

## Morse ... Of Course!

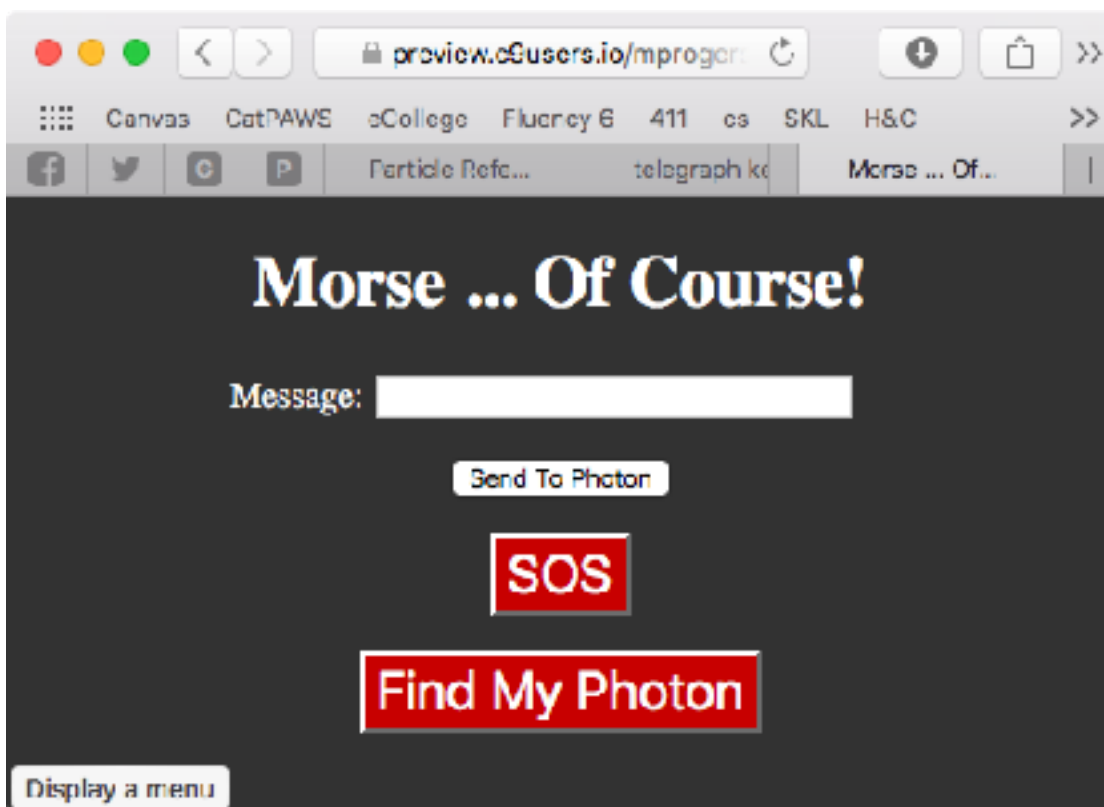
**Objectives:** Give you practice working with Particle functions, and thinking algorithmically, as you create a modern variant on the telegraph key.

**Behavior:** Your project will have a webpage and a circuit, a Photon outfitted with a speaker, LED, and two switches (red and green). When the Send to Photon button is tapped on the webpage, the Morse code of the text will be heard and seen on your Photon. When the SOS button is tapped, the Morse code for SOS will be heard on your Photon. When the Find My Photon button is tapped, SOS will play continuously on your Photon until you press the red to turn it off. When the green switch is pressed, the last message played will be replayed.

**Deliverables:** Upload the webpage and your code. Show your working program during a help session.

### Notes:

0. Only worry about letters: any other characters should be ignored.
1. Your webpage does not need to look exactly as illustrated, but it should have the indicated elements and functionality.
2. Feel free to use `tone()` — a frequency of 550 seems to work well.
3. A dah should be 3 times as long as a dit.
4. `tone()` is asynchronous, so you will need to `delay()` after playing each `tone()` otherwise all the tones will be played at (almost) the same instant.
5. Before rushing to code, think about how to organize your code and modularize it to be as efficient as possible.
6. This may be a challenging assignment, so start early and ask for your instructor and TA for assistance.



# International Morse Code

1. The length of a dot is one unit.
2. A dash is three units.
3. The space between parts of the same letter is one unit.
4. The space between letters is three units.
5. The space between words is seven units.

A • —  
 B — • • •  
 C — • — •  
 D — • •  
 E •  
 F • • — •  
 G — — •  
 H • • • •  
 I • •  
 J • — — —  
 K — • —  
 L • — • •  
 M — —  
 N — •  
 O — — —  
 P • — — •  
 Q — — • —  
 R • — •  
 S • • •  
 T —

U • • —  
 V • • • —  
 W • — —  
 X — • • —  
 Y — • — —  
 Z — — • •

1 • — — —  
 2 • • — — —  
 3 • • • — —  
 4 • • • • —  
 5 • • • • •  
 6 — • • • •  
 7 — — • • •  
 8 — — — • •  
 9 — — — — •  
 0 — — — — —