{Abstract}

The fashion industry’s demand for personalized and custom clothing has grown exponentially. Our hardware graduation project presents an innovative system that com bines color mixing technology with screen printing to enable customized clothing design. Also, screen printing takes a lot of physical effort when done manually. By automating the screen-printing part, we save time and a lot of effort in producing personalized clothes.

Our goal is to design a hardware system capable of accurately mixing colors and use them in the screen-printing process for fabric customization. It utilizes a 2 X,Y CNC’s with limit switches to handle clothes and printing on the frames. and a Spur gear with stepper motor and reed switch for choosing the design.

A color mixing unit using peristaltic pumps, a color sensor and a motor for mixing. Users will get to choose between 6 colors and 3 designs through either an LCD with a keypad. Or a mobile application connected to the machine through Bluetooth.