**TU856.7.8-4 FIoT**

**Lab02 Part A** Configuring a Prototyping Environment with Jupyter

Jupyter is open source project that provides an interactive web page, where the content is divided into multiple smaller sections called cells. Each cell can contain either Markdown type of code or executable code.

The Markdown cell type is used to write the standard text of the page. Besides formatted text, it can hold multimedia objects like pictures, videos, animations, etc., and it is used to introduce and explain learning objectives, or is used as part of the documentation.

The Code cells are used to write directly executable code in one of the supported programming languages (Python, Bash). The application code can be split into multiple cells, where each cell can be executed one by one, multiple times. The code in these cells can be directly edited and modified, re-executed multiple times, and adapted to specific needs. This enables rapid prototyping concepts, where the development of the final application can be divided into smaller sections, each dealing only with the specific problem, while all the cells are solving the overall problem.

For the first part of the lab you will install Jupyter locally on your system. You will use this setup to run the remainder of the lab notebooks.

NOTE: For a prototyping environment we could run Jupyter as a headless server on a Raspberry Pi with an Arduino, breadboard and sensors attached. This would allow us to remote into the Raspberry Pi and test our code.

**Installing Jupyter**

To install Jupyter you need to install Python.

Follow the instructions for your platform here: <https://jupyter.readthedocs.io/en/latest/install/notebook-classic.html> Anaconda is the preferred method and supported on all major platforms. Install Anaconda and then launch Jupyter Notebooks from Anaconda.

Documentation on the Jupyter setup is available here <https://jupyter-notebook.readthedocs.io/en/latest/>

**Create a Work Folder**

Once Jupyter is installed create a folder called FIoT and place the Lab Notebook files (available in the VLE) in a folder called Lab02. Open each of the Lab notebooks and follow the instructions.