Project Recap

This project challenged the team with the task of creating a new custom blaster that could be utilized by the Urban Gaming Club. The Urban Gaming Club (UGC) is a student-run organization that incorporates the use of dart blasters with gaming on a human scale in an urban environment. This blaster would have to conform to the standards set forth by the UGC while maintaining an appropriate safety margin.

Our approach to this problem involved four steps:

- Evaluate customer needs
- Address key issues of NERF® blasters
- Form design metrics
- Develop multiple concepts for prototype

After surveying the members of the UGC and dissecting many Nerf™ Blasters, we came up with the following design features:

- Two-handed
- No air restrictors
- Adjustable power
- Stationary Revolver holding 12 darts
- Spring/air plunger system for dart release
- Revolver rotation from cocking mechanism
- Copper barrel
- Shoots NERF™ Streamline® foam darts

After construction of the blaster, we set the following procedures to test the performance of the prototype:

- Effectiveness of power adjustment, trigger block, and revolver rotation.
- Total traveled distance of a foam dart.
- Jamming issue from repetitive firing and reloading.
- Duration of redness on skin from direct dart impact.

In conclusion to this project, the blaster incorporates new concepts that satisfy the needs of the customers. Developing a custom blaster from scratch was difficult and time consuming. With a functional prototype, next steps are to get customer feedback, and redesign for manufacturing so that this blaster can be taken to the next step for mass production. The sponsor and the group members were very pleased with the outcome of this project.