

Pill Bottle Shredder



Team

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Project Summary

Radia requested that a team of engineering students from the University of St. Thomas design a system that would quickly and quietly reduce the volume of pill bottles in a pharmaceutical setting. The shreds would then be sent to a recycling center for sorting to be reused in new products.

Design Goal

Develop and fabricate a shredding device which produces so little sound that it would not interrupt a normal conversation in a quiet work environment. The shreds must be small enough to meet HIPAA confidentiality standards, yet large enough to be sorted by the recycling company.

Design Constraints

- Must fit under a standard standing desk.
- Sound emitted by the system shall not emit a sound louder than 75 dB, which is similar to the volume of a typical conversation.
- System should not be able to harm user both when running and when turned off.
- System should be able to handle a variety of commonly used pill bottle sizes.
- System should have a high life cycle between scheduled maintenance periods.
- System should be able to handle both high- and low-volume customers; those who average between a few hundred bottles all the up to a couple thousand bottles a day.

