

Vidya Academy of Science and Technology

Department of Electronics and Communication Engineering

Report of Vyvidh '24-25

Ligarobotrix: Showcasing the Future of Robotics at Vyvidh 24-25

The Department of Electronics and Communication proudly hosted "Ligarobotrix," a dynamic and futuristic exhibition held on October 4, 2024, as part of the college tech fest, Vyvidh 2024-25. This year, the event was organized in collaboration with Inker Robotics, a renowned company in the field of robotics and automation. The exhibition showcased a remarkable array of cutting-edge robotic systems and devices, offering students and visitors a glimpse into the future of technology. The event aimed to inspire innovation, promote research in electronics and robotics, and provide hands-on experience with advanced technologies.

Ligarobotrix took center stage as the hub of robotic marvels at the fest. With a strong focus on creating an engaging experience for the attendees, the event featured futuristic innovations such as a hologram fan, which mesmerized viewers with its visual projections. The food-serving robot garnered significant attention, seamlessly demonstrating how robots can be integrated into everyday tasks. Other highlights included an AI piano that fascinated music enthusiasts and tech-lovers alike by autonomously creating harmonious melodies, as well as laser and 3D printers, which provided insight into the rapid prototyping and manufacturing potential of modern machines. The inclusion of interactive tiles, a drone, and advanced robotics such as the Doosan - an industrial robot and robo dog, further emphasized the diversity and capabilities of current robotic systems.

What set Ligarobotrix apart was not only the impressive technology on display but also how participants engaged with it. Attendees of all ages interacted freely with the robots, with many being able to test and experience the machines firsthand. The interactive tiles provided a playful and immersive experience, as users could trigger different light patterns and sounds through their movements. The VR games section, which allowed participants to experience immersive, simulated environments, drew massive crowds of curious onlookers and gamers alike.

The event was characterized by a lively exchange of ideas between students and professionals in the field of electronics and robotics. Ligarobotrix created an educational platform, where the interaction with robots went beyond mere observation. Visitors asked questions, explored the mechanics behind the machines, and many even brainstormed future applications of the technology they were witnessing. The hands-on demonstrations made the world of robotics feel accessible to everyone, bridging the gap between theoretical knowledge and practical, real-world application.

In conclusion, Ligarobotrix was a standout component of Vyvidh 24-25, combining fun, education, and inspiration in a seamless showcase of robotics and technology. The event not only demonstrated the increasing relevance of robotics in various sectors but also gave attendees the opportunity to explore these technologies firsthand. With the support of Inker Robotics, the Department of Electronics and Communication successfully created a platform that not only celebrated innovation but also encouraged active participation, making Vyvidh 24-25 a memorable and forward-thinking event.

ROBOWAR

Name of event:Robowar

Date:05/10/2024

Location:Vidya Academy of Science and Technology, Thalakkottukara

The Robowar championship was held on October 5th, 2024 in Vidya Academy of Science and Technology on behalf of Vyvidh 24-25 by department of electronics and communication. The 25kg Robowar category witnessed intense battles among sleek and agile robots.The event brought together 7 teams with their custom-built robots having ultimate combat powers.Atom, Jdt, Rage bot 1, Rage bot 2, Aadishankara, Mechatronix and Kannur gec were the teams fought on the battles with their powerful drives.The tournament commenced by 10.30 am in a pool match format, where the robots clashed in the battles and the winners advancing to the semifinals.

Rage Bot 1, Rage Bot 2, and JDT secured semifinal spots as they competed for the coveted title of ultimate robot combat champion. .TheRobowar championship has reached its end by 3.30 pm by announcing team Rage bot 2 as champion while Jdt, Rage bot 1 securing second and third positions respectively.The total prize pool of 30,000 was distributed among the top teams, with Rage bot 2 recieving 15k, Jdt with 10k and Rage bot 1 with 5k.The robowar was an electrifying spectacle that pushed the boundaries of robotics and engineering and was an crowd-pleaser event of Vyvidh 24-25.

CIRCUITRIX

Event Title:Circuitrix

Date of Event: 4 th October 2024

Location: AC Lab

The event circuitrix was conducted as part of the VYVIDH 24-25 at Vidya Academy of Science and Technology by Electronics and Communication Dept. on 4/10/2024. The event aimed to provide participants with a platform to apply their classroom knowledge of circuits, components, and systems in a hands-on, competitive environment. It attracted participants from different departments who were eager to engage with the theme of circuitrix

The event was a competition that challenges the participants to troubleshoot, analyse , and design circuits under time constraints. It began at 11 am with 9 groups with a maximum of 4 members in each who were briefed about the format, rules, and objectives. **Round 1 was Component identification** where each team was presented with a set of **15 electronic components**, testing their ability to swiftly identify and correctly name each one. This round aimed to gauge participants' familiarity with a wide range of components critical in circuit design. Based on their performance in accuracy,**5 teams** advanced to the next stage. In the final round, the selected teams faced a pre-built electronic circuit containing deliberate faults. The challenge was to diagnose and repair the circuit within a **30-minute** time frame. Participants had to apply their analytical and technical skills under pressure, working against the clock to restore functionality to the circuit. The **first two teams**to successfully debug the circuit within the time limit were awarded the **First Prize** and**Second Prize**, respectively, recognizing their technical expertise and quick thinking.

The Circuitrix event, coordinated successfully by Mrs. Anju Vincent(AsstProf ,ECE Dept.),

Mrs Shegi Indulal (Trade Instructor, ECE Dept.) and student coordinator Anagha Nandakumar, along with the efforts of 6 volunteers, achieved its objectives of promoting hands-on learning and enhancing problem-solving skills in electronics. The event was a great success, leaving participants excited for future challenge

Raspberry Pi workshop

Date of Event: October 4, 2024

Location of Event: Vidya Academy of Science and Technology (VAST)

Number of Persons Attended: 25

Event Summary

On October 4th, 2024, a workshop on Raspberry pi was conducted at Vidya Academy of Science and Technology (VAST), organized by the Electronics and Communication Association. The event took place from 2pm to 4 PM, showcasing an informative and interactive session on Raspberry pi

The workshop's unique approach focused on empowering students with hands-on Raspberry Pi experience from the ground up. Participants began by gaining a comprehensive understanding of Raspberry Pi basics, including initial setup and configuration. They were then guided through the process of simulating Raspberry Pi boards using Proteus simulation software on their computers. This simulation allowed students to practice interfacing various components and mastering manipulation techniques through the Pi board interface. By combining theoretical knowledge with practical simulation, students acquired valuable skills in both physical and virtual environments, preparing them for real-world applications

The workshop was divided into three parts:

1. **Raspberry Pi Basics:** Students were introduced to the origins, components, and functions of the Raspberry Pi, building a solid foundation.
2. **Setup and Configuration:** They learned how to set up a Raspberry Pi, using the Imager software to flash an operating system onto the board.
3. **Project Simulation:** In the final part, students completed three projects using the Proteus simulator, progressing from basic to intermediate-level Raspberry Pi interfacing.

This approach provided a balanced mix of theory and practical experience.

At the end of the event the students had learnt on the basic of Raspberry pi, how to set it up and how to do project using the raspberry pi,

Conclusion

The Raspberry Pi workshop was a resounding success, seamlessly combining engineering fundamentals with creative exploration. Students demonstrated a strong enthusiasm for learning and quickly adapted to using the Pi board. Beyond just training on Raspberry Pi, the workshop introduced participants to the Proteus simulator, expanding their horizons and inspiring them to bring their creative ideas to life through practical applications. The experience empowered students with valuable skills and sparked a deeper interest in technology and innovation.

Evolution of Electronics

Date:-04/10/2024-05/10/2024

At the VIVIDH 2024-2025 Tech Fest, held on 4th and 5th October 2024, the Dept of ECE created an engaging display focused on the “evolution of electronics”. This exhibit showcased the progression of electronic technology through detailed charts, including one on the ‘Evolution in the Volume of Electronics’ which illustrated how the size of electronic devices has decreased over time, and another on the ‘Evolution of VLSI (Very Large Scale Integration)’ highlighting advances in circuit complexity. The Dept of ECE also created an “electromagnetic spectrum” display to explain how different wavelengths are utilized in modern electronics. To give visitors a tangible sense of this evolution, the Dept of ECE displayed vintage items such as an old printer, laptop, and radio... Additionally, a “collage” was made, showcasing key innovations in electronics, from early developments. A creative aspect of the display featured ‘miniature models’ from e-waste, alongside an ‘e-waste world map and seahorse sculpture’. A ‘man sculpture’ constructed from discarded electronics was also part of the display, symbolizing the intersection of technology and sustainability. This comprehensive exhibit was well-received, as it not only charted the history of electronics but also emphasized the importance of recycling and reusing electronic waste.

Robo Super League (RSL)

Date of Event: October 4, 2024

Location of Event: Vidya Academy of Science and Technology (VAST)

Number of Persons Attended: 10

Sponsoring Organization: Electronics and Communication Association, VAST

Event Summary

On October 4th, 2024, the Robo Super League was conducted at Vidya Academy of Science and Technology (VAST), organized by the Electronics and Communication Association. The event took place from 10 AM to 4 PM, showcasing a thrilling robotic football tournament.

The unique aspect of this tournament was that the coordinators were responsible for designing and building the robots. These robots, powered by the ESP32 controllers, were then controlled by the participants during the matches. Participants competed by remotely operating the robots, aiming to score goals by maneuvering a ball into their opponent's goalpost.

The tournament followed a knockout format, where two robots played against each other in each match. The robots, controlled by participants, showcased speed, agility, and strategy as they battled for supremacy on the football field. Despite the participants focusing on the game control, the success of the tournament relied heavily on the precision engineering and programming done by the event coordinators.

At the end of the event, after several competitive rounds, a single robot emerged as the Robo Super League Champion. The winning team received a cash prize of ₹1000 for their victory.

Conclusion

The Robo Super League was a resounding success, offering a perfect blend of engineering excellence and competitive spirit. The participants showcased their control skills during the matches. This event not only provided a platform for entertainment but also encouraged interest in robotics and technology among the students.

ELECTRONICS QUIZ

DATE: OCTOBER 5TH, 2024

TIME: 10 AM – 11 AM

VENUE: VLSI LAB

The Electronics Quiz, part of the techfest VYVIDH 24-25, was conducted by the Department of Electronics and Communication at Vidya Academy of Science and Technology. The event took place at the VLSI lab and aimed to challenge participants' knowledge of electronics history and electronics theory. The quiz was set up using Google forms on the computers at the lab. Participants were allowed to compete individually or in teams of up to two members. The competition saw a total of seven participants: six teams of two members each and one individual participant. A registration fees of Rs. 50 was collected from each team.

The quiz consisted of two rounds, ROUND 1 featured 40 questions (multiple choice). At the end of first round, based on the pre-set threshold, 3 teams were eliminated due to scores falling below the qualifying marks. The four highest scoring teams advanced to the next round.

ROUND 2 featured 25 questions of increased difficulty. After the competitive round, one team from 3rd year ECE emerged as winners with an impressive score of 88%.

The winning team was awarded a cash prize of Rs 500. Asst Prof. Ms. Sagna ma'am presented the prize to the winning team, recognizing the team's outstanding performance.

Pavilion Exhibition (04-05 October 2024)

The ECE Department's pavilion at Vyvidh 24-25, held on October 4 and 5, was an engaging and innovative showcase of the department's creativity, technical expertise, and focus on sustainability. The exhibition began with a tribute to the achievements of our seniors.

Following this, the pavilion featured a wall-mounted still model of a keyboard, strategically placed outside the PC gaming event area, attracting attention for its unique and creative design. The exhibition then progressed to a thematic section dedicated to the "Evolution of Electronics." This area showcased the historical progression of electronic technology through detailed charts, including one that illustrated the 'Evolution in the Volume of Electronics.' Visitors were also treated to collages, an electromagnetic spectrum chart, and a striking sculpture of a man created from discarded electronics, symbolizing the impact of e-waste on society.

A particularly creative aspect of the display was the use of e-waste to craft miniature models, including an intricate e-waste world map and a seahorse sculpture. These artistic pieces emphasized the theme of sustainability while presenting technology in a visually appealing way. To enhance the sense of technological evolution, the pavilion also displayed vintage items such as an old printer, laptop, and radio, offering visitors a tangible connection to the past and the rapid advancement of electronics. An anamorphic art piece featuring the

Vyvidh logo, crafted from e-waste, fascinated visitors with its innovative and artistic approach.

The pavilion then transitioned into a dark-themed section, starting with a satellite model displayed alongside a still model of Chandrayaan 3 and a glowing moon made from plaster of Paris. This exhibit honoured India's achievements in space exploration, captivating visitors with its visual impact. Continuing the futuristic theme, holograms were used to display videos illustrating the evolution of network technology across five generations, providing an immersive and educational experience for attendees.

One of the standout artistic displays was a neon painting of Harry Potter's castle, which garnered widespread attention for its enchanting and vibrant appearance. This artwork added a magical element to the pavilion, appealing to visitors' imaginations. The pavilion concluded with a vintage-inspired photo booth, constructed from old newspaper cuttings. Its unique, nostalgic design became a center of attention, with visitors eagerly capturing memorable moments in the retro setting.

Conclusion

The ECE Department's pavilion at Vyvidh 24-25 successfully blended technological innovation, sustainability, and creative expression. From the inspiring achievements of seniors to futuristic holograms and e-waste art, the pavilion captivated and engaged visitors. It was a highlight of the Techfest, drawing widespread appreciation for its thoughtful curation and impressive visual displays, leaving a lasting impression on all attendees.

Escape Harry – Echoes of Fear

On 04/10/2024 and 05/10/2024, the Dept of ECE successfully conducted the program "Escape Harry: Echoes of Fear" as part of our Techfest. The event drew inspiration from the Harry Potter series and featured a thrilling maze experience, enhanced by a spooky atmosphere and challenging obstacles.

The main objective of the participants was to navigate a maze while searching for a key that would unlock the chains binding their arms. Throughout the maze, the participants encountered various ghosts, eerie noises, and sudden jump scares, which served to heighten the tension and slow down their progress. The key was strategically placed at one of the junction points within the maze, making it a test of both wits and nerves. Once the participants found the key, they had to return to the starting point, knock on the door, and unlock themselves to complete the challenge. Those who completed the task in the shortest time were rewarded with a cash prize of 500 Rs.

The success of the event was made possible by the dedication and teamwork of the coordinators, who worked late into the night to ensure every detail was perfect. Each member of the team was assigned specific tasks, ensuring efficient use of time and resources.

The maze itself was constructed using stacked desks, which were securely tied together with cable ties to prevent them from collapsing. The desks were then covered with cloth to create a dimly lit, eerie environment. LED candles were strategically placed to provide minimal lighting, enhancing the maze's dark and mysterious atmosphere. Special attention was given to the junction points, where extra lighting was used to draw attention to the key's location.

All the decorative elements, including the entrance gate that resembled a maze doorway, were hand-crafted by the coordinators using materials such as cardboard and chart paper. This added a personal touch to the event and contributed to the overall immersive experience.

Conclusion:

"Escape Harry: Echoes of Fear" was a resounding success, offering participants a unique blend of adventure and horror. The effort put in by the coordinators and their dedication to crafting an immersive environment was evident in the event's execution. The prize incentive added an extra layer of excitement, motivating participants to give their best performance. Overall, the event was a memorable part of the Techfest, leaving both participants and organizers satisfied with the outcome.

PC Building Competition

Date of Event: 4th October

Location of Event: SB 003

Number of Persons Attended: 5

On 4th October, the PC Building Simulator 2 Competition was held in SB 003, organized by the Electronics and Communication Department. The event attracted participants who showcased their virtual PC-building skills through the PC Building Simulator 2 software, which provided a realistic and engaging environment to assemble custom PCs.

Participants competed individually, using the simulator to construct fully functional PCs within a time limit. The competition focused on speed, efficiency, and technical precision, with participants needing to demonstrate their understanding of virtual component compatibility, cable management, cooling solutions, and system optimization.

The competition was timed, and contestants raced against the clock to build their PCs in the simulator, ensuring they met all performance benchmarks. Once the virtual assembly was completed, each PC was tested in the simulator for functionality, stability, and overall performance, mimicking real-world scenarios.

After thorough evaluations and rounds of assessments based on the speed of assembly and system performance, one contestant emerged as the winner. The victorious participant was awarded a prize of 500 Rs for their excellent performance in building a virtual PC.

Conclusion:

The PC Building Simulator 2 Competition was a great success, offering a fun and competitive virtual environment for participants to demonstrate their skills in PC building. The use of the simulator allowed for an immersive experience, testing technical knowledge and problem-solving abilities without the need for physical components. This event successfully promoted interest in PC assembly and hardware engineering, and the Dept of ECE anticipates more participation in future competitions as the event grows.

PC Gaming Experience

On 04/10/2024, the Dept of ECE successfully organized the PC Gaming Experience as part of our techfest, offering participants the chance to explore some of the most popular and visually stunning PC games. With an entry fee of just 20 Rs, participants had access to high-end gaming laptops, complete with premium gaming accessories, creating an immersive and competitive gaming environment.

The event allowed gamers to experience a wide variety of PC games across multiple genres. Each of the five gaming stations was equipped with powerful gaming laptops, along with professional-grade accessories such as mechanical keyboards, gaming mice, and high-quality headsets. The curated game library featured some of the most critically acclaimed and fan-favourite titles, ensuring there was something for everyone.

Game Library:

The following games were available for participants to choose from:

Ghost of Tsushima, Valorant, Elden Ring, God of War: Ragnarök, Counter-Strike 2 (CS2), Cyberpunk 2077, PUBG, FIFA 23, WWE 2K23, Forza Horizon 5

Participants could sign up for a session at their preferred gaming station. Each gaming session was timed to allow everyone a fair chance to experience multiple games. Some of the more competitive titles, such as Valorant, CS2, and FIFA, saw players engage in friendly tournaments, with winners receiving small rewards. Casual players enjoyed the solo adventures in games like Ghost of Tsushima and Elden Ring, immersing themselves in rich narratives and stunning graphics.

Conclusion:

The PC Gaming Experience was a highlight of our Techfest, providing participants with access to state-of-the-art gaming setups and an exceptional variety of games. The diversity in game selection and the quality of the gaming accessories ensured that players had an enjoyable and immersive experience.

Based on the event's success, future editions could feature even more gaming stations and an expanded game library, allowing for a broader range of experiences and smoother participant management.