



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2021-22 / EVEN SEMESTER

Date: 01.05.2022

INTERNAL FACULTY SEMINAR REPORT

Objective:

- To impart knowledge to faculty on recent developments and technological advancements in the field of Electrical and Electronics Engineering.
- To improve the IEEE journal access by faculty through which they can update their knowledge on recent topics

Title: Internet of Flying Things

Internal seminar for faculty of Electrical and Electronics Engineering department was conducted on 29.04.2021 from 3.00 P.M to 4.00 P.M in EEE Smart class room. Dr.M.Meenalochani, AP/EEE lectured on the topic "Internet of Flying Things". She explained that flying things such as drones and Unmanned Aerial Vehicles (UAVs) have been applied in several fields, usually operating in cooperative and collaborative swarms to enable the execution of more dynamic missions. Thus, the new Flying Adhoc Networks (FANETs) paradigm has emerged, a subset of mobile ad hoc networks with specific characteristics that arise from the aviation context. Recently, the ideas from FANETs have started to be synthesized with those from the Internet of Things (IoT), originating the Internet of Flying Things (IoFT), a paradigm which enables an important new level of applications, solves known issues in UAVs and IoT, and expands the range of future applications.

She explained that COVID-19 has increased the use of flying IoT in general. China has deployed drones for crowd monitoring in order to maintain social distance. In addition, several European countries are using unmanned aerial vehicles (UAVs) for announcements or

broadcasting in order to take appropriate actions. Agricultural drones may be used to spray disinfectants in order to stop the transmission of a deadly virus. Drones, on the contrary, can be used to deliver medicine quickly and reduce the burden on hospitals.

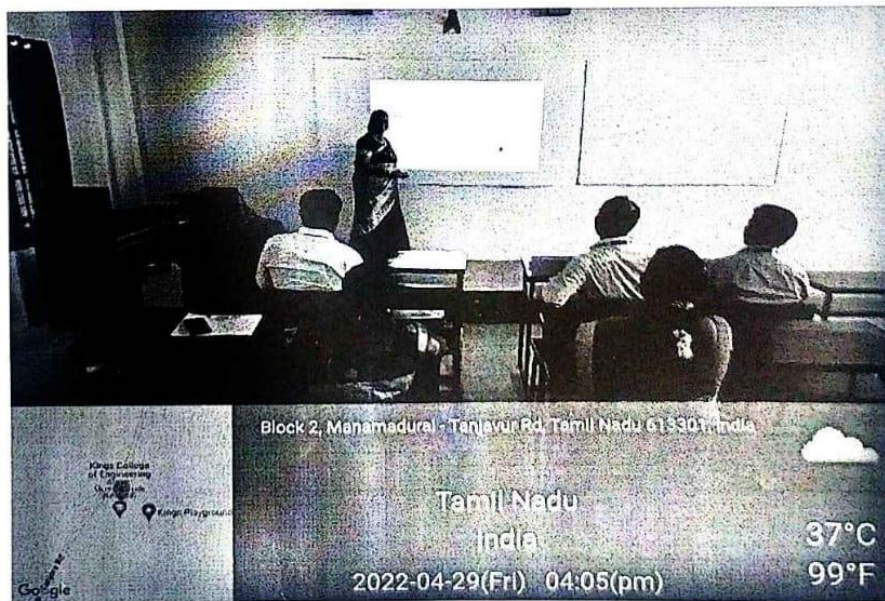
The use of flying IoT in healthcare would revolutionize the world. Aerial IoT can be used to keep track of athletes' fitness when they are competing. However, in the near future, drones will be used not only for public protection and disaster relief operations but also for many other civilian, commercial and governmental services. Some good examples are surveillance and reconnaissance, public safety, homeland security, forest fire monitoring, environmental monitoring, security and border surveillance, farming, or even Internet delivery, architecture surveillance, goods transportations such as Amazon Prime Air designed to safely deliver packages to customers within 30 minutes using small drones. With their countless applications, UAVs will soon be influentially a part of our daily life; a necessary technology similar to today's smart phones. Moreover, there are unique services that can be provided only from height (i.e., the sky). Drones are, therefore, highly useful for high-risk life-threatening operations such as flying over a volcano to inspect its activity level or above a radiation-contaminated region.

Flying over a location, drones can send real-time information about road traffic that can be compiled into a central server and used by pedestrians and vehicle drivers to decide on their routes. As another application, drones can be similarly used in meteorology. Instead of using dedicated drones to collect the data about the weather of a particular city, any drone flying above the city can collect the desired information; e.g., temperature, wind speed, and humidity; and send it to a central server. Based on this "drone-sensing" approach, accurate weather prediction can be made, above all with less efforts and highly reduced costs. Drones can also be used as rescue providers. Indeed, in case a person falls down on the street, any drone flying above that region could take a photo/video of the incident and send it to a central surveillance center. Until the arrival of a professional rescue team, an "ambulance" drone carrying a suitable medical kit can reach the location and suitable passersby may be selected and prompted to use the kit to provide first aid.

Outcomes:

- Enhance the knowledge on Internet of Flying Things
- Provides an opportunity to know the various applications of flying objects using IoT

Snapshots



Al. Albe
Faculty In Charge

A. Almm
HoD/EEE
01/5/22

J. Mani
Principal