**Roborodentia Proposal**

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basic approach to the competition, a brief description of your robot, a list of materials you need (including prices), and a basic schedule

**Approach:**

We will be scoring as many reload balls as possible in all three goals, while also picking up and scoring with the pillar balls.

**Robot Design:**

Ball handling: We will be using two stationary ramps to launch reload balls in two directions simultaneously. The ramps will be angled such that they point at the center goal and one of the corner goals if the robot is in one of two specific positions. A servo-controlled gate will hold and release balls when appropriate. As we drive by the pillars, a two-tined fork will scoop up the pillar balls and place them into our reloading area.

Wheels: We will be using two regular wheels (parallel to each other) and one or two ball casters (or smooth surfaces that drag on the ground).

Microcontroller: We will be using one of our team member’s Arduinos.

**Costs:**

-2 hardwood boards- 2\*$8 = $16

-wood glue- $4

-approx. 70 machine screws- $8

-approx. 70 nut fasteners- $8

-8 servo mounts = (4 sets of 2)\*$10 = $40

-4 precise infinite rotation servos- 4\*$15 = $60

-2 180 degree servos- 4\*$10 = $20

-ball casters/smooth surfaces- $4

-2 wheels- $10

-2 square ft sheet metal = $12

-10 L brackets = 10\*$0.60 = $6

-10ft fishing line/non-fraying string = $8

-2 IR sensors+ cables = 2\* $15

-3 light sensors 3\*$5 = $15

-battery + charger- approx. $60

Total: $236

Schedule:

Week 5 - Proposal and meeting with officers

Week 6 – Build platform with mounted wheels and light sensors

Week 7 – Add ramps

Week 8 – Build ball holding area and gate for ramps

Week 9 – Mount IR sensors

Week 10- build pillar ball flipper