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Advanced Direct Modeling in T-Splines & Parametric Design

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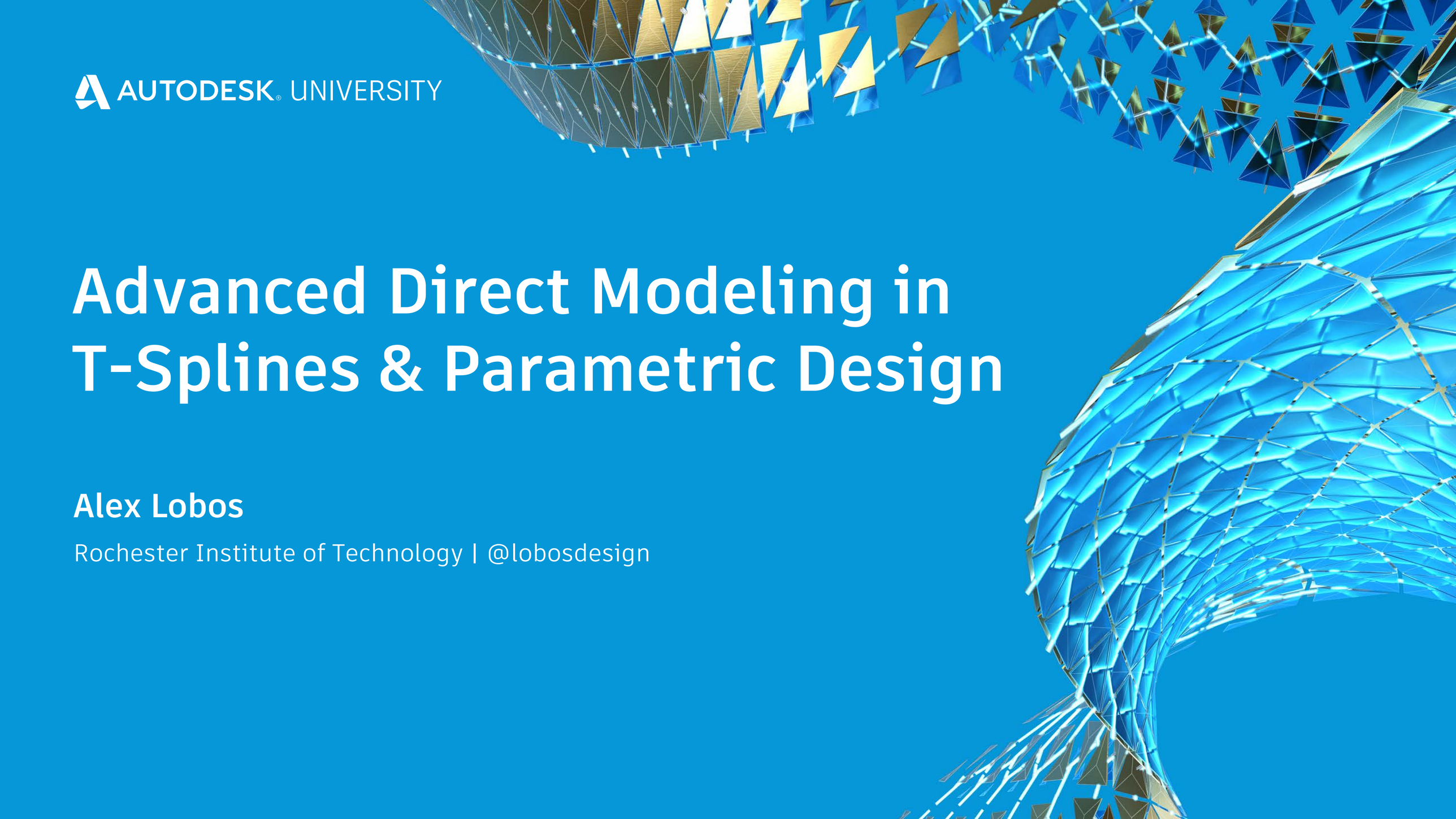


About the speaker

Alex Lobos focuses in design, technology and emotional attachment as means to elevate quality of life.

He is Professor and Graduate Director of Industrial Design at Rochester Institute of Technology (RIT) and a Research Fellow Emeritus at Autodesk.

Sequential Modeling

Traditional CAD uses a linear sequence of steps, in which different details of a design are provided to the computer separately.

This workflow involves:

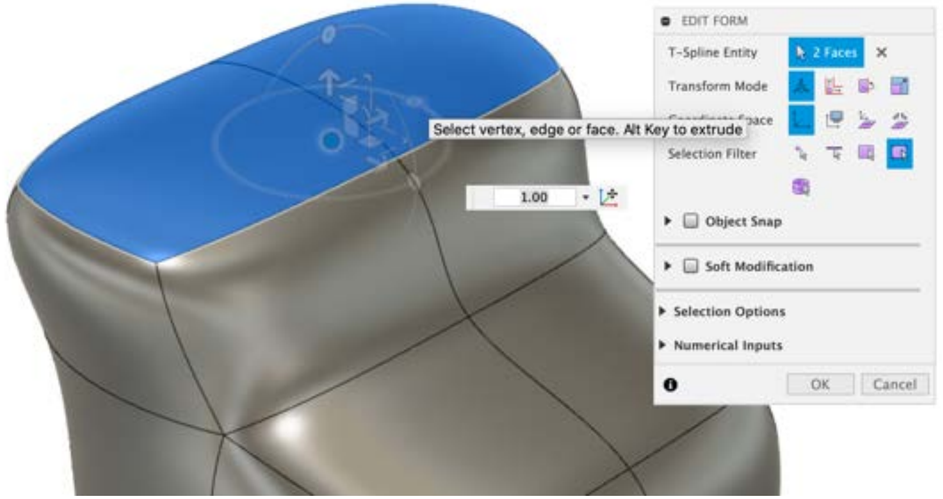
-Selecting a plane

-Drawing a 2D sketch

-Feature to create 3D body

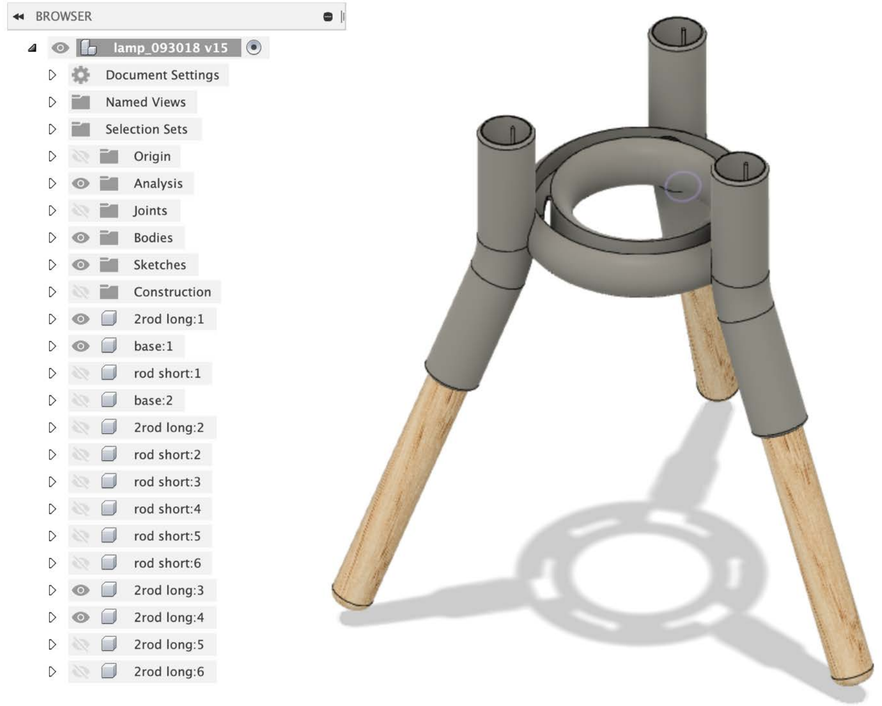
Direct Modeling

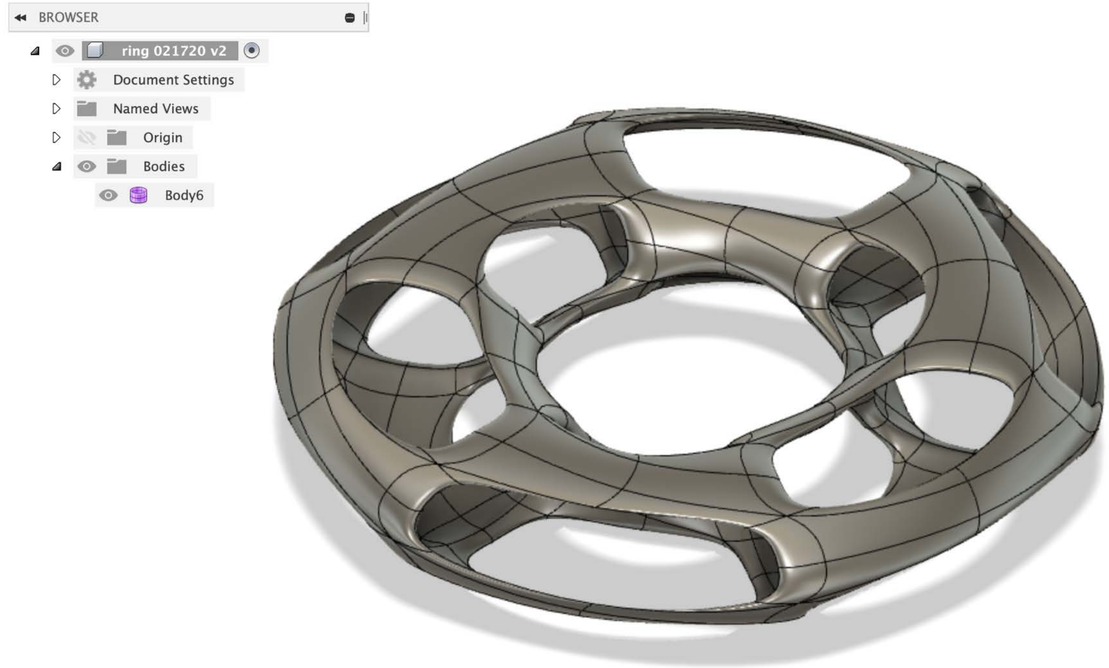
Direct modeling allows to edit geometry in real-time, using gestures that mimic how objects are moved in real life: pull, push, rotate, stretch, compress, etc.



Benefits of Direct Modeling

- Removes unnecessary steps
- Works with natural gestures
- Discovery of subtle changes
- Promotes a sense of “flow”





Parametric

It allows to capture history of every component in a design. As features are created, they are linked to each other, creating a history timeline. It’s easy to go back to any step in the timeline and make edits that update the entire model.

T-Splines

It provides great flexibility for modeling. It helps to maintain surface continuity. Modeling history is limited or non-existing, which makes editing hard. It might also limit exporting data to engineering applications.

Direct Modeling is possible in both Parametric & T-Splines

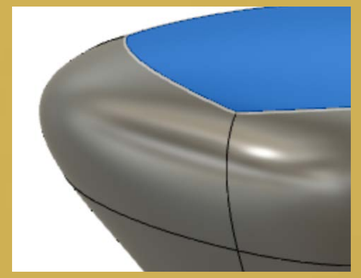
Image caption goes here

Stool
(T-Splines)

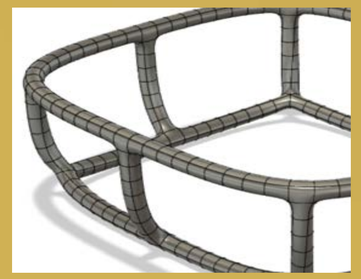
Stand Mixer
(Parametric)

Key Features

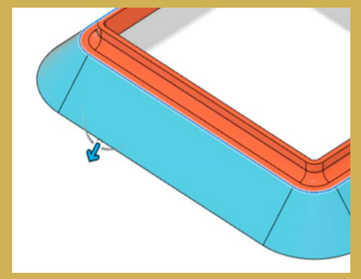
Edit Form



Pipe



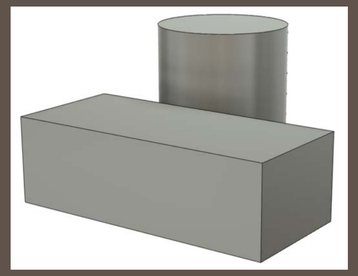
Ruled Surface



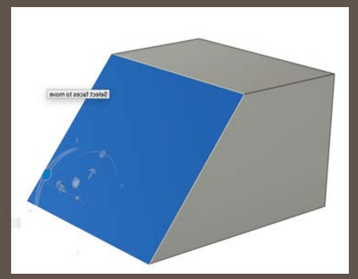

Watch step-by-step video:
youtu.be/u0GE0D8bzAA

Key Features

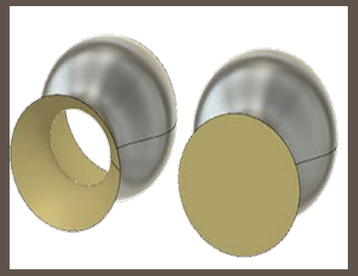
Primitives



Move Face



Patch




Watch step-by-step video:
youtu.be/ 7aHlH0eDL78