Zed

Zilliot Educational Platform

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Zilliot through its Zed platform provides training, workshops, and Electronics Kits for imparting education on Embedded Systems, PCB Design and IoT systems on par with the latest trends in the industry.

1. Embedded System Design Workshop

The Embedded System Design Training course is designed to provide participants with a comprehensive understanding of embedded systems and equip them with the necessary skills to design and develop embedded systems. The course covers various aspects of embedded system design, including hardware and software integration, microcontroller programming, real-time operating systems, sensor interfacing, and communication protocols.

Participants will learn about the fundamentals of embedded systems, including architecture, components, and their applications in various industries. They will gain hands-on experience in designing and implementing embedded systems by working on practical projects and using development boards, microcontrollers, and sensors.

The course curriculum focuses on programming languages commonly used in embedded system development, such as C and C++, and introduces participants to the software tools and environments used in the field. Participants will learn how to write efficient and optimized code for microcontrollers, implement real-time functionality, and interface with sensors and other peripherals.

Through the training, participants will also gain insights into the challenges and considerations involved in designing embedded systems, such as power management, memory constraints, and reliability. They will explore various

communication protocols commonly used in embedded systems, including UART, SPI, and I2C.

Overall, the Embedded System Design Training course offers a comprehensive and practical learning experience for individuals interested in pursuing a career in embedded systems development. Participants will develop the skills and knowledge necessary to design, program, and deploy embedded systems for a wide range of applications in industries such as automotive, healthcare, consumer electronics, and industrial automation.

2. PCB Design Workshop

The PCB Design Workshop is designed to provide participants with a comprehensive understanding of printed circuit board (PCB) design principles and equip them with the skills to create professional-grade PCB layouts. The course covers the entire PCB design process, from schematic capture to board layout and manufacturing considerations.

Participants will learn about the fundamentals of PCB design, including circuit board anatomy, component selection and placement, signal integrity, and power distribution. They will gain hands-on experience using industry-standard PCB design software, learning how to create schematics, route traces, define layer stack-ups, and generate manufacturing files.

The course curriculum focuses on best practices and guidelines for designing PCBs that meet industry standards and requirements. Participants will learn techniques for component placement, trace routing, ground planes, and signal integrity considerations to ensure optimal performance and reliability of the final PCB design.

Throughout the training, participants will work on practical projects and design exercises that allow them to apply the concepts learned in a real-world context. They will also learn about design for manufacturability (DFM) guidelines, understanding how to optimize their PCB designs for efficient and cost-effective production.

By the end of the PCB Design Training course, participants will have the skills and knowledge to design PCBs for a wide range of applications. They will be able to create schematics, design multi-layer PCB layouts, perform design rule checks (DRC), and generate manufacturing files necessary for prototype fabrication and mass production.

The course is suitable for individuals interested in pursuing a career in PCB design, electronics engineering, or related fields. It provides a solid foundation in PCB design principles and practical experience using industry-standard software, empowering participants to create professional-quality PCB designs for various electronic devices and systems.

3. IoT Design Workshop

The IoT Design Training course with a focus on Bluetooth and Wi-Fi technologies is designed to provide participants with a comprehensive understanding of Internet of Things (IoT) concepts and equip them with the skills to design and develop IoT solutions using Bluetooth and Wi-Fi communication protocols.

The course covers the fundamentals of IoT, including the architecture, components, and applications of IoT systems. Participants will learn about the role of wireless communication in IoT and explore the capabilities and characteristics of Bluetooth and Wi-Fi technologies for IoT deployments.

The curriculum includes in-depth coverage of Bluetooth technology, including Bluetooth Low Energy (BLE) and its application in IoT devices. Participants will learn about Bluetooth profiles, services, and how to develop firmware for Bluetooth-enabled devices. They will gain hands-on experience in programming Bluetooth modules, configuring connectivity, and developing applications for data transfer and control.

The course also delves into Wi-Fi technology and its role in IoT. Participants will learn about Wi-Fi standards, protocols, and security considerations. They will explore

topics such as network topologies, data transmission, and power management for Wi-Fi-based IoT solutions.

Throughout the training, participants will work on practical projects and exercises that involve designing and implementing IoT systems using Bluetooth and Wi-Fi technologies. They will learn how to integrate sensors, actuators, and microcontrollers with wireless modules, enabling data acquisition, device control, and remote monitoring capabilities.

In addition, the course covers important considerations for IoT security, data privacy, and interoperability. Participants will gain insights into best practices for securing IoT devices and networks, as well as ensuring seamless communication and interoperability between different IoT components.

By the end of the IoT Design Training course, participants will have the skills and knowledge to design and develop IoT solutions that leverage Bluetooth and Wi-Fi wireless technologies. They will be able to create IoT systems with wireless connectivity, sensor integration, and data communication capabilities, enabling them to contribute to the development of innovative IoT applications in various industries, including smart homes, healthcare, industrial automation, and smart cities.

The course is suitable for individuals interested in IoT development, electronics engineering, or related fields. It provides a comprehensive understanding of IoT concepts, hands-on experience with Bluetooth and Wi-Fi technologies, and practical skills to design and implement IoT solutions for real-world applications.