

# BASH SCRIPTING IN VPL

MINOR PROJECT SYNOPSIS

**BACHELOR OF TECHNOLOGY**

Information Technology

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# 1 Introduction

This report illustrates that how to setup a VPL - Virtual Programming Lab module for Moodle activity that tests a Bash script that takes as input an integer and acts as a teller machine. Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environment. Achievement of computer programming skills requires a lot of training by means of real program-development assignments. Managing and assess the students' submissions for those assignments could be a very complex task. Availability of tools to organize the assignments, receive and storage the submissions, support automatic or semi-automatic assessment and provide feedback could be very helpful.

**Rationale:** why needed?

Integration of this kind of tools into a Learning Management System is an essential feature in order to improve students' performance.

- To provide a very simple development environment in order to smooth the learning curve to the students.
- To be independent of the programming language. To use a particular programming language it is only required that the appropriate compiler is installed which is not required in virtual programming lab environment by moodle.

## 2 Objectives

1. To setup script for auto evaluation capabilities.
2. To facilitate the preparation of assignments, manage the submissions.
3. To use a particular programming language to aid a powerful and flexible assessment tools based on program testing.

### 3 Feasibility Study

The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new device and debugging old running device/system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

**Technical Feasibility:-** The technical issue usually raised during the feasibility stage of the investigation includes the following:

- Does the necessary technology exist to do what is suggested?
- Do the proposed equipment have the technical capacity to work properly?
- Are there technical guarantees of accuracy, reliability, ease of access and control?

**Operational Feasibility:-** Operational feasibility aspects of the project are to be taken as an important part of the project implementation. Some of the important issues raised are to test the operational feasibility of a project includes the following:

- Is there controlled efficiently?
- Will the system be used and work properly if it is being developed and implemented?
- Will there be any resistance from the user that will undetermined the possible application benefits.

**Economical Feasibility:-** In the economic feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs.

## 4 Methodology/ *Planning* of work

Based on VPL-Virtual Programming Lab, it is a activity module that manage programming assignments and whose salient features are:-

- Enable to edit the programs source code in the browser.
- Students can run interactively programs in the browser.
- You can run tests to review the programs.
- Allows searching for similarity between files.
- Allows setting editing restrictions and avoiding external text pasting.

## 5 Facilities required for proposed work

### **Minimum software required:-**

- Win 10 or Ubuntu 18.04
- Xampp
- Moodle
- VPL Plugin

### **Minimum hardware required:-**

- Intel dual core i5
- 512 GB Hard disk
- 12 GB RAM

## 6 References

- [1] “About Moodle”. [Online]. Available: [https://docs.moodle.org/310/en/About\\_Moodle](https://docs.moodle.org/310/en/About_Moodle), 2020.
- [2] Juan C. Rodríguez-del-Pino, Enrique Rubio-Royo, Zenón J. Hernández-Figueroa. (2012). “A Virtual Programming Lab for Moodle with automatic assessment and anti-plagiarism features,” [Online]. Available: [https://www.researchgate.net/publication/275652921\\_A\\_Virtual\\_Programming\\_Lab\\_for\\_Moodle\\_with\\_automatic\\_assessment\\_and\\_anti-plagiarism\\_features](https://www.researchgate.net/publication/275652921_A_Virtual_Programming_Lab_for_Moodle_with_automatic_assessment_and_anti-plagiarism_features).
- [3] “Virtual Programming Lab for Moodle”. [Online]. Available: [https://moodle.org/plugins/mod\\_vpl](https://moodle.org/plugins/mod_vpl), 2020.