

# **REMOTE CONTROLLED WHEELCHAIR**

## **User Manual**

**CSE 453 - Spring 2013**

ELVIS CASTELINO  
ALYSSA GILLET  
THORNTON HAAG-WOLF  
SEUNGRYUL LEE  
COLLIN MANDRIS  
JORDAN RADICE  
DANIEL REED  
BICH VU

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# 1 Overview

The remote controlled wheelchair exists for the safety of wheelchair bound individuals. Its target users range from those who can safely control a wheelchair with limited supervision to those who require the assistance of a caretaker. The wheelchair features two control modes, caregiver and user mode, to allow such a range of applications.

For the capable user, user mode provides control of the wheelchair via an onboard joystick and emergency stop button for dangerous situations. Caregiver mode is provided via a remote control, and provides an extra layer of safety for users who lack the motor or cognitive skills needed to safely navigate their environments. Additional safety features exist through the use of sensors to detect and react to hazardous situations.

The wheelchair may be valuable in various environments, including in home use and use in caretaking facilities. For instance, in hospitals, nurses may opt for remote controlled movement of a wheelchair bound individual over the more strenuous task of pushing the individual to their destination.

The remote controlled wheelchair strives to improve the quality of life of both individuals who rely on a wheelchair for mobility and those who look after them. Choice of control and obstacle detection, together, provide a balance of safety and autonomy for a spectrum of users.

## 2 Getting Started

### 2.1 Preparation

- 1 Verify that you have all of the components for your wheelchair:
  - 1 Wheelchair (equipped with onboard joystick & emergency stop button)
  - 1 Remote Control
  - 2 Battery Packs
  - 1 Charging Cable
- 2 Charge the batteries a day before using the system.
- 3 Read Section 3 (*Operation of the Wheelchair*) before utilizing the system. For problems with the wheelchair operation, refer to section 4 (*Troubleshooting*).

## 3 Operation of the Wheelchair

This Remote Control Wheelchair has two modes. Operation of each mode is described below. Please make sure all controls are in the off or neutral position prior to powering the wheelchair.

### 3.1 User Mode: Using the Onboard Controls

1. To move forward, push the joystick in a forward direction.
2. To move left, push joystick towards the left.
3. To move right, push joystick towards the right.
4. To move backward, pull joystick in a backward direction.



5. Control the speed of the wheelchair by varying pressure on the joystick, while pushing in the desired direction.
6. In dangerous situations, press the emergency stop button to bring wheelchair to a gradual stop. The emergency stop button will become locked in place.  
*Note: The wheelchair will not move until the emergency stop button is released.*
7. To release the emergency stop button, push button down and rotate to the right. Release and button will snap back into original position.

### 3.2 Caregiver Mode: Using the Remote Control

1. To transition between user and caregiver mode, toggle the switch located on the remote control.
2. To move forward, push the joystick in forward direction.
3. To move left, push the joystick towards the left.
4. To move right, push the joystick towards the right.

5. To move backward, pull joystick in a backward direction.
6. Control the speed of the wheelchair by varying pressure on the joystick, while pushing in the desired direction.

## **4 Troubleshooting**

In case of wheelchair malfunction, please check the following:

1. If wheelchair does not move with use of onboard or remote joystick, charge the batteries for a period of time to ensure wheelchair is powered.
2. If wheelchair does not move with movement of remote controller joystick, first check the switch on the remote to make sure wheelchair is in caregiver mode. If wheelchair still does not move and caregiver mode is set, charge remote battery for a period of time to make sure it is powered.
3. If wheelchair does not move with movement of onboard controls only, and wheelchair is powered, check battery cables to make sure batteries are properly connected.

Should other problems occur, please contact the manufacturer for further assistance.