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## Internet of Things (IoT)

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# IoT connects everyday objects to the internet, enabling them to collect and share data.

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The Internet of Things (IoT) is transforming the world by connecting everyday devices and enabling them to communicate, analyze data, and make intelligent decisions. At the Institute of Research, Innovation, Incubation, and Commercialization (IRIIC) at United International University (UIU), we are actively exploring the potential of IoT to solve real-world problems and bring innovative solutions to life. Our IoT initiatives span various sectors, including healthcare, urban development, environmental monitoring, and smart infrastructure.

### What is IoT?

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The Internet of Things (IoT) refers to the network of physical devices—such as sensors, appliances, vehicles, and machinery—that are embedded with software and connectivity features, enabling them to collect and exchange data. By leveraging IoT, organizations can monitor, manage, and optimize their resources in real-time, leading to increased efficiency, better decision-making, and improved quality of life.

### Projects Related to IoT

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#### CMED

Cloud based Medical System for Rural Health Monitoring in Developing Countries [Read More](#)

#### Bolte Chai

Bolte Chai: An Android Mobile Application to Support Verbally Challenged ASD Children [Read More](#)

#### Virtual Hospital

An IoT based Intelligent Home Health Monitoring and Referral System [Read More](#)

### Key IoT Technologies and Tools at IRIIC

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IRIIC's IoT research relies on a combination of cutting-edge hardware and software

#### **Sensors and Actuators**

Sensors collect environmental data, while actuators allow systems to respond by activating certain functions (e.g., turning on irrigation).

#### **Wireless Communication Protocols**

IoT devices rely on protocols like Wi-Fi, Bluetooth, and Zigbee to transmit data seamlessly.

#### **Cloud Computing and Data Analytics**

Data collected by IoT devices is processed and analyzed in the cloud, allowing for efficient storage, analysis, and real-time decision-making.

#### **Edge Computing**

By processing data closer to where it's generated, edge computing reduces latency and ensures real-time data processing, making it ideal for applications that require immediate action, such as traffic control or health monitoring.

## **IoT Projects with a Social Impact**

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At IRIIC, our commitment to social responsibility guides our IoT projects. We focus on creating solutions that directly benefit communities, whether by improving public safety, enhancing healthcare access, or contributing to sustainable practices. Our IoT projects are designed to meet the specific needs of the communities we serve, ensuring that technological advancements translate into tangible social benefits.

#### **Training and Developing IoT Experts**

IRIIC is dedicated to building the next generation of IoT experts. Our programs offer hands-on training, internships, and mentorship to students and young researchers, providing them with experience in real-world IoT applications. Our goal is to equip our interns and researchers with the skills needed to design, implement, and manage IoT systems, preparing them to lead in a rapidly evolving industry.

#### **The Future of IoT at IRIIC**

Looking ahead, IRIIC is excited to expand our IoT research into new areas such as predictive maintenance, smart energy management, and disaster response. With each new project, we aim to explore IoT's potential to improve quality of life and drive sustainable progress. As we continue to innovate, we're committed to ensuring that our IoT solutions align with the highest ethical standards, prioritizing user privacy, data security, and social responsibility.

## **Join Us on Our Journey in Health Technology**

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Whether you're a researcher, student, or industry partner, there's a place for you in our journey to revolutionize assistive technologies. At IRIIC, we believe in the power of collective innovation to break down barriers and enhance accessibility. Together, we can develop solutions that empower individuals, foster inclusivity, and create a world where everyone has the opportunity to thrive. Join us in our mission to build a more inclusive future through cutting-edge assistive technologies and compassionate design.

#### **Contact:**

Room - 1012, 10th floor,  
United International University, United City, Madani Avenue, Dhaka-1212.

#### **Email:**

director@iriic.uiu.ac.bd  
aimsl@uiu.ac.bd

#### **Contact Number:**

09604 848848 - Ext: 3140 (Office hour : 8.30 AM-4.30PM)

