

Interactive Hydration Coaster

Calm Technology: Interactive Hydration Coaster

abstract

We designed a coaster that can hold water bottles or drinking glasses, and alerts users when it is time to drink their water so that the user can stay mindful of hydration

problem and solution

As a team we decided to create a solution to help remind users to stay hydrated. As busy students, we realize that it is difficult to remember to drink enough water during the day when we are running from class-to-class or working on homework for hours.



Keeping Calm Technology in mind, we designed an Interactive Hydration Coaster. The coaster lights up in three different colors, (blue, green, and red), to signify how much time has passed since the user last drank water. Blue is the first color that lights up once the bottle is placed on the coaster. This light tells the user that the coaster is engaged and in use. After 15 minutes, the light turns green if the user has not drank water or removed their water bottle. Lastly, the coaster will turn red if the user has not drank water or removed their bottle. This happens 5 minutes after the light turns green. The coaster will remain red until the bottle is

removed. Once the bottle is removed, the coaster resets and the light turns blue once a bottle is placed upon it again.

prior art



We were inspired by drink coasters that people use for their beverages in their homes. When thinking of solutions to alert users to remember to hydrate regularly, the coaster was an easy pick since they are a fixture on desks and tables. Having a coaster on a desk while users work at their computers is intuitive and convenient. We were also inspired by the Google's "Little Signals" technology that was subtle but effective.



design methods

We built this product using a scale that we connected to our Arduino. Our first task in using the scale was to calibrate it for concise measurements when weighing our bottles. This proved to be a challenge because our scale was calibrating incorrectly and was weighing our bottles in the negative range. A negative weight would not trigger the LED lights so we needed to amend this. Once we calibrated the scale properly, we needed the code to be written in a manner that allowed the light to turn on at the appropriate times. This was also a bit of a challenge as we were only able to get the green and blue lights to respond, but not the red. After some troubleshooting help with our code, we were finally able to get all 3 lights to respond.



Our code reflects how we wanted the RGB LED to change colors on timed intervals. However for prototyping presentations we shortened the minutes to seconds in order for us to properly demonstrate to the class how our device worked. In order for us to hide the wiring we used a box that resembled a book. We were also able to 3D print a ring that slides over our coaster to hide the insides of our scale.



findings/discussions



We conducted primary research in the form of interviews. The interviewees that we spoke to found the coaster to be “clever.” Three of four said they would definitely use it on their desks as a hydration reminder and all four like the overall concept and the ways that Calm Technology was included.