The decision of whether to use Additive Manufacturing or a standard manufacturing process must be made as early as possible in the design process, due to each option providing separate benefits and restrictions to the product’s physical geometry and assembly. With the help of my professors, we can use a decision-based design method of Decision Support System for Additive Manufacturing (DS-SAM) to holistically evaluate multiple criteria of performance and cost to enable designers to come to a quick, informed decision considering every factor. Using MATLAB, I have implemented this decision support system into an interactive and easy to use application complete with GUI and user instructions.