AAMIR IRFAN

COMPUTER ENGINEERING AT THE UNIVERSITY OF GUELPH

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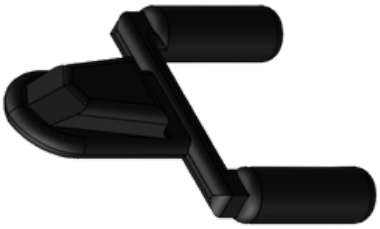
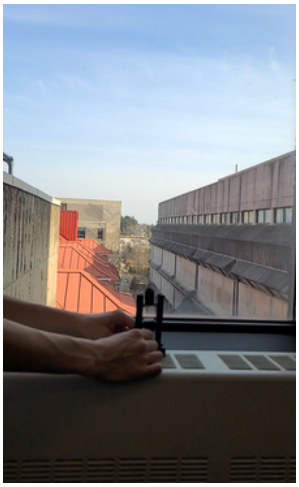
Check out my GitHub for my personal projects https://github.com/Aamir-Ir

DESIGN PROJECT (YEAR 2) - UNIVERSITY OF GUELPH





What?

- Designed and **3D printed** a projectile that is able to launch to meet a minimum height of 2.5 meters.
- Designed a few prototypes and used a **decision matrix** to finalize the best product to create.

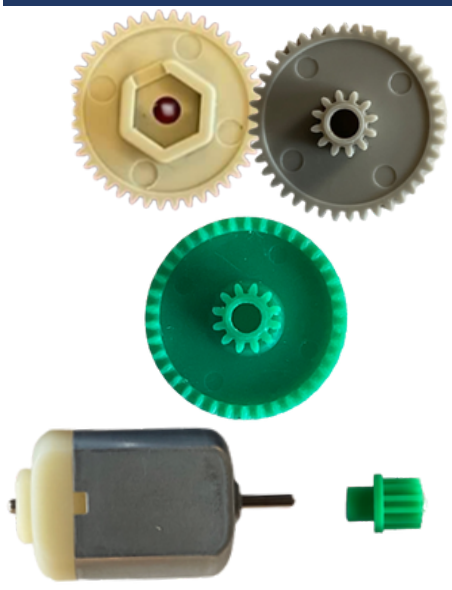
How?

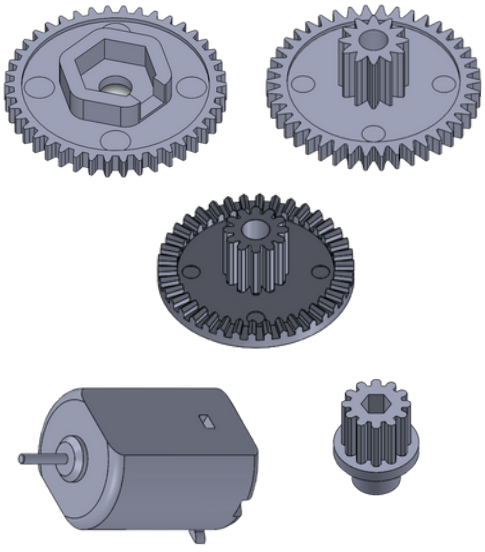
- Used **SolidWorks** to design the features of the projectile and select the manufacturing material.
- Created **orthographic drawings** and labeled **tolerances.**

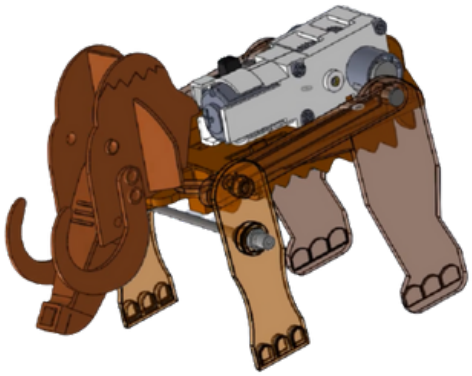
Results

- The design fulfilled its purpose with a maximum height of 3.5-meters (vs 2.5-meter requirement)
- Check out more about the project on https://www.instagram.com/airgalactictoys/

REVERSE ENGINEERING PROJECT - UNIVERSITY OF GUELPH







What?

- **Reverse Engineer** a product to analyze it.
- Worked on modeling the different gears and motors.

How?

- Written down all dimensions in order to model.
- Designed on **SolidWorks.**
- Created **orthographic drawings** and labeled **tolerances**.

Results

- The design team came together to create an **assembly**.
- Modeled with over 90% accuracy.

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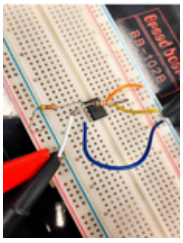
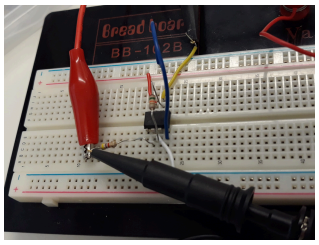
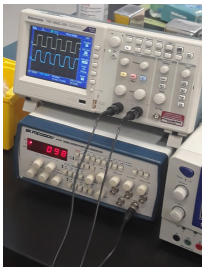
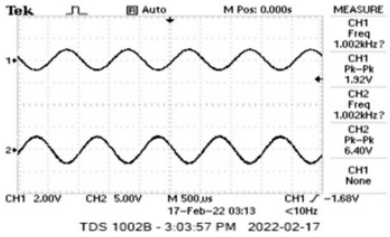
OP-AMP EXPERIMENT - UNIVERSITY OF GUELPH









What?

- Tested an inverted amplifier to calculate the gain of resistors on a **breadboard**.
- Difference between calculated values and measured values.

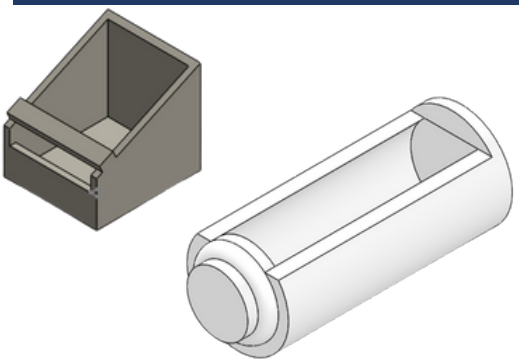
How?

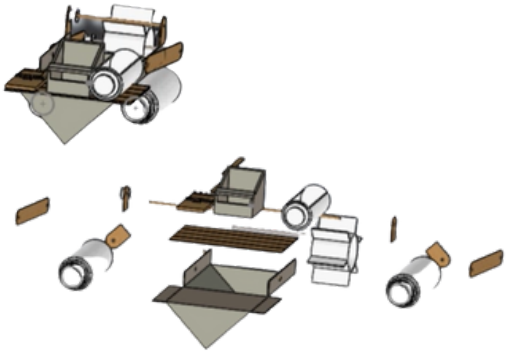
- Used **Oscilloscopes** to create a waveform by adjusting frequency and voltage accordingly.

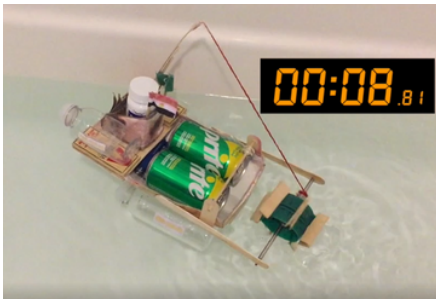
Results

- Calculations of measured gain were 96% match with the theoretical value.
- This difference resulted from a non-ideal op-amp.

DESIGN PROJECT (YEAR 1) - UNIVERSITY OF GUELPH







What?

- Create a low-cost, lightweight captain chair, and lifeboat.
- Hot glue is used to hold the chair and lifeboat as it is an important feature of the boat ensuring the captain's safety.

How?

- Worked with the design team to discuss dimensions on **SolidWorks** to create the assembly.
- Created the **Exploded Animation**.

Results

- Created a successful boat that can hold up to 1.61 kg mass.
- Crossed the bathtub in 18 s.
- Passed safety, wave and Buoyancy checks

CERTIFICATIONS - UDEMY

Link to certifications

Java Programming: Complete Beginner to Advanced
https://www.udemy.com/certificate/UC-0128e5b2-fef8-4871-87ce-baff1351f574/

Complete Responsive Web Development: 4 courses in 1
https://www.udemy.com/certificate/UC-bbb838c8-ffe9-479e-9590-3fd0981b15b4/

JavaScript Fundamentals: A Course for Absolute Beginners
https://www.udemy.com/certificate/UC-9837f4b2-ad1b-40ea-a1d0-0e4b9b1d24e8/