

## **Working Prototype Known Problems Report**

MAT3D

Team Name: Matrix Masters

Date: July 24th, 2018

### **Functional Issues:**

1. Texture file loading is inconsistent. Some texture files will load while others will not. The texture issues started when the 3D viewport was introduced into the MAT3D website, so we believe the issue may stem from either security issues within the browser or an unknown bug within the webpage's HTML code. This bug may be solved by finding the unknown bug or may be unsolved depending on security issues.
2. The matrix function LU-Decomposition does not work. Providing any input to this function does not come out correctly. The issue with this function may stem from some issues with our algorithms, as the answer to LU-Decomposition produces two matrices. Fixing/rewriting the algorithms for these functions may alleviate any issues.
3. Answers involving complex numbers are not presented properly. This is caused when any value involving complex numbers is computed. This is possibly caused by complex numbers being represented by a `math.complex` object which must be "unpacked" to be presented correctly. Adding a special case for displaying complex numbers may alleviate this problem.
4. Functions which are supposed to only take exclusively matrices or scalars take any input. This causes incorrect/incoherent answers. This is caused by some unaccounted for but needed exception throws within the parser's functions. This can be remedied by adding these unaccounted for exception throws into the code.
5. Decimals without a number in front do not work when inputted within the matrix cells/top bar input. This is caused by an unaccounted for regex within the parser. This can be remedied by developing/adding the necessary regex.
6. The controls box just kind of floats outside of the canvas. This happens upon loading the page in full screen. The origin of this bug is unknown, but may be remedied by adding/modifying canvas elements within the HTML code of the MAT3D webpage.