Collaborative Learning Initiatives : WSO2/Ballerina and Universities

H2 2023

About WSO2

- Founded in 2005, WSO2 was initially an open source middleware company.
- Today, we offer a suite of Integration, API management, and IAM technologies, available as open source or SaaS, enabling enterprises to create digital experiences quickly, easily, and securely.

API Management

Deliver your business as APIs in any deployment environment.

WSO2 API Manager

API Platform for k8s

Integration

New Programming Language for integration and Digital PaaS

Ballerina
Swan Lake

Choreo

Micro Integrator

Identity and Access Management

Modern IAM solution for your on-premises or cloud environment.

WSO2 Identity Server

ASGARDEO

Solutions

Pre-built APIs, Integrations, IDevPs, CIAM capabilities, and on-premises/SaaS solutions

WSO2 Open Banking

WSO2 Open Healthcare

About Ballerina

Flexible, Powerful, Beautiful Integrations as Code with Ballerina

- ✓ Open source, cloud-native programming language optimized for integration
- ✓ Batteries included: Rich ecosystem of network protocols, data formats, and connectors
- ✓ Edit/view source code textually or graphically as sequence diagrams and flowcharts
- ✓ Built-in, easy and efficient concurrency with sequence diagrams and safety primitives
- ✓ Developed by WSO2 since 2016 and first released in February 2021

Goals of the Program

For Students and the University:

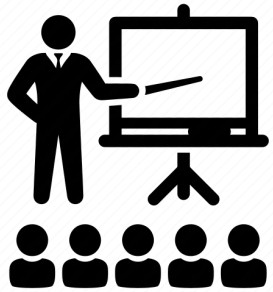
- We envision offering comprehensive learning experiences that equip students with industry-relevant skills.
- These skills, in turn, will prove invaluable in their academic projects, industrial internships, and eventual professional endeavors.

For Ballerina/WSO2:

- The cornerstone of our endeavor is to leverage the Ballerina programming language as a central teaching tool during these programs.
- We aim to raise awareness and understanding of the language among university students, thereby nurturing a future generation of developers with cutting-edge expertise to help the growth of the Ballerina community.

Guest Lectures and Talks

- **Objective**: Provide students with valuable insights into contemporary industry practices.
- **Approach:** Can be part of non-credit modules or student technical community group events.
- **Content**: Engaging sessions focused on vital topics such as
  a. easy data persistence with databases
  b. integrating data and systems
  c. efficient data handling
  d. cloud-native application development
  e. microservices, etc
- Content can be based on use cases related to projects of students too.



Workshops and Hackathons

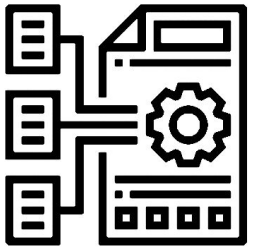
- **Objective**: Empower students with practical skills and in-depth knowledge in cutting-edge domains.
- **Content**: Engaging sessions on interesting topics, utilizing Ballerina to demonstrate concepts.
    a. easy data persistence with databases
    b. integrating data and systems
    c. efficient data handling
    d. cloud-native application development
    e. microservices, etc
- **Culmination**: The series concludes with a mini hackathon for students to apply their learnings with cash prizes and swag for participants.

Student Projects

- **Practical Experience:** Encourage students to work on projects using Ballerina.
- **Scope**: Projects can range from small to complex projects. Also, students can work on some digital transformation-related projects, which will also help university administrators.
- **Learning Outcome**: Students gain practical experience in real-world, enterprise-grade application development while using Ballerina.
- **Approach**: Collaborating with lecturers and students to provide mentorship and required project guidance.

Compiler Design Sessions

- **Objective:** Deep dive into compiler design theories. Will help the subjects like Compiler Theory in the curriculum.
- **Content:** 1-2 sessions dedicated to compiler design concepts and their practical implementation in Ballerina.
- **Importance:** Enhances understanding of language design principles and provides hands-on experience.



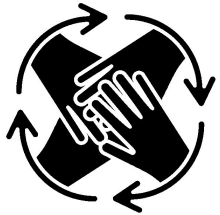
Ballerina in Teaching

- **Potential:** Exploring the use of Ballerina as a teaching language for select subjects.
- **Approach:** Collaboration with lecturers to integrate Ballerina into curriculum, requiring a moderate learning curve.
- **Benefits:** Exposing students to a modern programming language.

How to get involved

- **University Coordination**: Coordinate with university course coordinators to schedule sessions and involve lecturers.
- **Participation**: Encourage students to attend sessions, contribute to projects, and join the mini hackathon.
- **Support**: Ballerina experts available to assist with sessions, conduct hackathons, help with projects and answer questions.

Email to : anupama@wso2.com
ashweni@wso2.com



Thanks!

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