**Problem statement**

This project aimed to solve the issue of dehydration while working. It aimed to produce a system that would record how much the user is drinking and would alert them when they need to drink and when they needed to refill their drink.

* Takle dehydration in the workplace (problem)
* Aimed at office workers (audience)
* Alert them when to drink and to refill container (what the device will do)

**Sensors & Data collection**

The only sensor used in this project was a load cell. This was used to measure the weight of a fluid container. We used this because this project is aimed at desk workers, who typically go through many different drink containers throughout the day. The load cell’s output is the ran through a HX711 to amplify the output so our raspberry Pi can read it.

The data is collected in real time throughout the day using the time library python offers and the load cell. This data is used in real time and stored in a text file for later use.

* What data is being collected and how
  + Load cell (weight data)
  + Python time library (time data)
* Other hardware
  + HX711 (What does it do)
  + Raspberry PI

**Data processing & Interpretation of data**

The data is processed when it is read in from the file, as it is being read in it converts the time from hours, minutes of the day to minutes. This is so the amount of time left within the day is easier to figure out, which is needed for the calculations that change the time between alerts.

The data collected is used to alert the user in real time if they need to fill the container or drink. They are told to drink every hour when the program is first run but every 2 hours this timing is updated based on how much they have drunk so far, this is so they meet the average recommended amount within the day.

* How was the data stored (if it was)
  + CSV file
* How was the data changed (processed)
  + Converted into usable time units
* What does the data show
  + Drinking habits of the user
* What was the data used for
  + Real time alerts
  + Changing the time of real time alerts
  + Graphing drinking habits

**Feedback and output**

The alerts this device gives are in the form of an app, this app would get a notification from the device telling the user to either fill up the container or drink depending on what is needed. This form of alert was chosen as it is the most likely to reach the user without being invasive. If a buzzer and LED were used to alert the user, it would be hard to distinguish between alerts and it would have a higher chance of disrupting the user's daily life.

* How was the user given the information back
  + Alerts (App)
* Why was this method chosen
  + Easy to get the user’s attention
  + Does not disrupt their day-to-day activities
* What other options were considered
  + Buzzer
  + LED
* Why where these options not used
  + Too Invasive

**Video Layout**

**Problem statement – Slide 2**

**Sensor and data collection – Video of project working**

**Data processing and interpretation – Slide 3,4**

**Feedback and output – Slide 5,6**