

# moodlemoot<sup>TM</sup>

PHILIPPINES 2024

***AI in Moodle: Transformative Teaching Technologies***

# CS Teacher VPL Tricks

*Half your time checking student programs while doubling student engagement with Moodle VPL*

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# Teacher and I.T. Practitioner

I have had the privilege of teaching at various institutions, including the Institute of Electrical and Electronics Engineering (IEEE), the Department of Computer Science (DCS) and the Virata School of Business at the University of the Philippines Diliman (UPD). During my time at UPD, I actively contributed to the development of UPD's Moodle-based UVLe LMS as a Project Development Associate.

Currently, I am teaching at Philippine Science High School - Main Campus, where I served as the head of the Information Technology Unit (MIS) during the deployment of our Moodle-based Learning Management System called KHub.



Roy Canseco  
CS Teacher , MIS - PSHS-MC

# Talk Description

Join me as I share how our campus set up and leverages Moodle's Virtual Programming Laboratory (VPL), along with generative AI to heighten student engagement, while minimizing code checking time.

Discover how we have implemented these technologies to enhance the learning experience, while keeping server costs cheap and maintenance easy.

# CS Teacher VPL Tricks

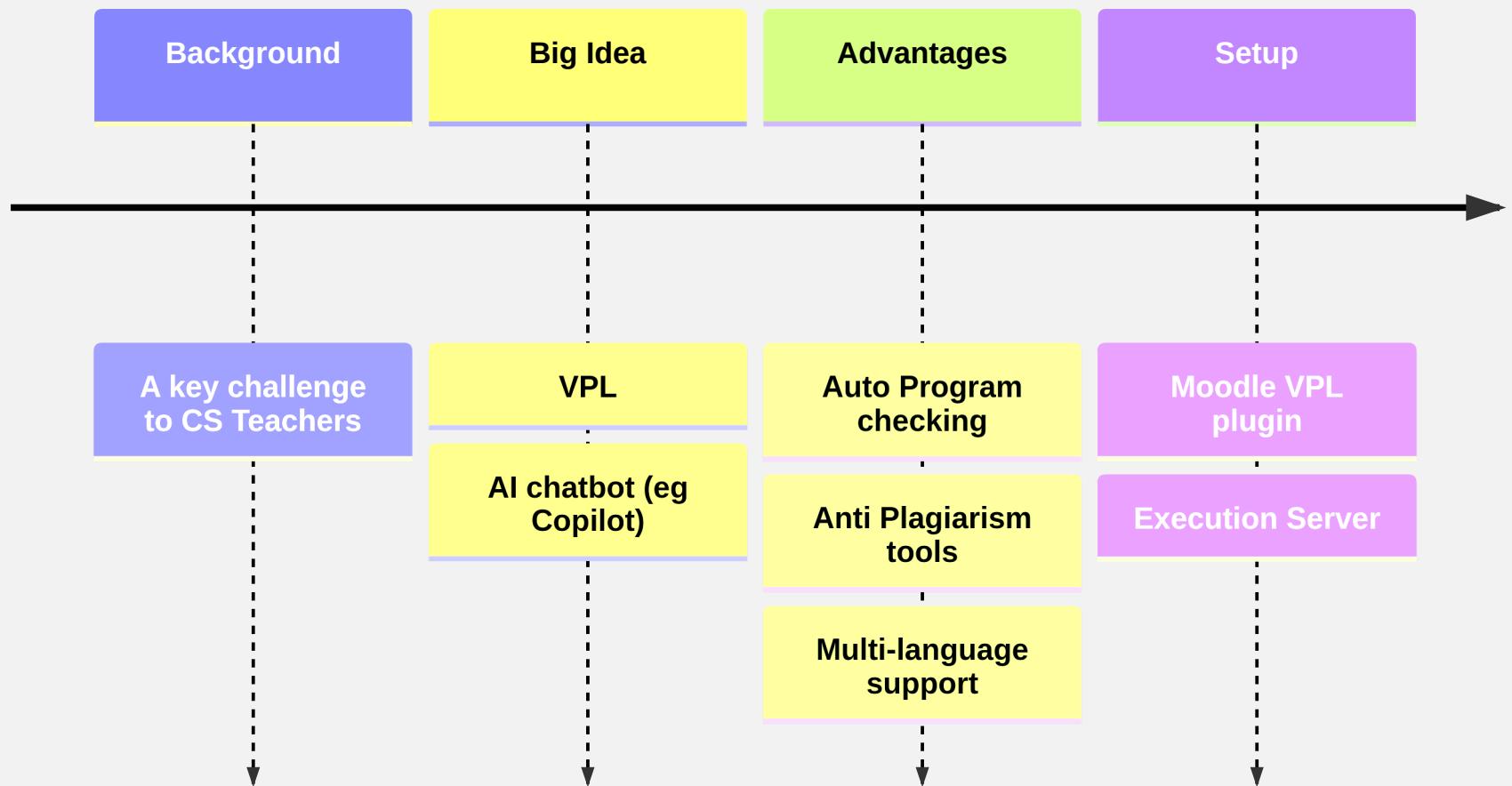
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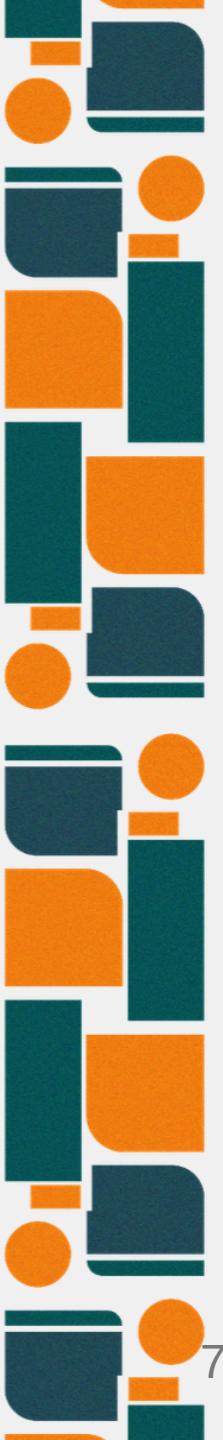
Date of the Presentation

Roy Vincent L. Canseco



# Talk Outline

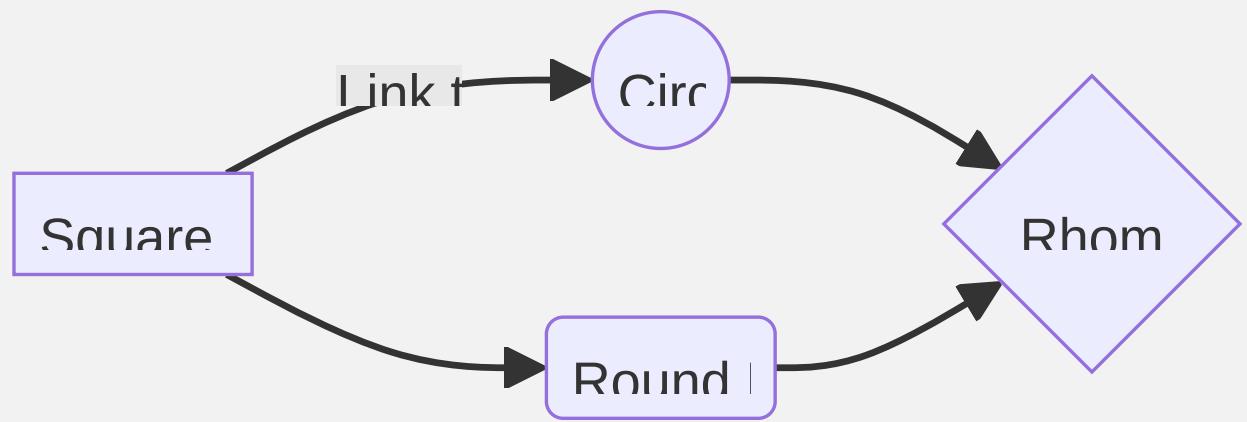




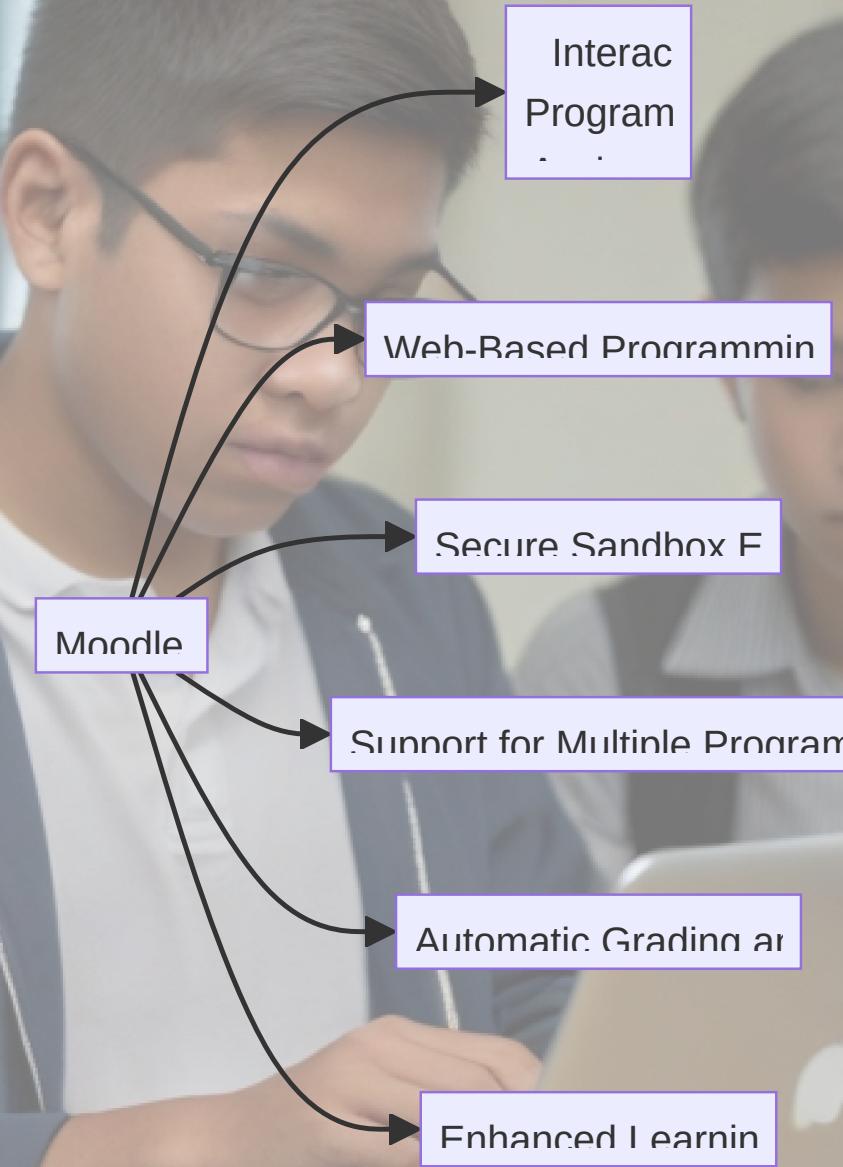
According to a study funded by Google, under the direction of ACM, and in partnership with Microsoft:

"Computer science educators often struggle with limited access to **up-to-date materials, software, and hardware**"

-University of Chicago Study

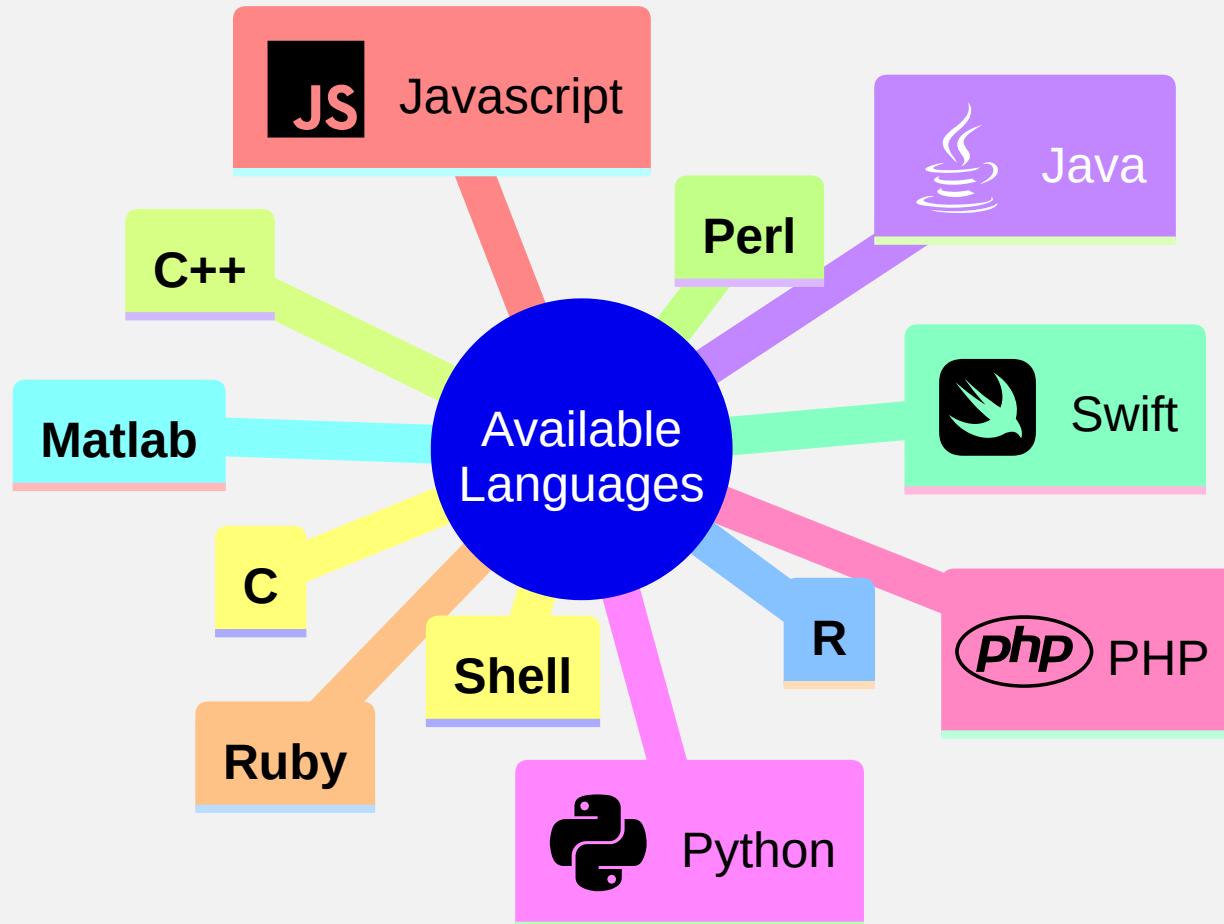


# Virtual Programming Laboratory



# Lots of Programming Languages supported

\*\* there are more  
depending on the setup





# VPL Setup and Use

1. ***Install VPL plugin*** - Installing Moodle VPL is a straightforward process that involves uploading the plugin package and configuring the settings.
2. ***Setup VPL Jail Server*** - Involves setting up a dedicated server, installing the necessary packages, configuring the server, and testing the installation.
3. ***Create VPL Assignments*** - Creating VPL assignments involves careful planning, designing, and testing to ensure they align with learning objectives and effectively assess programming skills.

# Citations

- AI-gen picture: Leonardo AI. 2024. <https://app.leonardo.ai/ai-generations>
- AI-gen picture: Cici AI. 2024. <https://www.ciciai.com/chat>
- icons: Font Awesome. 2024. <https://fontawesome.com/v6/>

# Introduction

- Greeting and introduction
- Brief explanation of the Moodle VPL plugin
- Overview of the importance of programming education and the need for practical programming assignments

# Understanding the Moodle VPL Plugin

- Explanation of what the Moodle VPL plugin is and its purpose
  - + Key features and benefits of using the Moodle VPL plugin
- Supported programming languages and environments
- Overview of the user roles and their responsibilities (instructors and students)

# Creating Programming Assignments with Moodle VPL

- Step-by-step guide on how to create programming assignments using the plugin
- Defining programming tasks, requirements, and constraints
- Setting up programming languages, libraries, and compiler options
- Configuring evaluation criteria and grading methods
- Demonstrating the use of test cases and expected outputs

# Student Experience with Moodle VPL

- Walkthrough of the student view and interface in the Moodle VPL activity
- Accessing and understanding the programming assignment
- Writing and submitting code within the web-based programming environment
- Running and testing code in the secure sandbox environment
- Receiving immediate feedback and evaluation results

# Best Practices and Tips for Using Moodle VPL

- Sharing effective strategies for designing and implementing programming assignments
- Providing tips for instructors to enhance student engagement and learning outcomes
- Addressing common challenges and how to overcome them
- Highlighting success stories and case studies from other institutions

# Q&A Session

- Allocating time for questions and answers
- Addressing any concerns or queries from the audience

# Conclusion

- Recap of the key points covered in the talk
- Encouraging further exploration and adoption of the Moodle VPL plugin
- Thanking the audience for their participation and attention