FPGA Air Brush

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Project Description:

Air Brush is a sensor input based recreation of the classic painting software MS Paint. This app allows the user to open and save files from memory. Within each file, the user is able to paint with a brush whose color, thickness and opacity can be controlled by an users hand motions. The project will make use of sound to provide user with feedback on their actions. Further improvements to the application will include a multi-player version and possibly an easter egg mini game.

Users will be able to input parameters using hand motions which will be tracked by either a VGA camera and color-specific gloves or by a Microsoft Kinect. Using the Nexys 4, we will analyze the motion and map it to specific parameters for the virtual brush. We will be able to save and retrieve user files by storing them in a 2GB SD card and accessing that memory using the Nexys 4.