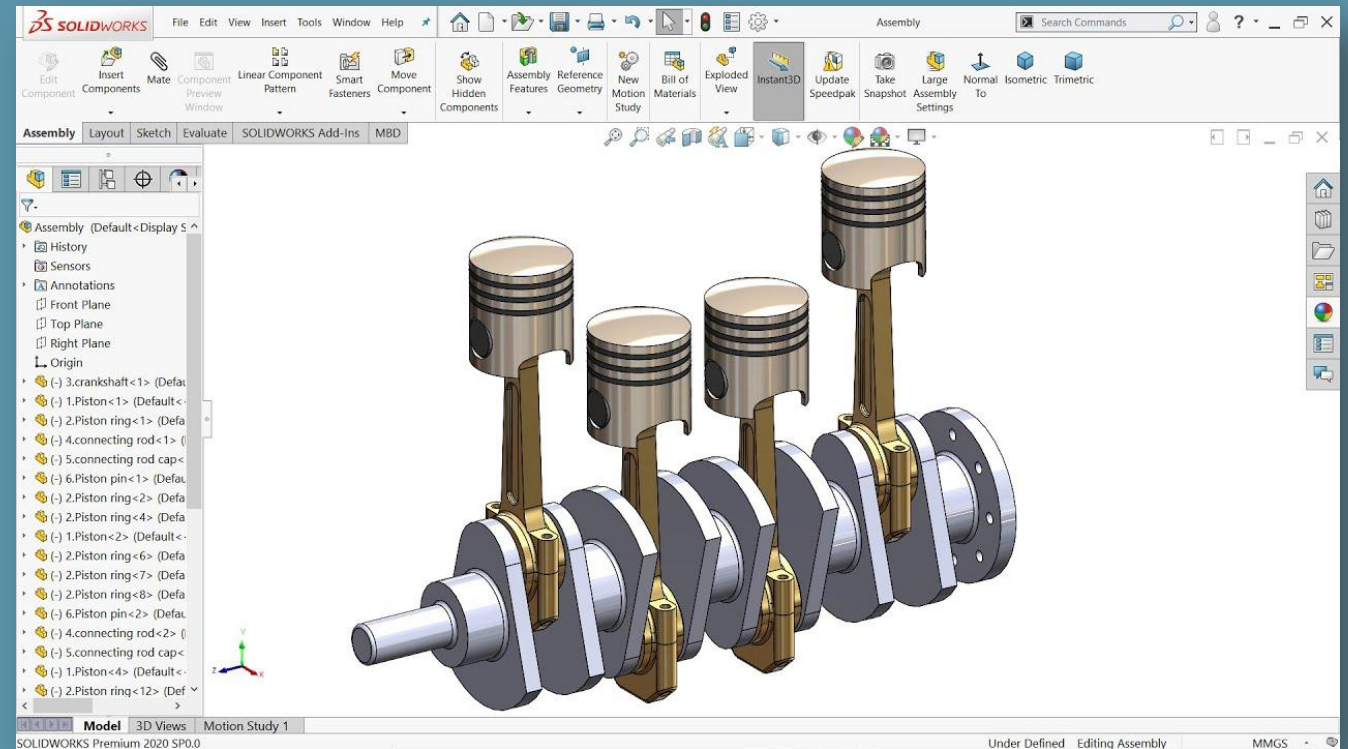
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Engineering

Modern engineering is influenced by 3D graphics more than you may think

Engineers use 3D software to visualize the final look of the product, machine or other components

This software is called CAD (computer aided design)



SOLIDWORKS, a manufacturing software

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3D printing

What exactly is 3d printing?

It's a process of turning a 3D model, made from a 2D reference, into a solid object

How does it work?

It's laying down material layer by layer

Since when can we do this?

The concept dates back to 1945



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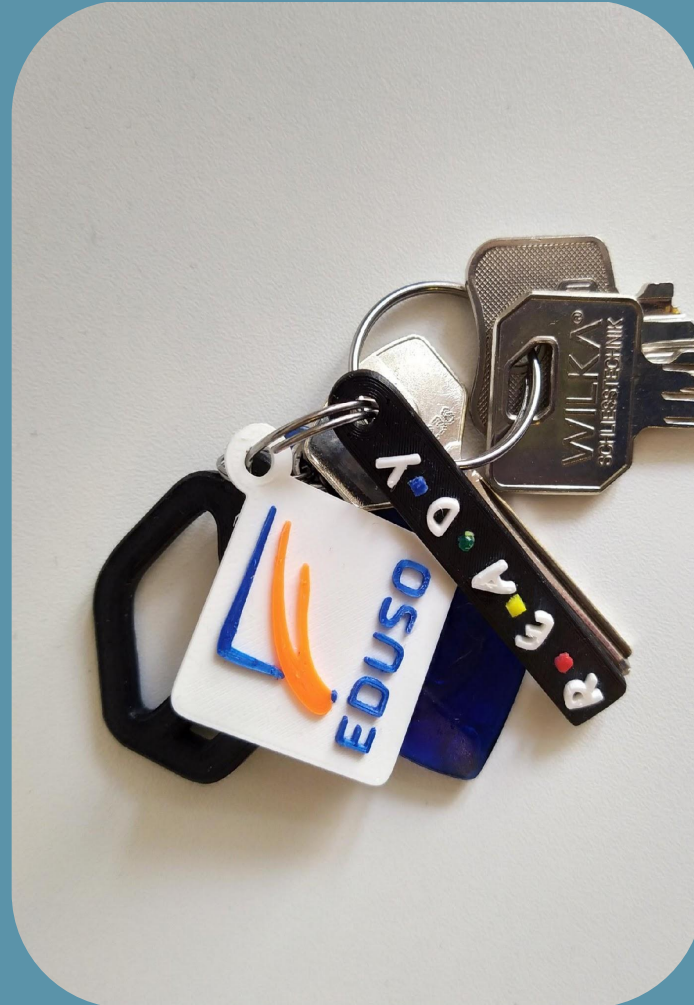
3D printing

So, what can it be used for?

Jewellery, spare parts or even medical devices

Keychain

As you can see on the right-side picture, we made our own EDUSO keychain



HISTORY

3D modeling

The first 3D models were created in 1960s

Back then, only professionals in the field of computer engineering who worked with mathematical models and data analysis were involved in 3D modeling



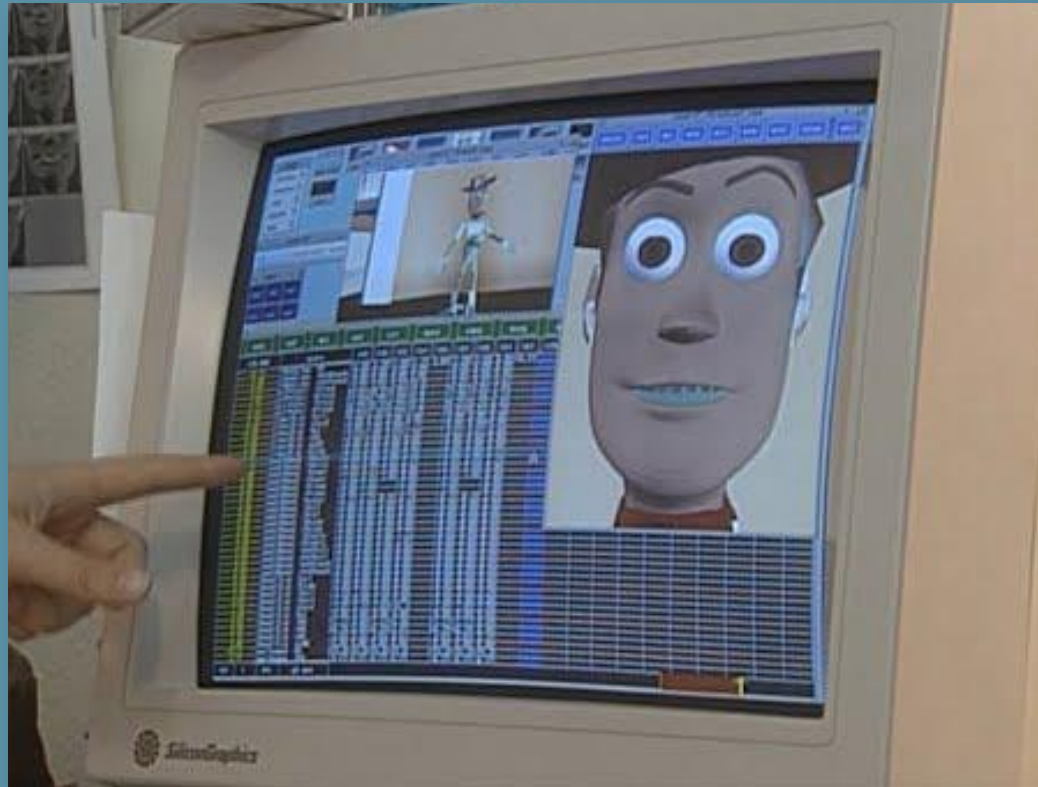
Sketchpad, the first 3D software

HISTORY

3D animation

Toy Story was the first full-length, 3D computer-animated movie, it was a most significant milestone for animation

In 2012, the American Film Institute rated the film the 6th best animated film in history



The film had a budget of only \$30 million and the film's creative team consisted of 110 employees, including 27 animators

3D SOFTWARE



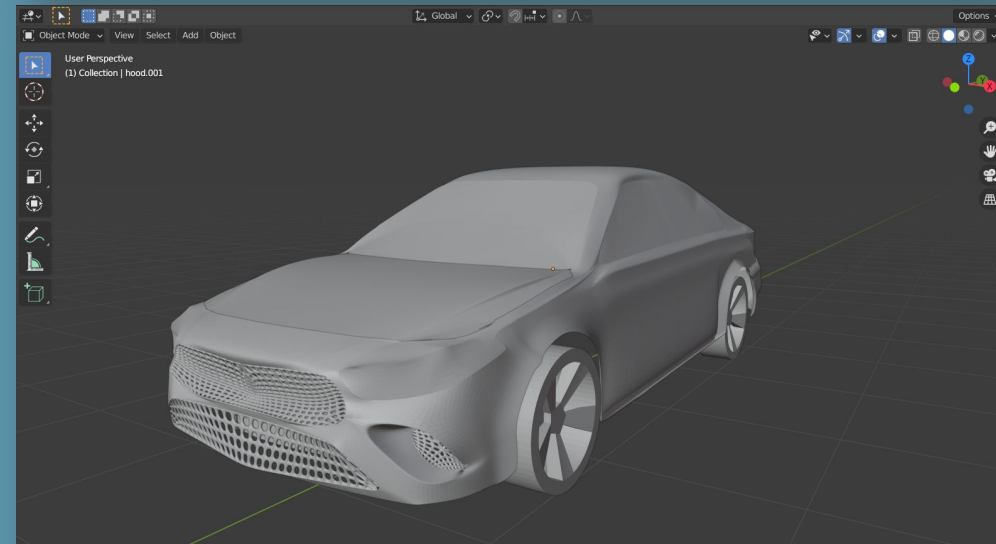
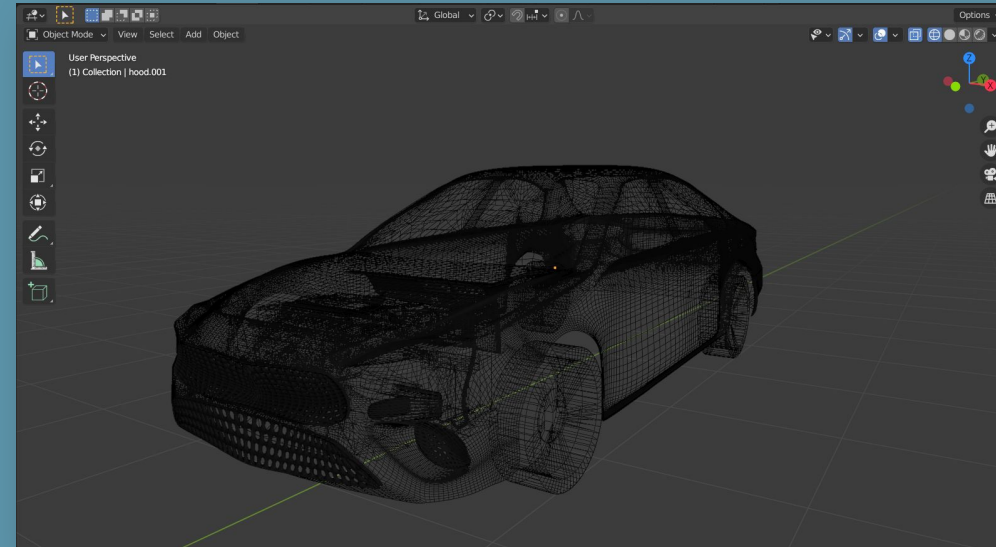
3D MODELING

Modeling is creating an object in 3D digital environment

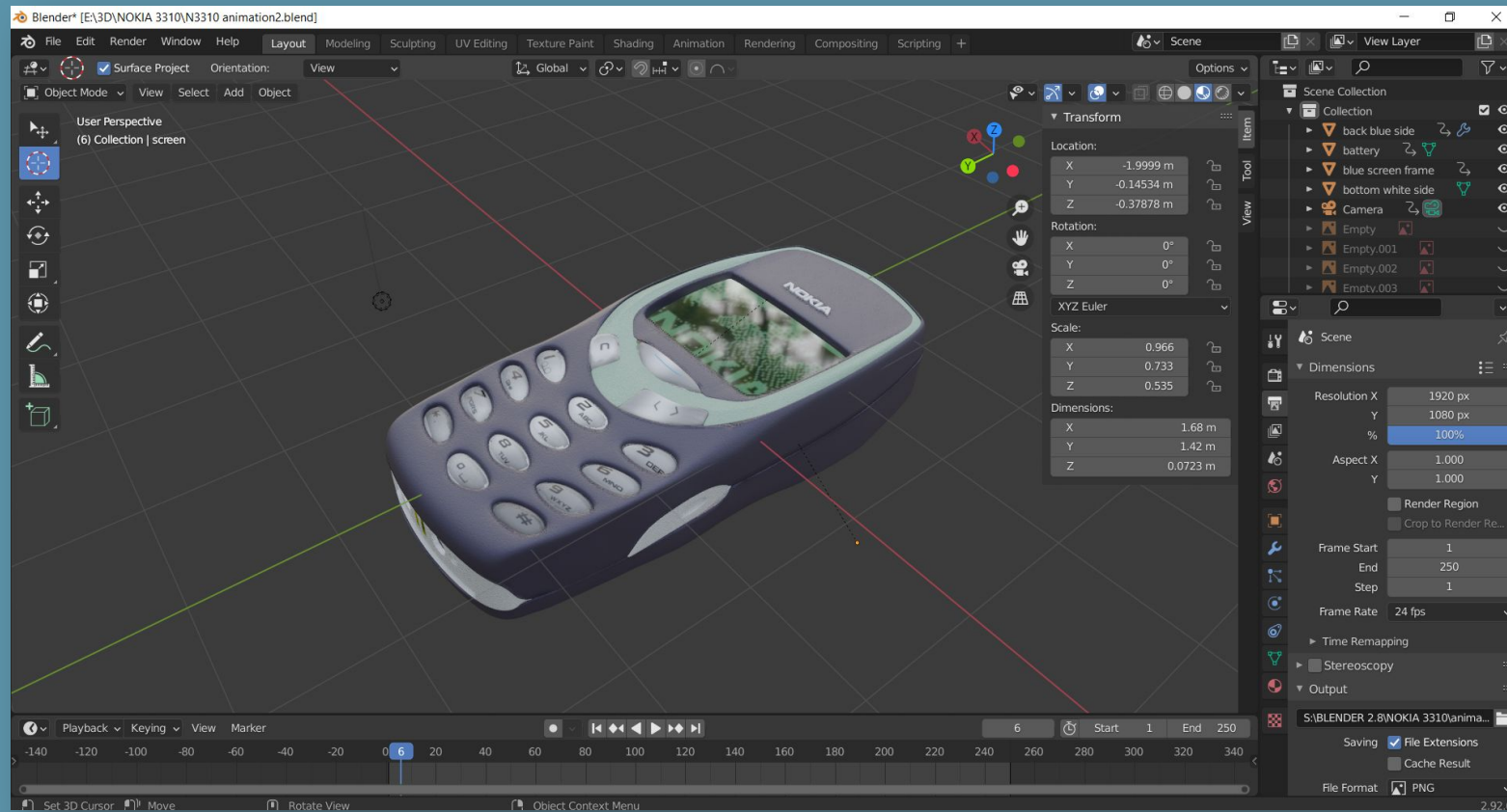
It's the most important process for any kind of 3D graphics

Modeling involves moving digital points in three axis – X, Y and Z

Filling the space between those points creates a 3D object



3D MODELING

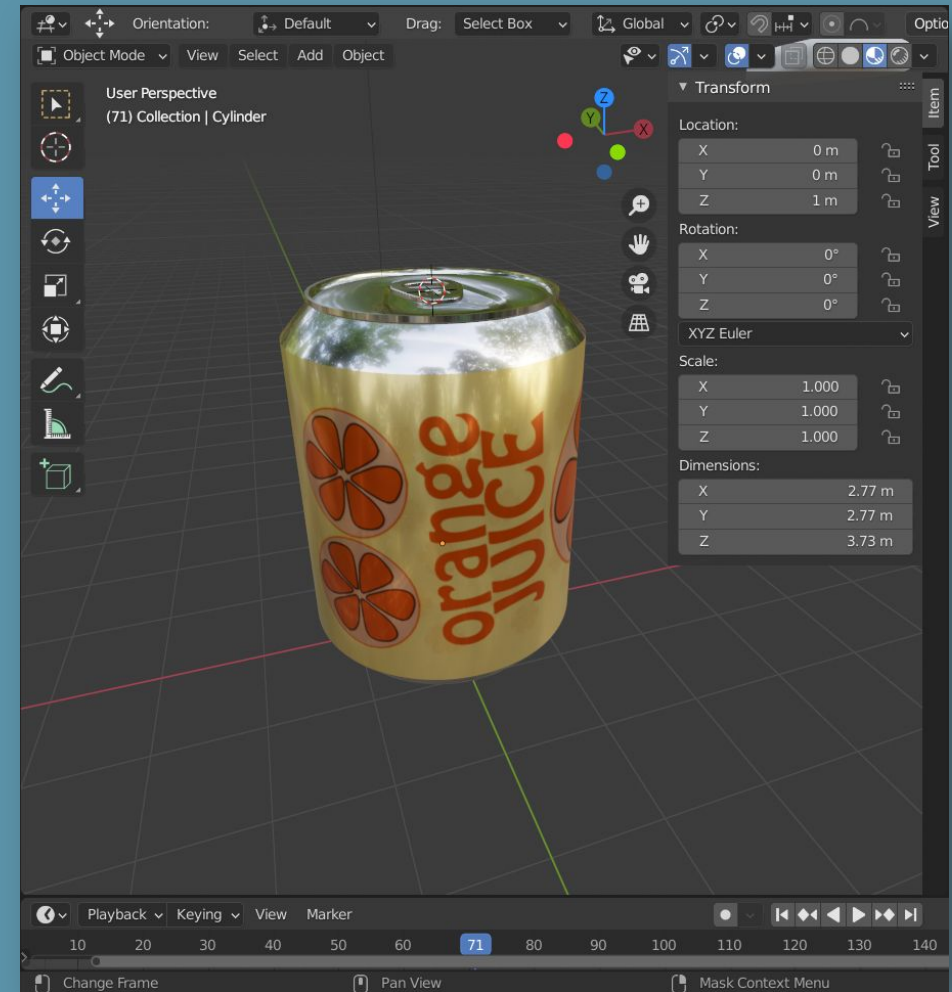
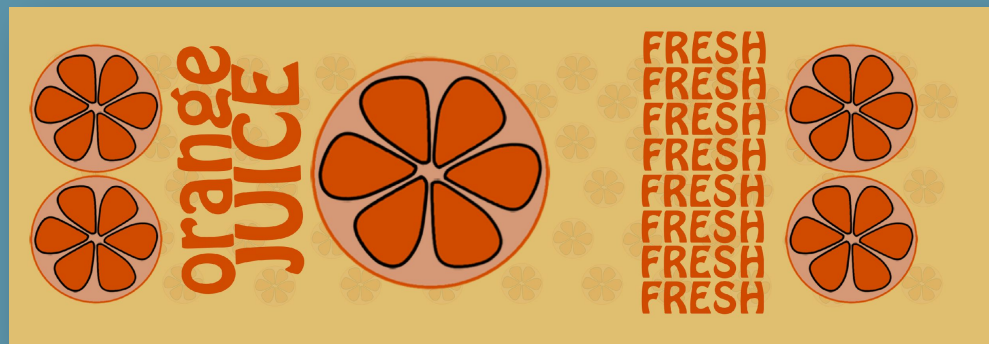


**NOKIA 3310 in
Blender**

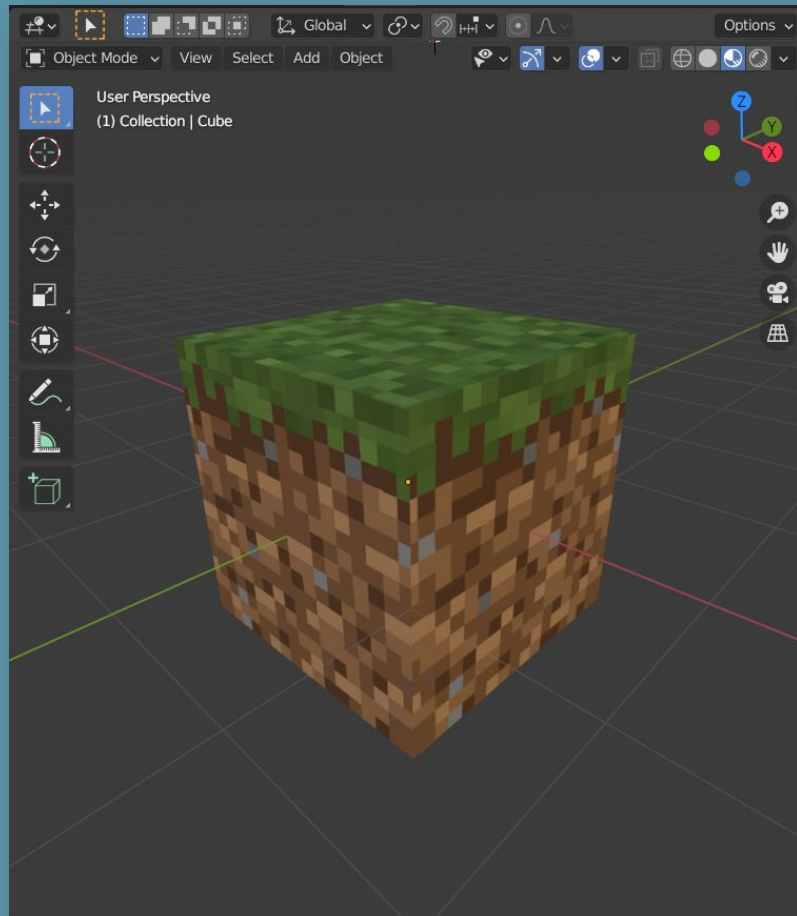
TEXTURING

Texture mapping is applying an image on the surface of an object

Surface is unwrapped to the net and projected on the 2D image



TEXTURING



Minecraft
(2011)





THANK
YOU