Lifting Toilet

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# Abstract

The lifting toilet is a system that is designed to help lift a person to a standing position after they are done using the toilet. It uses force sensors in handles beside the toilet to trigger the mechanism.

It is inspired by lifting armchairs similar to the lay-Z-Boy Powerlift series. However, these systems don’t have any means to “catch” the person they are lifting causing users to have concerns of being thrown from the chair and falling. Thus, we have added the handles to give the user added stability

# Author Keywords

Multiple Sclerosis; limited lower body mobility; toilet; Human Computer Interaction; Interface; lifting

# Introduction

<I suck at intros>

# Motivation

When a person has, trouble standing from a seated position due to muscle or joint problems, especially if the person is female, it becomes very difficult to use the toilet without requiring someone else to help them. Needing this help can be very embarrassing to the person in question. As well having a very intimidating looking toilet or a toilet that is very obviously designed for someone with mobility issues can deter the user from using it. As such the lifting toilet is designed to look as close as possible to a regular toilet.

# Related Work

La-Z-Boy has a lifting arm chair which uses a similar motion of lifting the seat up and tilting it so that the back is higher than the front for people with limited mobility. However, this system has no failsafe in person to prevent the user from falling forward, this has caused some concern and has even lead some users to stop using the system for fear of falling.



Reference 1. La-Z-Boy PowerLift Gold Series

<more references>

# Scenario

<when you would use the thing>

# Design and Implementation

The lifting toilet will have four lifting parts that will lift the toilets seat and tilt it forward a little in order to help the person with the initial movement of lifting their hips and unbending their knees as they stand from the seated position.

The system comes with handles that go on the sides of the toilet which will have force sensors in them. The user grabs the handle and applies pressure to start the system. They can grab either side or both sides in order to start the system thus allowing them to use one hand to pull up their pants.

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