

TECH 4398

Appendix I: Senior Design Project Abstract

Motorized Braille Embossing Press

Product Description:

The product desired by the customer is an improvement to a previously designed mechanical press used for embossing braille onto paper sheets. The braille design of interest in this project is a floorplan layout of Alkek Library. This layout will be used to emboss construction paper for assisting the blind in maneuvering campus. The final goal of this project is to design and fabricate a motorized press that produces a quality print with each press while allowing ease of use.

Mission Statement: The mission of group 3 is to assist our client and strengthen the capabilities visually impaired by using teamwork and dedication to design quality tools.

Abstract:

Braille is a form of written language for the visually impaired people that represent characters with raised dots into specific patterns to be interpret with touch. A press was originally designed to emboss a braille pattern onto paper that depicts the floor plan of a building on campus so that visually impaired students could navigate to their desired rooms throughout the building. However, the original design of the press came with mechanical flaws and lacked ease of use. On the original press, repeated cycles under load lead to deformation of the base plate causing inconsistent press force. Also, the hand-powered lead screw made it difficult for the operator to use and generate the same force with each press. The mission is to redesign the braille press by addressing the flaws from the original design. A correlation between the amount of force present and the quality of the produced print will be determined. The final expectation is to improve on stability of the frame, motorize the function, fix the load cells to the press base, and design exchangeable parts to allow for ease of use.

Project Customer:

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