**Narrative for Enhancement One**

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My artifact for enhancement one is a calculator I built. Currently, it is a basic calculator that performs basic arithmetic. It has a purple background with sheer buttons that highlight an opaquer white when they are hovered on or clicked. It has a grid-style display with the All-Clear button and Equals button spanning two columns in order to create a visually appealing, rectangular calculator without gaps.

I chose to use this for my capstone because it is the first project I have built by myself and I want to show that I can take a program and enhance it in many different ways. For Enhancement One, I rounded out my calculator by adding keyboard functionality which helps those who may have accessibility issues. I coded keyboard events for the “c” key, backspace key, Enter and “=” keys, operand keys (+, -, \*, /), and created an error handler for division by 0. By creating keyboard functionality, I have met the outcomes for this section of the capstone. I have designed and engineered software that creates a more interactive program than it was before. By using keyboard event listeners, operations can be solved quicker than before, with higher accuracy and better accessibility.

When I was modifying my calculator, I learned through W3 Schools that keyboard event listeners can be coded the same way as mouse click listeners. Both of these are events; I just had to figure out when I wanted my listener to activate. These “activators” were key-down, key-up, or key-press. Also, I didn’t realize how much I write single, non-branching functions before this. In school, I would write branched code only when necessary. In my personal project, I wrote individual functions for each keyboard event listener and it ended up making a mess of my code. It became annoyingly long. I researched through Stack Overflow and realized I could use IF/ ELSE branching to cut out a lot of the noise that my individual functions were making. I don’t know why I didn’t think of this to begin with. I used switch/case for my actual operations which is technically branching, but it’s as if my mind just erased the fact that I could use multiple ELSE IF statements after using ELSE already.

*Keylistener in Javascript*. (2014, June). Stack Overflow. Retrieved May 22, 2025, from https://stackoverflow.com/questions/17015019/keylistener-in-javascript

*W3Schools.com*. (n.d.). https://www.w3schools.com/jsref/obj\_keyboardevent.asp