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**UNIVERSITY OF INFORMATION
TECHNOLOGY AND SCIENCES**

Course Name : Industrial Attachment

Course Code : CSE 420

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Batch : 50

Section : 7A1

Semester : Autumn

Seminar Topic : Mastering Backend - Implement
Robust and Secure APIs with Node.js

Keynote Speaker : Rayhan Kabir, Senior Software
Developer @ 9AM Solutions. Software Engineering,
Microsoft

Introduction:

The seminar "Mastering Backend - Implement Robust and Secure APIs with Node.js" gave the attendees a chance to get valuable insights into how one can build efficient, scalable, and secure backend systems using Node.js. The workshop was theoretically explained and also supported with practical coding exercises that allow participants to get a hands-on view of backend development.

Keynote Speaker Background:

The seminar was conducted by Mr. Rayhan Kabir, a Senior Software Developer at 9AM Solutions. With vast experience in the field of backend development, API design, and security protocols, Mr. Kabir brought relevant industry insight and practical experience to be an ideal mentor for this session.

Purpose and Goals of the Seminar:

- To introduce participants to best practices in robust backend development using Node.js.
- To show how to design and implement APIs securely.
- Holding and providing hands-on experiences with constructing backend solutions by expert guidance.

Key Points and Discussions:

1. Getting Acquainted with Node.js: I will present a general understanding of the asynchronous nature with many points pertaining to advantages in back-end development, focusing on choosing the appropriate Framework for Scalable API solution;

2. Building APIs the Robust Way: Ways of structuring API endpoints to clarity and maintainability, Error handling mechanisms-how it adds to reliability,

3. API - Secure: Discussing potential gaps-like SQL injections and Cross-Site Scripting. Implementation of best practices in security, such as authentication, encryption, and validation.

4. Hands-on Coding Session: Participants developed a simple, secure API with the help of Mr. Kabir. Debugging tips and best practices for real-world application.

New Information or Skills Gained:

- In-depth knowledge on how to design and implement APIs using Node.js.
- Knowledge of the role of security in backend development.
- Practical experience in coding, debugging, and optimizing API endpoints.

Bridging the Gap Between Academic Learning and Industry Practices:

The seminar called for going beyond mere theoretical knowledge to incorporate practical problem-solving skills. The essence of understanding modern tools and frameworks is in bridging the gap between academic training and industry practices.

Implications of the Study for the Betterment of Academic Curricula:

- **Practical Exposure:** Integrating workshops and coding sessions within the curriculum for enhancement of hands-on experience in practical aspects.
- **Focus on Security:** Introduce separate modules for secure coding and API security.

Seminar Summary:

The seminar was an in-depth and interactive session that helped the participants understand the concept of backend development using Node.js through both theoretical and practical perspectives. The focus on robust API design and security provided valuable insight into skills that are applicable and highly relevant to the industry.

Final Thoughts and Overall Significance:

This seminar was an important step in preparing participants for real-world challenges in backend development. It underlined the importance of creating secure and efficient systems while fostering critical thinking and problem-solving abilities.