Automated Easy Straw

The Upkup is a novel beverage container designed specifically for Muscular Dystrophy patients and can also be used by people who have a difficult time using a straw. While similar containers have been created for this purpose, they lack the portability and simplicity that the Upkup provides. In fact, the up cup is comprised of three main components— the fluid container (or bottle), the hydration tube and straw, and a water resistant “smart” lid that houses and protects all of the functional electronics.

As the pictures above demonstrate, when the user wants to take a drink, all they need to do is sip on a bite valve connected to the hydration tube. A pressure sensor within the lid detects the presence of light suction and, in conjunction with a microcontroller, engages an air pump to increase the pressure within the bottle. The increase in pressure forces the fluid up through the hydration tube and to the user. If the pressure sensor detects further suction, the device adjusts the internal pressure appropriately for continuous fluid delivery. The Upkup also utilizes an adjustable MOSFET speed controller, which governs the flow rate of the fluid through the hydration tube, ensuring that the device will never deliver fluid too quickly or too slowly.

The Upkup is the most practical and well-designed product of its kind. It is portable, powered by a rechargeable lithium-ion battery, lightweight, and can easily fit in a wheelchair’s cup holder. Upkup’s technology allows users to easy drink as they would from a conventional straw making it easy and comfortable to use.