



TAGORE ENGINEERING COLLEGE

Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai
Rathinamangalam, Vandalur – Kelambakkam Road, Chennai, Tamil Nadu 600127, India

Department of Computer Science and Engineering

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Subject : Embedded System and IoT

Use the Design-thinking Process

The design-thinking process is a problem-solving approach that emphasizes empathy, ideation, prototyping, and testing. It encourages a creative and collaborative mindset to address complex challenges. In education, the design-thinking process can be applied to foster critical thinking, innovation, and real-world problem-solving skills among students.

Problem : Students were given a problem of designing Automation system for Industry using IoT.

Benefits

- Student-Centric Focus
- Active Learning
- Flexibility and Adaptability
- Technology Integration
- Problem-Solving Emphasis
- Creativity
- Encouragement Real-World Relevance

Sample of solutions given by the students

(20/2/24)

S. Felix

Industry automation:

BE-CSE

automobile industry:

Sensors:

- (i) In automobile industry navigation system services / GPS where used, using IoT, connectivity.
- (ii) auto-park sensors implemented in the ^{car} uses IoT functionality.
- (iii) Tesla (car) uses auto-drive feature, which is developed using ML and IoT.
- (iv) Auto-brake facility using IoT, which it deducts the ~~per~~ Person crossing ~~about~~ before 10 metres and applies brake automatically.
- (v) Door-unlock! Here we can
 - unlock the car without key usage

AEROSPACE INDUSTRY

IoT means Internet of Things plays a major role in Aerospace industry. IoT devices are used to perform huge missions and technical handling. The IoT in Aerospace & defense systems refers to the application of IoT technologies in aircraft, airports, and defense systems. It includes the use of connected sensors, devices and data analytics to gather and transmit real time information, enabling better decision-making automation. The global IoT in aerospace & defense market size reached USD 47 billion in 2022 and is predicted to be worth around USD 255.9 million in 2023 to 2024.

Based on component, the hardware segment accounted 41% revenue share in 2022. By connectivity technology the cellular segment has contributed more revenue share in 2022.

the IoT in Aerospace & defense market is expected to witness significant growth in the coming years. The adoption of IoT technologies is likely to expand across the aerospace and defense sectors, driven by advancements in connectivity, cloud computing, and artificial intelligence.