

Massachusetts Academy of Mathematics and Science STEM II

Project Proposal

Date: February 1, 2012

School Name: Mass Academy

Team Name: Mohr Help

Team Members: Stacey Molinski, Jim Jones, Chuck Smith

Team Advisor: Karen Lang

Statement of Need: Danny needs to be able to play an XBox gaming system.

Background: Our candidate's name is Danny S. He is five years old and suffers from cerebral palsy. Danny has lived in Tyngsboro for his entire life and is currently attending the Tyngsborough Early Childhood Center. He is very happy to be participating in the program, as is his mother, who has given us written permission.

Due to his cerebral palsy, Daniel's right arm is useless. He has adapted and can do most things with his left hand but cannot do anything requiring two hands. When over his friend's house, Danny likes to watch his friends play video games. However, he cannot participate. Also, when putting on his jacket, Daniel can not pull up his zipper by himself.

We hope to help him to be able to play video games or pull up a zipper and will meet again with him soon.

Design Requirements/Constraints:

- It must not injure the user in any way.
- Design cost must be under budget of \$500
- The design must be usable with only one hand as our client has only one usable hand.
- The size of our device must fit the child.
- The device must be simplistic enough for a child to use.
- It must be compatible with our client's video game system.
- It must be durable enough for a young child's abuse.
- The device must be lightweight and compact to be travel friendly.
- The design must appeal to the child.
- Parts should be able to be replaced if broken/worn.
- The device should be relatively resistant to food/water.
- Device must be reliable. It must work consistently every time it is used.
- If any non environmental friendly products are used, it will be noted.
- Design must be able to put together fairly easy and the parts must fit well.