

Project Proposal: Accessible Weight Scale for Seated Users

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Overview

- Background Information
- Currently Available Products
- Clientele
- Design Objectives
- Methods
- Budget
- Conclusion
- Questions and Answers

Background Information

- 50 million Americans with physical or mental impairments
- Obesity is linked with diabetes and osteoarthritis
- Aging baby boomers
- Purpose of project
 - Design accessible weight scale that is:
 - Convenient
 - Easy-to-use
 - Easy-to-sanitize
 - Inexpensive
 - Accurate

Currently Available Products



Sitting Scale (MODEL 6461)



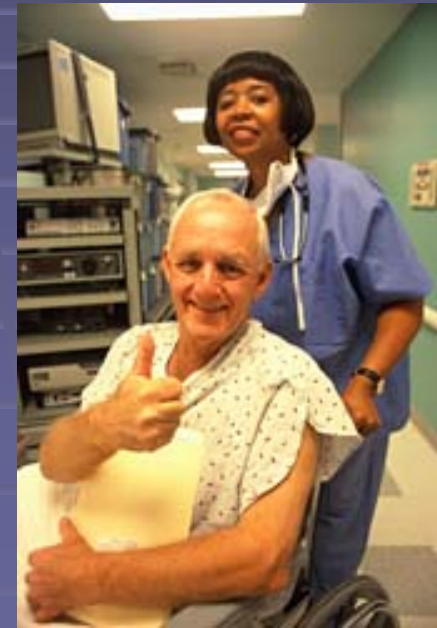
Healthometer Model 595KL Digital Chair Scale



Detecto Model 6876 Euro Chair Scale w/ Flip-Seat

Clientele

- Limited leg strength
- Limited arm and/or hand strength
- Limited eyesight
- Poor memory

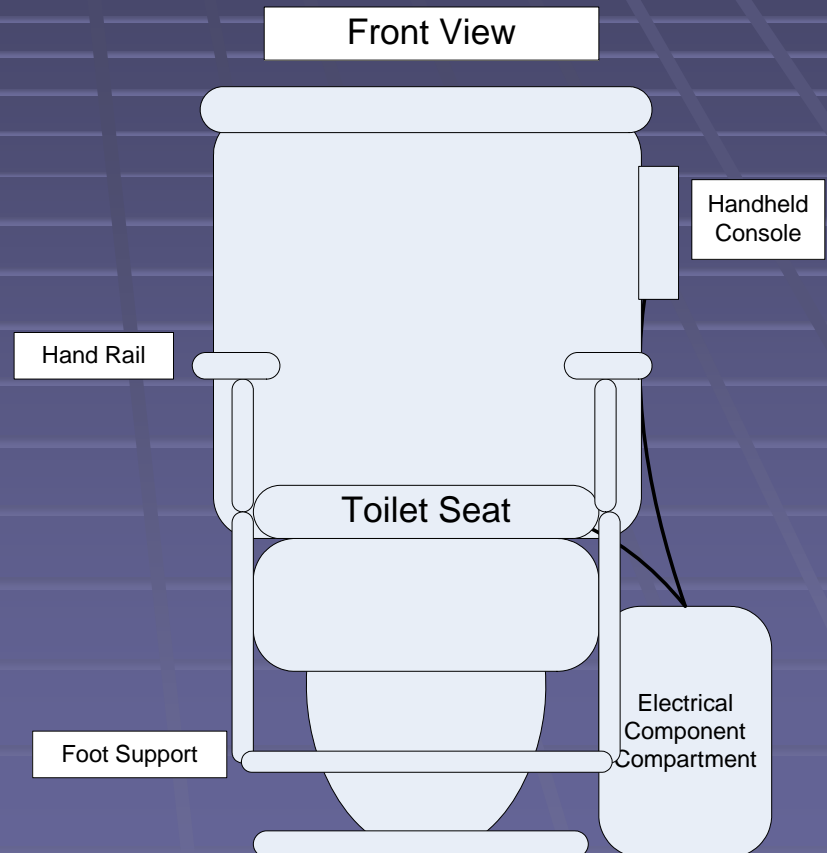


Design Objectives

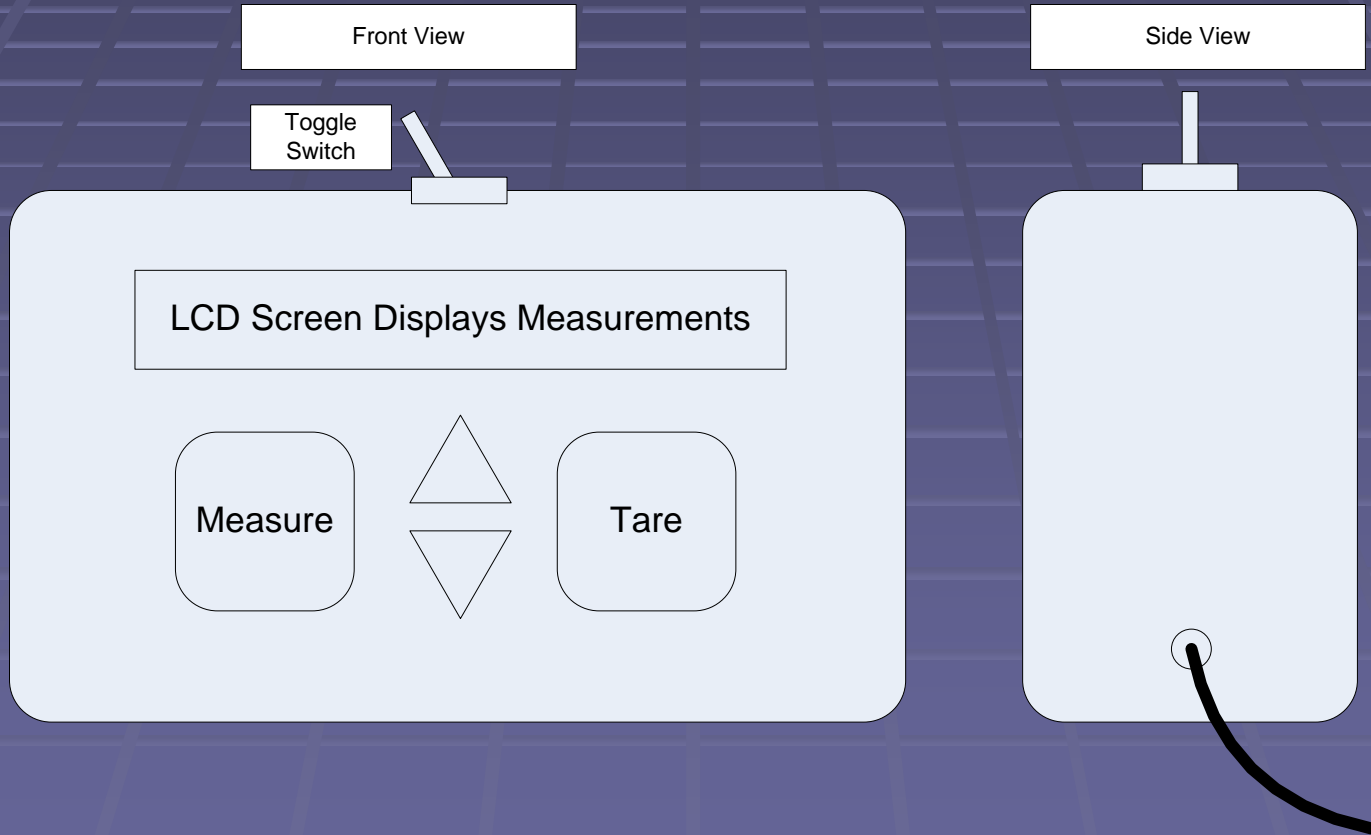
- Easy-to-use
 - Usable for left and right handed users
 - Simple interface
 - Large display
 - Easy to get on and off
- Convenient
- Safe
- Aesthetically pleasing
- Accurate

Methods

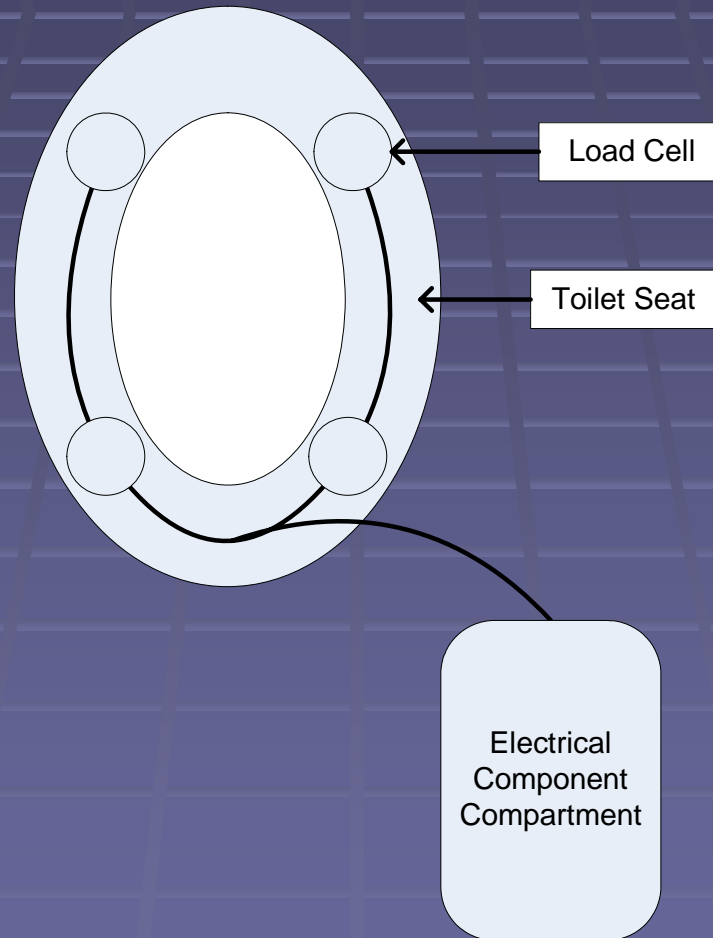
- Three main components
 - Electrical component compartment
 - Handheld console
 - Toilet seat



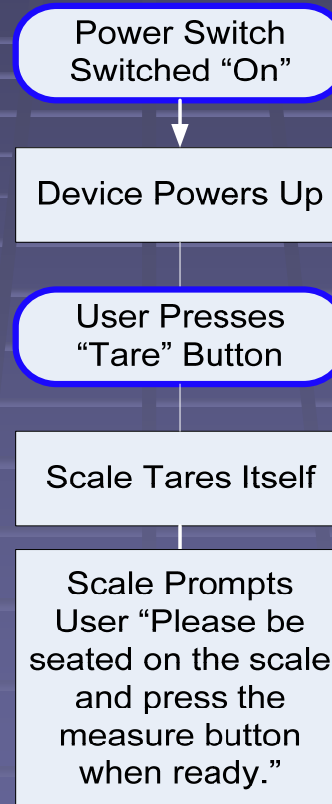
Handheld Console



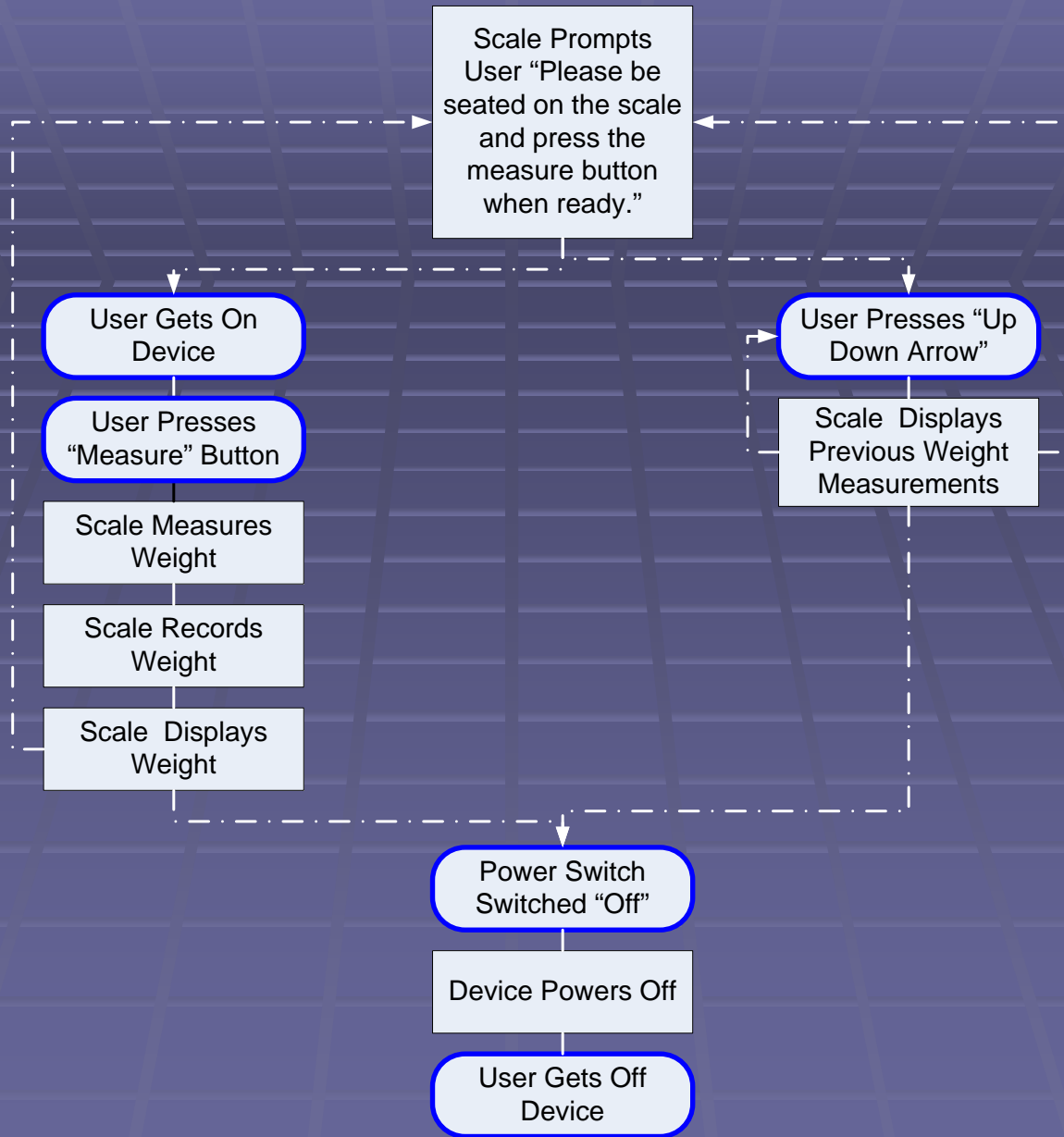
Toilet Seat



Operation Procedure



Continued
on next
slide



Budget

Product	Cost
Toilet Seat	\$50 - \$100 (due to choice of either standard toilet seat or raised with possible handrails)
Support Handles	\$50
Electrical Components	\$100
LCD Screen	\$10
Buttons/Toggle Switch	\$20
Casing Enclosures	\$50 - \$75
PIC Microprocessor	\$5
Lithium Batteries	\$20 - \$30
PCB Board	\$200
Strain Gauges/Weight Sensors	\$300 (Waiting for official quote)
TOTAL	\$890

Conclusion

- Many people in need of accessible weight scale
 - Obesity and old age lead to increased number of wheelchair bound
 - Diabetes leading cause of amputation
- Current products inconvenient
 - Bulky
 - Expensive
 - Additional assistance required
- Our device allows for more independence
 - Easy to use
 - Stores previous readings

Sources

<http://www.webmd.com/cholesterol-management/obesity-health-risks>

<http://www.abledata.com/abledata.cfm?pageid=113583&top=0&productid=81062&trail=0>

<http://www.northshorecare.com/chair-healthometer-scale.html>

<http://www.northshorecare.com/detecto-chair-scale.html#>

<http://www.freepatentsonline.com/20070061953.html>

Questions and Answers

