JAYARAJ ANNAPACKIAM COLLEGE FOR WOMEN
(AUTONOMOUS), PERIYAKULAM
DEPARTMENT OF COMPUTER APPLICATION

CODING CLUB ANNUAL REPORT

2024- 2025

1. 5 – day workshop on Hardware Components and Maintenance

The Coding Club of BCA, in collaboration with Anubham Educational Trust, Theni, conducted a five-day workshop titled **"Hardware Components and Maintenance"** from December 12 to December 17, 2024.

The event began with a prayer song, followed by a Bible reading. Miss V. Vinothini from II BCA, the Secretary of the Coding Club, delivered a warm and heartfelt welcome address. She introduced the trainers:

- **Mr. B. Sivakumar** (BCE, PGDCA, DFA, DCHD)
- **Mrs. M. Sathiya Vani** (B. Com, M.Sc., PGDCA, DBAD).

Dr. Sr. A. Arul Anitha, Head of the Department, honoured the trainers by presenting them with shawls. Mrs. A. Kavia, Assistant Professor, Department of BCA, presented them with mementos as a token of appreciation for their expertise and their willingness to share valuable knowledge with the students.

Day 1: Introduction to Hardware Components

The first session focused on **"Introduction to Hardware Components"**, where the trainer guided students through the workshop's objectives. The session covered:

- An overview of computer hardware and its importance.
- A detailed explanation of the motherboard, including its components, functions, and significance.
- The role of the Central Processing Unit (CPU), its types, functions, and its critical role as the "brain" of the computer.
- The interrelationship between the motherboard and the CPU.

  The session concluded with an interactive Q&A segment, where the trainer addressed student queries. The students appreciated the trainer's clarity and in-depth knowledge.

Day 2: Memory and Storage

The second session focused on **"Memory and Storage"** and covered:

- A comprehensive understanding of memory types and storage devices.
- Functions and importance of Random Access Memory (RAM) for efficient processing.
- An in-depth discussion on storage devices, their types, functions, and differences.

- Selecting appropriate storage solutions based on specific requirements.

  The session ended with a Q&A segment, ensuring clarity and reinforcing the topics discussed.

Day 3: Power Supply Unit (PSU) and Graphics Processing Unit (GPU)

The third session covered the **"Power Supply Unit (PSU) and Graphics Processing Unit (GPU)"**, focusing on:

- The role of the PSU in providing stable and reliable power for optimal performance and longevity.
- The functions of the GPU, including rendering visuals, supporting graphic-intensive tasks, and enhancing user experiences.
- The importance of GPUs in gaming, multimedia editing, and artificial intelligence applications.

The trainer also provided maintenance tips for these components, and the session concluded with an interactive Q&A segment.

Day 4: Peripheral Devices and Maintenance Procedures

The fourth session on **"Peripheral Devices and Maintenance Procedures"** included:

- A detailed understanding of input devices (e.g., keyboard, mouse, scanner) and output devices (e.g., monitors, printers, speakers).
- The significance of regular maintenance, hardware upgrades, and troubleshooting techniques.
- Practical insights into ensuring the longevity and efficient functioning of computer hardware.

The session concluded with an engaging Q&A segment.

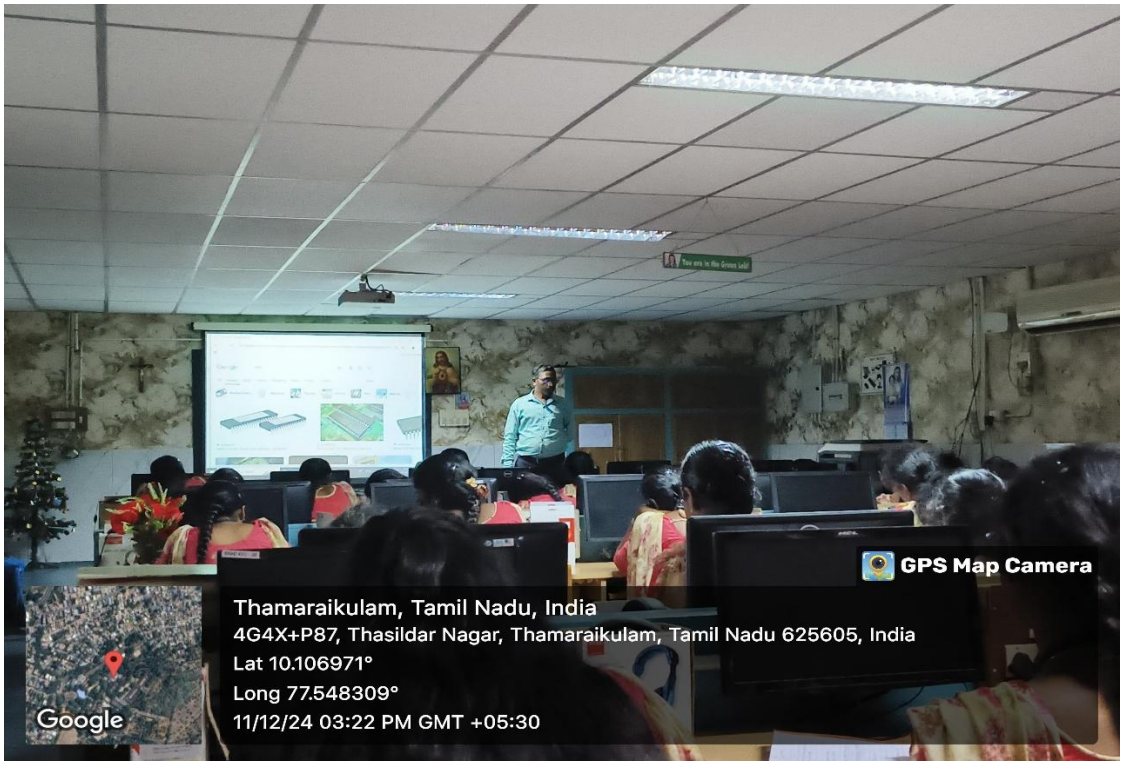
Day 5: Safety Precautions and Practical Session

The final session covered **"Safety Precautions and Practical Session"** and focused on:

- Critical safety measures for handling computer hardware, including Electrostatic Discharge (ESD) prevention and power safety measures.
- A hands-on practical session where students applied maintenance procedures, diagnosing and troubleshooting common hardware issues.

In the concluding session, students participated in certificate registration and enrolled in related online courses. Certificates were successfully obtained after completion.

The workshop concluded on December 17, 2024, from 3:00 pm to 4:00 pm at the Language Lab.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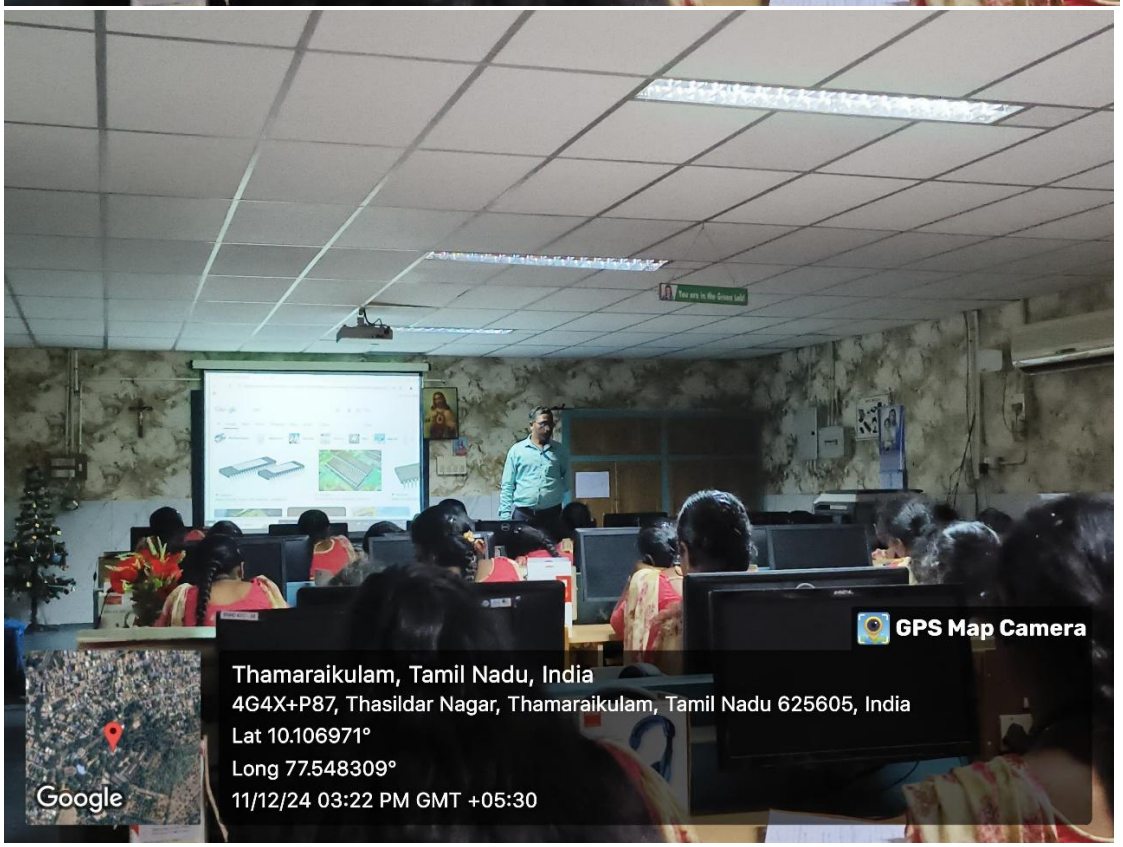
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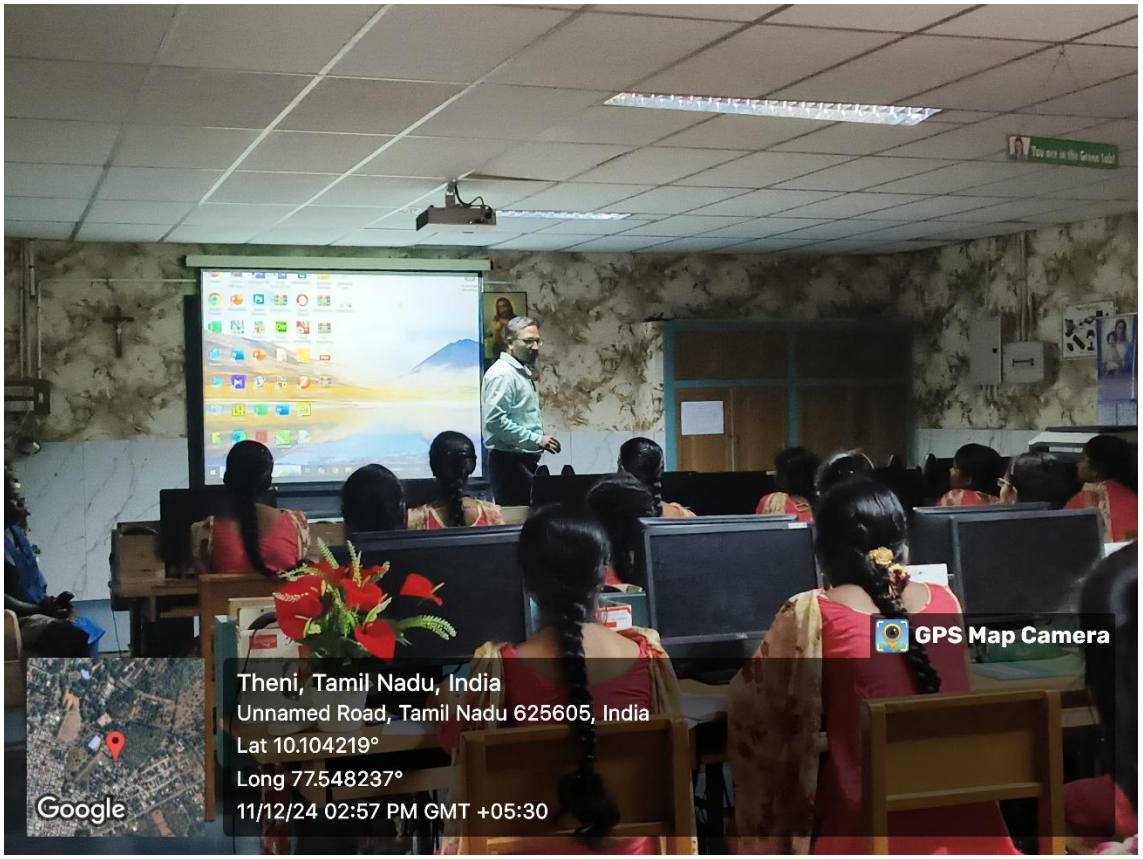
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DEPARTMENT OF COMPUTER APPLICATION
The Coding Club of BCA- TechCoders
in collaboration with

2. National Coding Week-2024 Celebration

The Department of Computer Applications began its journey in the academic year 2023-2024 as the newest addition to JAC. To promote software development and coding skills among our BCA students, TechCoders—the Coding Club of the BCA department—was established in September 2023, in conjunction with National Coding Week. This year's theme for National Coding Week is "Artificial Intelligence."

To celebrate National Coding Week grandly, the Department of Computer Applications organized various interdepartmental competitions starting from September 6, 2024. The details of the competitions and their winners are as follows:

Competitions held on 6th September 2024:

1. **TechArt:**
   - **I Prize:** A. Sathyasheela Devi [I-M.Sc. Zoology]
   - **II Prize:** R. Amirthakaviya [II-Chemistry]
2. **TechColors:**
   - **I Prize:**
     - A. Geethalakshmi [I-Maths]
     - N. Kiruthikadevi [I-Maths]
   - **II Prize:**
     - M. Anitha [II-M.Sc. Zoology]
     - R. Lavanya [II-M.Sc. Zoology]
3. **TechDraw:**
   - **I Prize:** M. Kiruba Shree [III-B.Com (CA)]
   - **II Prize:** E. Harisha [III-B.Sc. Computer Science]

Competitions held on 10th September 2024:

4. **TechQuest (Quiz):**
   - **I Prize:**
     - G. Nandhini [II-BCA]
     - D. Keerthika
   - **II Prize:**
     - V. Vinothini [II-BCA]
     - T. Bhuvaneshwari

Competitions held on 11th September 2024:

5. **TechReels (Reels Making):**
   - **I Prize:**
     - K. Dharshini [II-B.Sc. Maths]
     - C. Flora Mary
     - I. Infant Monica

        - S. Sakthisri
    - **II Prize:**
        - K. Mahalakshmi [III-B.Sc. Computer Science]
        - R. Veeradharshini
        - S. Saranya
        - C. Abinaya
6. **TechBugOut:**
    - **I Prize:** P. Kaviya [I-BCA]
    - **II Prize:** N. Mahadharshini [II-BCA]
7. **TechBuild:**
    - **I Prize:** N. Yazhini [II-BCA]
    - **II Prize:** P. Kaviya [I-BCA]
8. **TechTalk:**
    - **I Prize:** V. Vinothini [II-BCA]
    - **II Prize:**
        - S. Mahadharshini [II-BCA]
        - S. Shalu [I-BCA]

The Department of BCA celebrated "National Coding Week" on 13th September 2024 at 11:00 a.m. The event commenced with a prayer song, followed by Bible reading and prayer. **Mrs. A. Kavia**, Assistant Professor, welcomed and introduced the chief guests. **Dr. Sr. A. Arul Anitha**, Head of the Department honored the principal with a shawl and a memento. **Mrs. Kavia**, Assistant Professor of BCA presented a shawl to **Dr. I. Geetha Antoinette**, and **Ms. Srileka**, Assistant Professor gave a memento to her. **Rev. Dr. Sr. S. Jesurani**, the Principal, delivered the presidential address and distributed prizes to the winners from the BCA department. Dr. I. Geetha Antoinette, the Vice-Principal, delivered the felicitation address and distributed prizes to students from other departments. **Ms. Srileka,** Assistant Professor, Department of BCA, proposed the vote of thanks. The celebration concluded at 12:30 p.m.


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3. SCIENCE DAY EXHIBITION

The Science Day exhibition held on 28th February 2025 was organized by the Bachelor of Computer Applications (BCA) department. The exhibition showcased a variety of innovative projects that leveraged the power of the Internet of Things (IoT). The aim of the exhibition was to highlight the practical applications of IoT technology and demonstrate its potential to solve real-world problems.

The exhibition featured five IoT-based projects developed by the students of the BCA department. These projects were designed to demonstrate how IoT can be integrated into everyday systems to improve functionality, safety, and efficiency.

Featured Projects

1. Motion Detection Alarm System

- **Objective:** The motion detection alarm system is designed to enhance security by detecting any unauthorized motion within a specific area. When motion is detected, the system triggers an alarm and sends notifications to the concerned authorities or the user's mobile device.
- **Technology Used:** The project utilized IoT sensors, such as PIR (Passive Infrared) sensors, and was integrated with a microcontroller for processing and communication. The system sends alerts through Wi-Fi or GSM modules.
- **Real-world Application:** Home security, surveillance in restricted areas, and industrial safety.
- **Students Involved:**
  - O. Afrin Banu from II BCA
  - R. Kohila from I BCA
  - M. Aashifa from II BCA
  - S. Thaslima Fathima from II BCA

2. Fire Alarm System

- **Objective:** This IoT-based fire alarm system is designed to detect fire hazards early and alert users to prevent possible damage. The system uses sensors to detect smoke, heat, and flame, triggering an alarm system and notifying the user through an IoT interface.

- **Technology Used:** Sensors like smoke detectors, temperature sensors, and a Wi-Fi/GSM module to communicate with mobile phones or control centers.
- **Real-world Application:** Used in residential, commercial, and industrial buildings to prevent fire-related accidents and damage.
- **Students Involved:**
  - R. Kaviyadharshini from II BCA
  - V. Keerthika from I BCA
  - R. Athifa Banu from I BCA
  - S. Mahadharshini from II BCA

3. Obstacles Avoidance System

- **Objective:** This system is designed to detect obstacles in the path of autonomous vehicles (e.g., robots or drones) and avoid collisions by altering their direction. The project uses IoT technology to control the vehicle in real-time, ensuring it adapts to environmental changes.
- **Technology Used:** Ultrasonic sensors, IoT controllers (like Arduino), and motor drivers for obstacle detection and movement.
- **Real-world Application:** Autonomous vehicles, robotic systems, drones, and smart transportation systems.
- **Students Involved:**
  - S. Jamila Sahana from II BCA
  - G. Nandhini from II BCA

4. Automated Door Opener System for Shopping Malls

- **Objective:** This system aims to automate the opening and closing of doors in shopping malls or other public places. Using IoT technology, the door is triggered to open or close when motion is detected, offering enhanced convenience and hygiene by eliminating the need for physical contact.
- **Technology Used:** PIR sensors, Wi-Fi modules, and motor actuators to control the doors.
- **Real-world Application:** Shopping malls, airports, hospitals, and other public or commercial buildings to improve accessibility and convenience.
- **Students Involved:**

- N. Yazhini from II BCA
- J. Gethciyal from II BCA
- T. Bhuvaneshwari from II BCA

5. Automated Traffic Signal System

- **Objective:** This system integrates IoT technology with traffic signal management and door automation to optimize pedestrian flow. The system opens automatic doors at traffic signal crossings when the signal turns red, ensuring smooth and safe pedestrian movement, while minimizing waiting time.
- **Technology Used:** IoT sensors for traffic signal detection, motion sensors, microcontrollers, and motor actuators to control the doors. The system is also integrated with Wi-Fi/GSM modules to communicate with control centers or users.
- **Real-world Application:** Urban traffic management, pedestrian safety, and public transport infrastructure, particularly in high-traffic areas like malls, airports, and hospitals.
- **Students Involved:**
  - B. Yamuna from II BCA
  - E. Malini from II BCA
  - M. Thangamuthumari from II BCA
  - S. Elakiya from I BCA


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