



"The Big Haul"

Purple Team A

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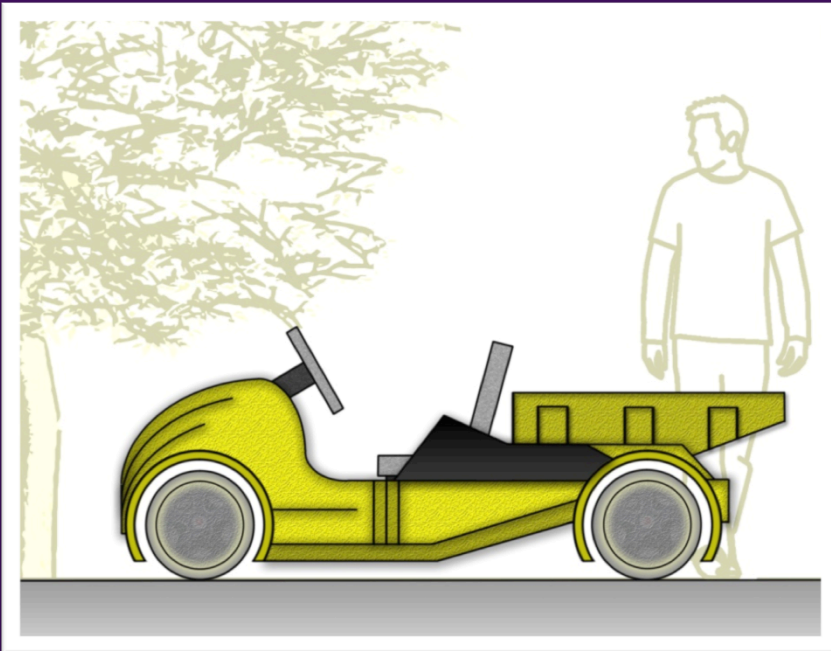
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“The Big Haul”



The Potential Market



- Product caters to a different market than Power Wheels
- Expected price less than the Power Wheels' Monster Traction
- Product combines exercise with fun and play

The Product Contract



Customer Need	Product Attribute(s)	Engineering Specification(s)
Can be pedaled uphill on grass	Drive train/weight	Gear ratio to match operating weight
Can be easily steered	Steering system	Presents a torque that can be turned by a child
Visually appealing	Aesthetics	Looks match user preferences
Fits wide range of user sizes	Ergonomic flexibility	Adjustable seat
Can be stopped	Braking system	Ability to stop vehicle in motion and prevent unwanted motion
Can store and unload materials	Dump truck bed	Pneumatic powered bed
Vehicle wont tip	Stability	Low center of gravity
User will not hurt themselves	Pinch points	Enclosed drive train/dumping mechanism does not present pinch points

Risks Associated with the Product

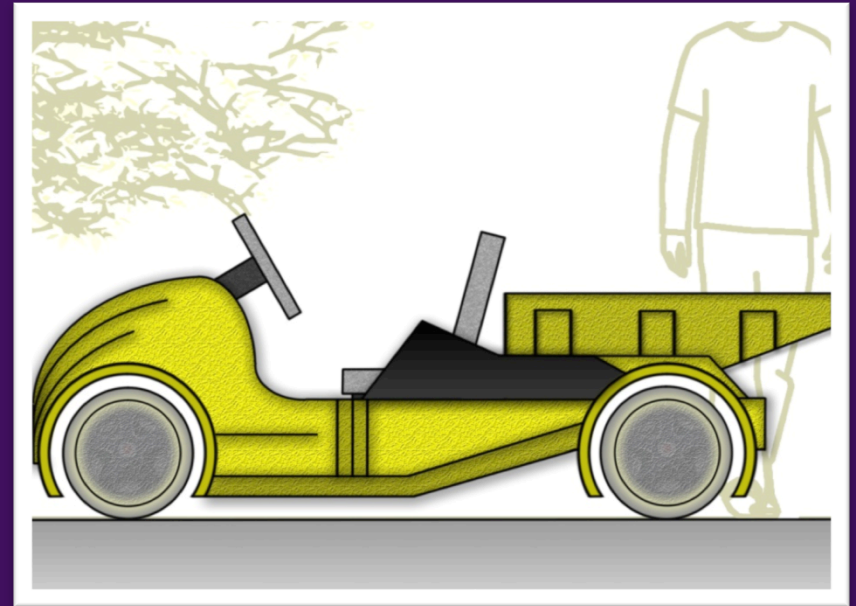


- Exposed Chains
- Improper Use
- Supervision Required
- **Aesthetics (likeness)**
- Safety (doors, pinch points, etc.)
- **Ergonomics**
- **Controllability**
- Maintenance
- **Power Required**
- Sticks Getting Caught in the Drive Train
- **Goes Uphill**
- **Drives in Grass**
- Costs
- Power Takeoff for Dumping
- Accessories Possibility

The MockUp



Technical Risks



Design Risks

"The Big Haul" Testing I



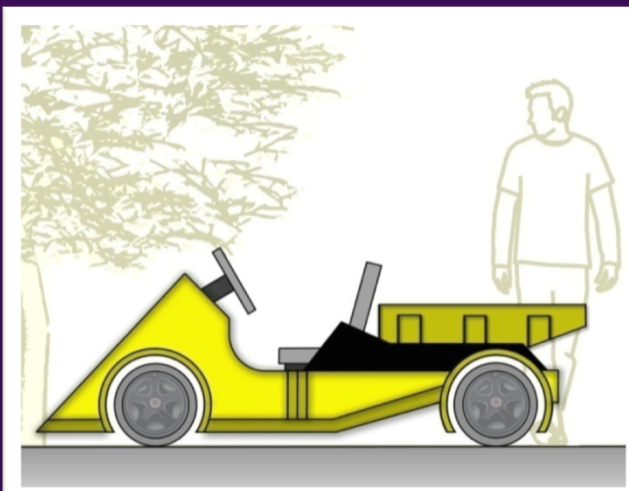
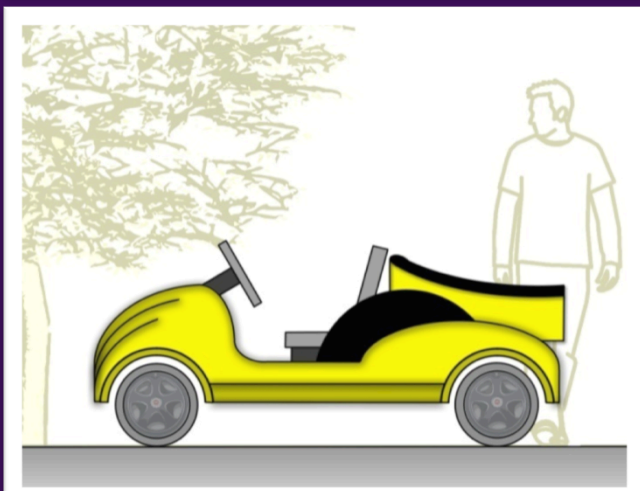
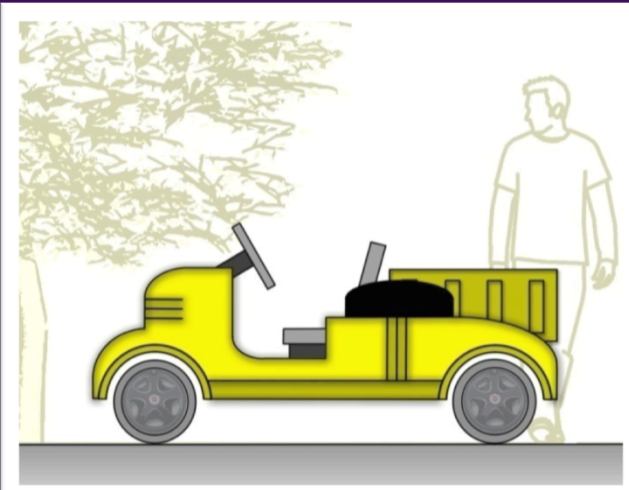
- Develop a model that...
 - is suitable for *most children*
 - is easy to operate (steering, drive, etc.)
 - easily operates on child's power

Results of Technical Testing



- Some things were effective
 - Ease of Steering
- Some things still need to be adjusted
 - The Seat
 - The Gear Ratio
 - Steering Limiter

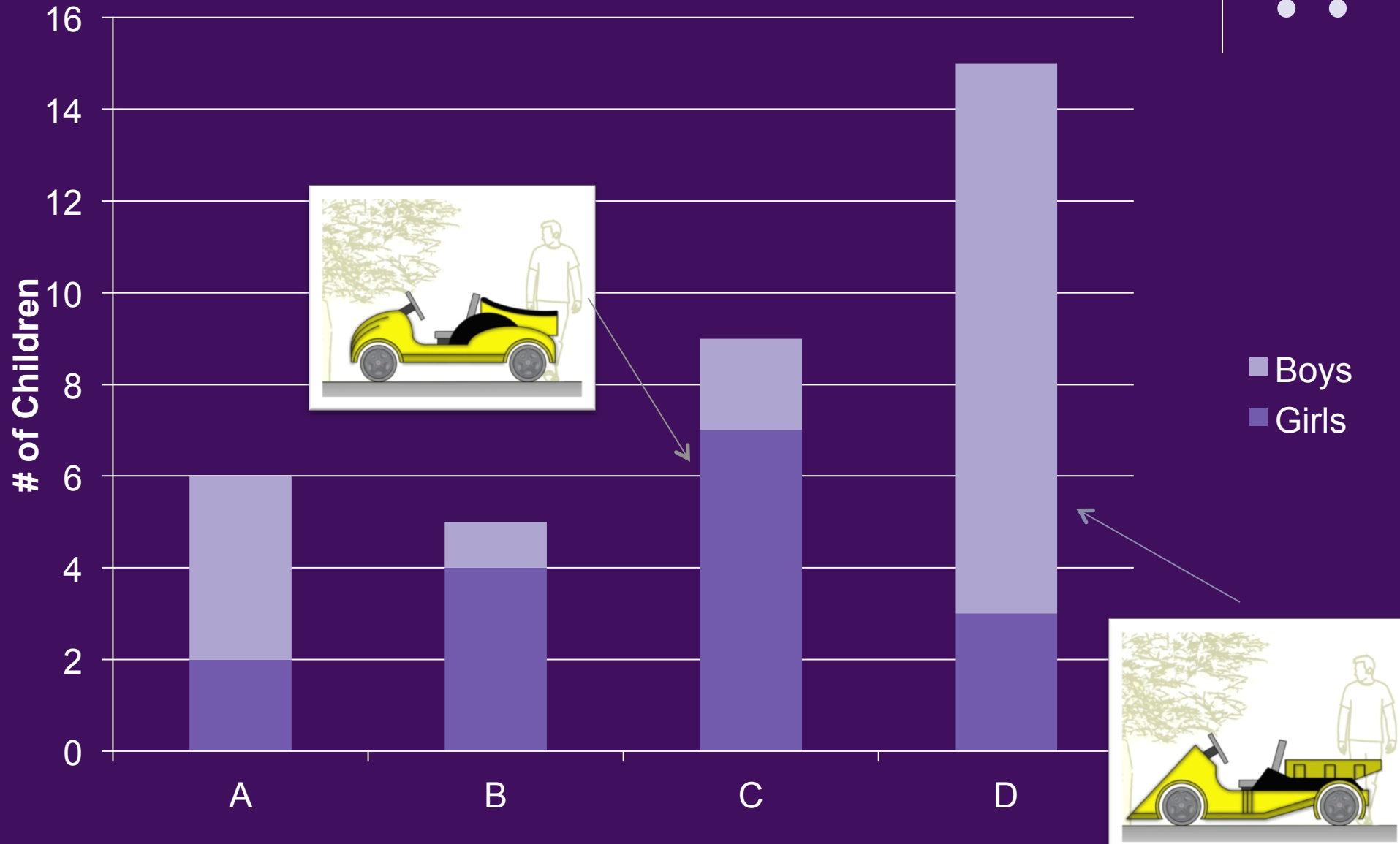
"The Big Haul" Testing II



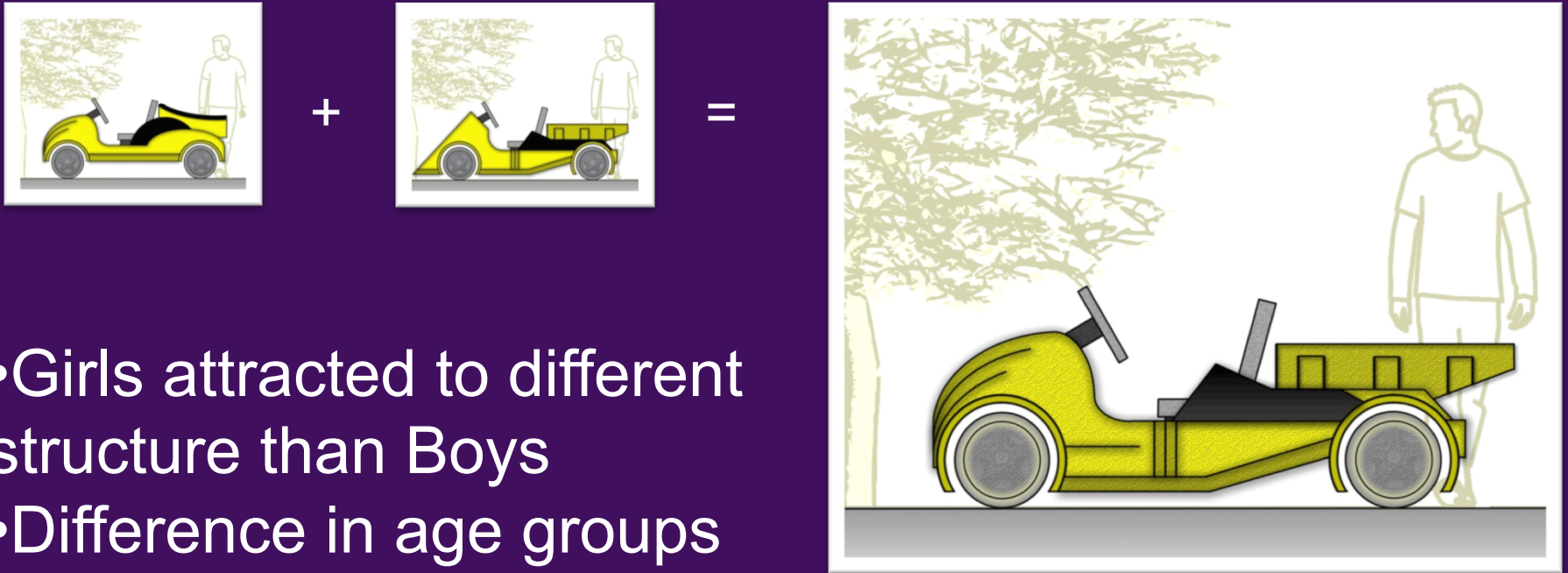
Design Tests:

- Avoid pinch points
- Minimize excessive horizontal surfaces

"The Big Haul" Testing II



Results of Design Testing



- Girls attracted to different structure than Boys
- Difference in age groups is negligible in results

Product design combines likeness of top two choices

Conclusions



- Feasible and challenging product
 - Suitable for a 2.009 project

Kids Love It!

....even the delivery guy
wants one!

