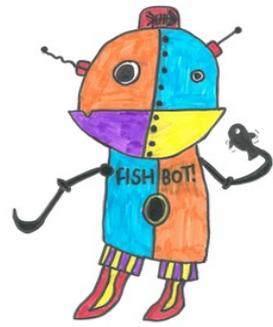




William Law CE Primary School
Learning Living Loving Together



FishBot Smart Water Meter

Project Summary

We were delighted to hear about the 2018 PA consulting Raspberry Pi competition and were excited to create an invention which would make a difference by saving the planet.

Research

After researching sustainability, we decided that water is one of the most valuable resources on our planet. We were fascinated to find out the following facts.

Did you know:

Some of the water we drink today has been on the planet since the dinosaurs.

The recommended amount of daily water per person for basic domestic usage is 5 litres for drinking and 15 litres for bathing!

We can go without food for around a month - but we'd only survive around week without water!

We can only drink 1% of water on the whole Earth.



These facts inspired us to invent a Smart Water Meter to help monitor how much water is being used. Before we started to bring this idea to life we wanted to find out more from the experts – Anglian Water.

A visit from Anglian Water

We carried out a few activities which made us more aware of how we waste water. Whilst some children pretended to clean their teeth for 2 minutes we filled a large container as if we were leaving the tap running.



This is how much water we waste leaving the tap running while brushing our teeth. This was a shock to us and confirmed the need for a Smart Water Meter to help monitor how much water is being used.



During their visit, we asked Anglian Water if they had Smart meters and they said they were trialling some in Cambridge and Norwich but they were not that smart! They just took more frequent readings that you could view on their website. We wanted to create a smart Water Meter that could tell you how much water you were using straight away.

Creating FishBot

We used Lego to build a Water Meter.



This is our first proto type to test that the camera could take a photo of our pretend water meter.



We used Python to write code that used an attached PiCamera to take regular photos.

We then added more code to use a software called Pytesser to convert the text in the image into printed computer text .This would then read the number on the smart water number which as it took regular photos the number would increase.

Python would then print out the numbers it converted.

We then added even more code so that the meter could say the reading out loud to the user.



Why FishBot?

You may have been pondering this question throughout our project summary – well here is the answer.

We decided to call our Smart water meter ‘Fishbot’ because we thought Fish would be pleased that we used computers to help save their home.