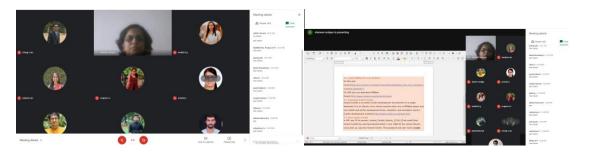
Workshop on IoT Programming using Contiki OS and Cooja Simulator

Speaker: Mrs.Sharwari S.Solapure Mtech(C.S.E) Ph.D(Pursuing)

Research Scholar, GIT, Belgavi, ISOC-RD-SIG Board Member (Institutional Commission

Head),

Date: 23 and 24 December 2020



Participants Statistics

Faculty: 02, Students: 62

Program Brief

As a part of the WCM (Wireless Communication- 16TE7DCWCM) guest lecture, a workshop on "IoT Programming using Contiki OS and Cooja Simulator" was held on 23rd and 24th of December 2020. The first day was about the theory of IoT and the Cooja simulator installation. The definition of IoT, IIoT and Sensor networks were explained in the 1st day. The IoT adoption was explained after the terms with a graph showing the rate of adoption almost achieving 100% by the year 2030.Later the key applications of IoT were briefed through. A pictorial representation of a Smart world was explained with IoT adoption. The IoT protocols along with Hardware used were explained later. After the detailed explanation of IoT technologies, Speaker started with Contiki OS and Cooja Simulator. The open source OS required either Ubuntu or VMWare (Windows) to run. The first day concluded with the installation guide of the Instant Contiki and students were asked to install it on their PCs for the next day. The second day was the Hands-on of the Instant Cooja OS and Cooja Simulator. The session started at 11:15 and few doubts were clarified on the installation of the Contiki OS and Cooja Simulator. The session started off with the simulation of a network of 6 nodes where one node was made as the receiver and the other nodes as senders. The nodes were configured as Z1 motes. The whole network was configured to simulate a sensor network where the receiver node was configured to take temperature data from the sender nodes. Madam briefed on the IoT modules and packages which can be used in a real-life scenario. Few students had some doubts during the demonstration and the speaker could clarify their doubts. After the demonstration of the network, there was an analysis performed on the data sent and received by the nodes. After the demonstration and analysis, in continuation to the demonstration further she explained the possibilities of this tool in IoT Research and projects. The workshop was very informative and useful for every student. The workshop was concluded with a vote of thanks by Rajeshwari ma'am and many students thanked her for conducting the workshop

Outcomes:

- 1. Students got to know about the simulation of sensor network to measure temperature
- 2. Data analysis using Cooja Simulator