Researchers at the University of South Florida have developed an adjustable headrest system to provide wheelchair users with the ability to control their head position without any assistance from another individual.

Powered wheelchairs were designed to provide its users with great mobility. However, some wheelchair reliant users are unable to adjust their headrest without assistance, hence increasing dependency on other people. This shortcoming has the potential to negatively affect the neck and head posture of wheelchair users, in addition to preventing them from participating in their everyday activities. Accordingly, what is needed is a motorized adjustable wheelchair headrest that the user can control when they need.

Researchers at USF have proposed a multi-directional headrest that may be controlled through a mobile device via Bluetooth. The system includes manually adjustable starting positions for each actuator that translates vertical and horizontal movement. This enables the user to adjust their headrest without assistance to suit activities (like driving, watching a movie, eating, etc.) and to attain appropriate upper body posture on a daily basis. The universal mounting and power systems of the headrest provide the flexibility to connect it to any wheelchair and draw its power either from the wheelchair’s existing power source or a separate 12V current source. Wheelchair reliant individuals can enjoy day-to-day comfort, control their own upper body posture, and perform additional tasks without assistance.

**ADVANTAGES:**

- Motorized adjustable headrest system with multi-directional control
- Can be used on any wheelchair
- Wireless app–based control interface

**Fine Grain Control of Headrest Position in a Wheelchair**

**Diagram of Complete Headrest Assembly**

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