Working Prototype Known Problems Report

MAT3D

Team Name: Matrix Masters

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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 entirely work. Providing input matrices works, but the answer does not come out properly on screen and does not produce an answer matrix in the sidebar. 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. Some functions when computed using an input matrix will change the original matrix's value.
7. Applying certain matrices to the loaded object cause the object to disappear from the screen.
8. If the user has not completely filled a matrix with values and hits submit, and then afterwards adds another matrix, returning to the empty matrix (and then all the other matrices) results in only seeing the name of the matrix and the table disappearing from the matrix display box.
9. Even if all the matrices in the sidebar have values, if the currently displayed matrix is deleted, the rest of the matrices will just show the name and not the table on screen.
10. If there is only one matrix in the sidebar, and the values have not been completely filled and/or the submit button has not been pressed, then the user must click the trash button twice in order to completely delete the matrix (clicked once, the table disappears; clicked twice, the name/table disappears, which completely deletes the matrix).
11. Reset button is buggy; will not reset object if it disappears from screen.

12. Matrix box viewing area will go into the functions and control panel if output is too large instead of keeping it in the desired area.
13. Color changes for the GUI interface of the canvas is not working properly.
14. The arcsine, arccosine, and arctangent functions are outputting in radians and not degrees, as we have the input values for sine, cosine, and tangent as degrees.
15. When the website is run on a big screen, the canvas shrinks size and the GUI floats in a weird area. This could be due to a problem with resizing on web2py or something to do with the pixel positioning and size set for the canvas and GUI. Setting the size based on the size of the container and having the GUI set to a better area on screen (or even being able to drag it around) could fix these issues.