Overview

Engineers and analysts do not have the required tools to communicate:

- There are currently no options for FEA in CAD.
- The CAD-to-FEA integration introduces error.

One solution that has been shown to significantly reduce error is the use of isogeometric analysis (IGA) on designs.

Materials & Methods

C# is the main programming language of the isogeometric analysis plug-in:
- Can be compiled on a wide range of computer platforms.

Rhino® is a 3D modeling software for producing curves and surfaces:
- Only CAD software that supports user developed plug-ins.

Grasshopper™ is a visual programming language plug-in:
- Allows members to engage in the development process in a non-trivial manner to produce faster prototyping.

Future Work

After creating the first version of the plug-in, many steps have to be taken to guarantee maximum user experience of the interface:

- GUI development (design layout and interface changes)
- Drag-and-drop functionality
- Greater range of analysis options
- User testing (Fitts’ Law analysis)
- T-spline analysis support
- Browser-based IGA