Problem & Solution Description:

From broken machines to stolen clothes to completely filled baskets, laundry has become every student's nightmare. WashAD is a web application that aims to simplify and organize the process of laundry at NYUAD by offering booking, reporting, and monitoring services.

The general process goes as follows:

- The student asks to book the desired type of item (washer/dryer/basket) and the time they need to use it.
- The student picks the most suitable available timing from the list that the booking site provides.
- Within a certain range from the booking time, the student must confirm placing the clothes in the machine and enter the cycle duration into the application to track whether the cycle is done or not. A student can book up to 2 days in advance.
- After the cycle is completed, the student will receive a notification to collect their clothes, along with a reminder to perform the necessary cleaning of the machine (emptying the water drawer of the dryer/clean the lint filter/cleaning the detergent drawer)
- Once the student collects their clothes, the machine will be open for booking again. If the student takes longer than a pre-specified time to collect their clothes or the next student reports that the previous student didn't perform the proper cleaning, their strike count will increase. The strike system will be used to ensure that students are following the laundry room rules.
- If a machine is malfunctioning, students can easily report the issue through the application, which will render the machine unreservable until the responsible authorities resolve the issue.

All the machines are being used. A1B

All the machines but a malfunctioning one are being used. A1C

Implementation:

The booking system will be implemented on a webpage using html and CSS for the front end, javascript and php for the back end, and the information will be managed on a database with mySQL.

The booking will work on a first come first served basis. The implemented code will show students the available machines (which, together with the baskets, will be called ”items”). The student will select the item they want to use and for how long. The website will update the items available accordingly.

The booking system will rely on a database with 5 tables: items, bookings, students, buildings, and sessions.

> **Items:** This table contains the information of the washing machines, driers, baskets. Especifically, it contains the type of item, their identification number, and a boolean if it is working or not.
> **Student:** This table contains the student’s netID, their name,password, and a strike counter, which will be used for accountability of missing booking sessions.
> **Bookings:** This table contains an identification number for the booking session, the identification number for the item used, the identification number of the student using it, the start time of the session, and the endtime of the session.
> **Building:** This table contains the name of the building and the amount of items per type it has.
> **Session:** Contains a register or log ins for the user.

The application also contains a registration, so that each user with an account has a record of their laundry and reminders to pick their clothes, clean the machine components, and report

malfunctions. This will also allow the program to put a limit to the items booked by a student (2 per each type of item).