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Playing with Multivariable Calculus Concepts Wearing 3D Glasses. Preliminary report.

A tour of an NSF-funded project that seeks to develop geometric intuition in students of multivariable calculus. CalcPlot3D, an online exploration environment, allows students (and instructors) to create and freely rotate the graphs of functions of two variables, contour plots, vectors, plane and space curves, regions of integration, vector fields, parametric surfaces, implicit surfaces, etc. 3D glasses can be used for a real 3D perspective! Come get a pair and try it out! This JavaScript web app works on smart phones, tablets, and regular computers. A series of concept explorations is also being created. Each allows students to "play" with the concepts visually to develop their geometric understanding. The grant project is titled, Improving Conceptual Understanding of Multivariable Calculus Through Visualization Using CalcPlot3D (NSF-DUE-IUSE # 1524968). See http://web.monroecc.edu/calcNSF/. (Received September 19, 2016)