

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation

## AR Chair Adjustment Assistant

The Capstone Experience

Team Herman Miller

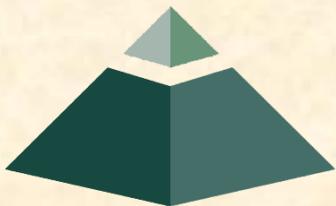
Mike Bremiller

Han Huang

Kevin Gaban

Kyle Kinsey

Jacob Weber



*From Students...  
...to Professionals*

Department of Computer Science and Engineering  
Michigan State University

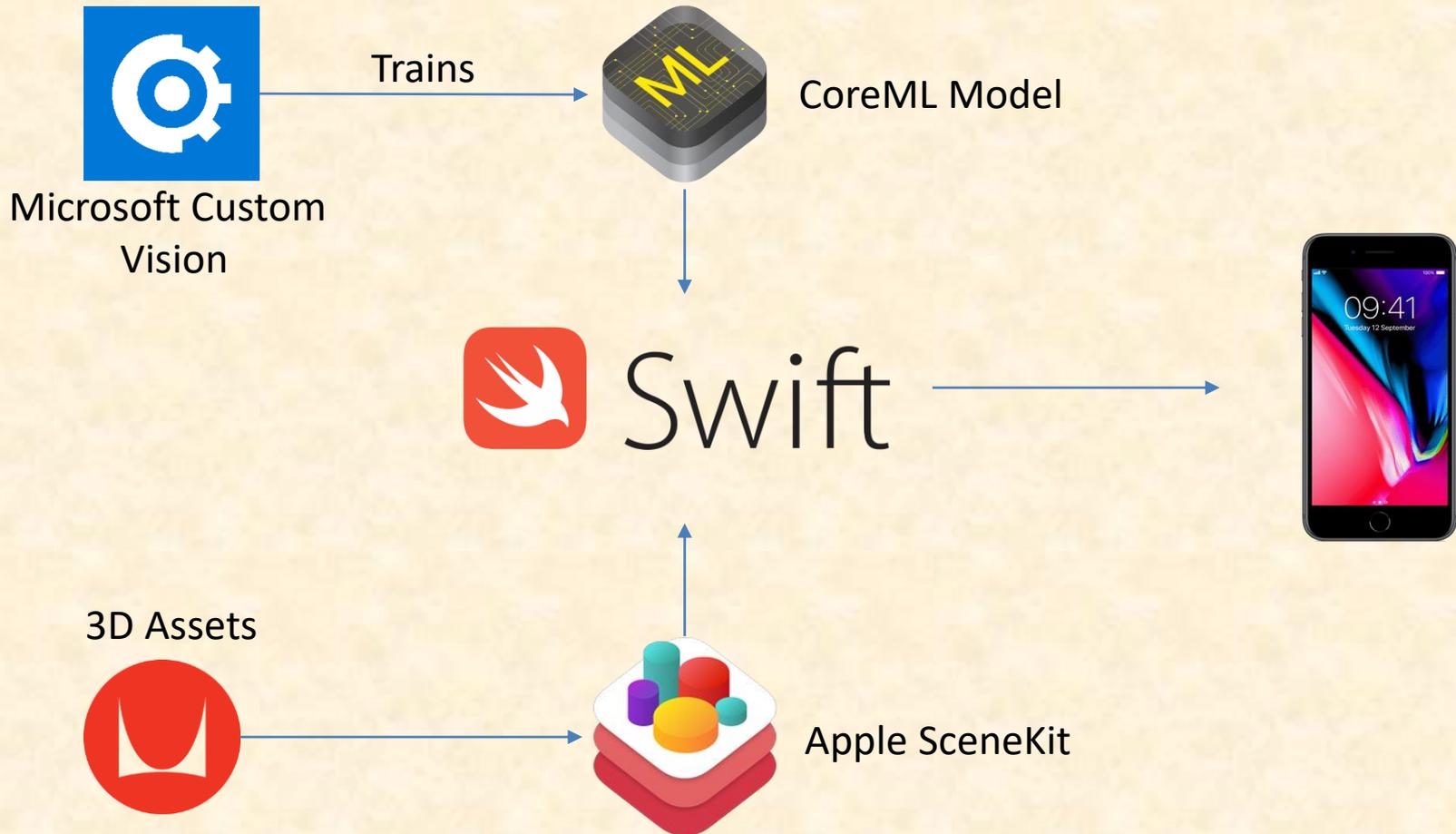
Spring 2018

# Project Overview

- Augmented Reality Adjustment Assistant for users of Herman Miller Chairs
- Identifies model of chair using smartphone camera
- Guides users through ergonomic adjustments
  - Interactive 3D model highlights relevant part
  - Tapping on highlighted part gives adjustment video and instructions
- Designed to replace paper instruction manuals



# System Architecture



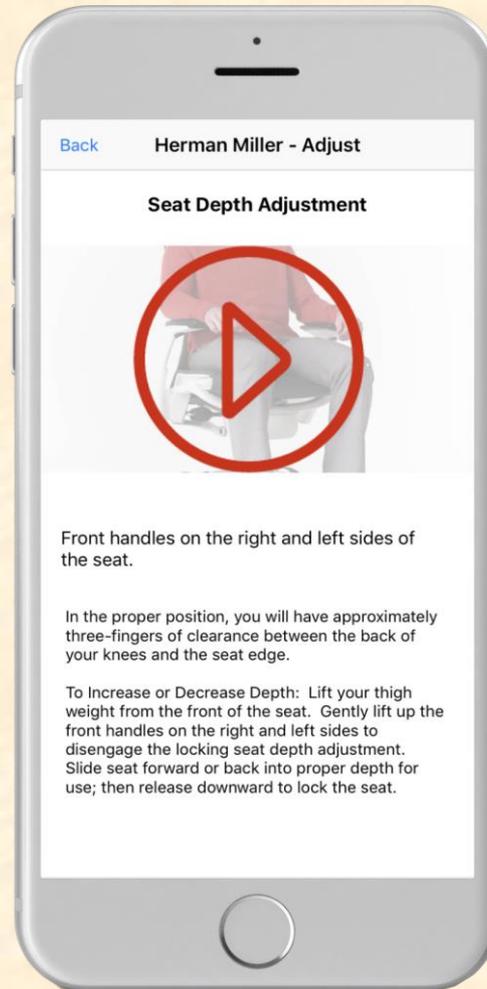
# Screenshot – Detection Interface



# Screenshot – Interactive Model



# Screenshot – Adjustment Instructions

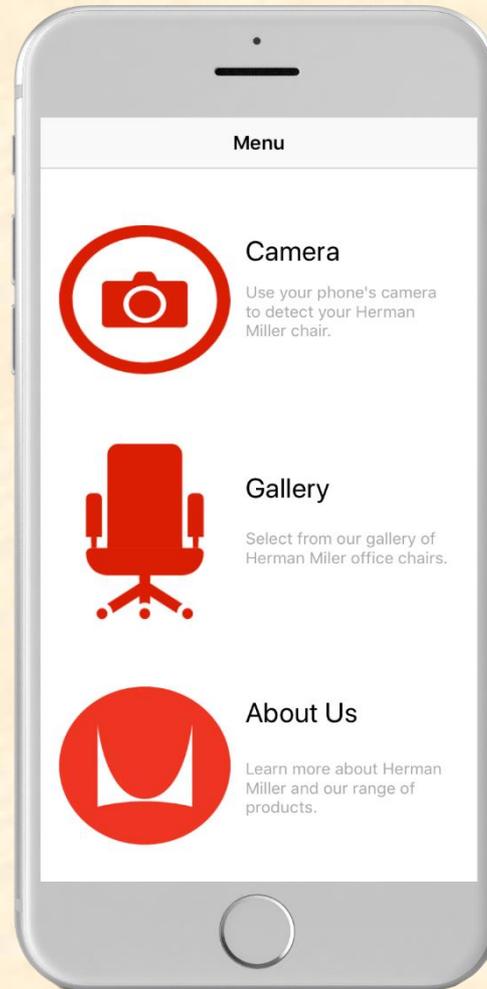


Front handles on the right and left sides of the seat.

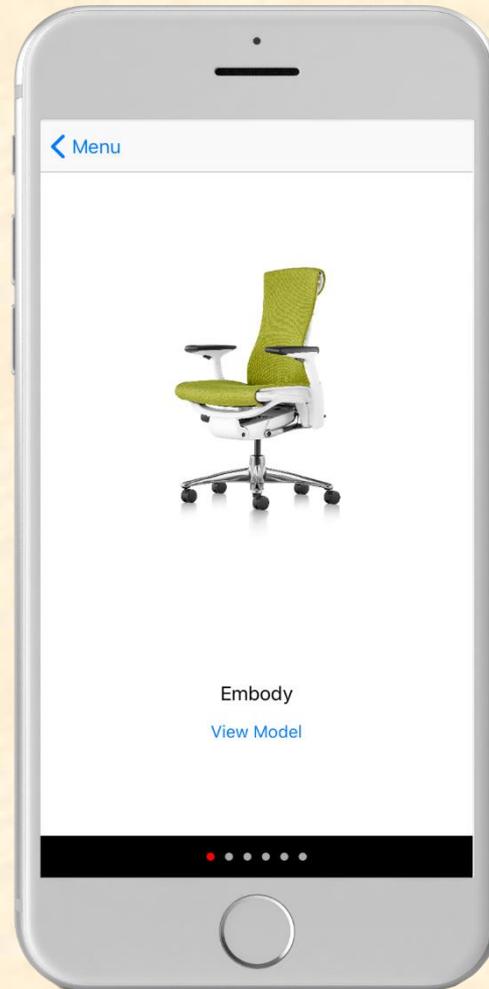
In the proper position, you will have approximately three-fingers of clearance between the back of your knees and the seat edge.

To Increase or Decrease Depth: Lift your thigh weight from the front of the seat. Gently lift up the front handles on the right and left sides to disengage the locking seat depth adjustment. Slide seat forward or back into proper depth for use; then release downward to lock the seat.

# Screenshot – Main Menu



# Screenshot – Gallery



# What's left to do?

- Expand library of available Herman Miller Models
- Continue to improve image recognition accuracy
- Implement search functionality
- Add analytics to app
  - Usage statistics per chair
  - Location usage analytics



# Questions?

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