Toys for elephants

Collaboration with the Buttonwood Park Zoo in New Bedford, MA
Objective: design enrichment toys for elephants:

Ruth, 52
Asian elephant with partially paralyzed trunk

Emily, 48
Asian elephant

The class with students from different departments at Massachusetts College of Art and Design faced the challenge of creating toys for elephants: Ruth and Emily at the Buttonwood Park Zoo in New Bedford, MA.

Budget for the whole class: $2000

Time: 1 semester to research design shop for the materials build the toys deliver toys to the Zoo
Meeting Ruth and Emily

To learn about elephants we did a lot of research, read articles and watched videos and then we went to the zoo to meet Ruth and Emily.

We observed their behavior and movement of the trunk to understand who we are designing for and what we should include in our designs.
Toy design: tire tube feeder

**materials**
- bolts, chain, used tires

**3d model**
- Connecting the tires with bolts and hanging them on the chain

**how it works**
- Hanging the feeder on the wooden structure and filling it with food
Toy design: elephant spelling bee

**Materials**
- Paint
- Knob
- Chain
- Sheet metal (4x8in)

**3D Model**
- Cutting out letters in the sheet metal
- Installing the knob and the back
- Creating 2x8in box

**How it works**
- By moving the knob around, elephant will be spelling a word and releasing trap doors so the food can fall out.
I presented both concepts in class, they were well received so I decided to move forward with both and present them at the zoo.

My both concepts were accepted by the Zoo but due to budget limits and time constraints I have decided to choose only one design and develop the "elephant spelling bee".
The making of the elephant spelling bee

letter layout refinement

I designed a simple font to keep the thickness of the letters same in all places for easy knob movement.

I transferred the letter layout onto 2x8inch piece of 1/4 inch sheet metal.

Here helping: Rick Brown, Sean Maze, J Shia, Missy Kemp.
The making of the elephant spelling bee

cutting

Plasma cutting by Ben Silva

Grinding the letter edges by Ben Silva, Holly Kelly and Rick Brown

Tubing cutting by Sean Maze

Angle iron cutting by Sean Maze

Surface preparation for painting by me
The making of the elephant spelling bee

welding and painting

I spray painted the back plate before welding and afterwards I repainted the whole toy to achieve a nice looking finish.
we moved the toy into elephant’s area and installed the chain by putting it thru the angle iron welded on the back

We hang the toy but the chain held by padlocks was a concern, Ruth and Emily could easily brake padlocks, so the chain was removed and instead the metal plates were welded to the back of the spelling bee and the toy was installed by bolts going thru the metal plates directly into the fence.
People involved in the making of the "elephant spelling bee":
Jay Shia, Ben Silva, Sean Maze, Rick Brown, Laura Brown, Missy Kemp, Holly Kelly, Ian Labich, Kevin Kilne, Nick Farnham
Ruth and Emily with the "elephant spelling bee"