

Redesigning the PharmAssist RDSx

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Author Note: The authors: Ralph Diaz, Sean Finnegan, Sean Kiernan, Kevin Paredes, and Jarrod Parower are all Senior ISE students at Binghamton University. The authors would like to thank Innovation Associates, Dr. Sang Won Yoon, Len Poch, Duaa Serhan and Qianqian Zhang for their contributions in making this project possible. If there are any questions or concerns please do not hesitate to contact us at the email listed above. Thank you for your time and consideration.

Abstract: Our team has been tasked with redesigning the PharmASSIST RDSx pharmaceuticals dispensing and filling device for Innovation Associates. Our objective is to increase the throughput of the device. Currently, the central FANUC robotic arm is the bottleneck of the system. The team's redesign will focus on the removal or modification of the arm. In order to choose between multiple proposed designs, comparison tests like analytical hierarchy processes were performed. The team is looking into creating a mixed conveyor belt system that will introduce multiple vials into the system. The team is working hard to ensure that the throughput increases as well as staying within health regulations. The team is using simulation and CAD software to model and draw the new design. Upon delivering the proposed design to Innovation Associates, the team will work to continue to optimize the process.

Keywords: RDSx, Innovation Associates, Pharmaceutical, Pill Dispensing, FANUC