ECE 209 AS Bake Off 1
Leap Finger keyboard
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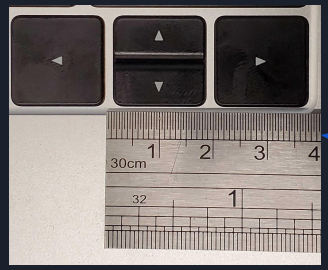
Amirali Omidfar, Hannaneh Hojaiji, Haisong Lin

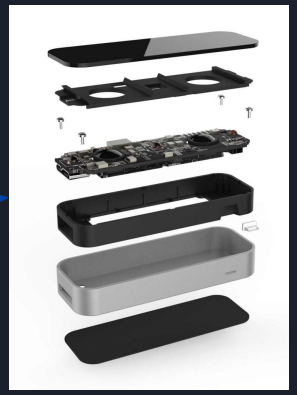
Technology

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

System Design Overview



Text Entry with 4 cm^2 contact area



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

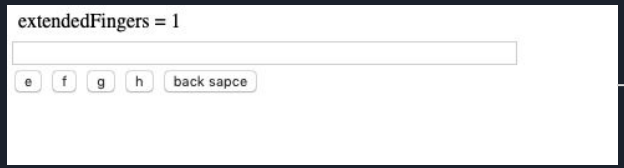
1. Show the desired number of finger for to pick the category of your corresponding letter.

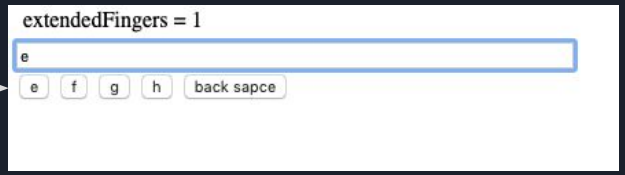
Press up-Arrow to confirm your category selection

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

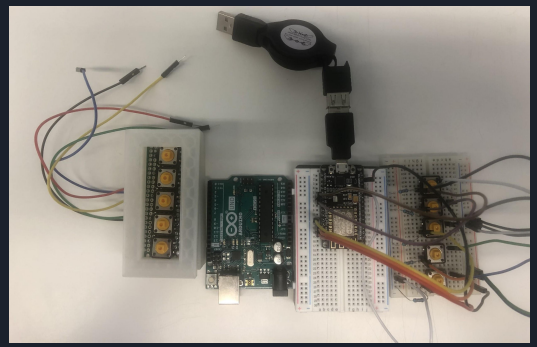




Other methods tried out

- 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 (<4cm^2)

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



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