# Reconfigurable Device for 3D Visualization of Three Dimensional Surfaces

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**Abstract :** The article refers to the development of an augmented reality 3D display, through the control of servo motors and projection of image with aid of video projector on the model. Augmented Reality is a branch that explores multiple approaches to increase real-world view by viewing additional information along with the real scene. The article presents the broad use of electrical, electronic, mechanical and industrial automation for geospatial visualizations, applications in mathematical models with the visualization of functions and 3D surface graphics and volumetric rendering that are currently seen in 2D layers. Application as a 3D display for representation and visualization of Digital Terrain Model (DTM) and Digital Surface Models (DSM), where it can be applied in the identification of canyons in the marine area of the Campos Basin, Rio de Janeiro, Brazil. The same can execute visualization of regions subject to landslides, as in Serra do Mar - Agra dos Reis and Serranas cities both in the State of Rio de Janeiro. From the foregoing, loss of human life and leakage of oil from pipelines buried in these regions may be anticipated in advance. The physical design consists of a table consisting of a 9 x 16 matrix of servo motors, totalizing 144 servos, a mesh is used on the servo motors for visualization of the models projected by a retro projector. Each model for by an image pre-processing, is sent to a server to be converted and viewed from a software developed in C # Programming Language.

**Keywords :** visualization, 3D models, servo motors, C# programming language
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