# Hydrosens

# Management monitoring

## Context

The client Ms Mouton makes a lot of experiments testing different products from her subject study. She follows a protocol, and she takes pictures of the results. She visualizes the absorption of the water on a treat piece of paper regarding the duration. The point is today, everything is made by hand. Theses experiments require a lot of precious time of Ms Mouton. The main point of this project is to automatize theses steps following the same protocol. The project is spliced in two parts. The first part concerns the physical tools necessary to automatically take pictures in repeatable environment. The second part treats the development of the software to detect when the product fails.

## Objectives

Criteria of Ms Mouton:

* Easy user interface
* Gain some times

Criteria for the consistency and the usage of the project:

* Make the experiment repeatable, same samples, same results:
  + Same environment
  + Fixed position of the camera and same lighting condition
  + Fixed position of the sample
* Usage guide

Functionalities:

1. Acquire picture every defined time.
2. Once the absorption is detected:
3. Visualize experiment result: at which time absorption occurred.
4. Visualize the flow rate of absorption.
5. Store the results.

## First meeting – Story mapping 02/02/2023.

1. Understand the project of the client.
2. Understand the need of the client.
3. The steps of the project: Design a prototype, create a data processing tool, test and improve.
4. Create something simple of usage.
5. Functionalities:
   * Data output: absorption or not, amount of water, time at which absorption occurred, flow rate.
   * Let the user choose the duration between pictures.
   * Export a csv file with results.
   * Stop the experiment when all samples absorbed.
6. To contact Ms Mouton, use Teams or in face to face at school.

## Second meeting – Monitoring 02/10/2023.

1. Budget:

* Camera 2k: over 15€
* Use the camera giving but the teacher, Logitech 720p.
* Light: circular light or led -> we can test both.
* Check for wood if we build the box or buy a folding box.
* A budget can be assigned by the school.

1. The box:

* Number of samples: between 4-8 samples.
* Looking for a hydrophobic floor.

1. Program:

* Add a name for the folder of each experiment.

## Third meeting – Monitoring 02/24/2023.