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Project Name : LaTeX-It

Abstract :

Currently writing equations in LaTeX is a very tedious job and visual editors for LaTeX only improve the process by a bit. We thought it would be better if the only thing we had to do was to take a photograph of an equation written on paper and the output would the equation as it would look like and the corresponding LaTeX code for it. Also provide would be an option to write on the screen itself in the space provided and get a LaTeX code for it.

The app would match the handwriting with a predefined set of characters, getting the closest match possible. This would save a lot of time in many case, the best example would be constructing a matrix in LaTeX, the code for which goes for 7-8 lines. To accommodate for the highly different styles of writing special characters, we would have provision to write the name of the special character to get the character as well. For example,if your way of writing the symbol gamma is different than the usual way, then to get the symbol gamma, you could write <gamma> instead.

We are not quite sure about which tools we will require, but our preliminary searches tell us that we will need to use OpenCV on Android for the initial handwriting recognition.

By the end of the first two weeks, we intend to be done with the image processing part of the project. Starting at the end of week 1, and till the end of week 5 we intend to have integrated the LaTeX part into the project.

As it is a coding project, it would not require any funding from STAB. Also, we have have a basic knowledge of image processing, LaTeX and Android programming, but this project would not only help us hone our skills in these areas, but also help us learn how to use all three of them together in a single project. Once we have completed the specified parts of the project, we plan to add the feature to get the result to the equation written.