ANALYSIS PROGRAM

MANUAL

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Contents

Thanks to everyone whom programs or softwares I used...

And thanks to anyone who contributes or even pays attention and becomes a companion in this fantastic journey...

1 Preface

I am actually very exited, even when writing this preface. I believe that it will be a long one but it is hard to foresee since I am writing without planning it :D This project is a project that I am very eager to see its outcome. This is a dream of mine that I nurture. Indeed, it is a far dream, yet I believe one day I can accomplish it.

The main motive of this project is that there are no free licensed professional analysis programs to my knowledge. There are fantastic programs such as Ansys or Nastran-Patran; however, they are all licensed and require colossal amount of money to use. This amount is such big that it can even sometimes put companies into hardships as well.

My compassion has started and is growing thanks to the 3D computer graphics software Blender. It was a small program back when I first discovered it, yet it was a great program. It worked smoothly, it was updated frequently, it had a terrific community which was full of people with endeavour. Today it is a very capable program which provides a free-to-use powerful tool to students and smaller companies. Even a very good Netflix animation called "Next Gen" was done using Blender. This is my hope for this program as well. One day it may have a very good community who supports the program, and it becomes a very powerful tool. Even better than I dare to imagine.

Today of course, I will start with baby steps. I will not write any part of the program if I can manage not to. I will use already made open resources to build the program. It will most probably won't even be close to being a very efficient program. but this is the starting step that every dream needs.

Thank you dear reader if you are here and valuing my work enough to read this.

2 Introduction

In this section I want to talk about some of the things that I want about my program.

Firstly, and most importantly, it must be fully open source. Any program or software that is a part of this project must an open source one. For this purpose (and also because of curiosity) I have chosen Julia to be the coding language. It is an open source, promising language. Qualities that I also wish for my project.

Secondly, I will use already proposed solutions if there are any, at least at the starting phase. Because it would be a waste of time to build everything from scratch. For example, I will use already made Julia packages for meshing, or if I add wing structure analysis at some point, I will use xfoil or xflr5 to make the aerodynamic analysis since I think that replacing an already smoothly working program is just a waste. However, my main concern will be that program being a free one or not.