

# ECE 209 AS Bake Off 1

## Leap Finger keyboard

Fall 2019

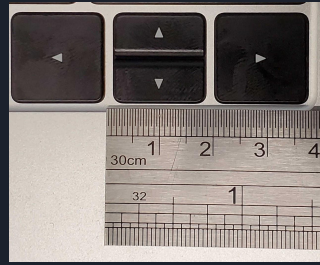
Amirali Omidfar, Hannaneh Hojaiji, Haisong Lin

# Technology

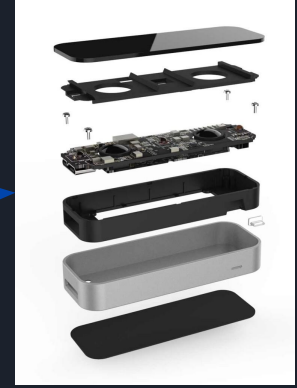
- Ubiquitous
- Useful in all small and large platforms
- Privacy



# System Design Overview



Text Entry with 4 cm<sup>2</sup> contact area



# How typing works in Leap Finger keyboard (1/2)

1. Show the desired number of finger for to pick the category of your corresponding letter.



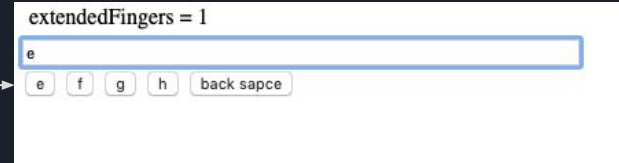
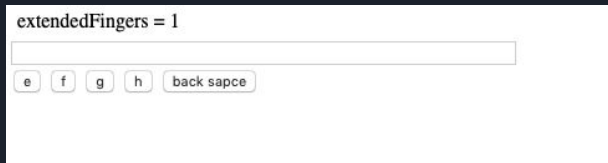
Press up-Arrow to confirm your category selection

# How typing works in Leap Finger keyboard (2/2)

2. Press down-Arrow to toggle through the corresponding category



3. Press up-Arrow to confirm your selection and input in the text bar



# Other methods tried out

- Arduino-based buttons for fast text entry
  - Serial Port communication through various platforms such as **Johnny-Five** and **Serialport.io**
  - Communication through a local server on esp8266
- Gesture and motion-based keyboard using two buttons only ( $<4\text{cm}^2$ )

**Due to Network latency we decided to stick with the machine keyboard**



A blue parallelogram and a light green parallelogram are positioned in the upper-left corner of the slide. The blue shape is partially behind the green one. Both shapes are tilted at an angle. The background of the slide is dark blue with several diagonal bands of slightly different shades of blue and grey running from the bottom-left towards the top-right.

Demo Video



# WordPerMunite measurement

- We asked 3 users to type different character combination including the sentence : “HCI is fun.” , we then record their typing time. The results shown below reported after the user had several attempts to learning our typing mechanism :

Participant 1	3 WPM
Participant 2	5 WPM
Participant 3	4 WPM