Design and Mechanical Analysis of the Tooth Row Prosthesis Model on the Upper Human Jaw

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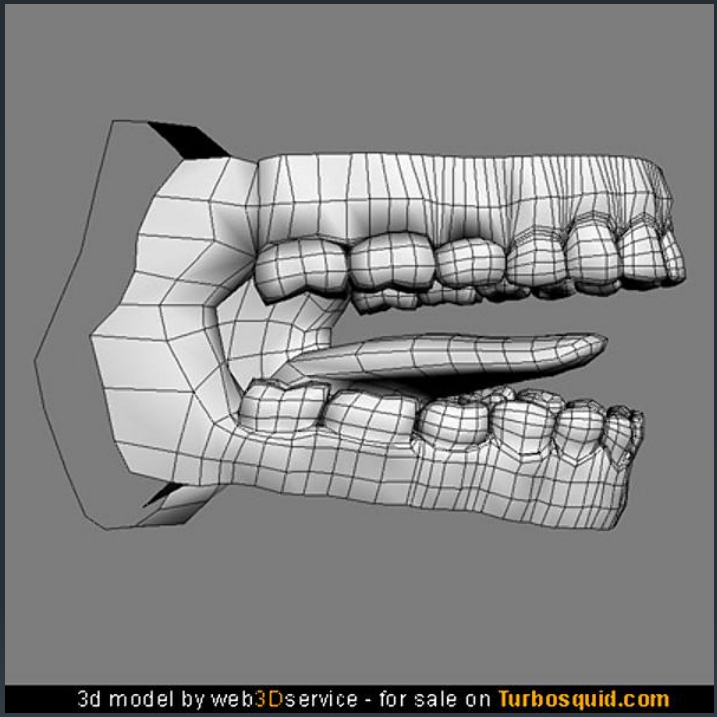
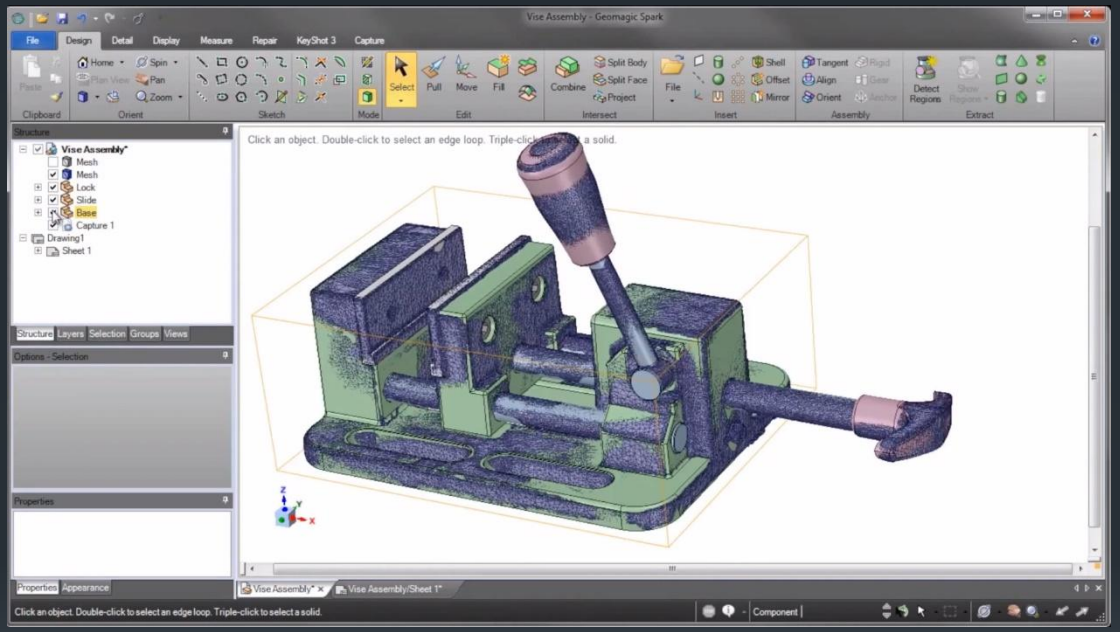
Introduction





Main goal

- Simulate the prostheses and upper jaw
- Calculate the stress-strain state of models
- Perform a comparison of different models

Problem Statement

- Jaw and prostheses model elaboration based on the STL-model
- The models connection and calculations at various loads

Steps

1. Construction of the model of the jaw
2. Same of solid models of prosthesis
3. Inclusioning the models in a single assembly
4. Setting limit conditions appropriate to different loads
5. Calculation, analysis and plotting

Results

- Manufactured upper jaw solid model
- Created the optimal prosthesis

Reference list:

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2. Walter Stalker Greaves, "The Mammalian Jaw: A Mechanical Analysis", USA, Cambridge, [2012].
3. Nick Lavars, " 3D printing helps build upper jaw prosthetic for cancer patient" , [October 17, 2014].
4. Jason Brick, "Printable Body Parts Leap Forward with Printed Jaw", [0ctober 20, 2014].

Thank you for your attention!