Suresh Angadi Education Foundation's

ANGADI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Savagaon Road, Belagavi – 590 009.

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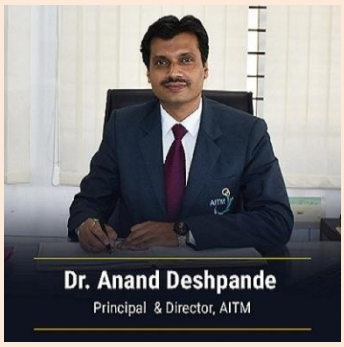
E- Newsletter

Department of Electronics and Communication Engineering

Third Quarter E – Newsletter -2022-23

Head of the Institute	Message
	An Institute is assessed on the basis of the Academic ambiance and outcome of the system in terms of performance and achievements of the students and staff in teaching-learning, research, innovation, Placements, and results. AITM has been known for its Academic credentials coupled with holistic growth in all directions. The new generation of competent minds must imbibe knowledge and practically they should comprehend the art of balancing brilliant technical, managerial communication, and interpersonal skills, nest. The Institute has achieved a series of milestones with the help of brilliant students, dedicated staff, and encouraging Management. We promise a wonderful experience of rich Academic and Excellent facilities coupled with professional practices and blended with an affectionate concern for our Students.
Head of the Department	**Message**
 Mr. Raviraj Chougala HOD	Welcome to the department of Electronics and Communication Engineering at Angadi Institute of Technology and Management, Belagavi. The Department was established in the year 2009 with the aim of providing leadership in the field of Electronics & Communication Engineering with an intake of 60 students. The department is located in a sprawling environment with a state of art facilities and highly qualified faculty. The department works with the objective of addressing critical challenges faced by the Industry, Society and the Academia. Perhaps even more important is our unceasing commitment to our students, helping them to learn, grow, develop, and achieve their goals in their pursuit to excel in their professional career.

Institute Vision and Misssion

Vision:

To become a premier institute committed to academic excellence and global competence for the holistic development of students.

Mission:

M1: Develop competent human resources, adopt outcome-based education (OBE) and Implement cognitive assessment of students.

M2: Inculcate the traits of global competencies (such as domain expertise, Accountability, ethics, problem solving ability, communication skills, leadership Qualities and life-long learning) amongst the students.

M3: Nurture and train our students to have domain knowledge, develop the qualities of global professionals and to have social consciousness for holistic development.

Department Vision and Mission

Vision:

To impart quality and responsive education in Electronics and Communication Engineering for the overall development of students to meet the global challenges.

Mission:

M1: Adopt a transformative teaching-learning pedagogy to empower our students with domain knowledge and practical skills in resonance with technological developments.

M2: Impart multi-disciplinary knowledge, and train our students to develop the relevant professional competency skills.

M3: Create a cogent ambiance to comprehend the technical and management principles, and the efficacy of life-long learning.

One day Workshop on "Cloud based Industrial IOT"

Department of Electronics and Communication Engineering (ECE), Angadi Institute of Technology and Management- AITM, Belagavi organized one day workshop on "Cloud based Industrial IoT" under IEEE Student Branch, on 7th July 2023 at 9.30 am. Mr. Chidambar Kulkarni, Zonal Manager, TMI ALS was the resource person of the event. Dr. Anand Deshpande, Principal and Director, AITM, Mr. Raviraj Chougala, Head of Department, Prof. Dhanashree Kulkarni, HOD of CSE department along with all the staff presided the function. The Inaugural Ceremony began with the Invocation song, lamp lighting, followed by welcome speech by Mr. Raviraj Chougala.

Mr. Chidambar Kulkarni, TMI ALS addressed the students about the importance of Cloud computing and applications of IoT. Sir has given hands on session on IoT kits, how to interface sensors and actuators with micro-controllers, Raspberry Pi and other control systems. Cloud computing enables users to perform computing tasks using services provided over the Internet. The use of the Internet of Things in conjunction with Cloud Technologies has become a kind of catalyst. Student feedback was taken during the session and the event was

concluded with vote of thanks by Prof. Gururaj Kulkarni.

Hybrid Alumni Meet 2023

Department of Electronics & Communication Engineering organized Hybrid Alumni Meet on 08.07.2023 at 10:30 AM. Ms. Sahana Dixit and Ms. Prerana of sixth semester hosted the event. Mr. Raviraj Chougala, HOD, welcomed the gathering. Alumni have shared their thoughts regarding curriculum, job experience and recent technologies. Alumni refers to a group of students who have graduated from a school, college or a university. At an alumni meet, all the former graduates of a particular institution get together and cherish their past experiences and moments. Creating an engaged, supportive alumni network is crucial to an institution's success. If communication stops once graduates leave an institution, their understanding of the university will become stale. Instead, they should be kept informed so they can remain engaged and keep abreast on the progress of the university. By creating a community for an alumni group, the students can co-ordinate and reciprocate with each other. Planning will become much easier and ideas, views and opinions can be shared easily. Attendees were from second batch till the latest batch. The attendees were nostalgic when alumni glimpse was played. Fruitful interaction took place among the participants. Alumni appreciated the growth in the Department and Institute. Mrs. Sreedevi Kulkarni, Alumni Coordinator proposed vote of thanks.

Project Exhibition 2023

Department of Electronics and Communication Engineering, Angadi Institute of Technology and Management-AITM, Belagavi organized Project Exhibition -2023 on 13th July 2023. Students of sixth semester exhibited their talents by demonstrating their projects. Dr. Anand Deshpande, Principal and Director, AITM, Mr. Malagouda Patil, Dean, IQAC, Mrs. Dhanashree Kulkarni, Dean, Academics, Mr. Vishalkirthi Patil, Training and Placement Officer, Mr. Raviraj

Chougala, HOD, ECE and faculty of ECE were present during the demonstration. They appreciated the student's effort and congratulated them for participating in the exhibition. Also, students of fourth semester had the opportunity to learn from their seniors while attending this event.

Project-based learning helps one to develop these skills, ensuring that students are well-equipped to meet the challenges of the workforce. In conclusion, project-based learning is the most beneficial way for engineering students to learn. Why is mini project important? Mini Project helps you to explore and strengthen the understanding of fundamentals through practical application of theoretical concepts. Mini Project can help you to boost your skills and widen your horizon of thinking. It acts like a beginners guide to do larger projects later in their career.

Student Articles

Link your model to the real world.
Arduino is an open source electronics platform accompanied with a hardware and software to design, develop and test complex electronics prototypes and products. The hardware consists of a microcontroller with other electronic components which can be programmed using the software to do almost any task. The simplicity of the Arduino language makes it very easy for almost everyone who has an interest in electronics to write programs without the understanding of complex algorithms or codes. Arduino is an excellent designed open source platform. It has specially designed boards which can be programmed using the Ardunio Programming Language (APL).
The presence of Arduino is not only spreading between hobbyists, but it has also expanded its roots in industries and used by experts for making prototypes of commercial products. Since it is an Open Source project, all the files related to hardware and software is available for personal or commercial use.

History

Wiring is the predecessor of Arduino. Arduino was developed in lvrea, Italy by Massimo Banzi and David Cuartielles in year 2005. The Project was named after Arduin of lvrea (King of Italy). The project Arduino uses the Wiring language. The concept of Wiring Language was created by Hernando Barragan, and under his supervisionMassimo Banzi and David Cuartielles developed the Project Arduino.

Concept of Arduino

The root of Arduino goes deep down to the development of Processing Language by MIT researchers. Processing language is an open source language designed to introduce the software development environment for the artistic people without the need of deep knowledge of programming of algorithms. Processing is based on java.

In early year of 21st century, designing an electronics gadget was nearly impossible for a common man. In year 2003 Hernando Barragan, a programmer developed an open source electronics development platform with software IDE. As the program written in C\C++ is named as Project, in the same way the code written in Wiring (even in Processing and Arduino) is termed as Sketch. The name sketch gives a familiar look for an artist.

Wiring has predefined libraries to make the programming language easy. Arduino uses these libraries. The predefined libraries are written in C and C++. One can even write his software in C/C++ and use them on wiring boards.

The difference between writing a program in C/C++ and Wiring is that the Wiring Application Programmable Interface(API) has simplified programming style and the user doesn't require detailed knowledge of the concepts like classes, objects, pointers, etc. While sketching hardware

you need to call the predefined functions and rest will be handled by the Wiring software.
The basic difference between the Processing and the Wiring is that the Processing is use to write the program which can be used on other computers while Wiring program is used on microcontrollers.

Open Source License
Arduino is an open source project which is probably the root cause reason for its popularity. Arduino hardware design is an Open Source Hardware, distributed under creative common Attribution Share-Alike license. Creative Common, a non-profitable organization has released several copyleft-licenses as free of charge, so that the creativity/ knowledge can be shared to the rest of the world while having the copyright to the authorized person. The originally designed files, like layout and schematics of Arduino products are available as Eagle CAD files.

The source code for its IDE and libraries are also available and released under GUN General Public License (known as GPL). The GPL is the first copyleft license for general use. The license is granted for the software to ensure the copyleft freedom.

Wiring v/s Arduino
Though Wiring is the predecessor of Arduino, the Arduino is more extensively used. The following are the reasons for its wide popularity.
1) Most of the Wiring boards are made on Atmel's ATmega128, Atmega1281 and Atmega2561. All these microcontrollers are available in Surface Mounting Device (SMD) packaging and the prices are quite high. Whereas most of Arduino Boards use ATmega8 or Atmega168 which make them cost effective.
2) Even though both the projects are open source project, the controllers used in Wiring are Surface Mounting Devices (SMD) while the controllers used for Arduino Boards are through whole device. It is much easier for beginners/non-professionals to fabricate Arduino boards as compared to wiring boards.

3) The Arduino design supports the shields. The shields can be directly attached to Arduino boards to enhance their capabilities. The Wiring boards on the other hand with support to shield type architecture which increase the complexity in extending their capabilities.
4) Last but not the least the Arduino has a very strong online and offline community support.

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