

## Project Group IC-RG-RJ

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# Water Buddy

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## Overview

An embedded device that could be integrated with smart refrigerators to assist users in maintaining adequate daily water consumption. This will be accomplished by tracking the amount of water dispensed from the refrigerator and reminding the user to drink water via text message at an interval of their choosing. A weighted sensor will be used to detect the amount of water in the user's individual container and it will subtract that from a pre-set daily amount recommended by the app, or entered by the user. The device will store data for several users by RFID tag identification.

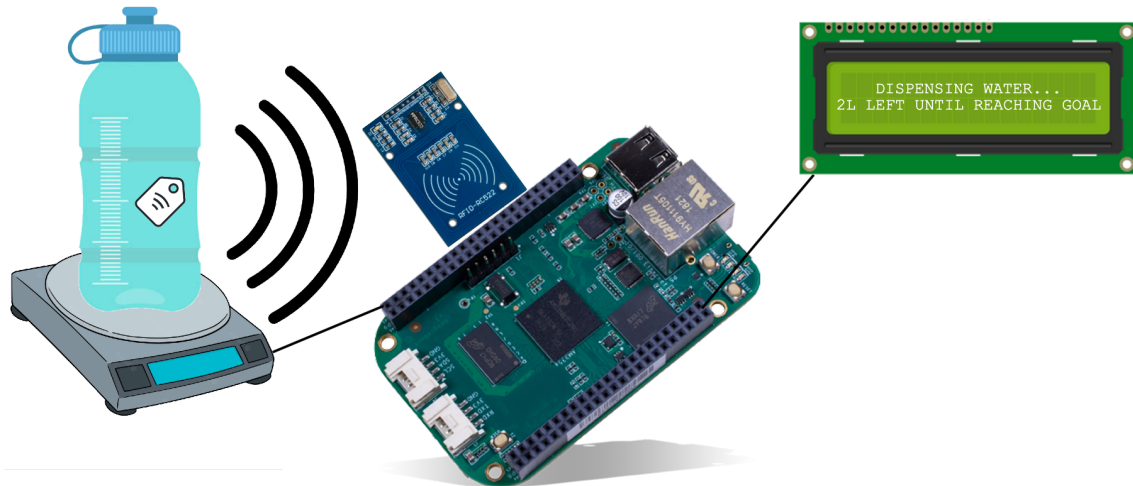
Electronic hardware we expect to use:

- RFID Tags for each individual's water container
- RFID Reader
- Weight Sensor
- LCD display
- (*may not be required*) Wi-Fi adapter

## Minimum Viable Product

One of the difficulties we currently see is the notification system. The beaglebone needs to be able to send text messages to the user. We would like to be able to use Wi-Fi to do this, meaning we would require a Wi-Fi adapter for the board, but in a worst-case scenario, we will make an assumption that the smart fridge this system is integrated into has its own Wi-Fi adapter that our system can make use of. We may therefore have to demo our system using ethernet (connected via USB to a computer) instead of Wi-Fi. This is the only component of the project

that we would be willing to compromise and still have a working system. Everything else (the RFID identification system, weight sensing, display) is essential to our project's functionality.



## Timeline

Date	Goal	Contributors
09/29/2022	Project Proposal Submission	All
10/1/2022	Complete all hardware purchases	All
10/14/2022	Establish communication with RFID hardware	Ian, Rajnesh
10/14/2022	Interface with the scale	Ian, Ryan
10/14/2022	Identify needed software/hardware for text message reminders	Ryan
10/14/2022	Interface with LCD display	Rajnesh
11/11/2022	Basic program to demonstrate all the hardware working together	All
12/05/2022	Adapt Milestone 2 program to create the final product	All