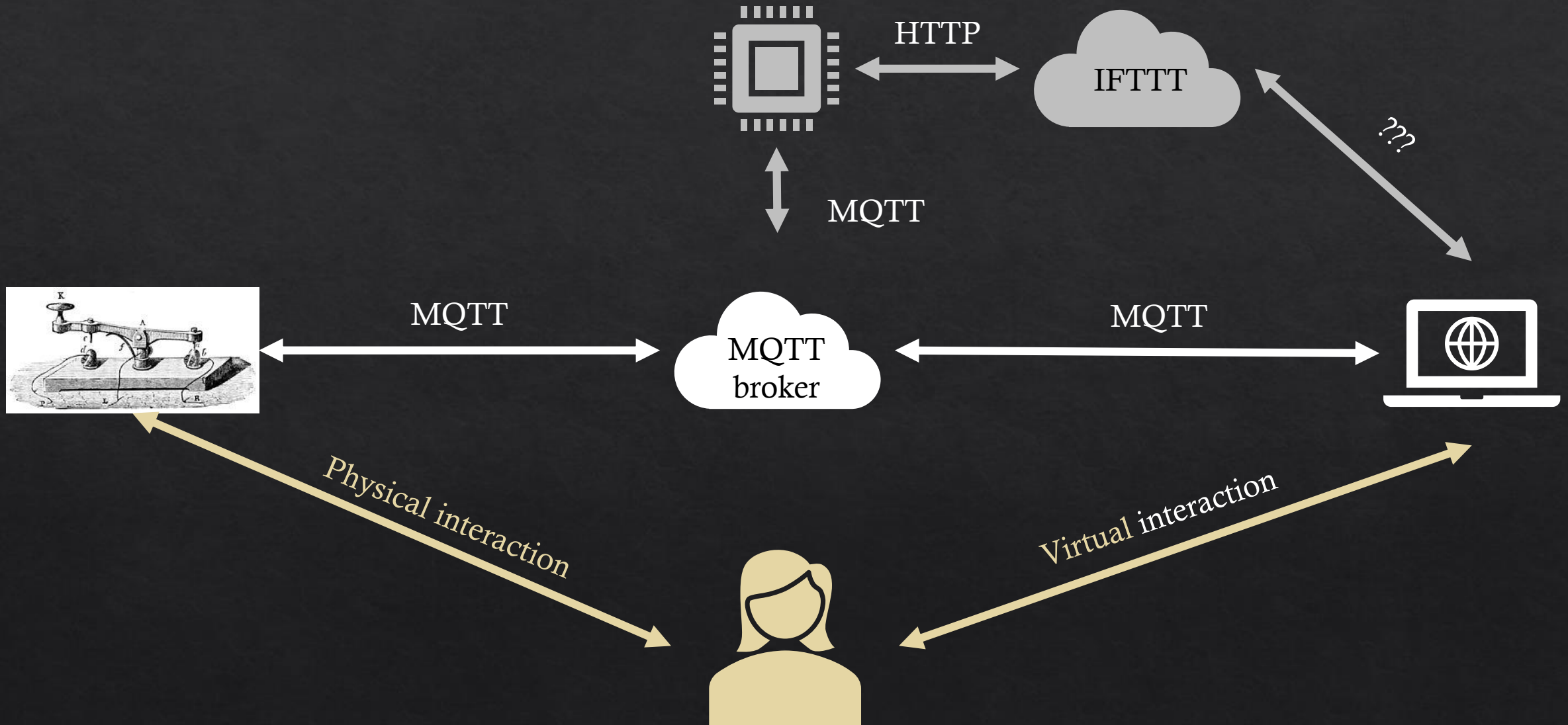


# Use case

- ◆ Modern alternative to ancient Morse code
- ◆ Works with one button instead of ~100: Better UX
- ◆ Global communication with minimal hardware requirement
- ◆ Supports all languages (that do not need characters outside the ASCII set)



# Reference model



# Interface documentation

- ◆ MQTT
  - ◆ Topic: “morse/CHANNEL\_ID”
  - ◆ Publish and subscribe to the same topic
  - ◆ Message format: SENDER\_ID,LETTER, e.g. “SAD\_STUDENT,C”
  - ◆ LETTER must be in ASCII code >47 and <91.
  - ◆ SENDER\_ID must be unique



# Issues and solutions

## ◇ Code

- ◇ Morse-to-char: String used as binary tree and state machine

## ◇ Libraries

- ◇ Tried 2 MQTT libraries, 4 libraries for the 7-segment display

## ◇ Hardware

- ◇ ESP8266 not programmable with sensors/actuators connected: Removed them every time, added them at the correct time again