Contribution ID: **80**   Type: **not specified**

Wireless Sensor Network for Monitoring Environmental Parameters in the Detector lab of the European XFEL

Environmental parameters such as temperature, pressure, and humidity play a vital role in many laboratory experiments and procedures. Accurate monitoring of these parameters can help to maintain the optimal conditions required for the success of the experiments. This project aims to develop a wireless sensor network that will monitor these environmental parameters and transmit the data wirelessly to a Raspberry Pi, which will store the data in an InfluxDB database.

Required Skills:
The ideal candidate for this project should have experience or knowledge in the following areas:
·Programming in Python or a similar language
·Experience with Raspberry Pi or other single-board computers
·Familiarity with wireless communication protocols such as Bluetooth or Wi-Fi
·Basic understanding of electrical circuits and sensors

Objectives:
The primary objectives of this project are:
·To work with the team to design and develop wireless sensor nodes for monitoring environmental parameters in a laboratory.
·To integrate the wireless sensor nodes with a Raspberry Pi and develop software for data acquisition and transmission to InfluxDB.
·To test and validate the system in a laboratory environment.
·To develop a web-based interface for visualization and analysis of the data.

Group

XFEL

Project Category

B1. Physics Data Analysis and Performance (software-oriented)

Special Qualifications

Primary author: LOMIDZE, David (European XFEL)