Project Goals

Design a bicycle that is:

- Functional
- Independently Stable
- Safe
- Adjustable
- Portable
- Entertaining

Background:

Up until approximately one year ago, our client, an 11 year-old girl with Rett syndrome, enjoyed riding a tricycle. However, due to a large growth spurt, our client can no longer fit on a standard child-size tricycle. Our client’s family has expressed interest in finding a replacement bicycle or tricycle that our client can use in a supervised manner, both at home in her driveway and at the park.

Therefore, it is our goal to design a functional, safe, adjustable, portable, and entertaining bicycle that our client can operate under the supervision of an adult.

Our solution:

Our solution was to purchase a cheap commercially available bicycle and adapt it to our client's needs by adding:

- Rear wheel stabilizers
- Customized pedals
- A seat back

Rear Wheel Stabilizers

The rear wheel stabilizers will attach to compensate for our client's lack of balance. They are designed and built to serve as large, long-term "training wheels" for our client.

Yam Wars

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Yam Wars

Adapting a standard bicycle to fit the needs of a child with disability.

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Customized Pedals

The customized pedals will assist in keeping our client's feet in contact with the pedals, minimizing the effort required for her to pedal the bicycle. The basic design consists of using Velcro attached to both the pedals and customized bike riding tennis shoes.

Seat Back

A seat back with an attached lap belt was purchased to provide the necessary torso support for our client and keep her from falling off the bike.