

Spot Tag Lamination Machine



Team Members: Josiah Collins, Ismael A Cuevas, Fabian Frausto, Anthony James Guanzon, Mayra Molina, Vanessa Sanchez
Faculty Advisor: Kurt Sawitskas
Boeing Advisors: Carrie Laponza, Teo Masri, Jonathan Fish, Mack Mason, Cam Massey
 Departments of Mechanical Engineering, Electrical Engineering, and Engineering Technology
 College of Engineering, Computer Science, and Technology



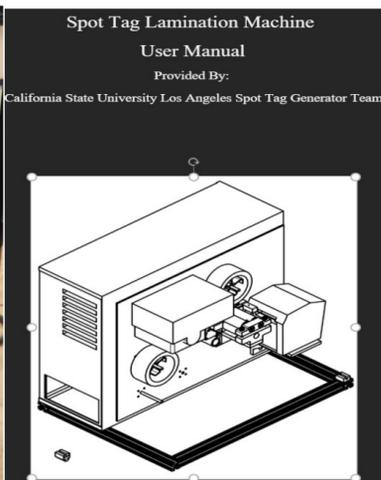
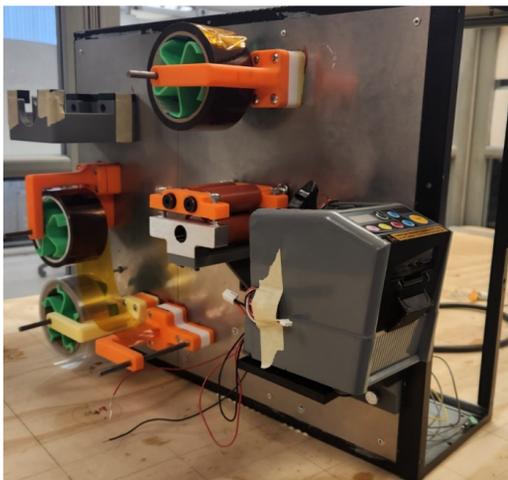
Project Background

Boeing currently relies on manual processes to laminate spot tags used in instrumentation testing. This approach is tedious, time-consuming, and inefficient, creating a bottleneck in test preparation and increasing the potential for human error. Automating the spot tag lamination process is critical to streamline test operations, minimize manual labor, and enable engineers to focus on higher-value testing activities, ultimately improving the overall efficiency and reliability of Boeing's instrumentation testing workflows.

System Requirements

- Print spot tag with a width of $0.5 \text{ in.} \leq w \leq 1.0 \text{ in.}$
- Print spot tag with a length of $1.0 \text{ in.} \leq L \leq 1.5 \text{ in.}$
- Print photo cards no larger than 4 in. x 4 in. & no smaller than 2 in. x 2 in.
- Have a buddy tab along the short dimension side with no adhesive for easy removal
- Operated by a single-person.

Project Outcomes



Spot Tags

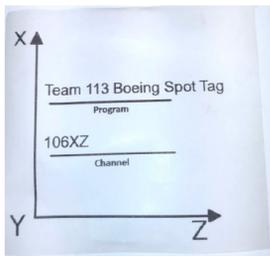
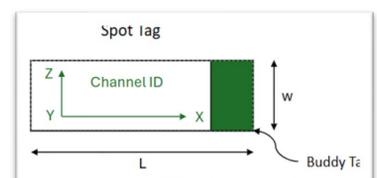
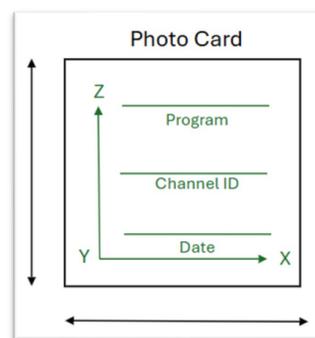
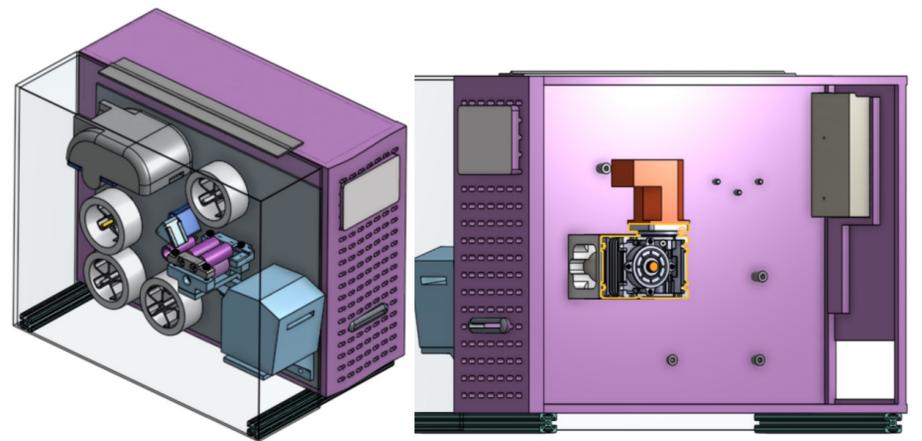


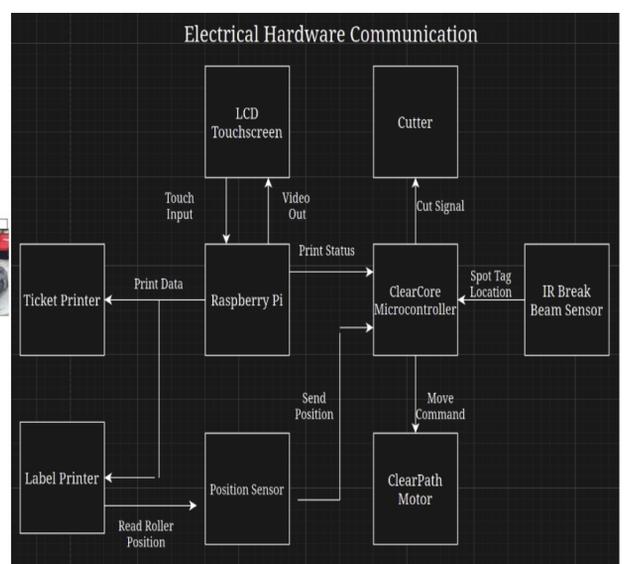
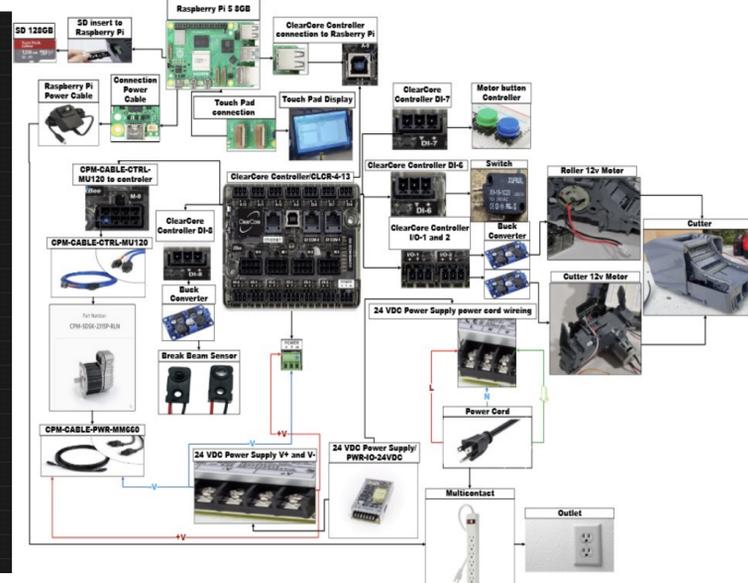
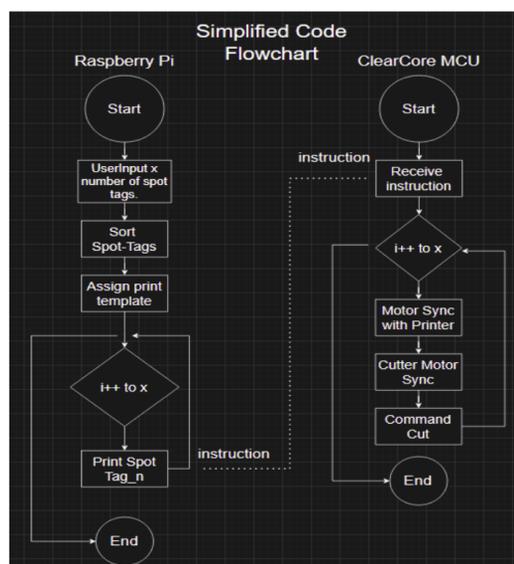
Photo Cards



CAD Design



Electrical and Software Diagrams



Conclusion

- Raspberry Pi and ClearCore MCU was integrated
- Electrical components were tested and inserted into machine
- Met the weight and spot tag size requirement
- Printer was able to print spot tags and photo cards
- Created a user manual for Boeing

Acknowledgements

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