

# Back End Developers

## Mechatronics Engineering

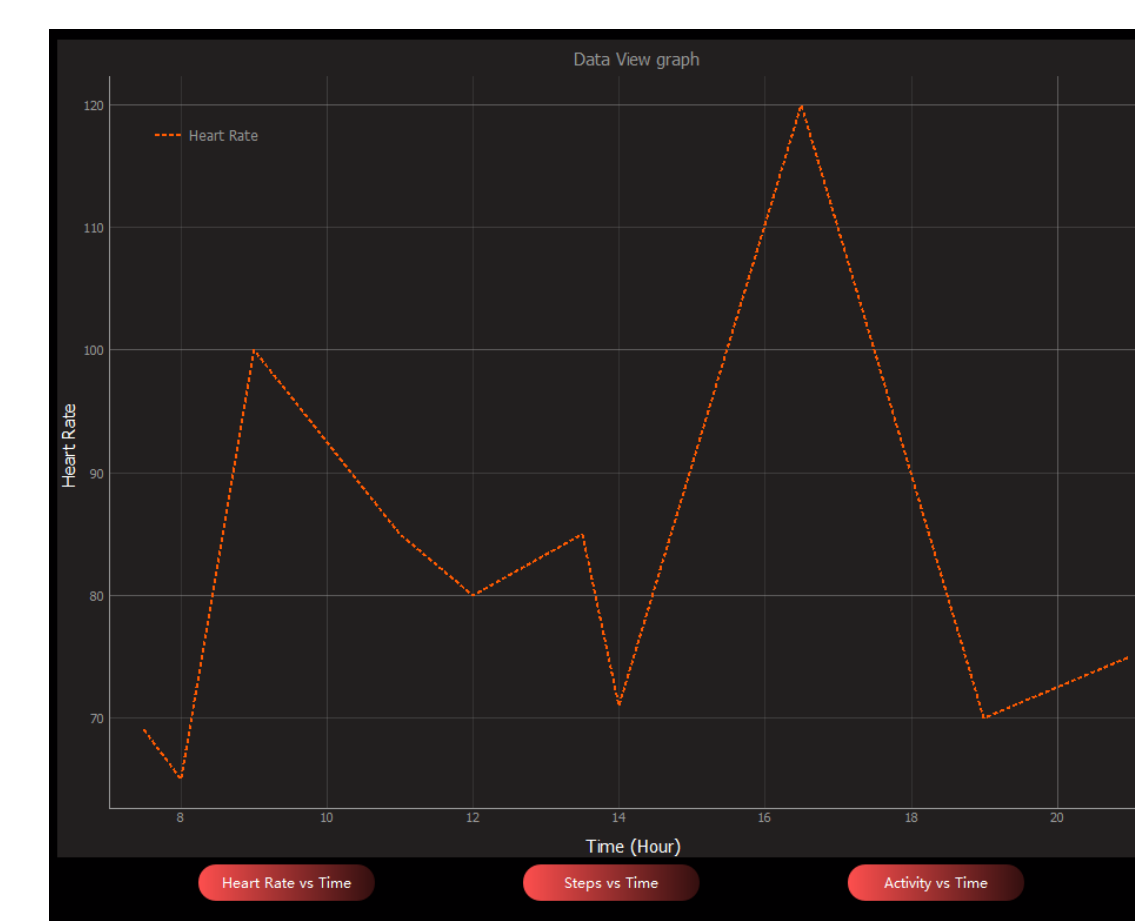
McMaster University  
Department of  
Computing & Software

## Motivation

Dr. Luciana Macedo investigates treatment strategies for older adults with lumbar spinal disorders, particularly focused on Ecological Momentary Assessment (EMA).

Since the EMA work is focused on analyzing the daily activities and symptoms of mostly-older adults with mobility issues, the solution needed to capture their slow and subtle movements.

Existing commercial products are designed to capture the activities of healthy and active people, which contrasts with what needs to be captured: Shuffling, limping, slower walking, etc., and works on a time-based prompt system, only asking questions at regular intervals throughout the day.

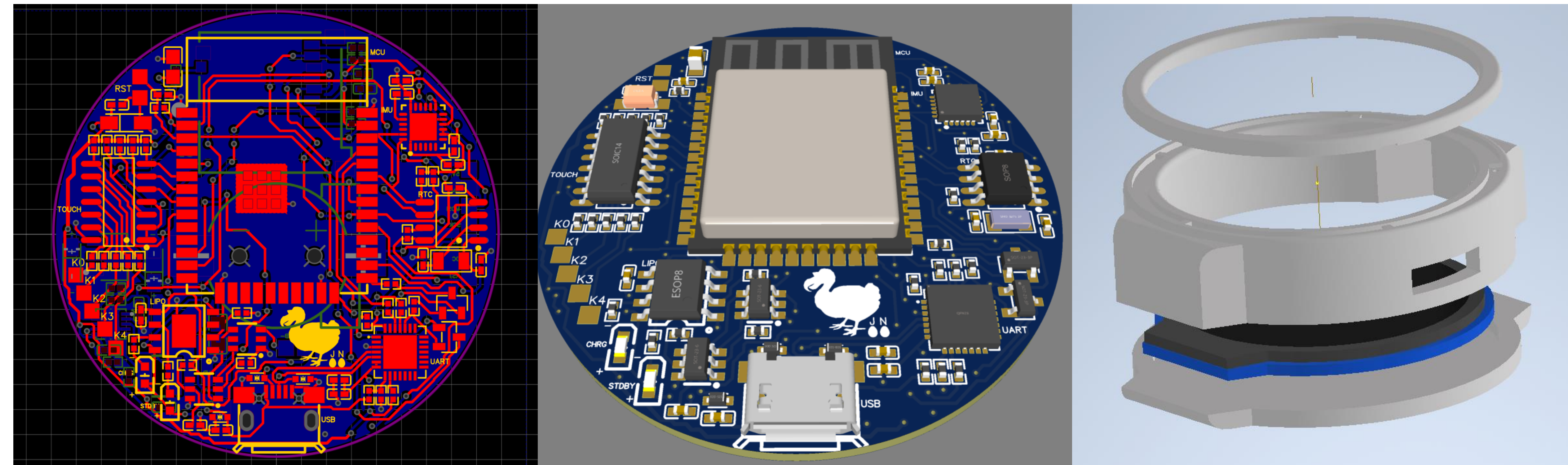


## Key Features

- Touch bezels
- Bluetooth
- Activity-based prompt generation
- Aimed for slow and subtle movements
- Research-based software UI
- Local database

**Special thanks to:** Dr. Macedo (School of Rehabilitation Science at McMaster University) for her time and assistance with the team throughout this project.

## Hardware Design



## Software Design

First Name	Last Name	Age	Participant ID	Study ID	Gender	Weight	Height	Phone Number	Email ID	Address	Monitoring Period	Tracker Model
1	Rose	65	2	32	Female	63.0	150.0	(864) 315-3564	rose@gmail.com	Mundelein, IL 60060	12	AB19
2	Ashley	63	3	32	Female	57.0	160.0	(238) 235-4330	ashley@gmail.com	9022 Jennings Drive	15	AB19
3	Dunder	63	9	33	Male	120.0	180.0	(617) 888-197	office@gmail.com	100 Main St Scranton PA	7	V1
4	Robin	30	6	10	Female	100.0	175.0	(874) 938768	robin@nym.com	18 King St NYC	7	V1
5	Lily	76	10	33	Female	100.0	150.0	(376) 2677675	lily@nym.com	1280 King St NYC	8	V1

## Team



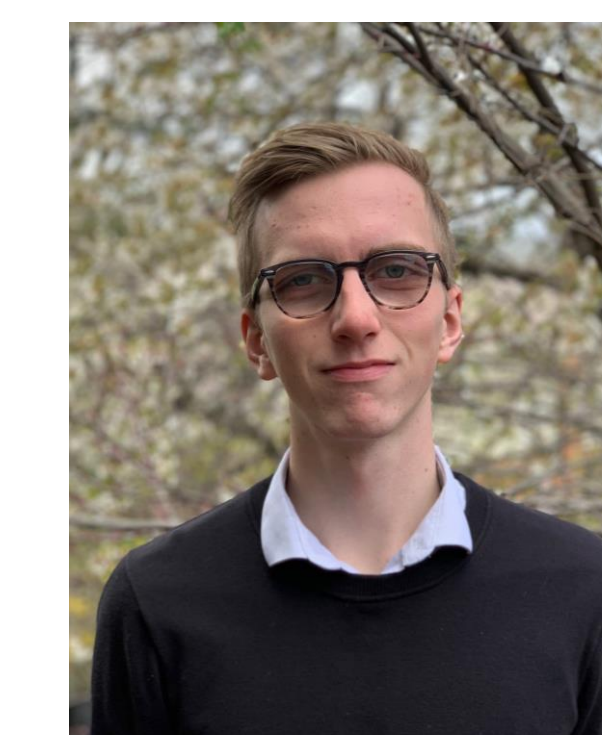
Anish  
Rangarajan



Jonathan  
Hai



Nish  
Shah



Oliver  
Foote



Labeeb  
Zaker



Jessica  
Bae

