SHARE X

SHARE X was a very valuable and successful program conducted on 22nd February 2019 by the passed out successful students of our college to share their experience of their journey for inspiration to the students who were present on that day. This program was beneficial to the students so that they got an idea about the challenges that they are going to face after getting the BTech degree. Many of them got positivity, knowledge and confidence from this program.

This program help us the students to understand from the experience of the pass out students. Because the students are from our colleges they can give best advices and suggestions which is suitable to our college atmosphere. They give us clear information about the industry needs and soft skills that a candidate should have. by hearing this students can be well prepared for thier job interviews.

Element has conducted a series of webinars inside and outside the department. In these we focus to introduce new technologies and skills to the students. For a engineering students it is important to be aware of the current technologies. In this we also introduce them to them to the new opportunities for higher education also.
Due to the pandemic situation of covid in 2020 ELEMENTS didn't have many offline programs but, webinars were conducted frequently, which was a resemblance on the "show must go on" policy. On 31st may 2020 Aiawarya Nair who was a passed out student of MCET who is working in Infopark Kochi initiated the webinar on the topic "After College".

On June 6th Harish Vattekat who was a cloud implementation specialist of mital communications took a session of "Unified communication and cloud concerts".june 10,13 and 19 three more webinars were conducted on the topics "Radiations: hazards, protection and safety" by prof.MM Mustafa(department of physics and radiation safety officer, University of Calicut), interactive session with Aneesh Pratheep Kumar(Msc. Mechatronics student, University of Siegen), "Fundamentals of machine learning and its applications" by Dr.B. Sivasankari(associate professor, SNS college of technology) respectively.

BADMINTON LEAGUE

Element annually conducts a badminton tournament inside the college. It is a humble effort from the association to encourage physical health of the students. It also promotes the managerial skills of our students by conducting the tournament. The last Badminton tournament was held on 18th November 2019 and by 21st November the winners were declared. ABHIJITH AJAY and AKHIL VINOD were the men's champions and women champions were ATHMAJA and SNEHA.




DID YOU KNOW

" The first company to sell robots was UNIMATION. In 1956 they introduced the first batch of industrial robots to the markets. "

WORKSHOPS

Element has done a lot of workshops in the college. It is to provide hands on training to the students. These workshops have a great impact on their project works. The first workshop named "ARD-U-KNOW" , which was a 2 day workshop of Arduino. 2nd workshop HOLONYAK 2K19 was conducted on 20th and 23rd September 2019 which taught the basic electronics, soldering and bulb assembly. The 3rd one was conducted on the 10th and 11th of October which was based on RASPBERRY PI and IoT. The workshop was beneficial for the students because they got the development suit overview, they got an idea about "python", raspberry pi peripherals, hardware interfacing, introduction to IoT, basic HTML programming, and API python script.

WHY ELEMENT ?

To organize the training programs/ seminars/ workshops on latest technology to enhance the technical skill-set of students and faculties.
To enrich and empower the minds of students by conducting Mentoring programs/ Competitions regularly.
To organize the Technical, Non-Technical events to improve the leadership quality among the students.
Assist and contribute in the production and development of top-quality professional engineers and technicians needed by the industry and other organizations.
Provide guidance and training to students to develop better learning skills and personality.

BIOMECHATRONICS

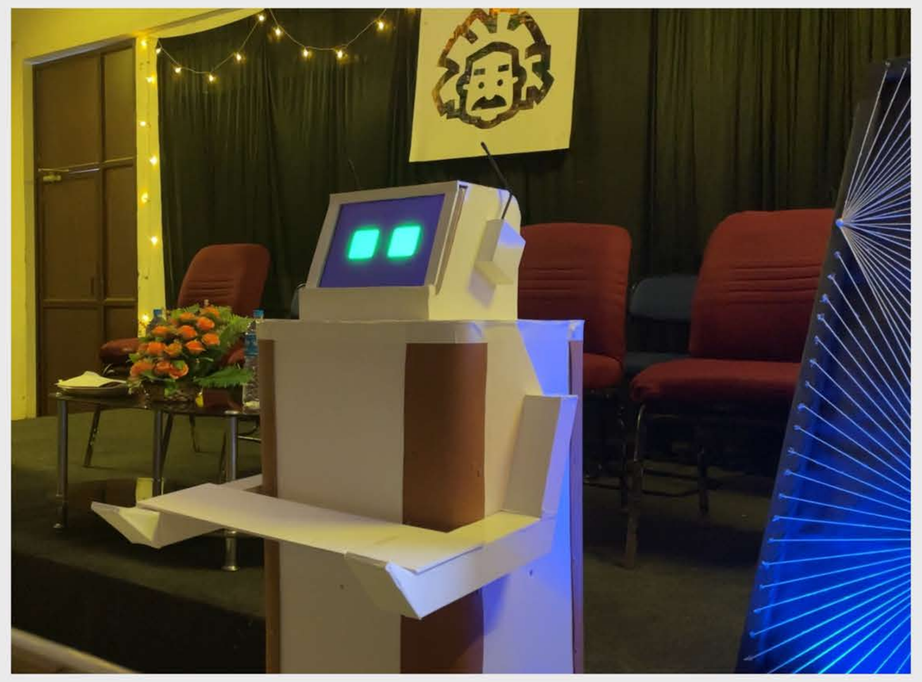
Biomechatronics is the merging of man with the machine - like the cyborg of science fiction. It is an interdisciplinary field encompassing biology, neurosciences, mechanics, electronics and robotics. Biomechatronic scientists attempt to make devices that interact with human muscle, skeleton, and nervous systems with the goals of assisting or enhancing human motor control that can be lost or impaired by trauma, disease or birth defects.
Biomechatronic devices encompass a wide range of applications from the development of prosthetic limbs to engineering solutions concerning respiration, vision, and the cardiovascular system. Biomechatronics hepls in the preparation of prosthetic limbs for the amputees. This prosthetic limbs have mulyiple sensors and actuators in them for the precise movements. this helps them to live a normal life and they will not feel like a handicap which improves their participation in social life. Biomechatronics mimics how the human body works. For example, four different steps must occur to be able to lift the foot to walk. First, impulses from the motor center of the brain are sent to the foot and leg muscles. Next the nerve cells in the feet send information, providing feedback to the brain, enabling it to adjust the muscle groups or amount of force required to walk across the ground.

While advancements in armour technology can help soldiers in the Iraq War survive explosions, many of these survivors suffer damaged limbs (hands, arms, feet, legs) that require amputation. This situation has spurred research into advanced orthotic/prosthetic devices such as the ones developed in Hugh Herr's lab at MIT. The major drawbacks to biomechatronics devices are the possibility of infection (as non-biological parts are implanted into living tissue) pain and discomfort. However, the promises of this new technology provide hope that those individuals with the impaired motor function will be able to have restored functions that mimic normal human movements and, perhaps, make them better, stronger or faster than before.

- SREDHA BEENA PRAMOD
S8 MC

HEY.. I'M TORRY

"Hi friends , I'm TORRY , I'm a virtual assistant created by the students of S8 mechatronics (2018-2022) , I'm able to move in any direction without hitting on any objects on the way ahead and make speech according to the particular programs that's made by the developer, i have hands that can hold object and give it to the people like a serving robot, i've made my first appearance as a flower serving and welcome speech robot on ELEMENT association's inauguration day "
I can perform a number of preset functions out-of-the-box such as set timers, share the current weather, create lists, access Wikipedia articles, and many more things. ESP8266 microcontroller, ultrasonic sensor module , motor driver, motors have been used for achieving my movements and a Raspberry Pi for my speech assistance.



Users say a designated "wake word" (the default is simply "Tori") to alert an Alexa-enabled device of an ensuring function command.I can listen the commands and perform the appropriate function, or skill, to answer a question or command.When questions are asked, i convert sound waves into text which allows me to gather information from various sources. Behind the scenes, the data gathered is then sometimes passed to a variety of sources including WolframAlpha, iMDB, AccuWeather, Yelp, Wikipedia, and others to generate suitable and accurate answers." And my supported devices can stream music from the owner's Music accounts and have built-in support for Pandora and Spotify accounts and also play music from streaming services such as Apple Music and Google Play Music from a phone or tablet.
In addition to performing pre-set functions, i can also perform additional functions through third-party skills that users can enable.Some of the most frequently used skills included "Question of the Day" and "National Geographic Geo Quiz" for trivia; "TuneIn Live" to listen to live sporting events and news stations; "Big Sky" for hyper local weather updates; "Sleep and Relaxation Sounds" for listening to calming sounds;
"Sesame Street" for children's entertainment; and "Fitbit" for Fitbit users who want to check in on their health stats.

We are so proud to present this new venture by element association, let it be a platform for everyone to express their knowledge and thoughts which will be beneficial for other students. I would like to appreciate the students who worked hard to bring this up. Let the light they brought us last longer.
Wishing you all the best.

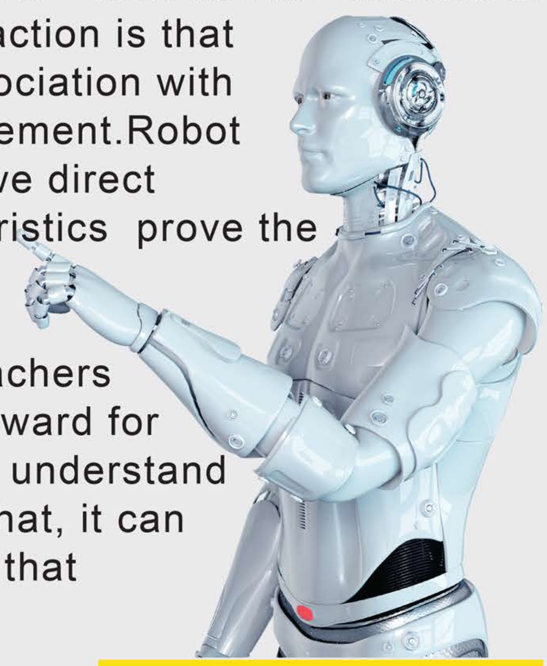
- Khalid T
Element Chairman

HRI - HUMAN-ROBOT INTERACTION

Human-robot interaction: HRI is human communication reliant. In 1941 the author Isaac Asimov three significant laws of robotics: A robot should not attempt to injure a human being. The human gave any order, the robot must obey, except those orders which may create conflict with the first stated law. It is the responsibility of the robot to protect its existence, but that protection should not have a clash with the first two laws. These laws determine the idea of safe interaction. The growth of human-robot interaction can lead to human injury. In the modern world, this issue can be resolved by invalidating the sharing of workspace between human and robot workers at any time.

According to a prediction, in 2025, the robots will be hired for around 3.5 million jobs where there will be no good office jobs for people. According to the report of a foundation, in 2025, there will be no need for nursing carers for older people because robots will perform the caring duty. Japan will be able to save a budget of 2.1 trillion yen ($21 billion) that must be spent on insurance payments for elders. In 2030, Japan will be able to save 16 percent, depending on the number of jobs occupied by the robots. The law of human-human interaction also applies to human-robot interaction. The law states that companions with the same traits tend to communicate. Drawbacks of robots as carers include the feeling of isolation due to the lack of human attention, love, empathy, and care. Having no emotional interaction with the carer is odd. The goal of the HRI research is to achieve more effective and natural human-robot interaction to provide necessary guidance for robots.

The reason to choose robots for robot-human interaction instead of human-human interaction is that we can decide the level of association with a robot according to the requirement.Robot cannot perform a task unless we direct them to do so. These characteristics prove the robot as the right partner.If the decoding of intentions behind the instructionsfrom human teachers is possible, thenit is straightforward for us to teach a robot that how to understand a natural language, and after that, it can build enough knowledge using that language.

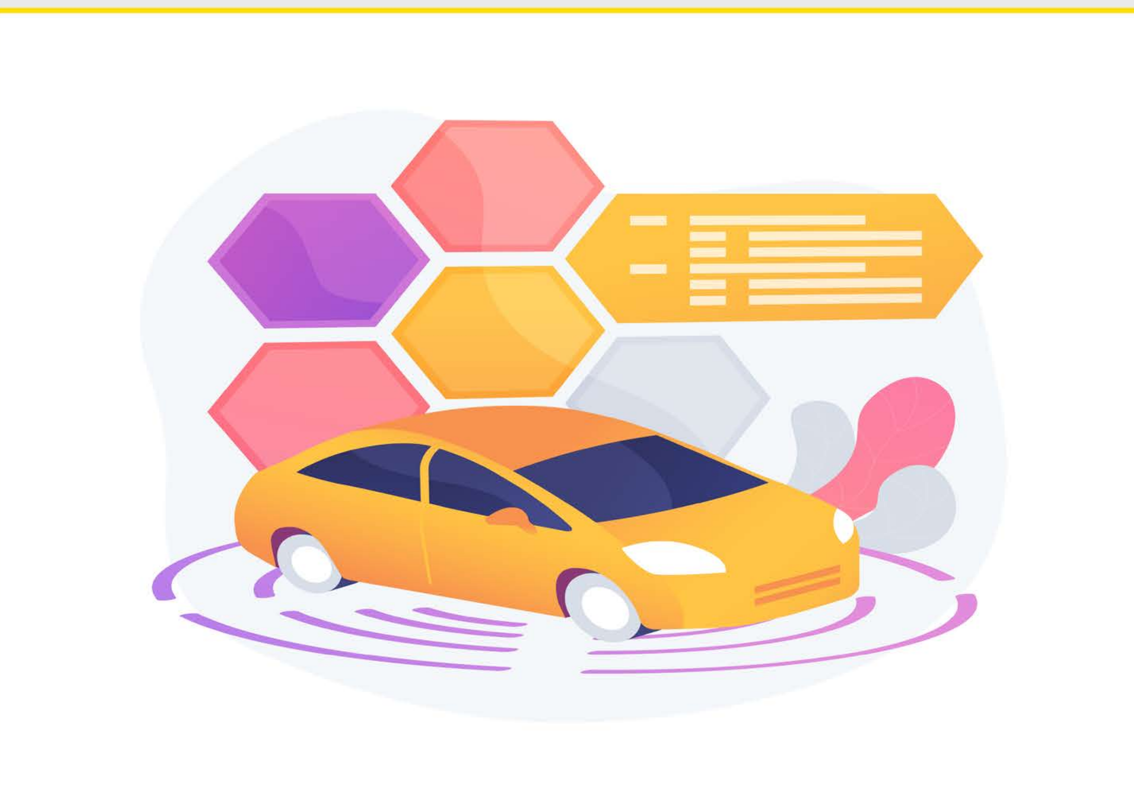


This leads us to a stage where we can get a robot that is smart enough as those babies who learn much better practically when they are taught. It is highly required to effectively build human-robot interaction so robots can respond to humans more effectively and acceptably. According to HRI, the main goal is to achieve human satisfaction, comfort and confidence in their surroundings. Everyday human-robot communication, using emotions for the recognition, learning from reactions, and delivering effective responses, accordingly, are the main challenges

- JISHNA
S3 MC

INTRODUCTION OF AUTOTRONICS IN EMERGING TECHNOLOGY

Nowadays, Autotronics is a tool for industrialization and promoting modern automotive technology for sustainable development.
The Autotronics is referred to as modern automotive technology and also commonly known as Automotive Mechatronics.
Autotronics can be defined as the combination of automobile and electronics or we can say that the use of electronics science in automobile vehicles is called autotronics.
The use of electronics in the automobile field makes the system safe, improved and efficient. In a vehicle almost all significant parts are featured with electronic items.
New developments are coming very frequently in this field because there no limitations in the development of new autotronics.



It helps to improve overall automobile system.At present, in the new generation automobiles almost 75%-85% of automobile parts are embedded with electronics system.
The main areas of automobiles using autotronics are engine controlling system, airbags, antilock braking system, lightening interiors, GPS, music systems etc.
The application area of autotronics is very vast, brakes, steering system, engine controlling unit, transmission and suspension in the vehicles are the main phases where autotronics are used.
The use of these technologies has given a phenomenal revolution in the automobile industry from past few decades.
The gradual improvements in systems causes the new features in reduced cost.n the autotronic systems the use of control units like sensors, motors and digital equipment establishes a communication between the various essential system and components of the vehicle.

- AAISHA IQBAL
S5 MC

THE EDITORIAL


SAYOOJ KUMAR


MOHAMMED BASHEER


SAHLA SANA


SREDHA BEENA PRAMOD

ELEMENT

THE BULLETIN

MONTHLY ELEMENT WRAP

ELEMENT DAY 2021

The ELEMENT DAY was conducted on 9th December 2021. On that auspicious day, an interactive session on robotics with the chief guest **RAHUL P BALACHANDRAN** (founder and managing director of Inker Robotics) was held. His interactive session was very appealing to all who were there, it became even more interesting when he said about his life journey about how he got the concept of Inker Robotics and became the founder and managing director of it. He can be set as an example for many people who give up easily. With his session, he was able to build confidence and positivity among the students.

He got greeted by a cute robot "Tory" which was developed by the 4th year (2018-2022) mechatronics students with an audio message and a bouquet. Our chief guest became impressed by the brilliance of the students and he not only congratulated but also encouraged them for further work in robotics which impacted in a positive way towards the students that boosted their confidence level. An entertaining cultural program got followed after this session which included both the participation of the faculties and students which increased the relationship and coordination among them. Fresher's day was conducted for the new members of ELEMENT, they got the opportunity to show their talents and confidence in front of other members of ELEMENT. The budding members were so cooperative and confident that they were able to create a positive impression among others. Funny, happy and informative moments were the major highlights of that whole day to all who were there on "ELEMENTS DAY".

Dear students,

Congratulations on our first newsletter, The Bulletin.

I would like to share a few thoughts of mine, here. Life is really like a Boomerang. Life depends on the way we see it. Everyone will have ups and downs in life. Every moment is unpredictable and it never stays, whether happy or sad. Always we can't be so prepared. However, whenever a situation arises, we should face it with all our strength. An engineer is a person who can analyse a situation, solve it in the best possible way he/she could. There is no doubt that an engineer will be good at leadership, problem-solving aspects, creative and best at delivering one's thoughts to the world. An optimistic attitude in today's life is essential. You may fail million times but NEVER GIVE UP, you may be all alone, you may be criticized badly, but NEVER EVER GIVE UP. Take every criticism as a challenge, FOCUS on your passion, reach the peak so that nobody dares to pull you down. For this, you should have a strong knowledge of your subject, improve your skills, actively participate in all programs, know what you want, should come out of your shell, grab all opportunities around you and enjoy the moment you have. Also, remember instead of complaining about a problem, always think about a feasible solution. Life is so short.NEVER waste time.

Anooja B
HOD Mechatronics

ELEMENT: A REMINISCING

The first batch of KTU, which means 2019 passed out students of the mechatronics and electronics department of our Malabar College Of Engineering and Technology have joined hands together for the formation of ELEMENT. Eventually, the ELEMENT association got inaugurated on 2nd November 2018 in the presence of respected dignitaries and students who are members of the element. Entertaining cultural events were conducted on that day.
Post the inauguration ELEMENT conducted the first workshop named "ARD-U-KNOW" , which was a 2 day workshop of Arduino on 7th and 9th of November 2018. To make things interesting on November 25 a beard competition in the name of "NOVEMBEARD" was held and the winner was NAJID of the civil department and runner up was LAMIR from mechanical. Onam celebration was held on September 7th 2019, in the previous year it wasn't conducted due to the natural calamities that struck our state, but the 2019 Onam celebration was an awesome event where ELEMENT students were in fabulous dress codes same as other departments. That was the first and last Onam celebration in college for the 2018-2022 batch of students due to the covid pandemic in the coming years.