

When proportional control is not sustainable

Using a joystick looks easy, but it's not. Users who cannot grade the force and distance of their movement may require a non-proportional (i.e. digital) driving method. The same goes for users with cognitive limitations who cannot grasp the link between the movement of the joystick and the speed of the chair. Digital control separates commands such as forward, left, right and stop into individual activations. This approach reduces grading requirements but may increase sequencing demands.

Cognitive demand depends on *what makes control hard for the user*:

- Some users find digital easier, because the commands are **clear and separated**
- Other users find digital harder because it can require **more steps** to achieve the same

