VALUE ADDED COURSE ON RUST AND WEB APP FRAMEWORKS

Organized by

School of Computer Science

Engineering and Information Systems

Department of Computer Applications

VIT, Vellore

VIT – A place to learn; A chance to grow

About RUST & Web Assembly

Rust is a system programming language developed by Mozilla Foundation, which offers features of a high-level language implemented by the **principle of zero cost abstraction** and is very efficient in terms of **performance**. Rust has proven to be a versatile language with a wide range of use cases. Web Assembly is intended to provide a portable target for high-level language compilation, such as Rust. In the business world, **Rust and Web Assembly** have grown in popularity recently. Following the trends in the sector would be quite advantageous.

Course Highlights

This value added course is of 30 hours duration executed between the periods from Feb 2024 to Mar 2024. Syllabus Content and tentative schedule is provided in the forthcoming page. Lecture and practical sessions of this course will be handled in hybrid mode (both online and offline). Students who successfully finish this course will receive a Value Added Course Completion Certificate.

Who Can Enroll?

Any students with a passion in developing high performance back end application can register for this course. People looking for the practical Rust/ Web Assembly development guide can make use of this opportunity. Any **B.Tech / M.Tech/ MCA/ BCA/ B.Sc / M.Sc** students can register. **Course Fee** is **1500 INR (inclusive of GST)**

Resource Person

Dr.B.Senthil Murugan, Associate Professor Senior, SCORE, VIT

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How to register?

Click https://forms.gle/q5FACANS4cs8QXZs8 to register and login to https://events.vit.ac.in/ for making payment.

VALUE ADDED COURSE on RUST AND WEB APP FRAMEWORKS

Course Objective	To build high performance applications that align with modern information technology architecture requirements
Course Outcome	• Configure and demonstrate applications using Rust • Implement the Rust based web applications using web and database frameworks like Rocket and Diesel • Utilize the front-end framework React JS for building the web application.

Tentative Schedule

S.No	Tentative Dates	Time	Hours	Topic
1	19th, 20th, 21st and 22nd Feb 2024	7:00 pm – 8:30 pm	6 hrs	**Introduction to Rust Programming:** Reasons to adopt Rust –Use cases – Opportunities- Language Features- Advantages- Installation- First Example-Rust Data types- Variables – Constants-String-Operators- Branching and Looping
2	25/2/2024	09:30 am-12:30 pm	3 hrs	**Unique Features of Rust**: Tuple- Array-Ownership – Borrowing- Slices-Structures- Enums-Modules - Rust Collections-Error Handling- Input Output-Generics- Package Manager-Iterator- Closure-Smart Pointers – Concurrency
3	26th, 27th and 28th Feb 2024	7:00 pm – 8:30 pm	3 hrs	**Web Assembly (Wasm):** Fundamentals – Architecture – Building a Web Assembly Application- Building Web Assembly using Rust-
4	4th, 5th, 6th and 7th Mar 2024	7:00 pm – 8:30 pm	6 hrs	Building Web Apps using Rust and Rocket-Web Framework- Creating a Web Service API Using Rust's Rocket Web Framework
5	10/3/2024	09:30 am-12:30 pm	3 hrs	**Rust and Databases :** Using Diesel framework in Rust- Diesel setup-
6	11th, 12th, 13th and 14th Mar 2024	7:00 pm – 8:30 pm	6 hrs	Schema and model- Connections- Creating a Rust Web App with Rocket and Diesel
7	17/3/2024	09:30 am-12:30 pm	3 hours	**Integration with React JS:** Create React App- Rust library for Wasm- Building Application using Rust and React- Using Rust for Mobile App development

Total Classes: 18 **Total Hours:** **30**