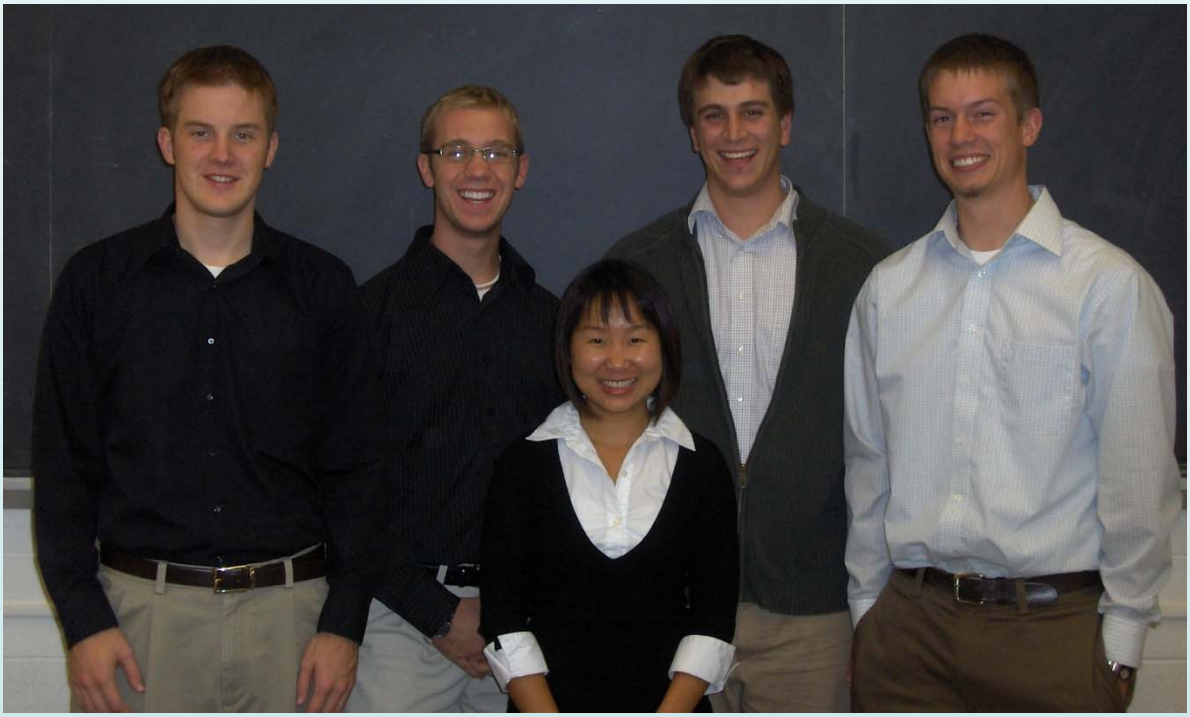
BBC – Better Bottle Cleaner:

Jason McDowell, Eric Magayne, Mai Lee Chang, Ben Blaser, Derek Palm



The Better Bottle Cleaner (BBC) cleans glass bottles in an efficient and thorough manner. Often a very arduous task for home beer and soda brewers, the bottle cleaning process becomes quick and easy with the BBC. The device can clean bottles as effectively as manual washing in much less time and with minimal labor.

DeIce Master:

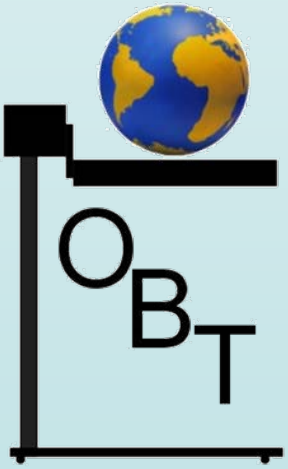
Jeff Jones, Patrick Christians, Jena Lange, Melissa Kleine, Rob Kuether

DeIce Master

DeIce Master is a snow blower attachment used to dispense deicing fluid. It will allow the customer to operate a snow blower while simultaneously dispensing deicing fluid in the cleared path. *DeIce Master* will cover 1000 sq. ft of surface before having to be refilled. *DeIce Master* will give the customer a convenient way to deice their driveway or sidewalk with less labor.

Improved Over-bed Table:

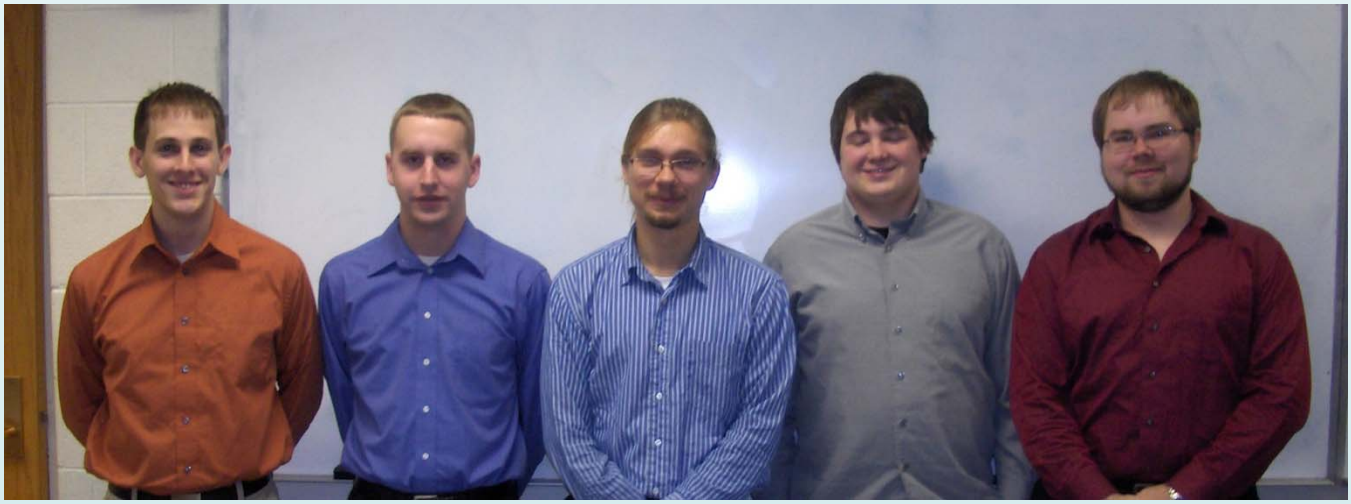
Chris Lietz, Travis Marks, Kevin Hart, John Springmann, Dan Morgan



The goal of the Over-Bed Table group is to redesign hospital over-bed tables to increase their adaptability to various common scenarios in which they are used, while maintaining and improving upon their ease of use. Hospital over-bed tables have traditionally consisted of a base sliding under a bed and a table top typically used for food delivery and personal belongings. The new table incorporates a table top which moves vertically independent of the base and rotates independently. These increases in functionality allows the new Over-Bed Table to adapt to any patient in any situation.

Snobility:

Nick Endter, Josh Bogie, Ryan Grisa, Devin Lundey, Erik Nelson



Manual wheelchairs do not perform well in snow and ice due to three main problems. The rear drive wheels lose traction with the ground, hand rims become slippery, and front caster wheels easily become stuck. By adding a retractable tread system, ergonomic hand rim, and casters skis, Snobility allows manual wheelchairs to successfully traverse 2 inches of snow and icy surfaces. Snobility attaches to an existing wheelchair and still allows normal performance in ideal conditions.

The Go-Wheel:

Aaron Towne, Don Lyons, David Younk, Josh Smith, Miao Zhang

The *Go-Wheel* is an innovative new design focusing on enhancing the experience of bicycle riders. The *Go-Wheel* will replace the front wheel on an existing bicycle while keeping the existing brakes intact with minor alterations. The *Go-Wheel* utilizes a powerful spiral spring in conjunction with two planetary gearing systems in order to store the energy necessary to propel the bicycle. The braking and release of the *Go-Wheel* will be controlled by the rider (through an additional lever on the handle bar) in order to ensure maximum convenience. Also, our design will prevent the release of the *Go-Wheel*'s energy when it is not needed. Through optimizing the size and weight of the *Go-Wheel* we will ensure that the rider will be provided a net gain of energy even while considering the added weight of the *Go-Wheel*.

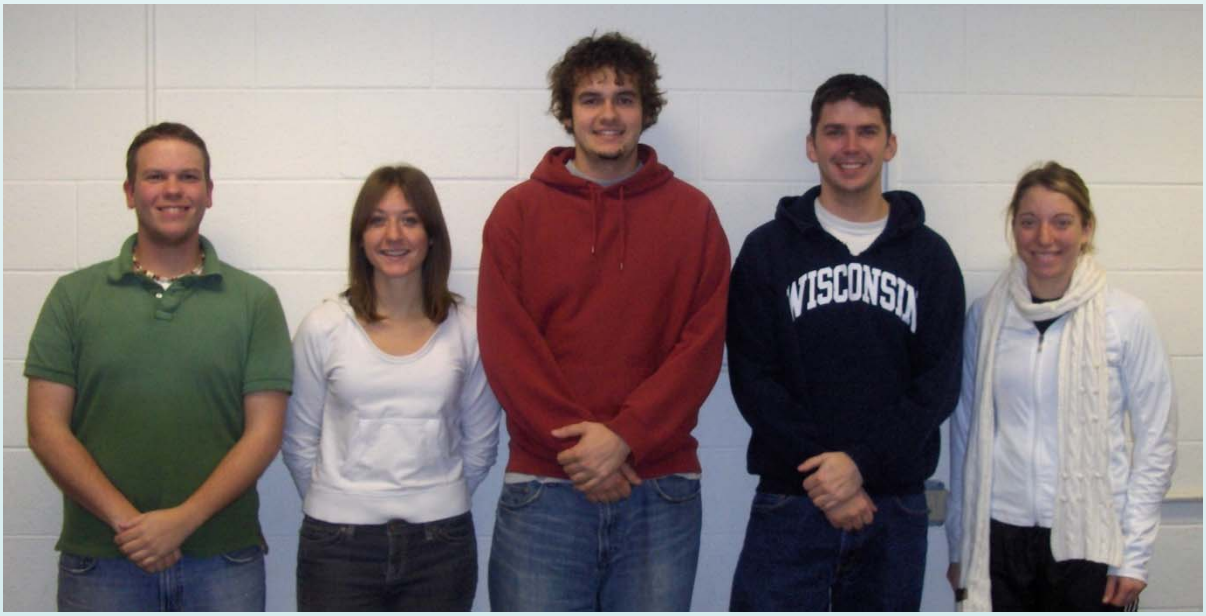
Tired and Deflated:

Katie Kotarek, Ben Ward, Tommy Jakab, Ryan Srnka, Doug Knox

Tired and Deflated aims to revolutionize the tire industry by reducing the devastating effects of tire damage and the ensuing loss in pressure. By utilizing the storage properties of a cylindrical pressure vessel, the functionality of a double pole, single throw pressure switch, and the chemical reaction between household sugar and potassium nitrate, our design will inflate a radial inner tube capable of reinstituting tire stability. Upon overcoming initial constraints, such as limited space, and increasing costs, our design will prove to be an up and coming competitor to run-flat tires and the commonly used "donut" tire

Assistive Golf Chair:

Austin Kazda, Danielle Alling, Peter Penegor, Dylan Brown, Amanda Blaschko



The Assistive Golf Chair is designed to replace the seat of existing golf cars and provide persons with limited use of their legs accessible means to enjoy the game of golf while maintaining the social aspect of the game. The device allows the user to maneuver him or herself from a seated position on the golf car bench to a full golf stance in position to swing a golf club. This is accomplished through a series of three movements: a lateral extension away from the car, a rotation about the center of the seat, and finally, a forward tilt of the seat. To accommodate varying degrees of disabilities, a backrest, leg and knee supports, and a chest strap will be optional

Somnus Shade:

Claude Drehfal, Brandon Roeder, Eric Liegel, Miguel Gallego, Andrew Elizondo

SOMNUS SHADE

The Somnus Shade is a unique, affordable system for blacking out a bedroom window. A combination of spring steel ribbons lining the shade and magnetic vertical tracks to seal the edges allows the user to sleep in complete darkness at any time of the day. An automated system as simple as an alarm clock ensures that the user sleeps in darkness, but awakens to natural daylight..