L-Università ta' Malta

DEPARTMENT OF COMMUNICATIONS & COMPUTER ENGINEERING

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ICT5101 – Internet of Things

Assignment:
Remote Plant Monitor System

Objective: To develop a remote plant monitoring system using IoT to alert the need for watering.

Description: In this assignment you will develop a solution that monitors whether the soil is dry and alert the user that the plant needs watering. A moisture sensor needs to be connected to an Arduino that will sample the readings from the sensor. The sampling time should be reasonable to avoid unnecessary readings to keep energy consumption low. The measured values will be plotted and displayed using a suitable web interface. The display should also show the day and week averages. If dry soil is detected the Arduino issues an alarm by lighting up a red LED to attract attention.

The development of this assignment needs identification and purchasing of the hardware necessary.

Deliverables: A report as specified below and the code developed as a single zip file.

The submitted report should follow A4 IEEE double column format with single-spaced, twelve-point font in the text. The **maximum** report length is four (4) pages excluding datasheets. Reports in excess of four pages will not be read and a zero mark will be assigned. All figures, tables, references, etc. are included in the page limit.

A template in Word or Latex can be downloaded from the website: http://ieeeauthorcenter.ieee.org/create-your-ieee-article/use-authoring-tools-and-ieee-article-templates/ieee-article-templates/templates-for-transactions/

Hard deadline for the submission of the assignment: 24th May 2024 at 17:00, please submit the assignments **online** using the VLE.

No assignment will be accepted after this date and time. The assignment should be done **individually**. This assignment carries 50% of the marks of this study-unit.

Marking scheme:

The grading of this assignment follows point 39 of the general regulations found here: https://www.um.edu.mt/__data/assets/pdf_file/0010/409852/GeneralRegulationsforUniversityUndergraduateAwards,2019.pdf

The grading is divided as follows:
Selection of hardware and justification – 15%
Algorithms developed – 25%
Testing and results – 25%
Completeness – 10%
Conclusion – 15%
References – 10%