

TEAM 1708

FALCON INVENT

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Tang

THE Truffle
Maker

74.4%



of all people with an intellectual disability in the
United States are unemployed

INTELLECTUAL DISABILITY

“a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills”

(Disability, 2016)(Definition)

- Cognitive skills
- Communication skills
- Sensory perception and information processing
- Social and emotional etiquette
- Daily life
- **Motor skills**

(P-J, V., E, V., E, H., & E, S, 2010)

CAMERON'S COFFEE & CHOCOLATES



- Bakery in Fairfax, VA
- Every1 Can Work
- Employs individuals with intellectual disabilities
- Teach everyday skills

WHO WE WORKED WITH



LYDIA PULLIAM

- Chief Truffle Maker
- Manager
- Mentor



MADDIE LEASURE

- Employee with an intellectual disability
- Communication skills
- Fine motor skills
- Pressure application

STATEMENT OF PROBLEM



TRUFFLE MAKING 101



MADDIE MAKING TRUFFLES



GOAL

1. Make task of truffle making simpler
2. Should not take job away from employee
3. Assist in developing motor skills

DEVELOPMENT



DON'T REINVENT THE WHEEL



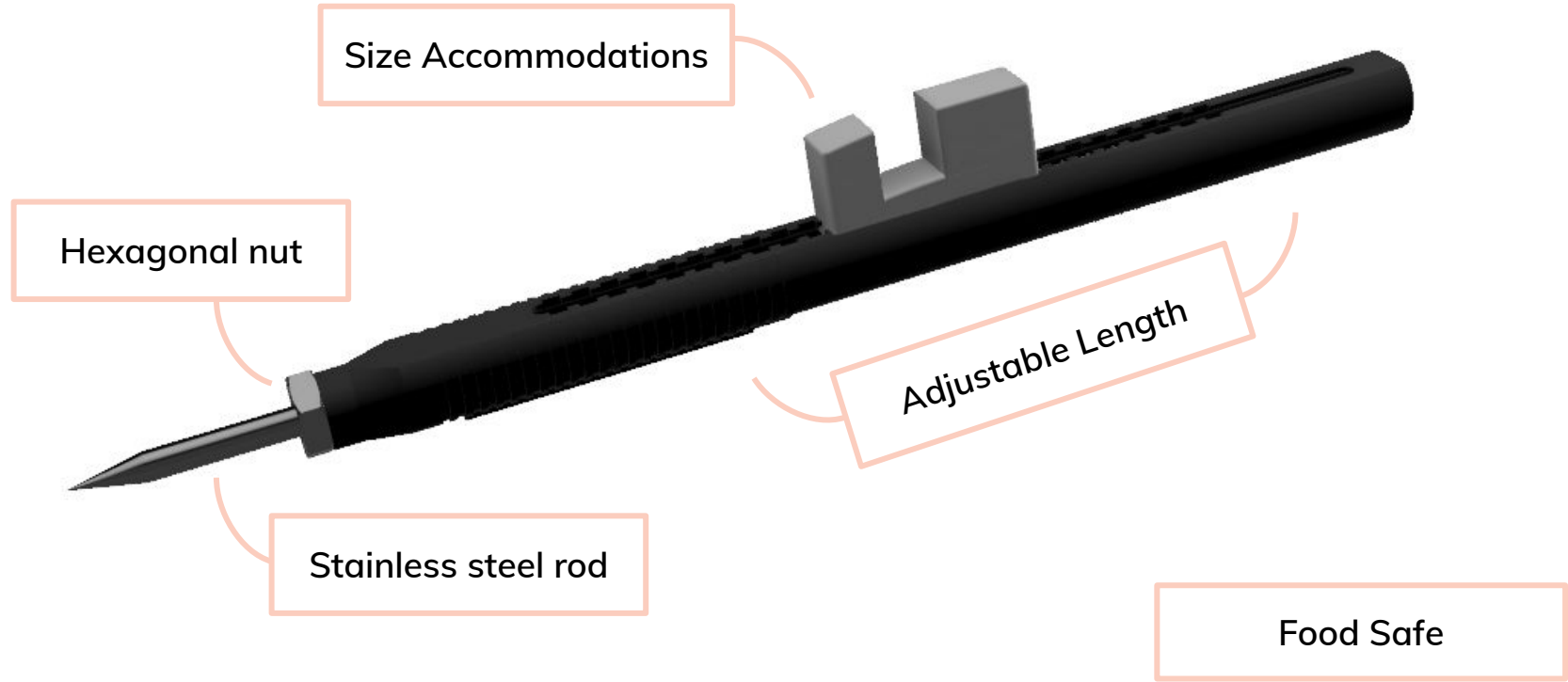
repurpose the pen.

JUMBO PEN



- V1: Replaced ink tube with sharpened dowel rod
- V2: Replaced ink tube with sharpened steel rod
- Testing results:
 - 50% success rate
 - Fixed length

FINAL DESIGN - CLIC ERASER



Material	Unit Price	Quantity	Price
Pentel Clic Eraser Grip (3)	\$4.79	1	\$1.60
Stainless Steel Rod (30.48cm)	\$4.56	~0.27 (8.10 cm)	\$1.22
Clear Gorilla Super Glue (15g)	\$4.39	~0.07 (1 g)	\$0.29
Hot Glue (30 Sticks)	\$4.97	~0.03 (1 stick)	\$0.17
Hexagonal Steel Nut (100)	\$12.43	0.01 (1)	\$0.12
JB Weld (58.8 g)	\$4.84	~0.02 (1 g)	\$0.09
Mod Podge (8 fl. oz.)	\$5.97	~0.02 (0.1 fl. oz.)	\$0.01
Total Price:			\$3.50

TESTING PROCEDURE

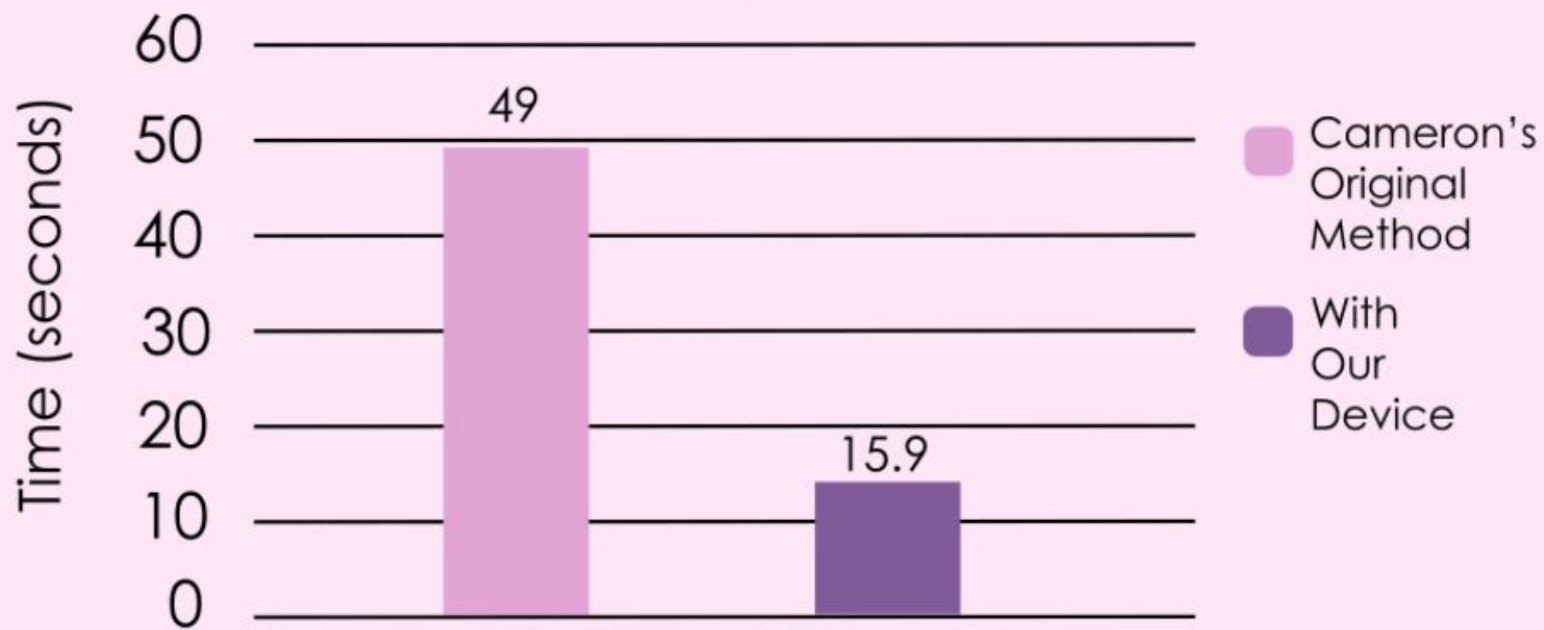
- What did we measure?
 - Total Time
 - Times for each substep
 - Picking up and dipping truffle in chocolate
 - Removing truffle from device
 - Refilling hole made by rod
 - Quality of truffles
- Feedback from Maddie and Lydia



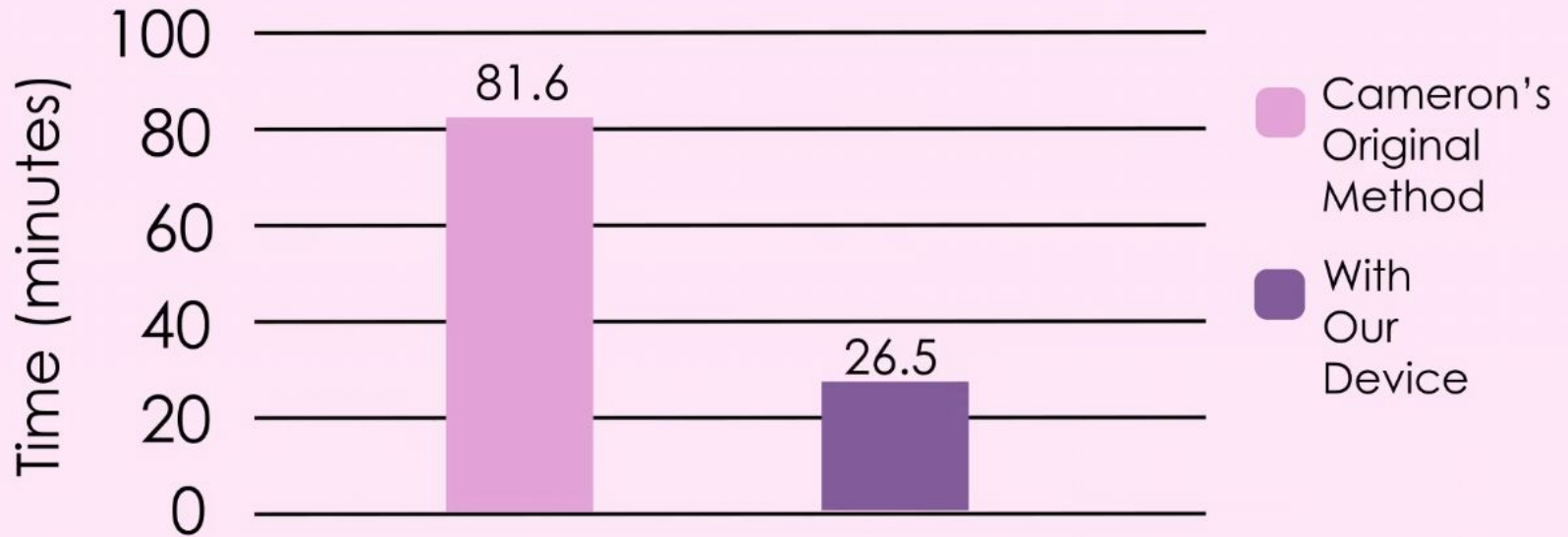
RESULTS AND ANALYSIS



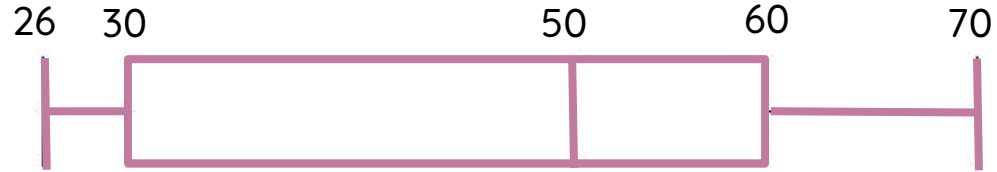
Times for Maddie to Make One Truffle



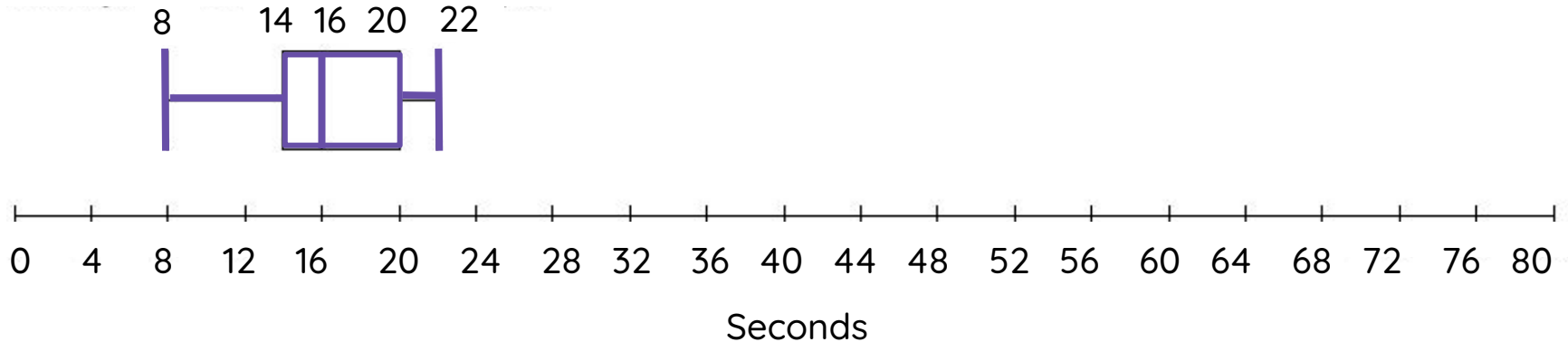
Times for Maddie to Make One Batch of 100 Truffles



Times for One Truffle (Cameron's Original Method)



Times for One Truffle (Final Design Implemented)



COMMUNITY IMPACT

- Ability to make truffles for Maddie and other employees
- Impacting Cameron's as a business
- Increase independence and self confidence of employees



With *The Truffle Maker* we were able to **simplify** the truffle making process at Cameron's, allow more employees to **participate** in making truffles, and most importantly, increase the **self esteem** of employees with disabilities at Cameron's.

ACKNOWLEDGMENTS

- Cameron's Coffee and Chocolates
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 - Ms. Maddie Leasure
- Mr. Curran
- Ms. Charissa Garcia and SourceAmerica
- Parents of Team 1708



THANK YOU



Any Questions?