

SEM 4 MICRO-PROJECT VIRTUAL PROGRAMING LAB

PROJECT BY:

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ABSTRACT

- VPL-Virtual Programming Lab is the easy way to manage programming assignments. Its features of editing, running and evaluation of programs makes learning process for students, and the evaluation task for teachers, easier than ever. Virtual labs is a web development technology. It does not require any additional infrastructural setup for conducting experiments at user premises. The simulations-based experiments can be accessed remotely via internet. This would help students in learning basic and advanced concepts through remote experimentation. VPL is an 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.
 - Students can test their knowledge through online quiz and assignments.
 - Even faculty members can do continuous assessment as per defined timeline and get feedback of conducted lab session

INTRODUCTION

- The teaching of programming is essential for the development of computer applications and for evolution of technology. The assignments of the early programming courses usually present difficulties for students and need teacher's strong monitoring, for correction and overall orientation towards correct assessment. In this context, virtual learning environment is an important tool on how to teach (and learn) programming, One of these tools is VPL (Virtual Programming Lab) a plug-in developed specifically for Moodle (Modular Object-Oriented Dynamic Learning Environment). This tool allows to edit and execute programs, in a large range of languages, and enables automatic assessment and prompt feedback VPL stores historic results about compilation and implementation of the proposed problems, tracking the student's submissions.

PROBLEM STATEMENT

- To develop a centralized system which will help students in their academics, as well as integrate a platform over which students, teachers from all departments can interact with each other for the overall growth of students.

OBJECTIVE OF PROPOSED SYSTEM

- To reduce the work of students as they keep on writing manuals which takes ample of time.
- The efficient way is after assignments, less effort is required as the student does not need so much attention and assignments grading is much easier using this VPL.

HARDWARE AND SOFTWARE DESIGN

HARDWARE REQUIREMENTS

- RAM : 512 MB RAM
- Hard Drive : 40 GB Hard Drive
- Processor : Intel Core 2 Processor

SOFTWARE REQUIREMENTS

- Languages Used:- CSS,HTML
- Platform:- Windows 10
- The above specified requirements are minimum to run the application.

DESIGN DETAILS:

Functional Requirements:

- In functional requirement, we describe the module we require to develop this project. Functional requirements should include functions performed by specific screens, outlines of workflows performed by the system and other business or compliance requirements the system must meet.

Interface Requirements:

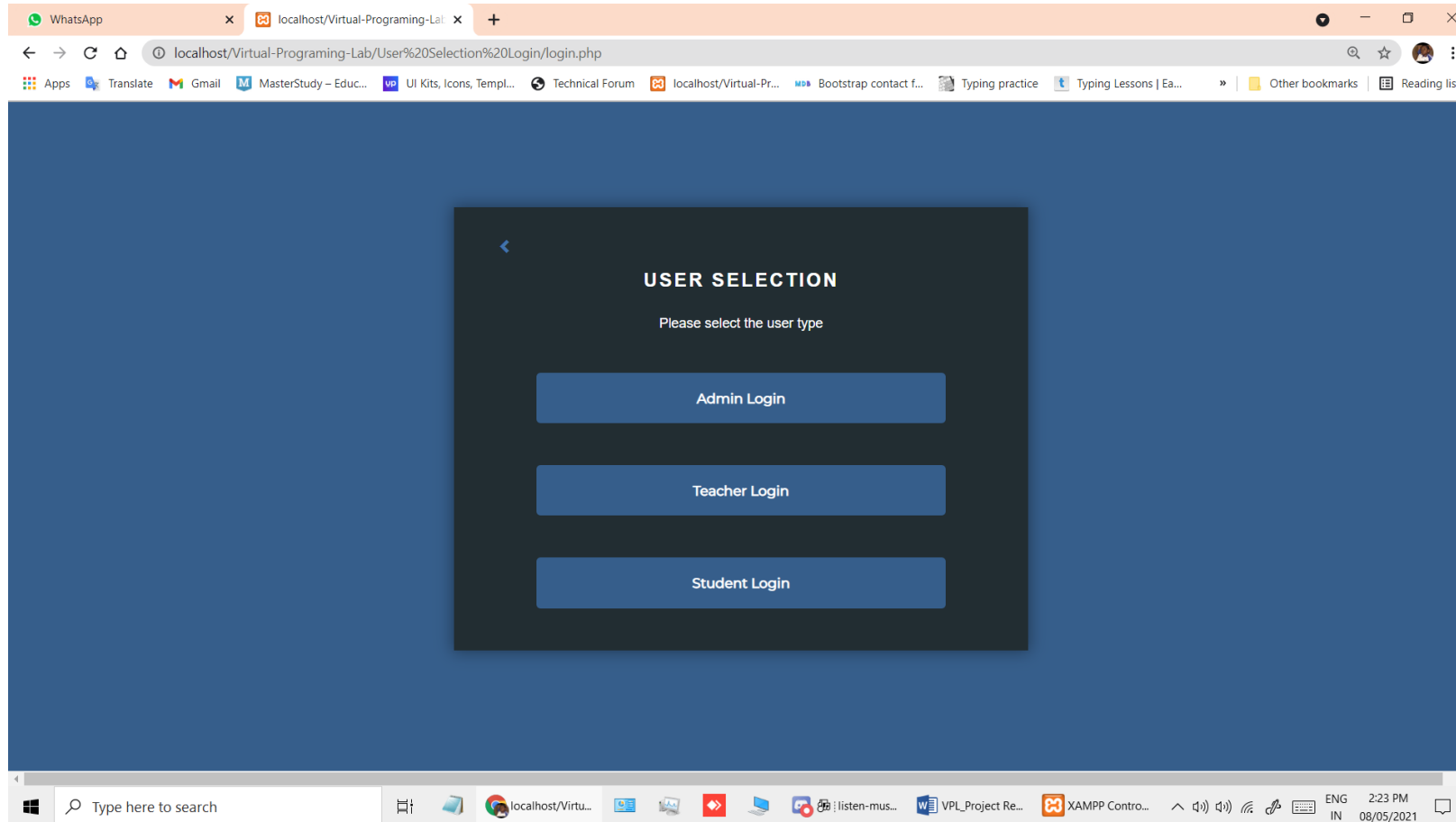
- Field accepts valid data like in password entry it should be more than 8 character-length
- Field accepts numeric data entry
- Field only accepts dates before the current date

Security Requirements:

- Students, Teachers and Admin can use their own username and password for login.
- Admins and teachers can view the the experiments performed by students and can change the introduction related to experiments accordingly

IMPLEMENTATION & RESULT

LOGIN FORM:



STUDENT HOME PAGE:



The screenshot displays a web browser window with two tabs: 'WhatsApp' and 'localhost/Virtual-Programing-Lab'. The address bar shows the URL 'localhost/Virtual-Programing-Lab/Student%20Index/studentindex.php'. The browser's bookmark bar includes links to 'Apps', 'Translate', 'Gmail', 'MasterStudy - Educ...', 'UI Kits, Icons, Templ...', 'Technical Forum', 'localhost/Virtual-Pr...', 'Bootstrap contact f...', 'Typing practice', 'Typing Lessons | Ea...', 'Other bookmarks', and 'Reading list'.

The web application, 'VPL', has a dark blue header with navigation links for 'COURSES', 'ABOUT', and 'LOGOUT'. The main content area features a large 'Virtual Lab' title with the tagline 'Perform, Practice and Learn'. Below this is a search bar labeled 'Search Courses..' with a red search icon. The 'COURSES' section displays two course cards: 'java' with a Java logo and 'c Programming' with a C logo. The Windows taskbar at the bottom shows the search bar, task view icon, and several open applications including 'localhost/Virtual-Pr...', 'listen-music - ...', and 'VPL_Project Report ...'. The system clock indicates the time is 2:26 PM on 08/05/2021.

JAVA COMPILER PAGE:

WhatsApp

Java Console

+

localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/javaConsole.php

Apps Translate Gmail MasterStudy – Educ... UI Kits, Icons, Templ... Technical Forum localhost/Virtual-Pr... Bootstrap contact f... Typing practice Typing Lessons | Ea... Other bookmarks Reading list

VL

HOME

SUBMIT

Java

Code

Write Your Code here

Input

Enter Your Input

Output

Output appears here

Type here to search

Java Console - G...

326811143 - Any...

listen-music...

VPL_Project Rep...

ENG IN

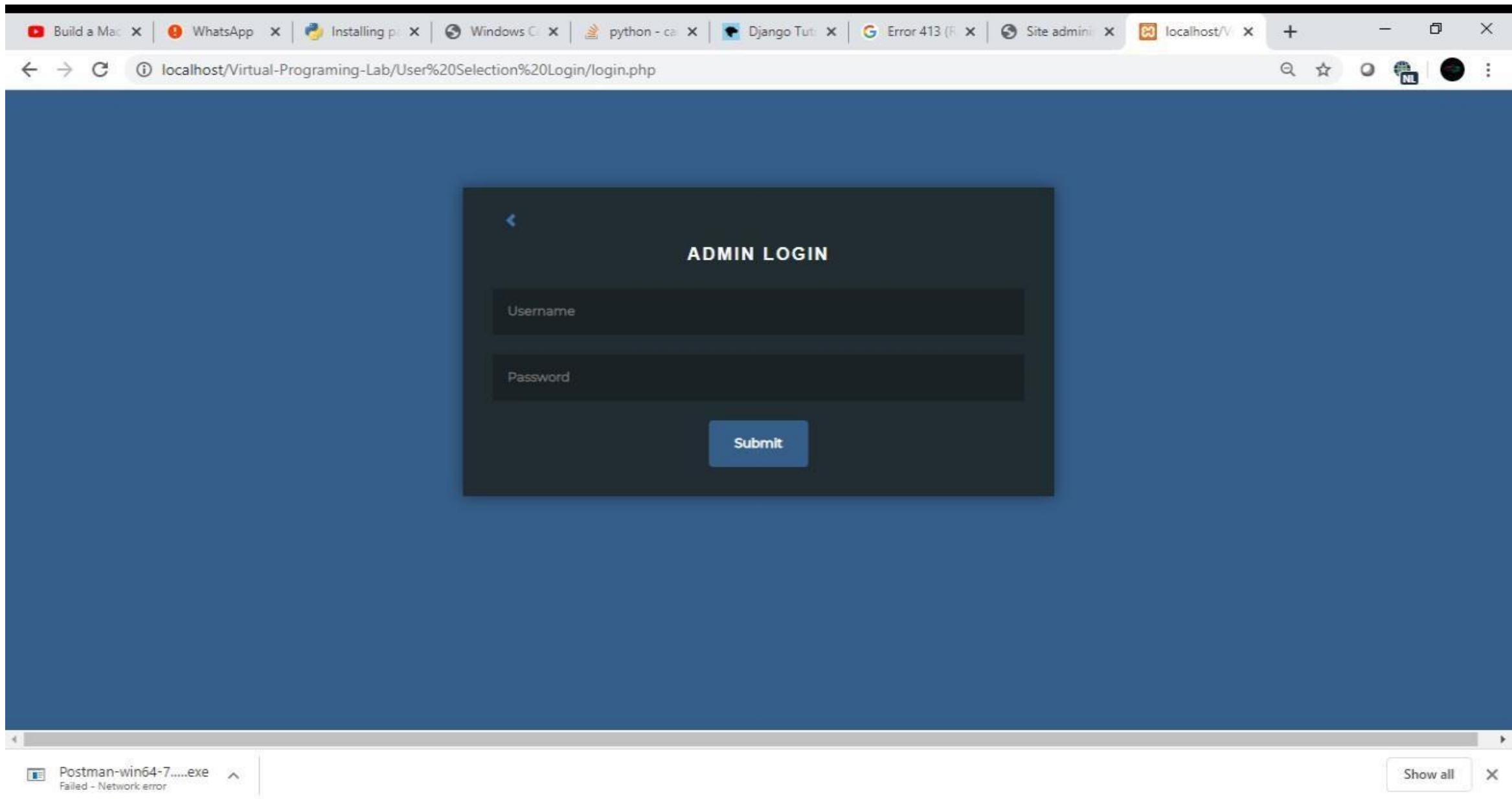
2:58 PM 08/05/2021

C PROGRAMMING COMPILER:

The screenshot shows a web browser window with the following elements:

- Browser Tabs:** WhatsApp, C Console (active), and a new tab (+).
- Address Bar:** localhost/Virtual-Programing-Lab/Online-Compiler-Windows-Server-master/cConsole.php
- Page Header:** VL (Virtual Lab) on the left, Exit and HOME links on the right.
- Main Content Area:**
 - c Programing** (Note the typo in the image)
 - Code:** A large text area with the placeholder "Write Your Code here".
 - Run Code:** A red button to execute the code.
 - Output:** A text area with the placeholder "Output appears here".
 - Input:** A text area on the right with the placeholder "Enter Your Input".
- Windows Taskbar:** Includes a search bar, task view icon, and several open applications: C Console - Goo..., 326811143 - Any..., listen-music..., and VPL_Project Rep... The system clock shows 3:00 PM on 08/05/2021.

ADMIN LOGIN:



ADMIN PANEL:

Build a Mac x WhatsApp x Installing p x Windows C x python - c x Django Tut x Error 413 (F x Site admini x localhost/V x

localhost/Virtual-Programing-Lab/Admin%20Index/addadmin.php

VL Admin Teacher Student HOME

ADD ADMIN PANEL

USERNAME

PASSWORD

REPEAT PASSWORD

Register Admin

Postman-win64-7.....exe
Failed - Network error

Show all x

ADMIN VIEW

#	Username	Options
1	gaurav	Delete
2	rohit	Delete

TEACHER PANEL:

VL Admin Teacher Student HOME

TEACHER VIEW

#	Username	Options
1	gaurav	Delete

Postman-win64-7.....exe Failed - Network error

Show all



localhost/Virtual-Programing-Lab/Teacher%20Index/std-prog-view.php?uid=17203C0036



VL

Student ▾

HOME

STUDENT PROGRESS VIEW

#	Exp-Name	Code	Input	Output	View All
1	exp1-palindrome	View	View	View	View
2	exp2-Simple Interest	View	View	View	View
3	exp3-arrays1	View	View	View	View
4	exp5	View	View	View	View
11	exp22	View	View	View	View
12	exp12345678	View	View	View	View
13	name	View	View	View	View
14	TestExp1	View	View	View	View

CONCLUSION:

- Thus, using these technologies VPL i.e. Virtual Programming Lab was developed for helping students increase their productivity and efficiency.
- With the help of VPL it will reduce the work of writing manuals which takes lot of time and also teachers can view the Student Progress.

FUTURE SCOPE:

- The student and mainly for the teacher. This is because the teacher must plan its activities accordingly, in order to prepare assignments, configure testing environments, and validation parametrization. These tasks take a lot of time. However, after assignments, less effort is required as the student does not need so much attention and assignments grading are much easier. With this system Prospects for all these systems would include to increase their efficiency and to improve their security.

REFERENCES:

- <https://getbootstrap.com/docs/4.0/examples/>
- https://codepen.io/?cfchl captcha tk=6dc9d91c30f6b3eee674c1c12c6cdb1796ec 2cd7-1588451736-0-ARNBgooOlwCe7CPgEvWqBNLDVEF35m7lztNyui1QGTTrqt6ZBDIYJVB2BDv5mCoxjT-TxwiCScFsyoj5Fs WPvYDZvmJ60hQ3Rkhd0HXzegcSkIF6k89gN5H0vXNHZ3E6UdTuz4j_6rtSZtumwEIUL53D20w949IJRHPmVmXuX3ZfD6bHpFJrAUq3QDIDe-1cj2LVacUITl7 fogEa5G3kZzCZJxL-cqH518QU9aUnTmntuZG6M4Fj5cm8xk1DggQ5yAUS5uVTENfpmLK6biCRMebW0i748 KLKKfosdqpdVcvfUia7nYRL2b5yCC8Lc1KHGaX0hXJ753xgODEMuDTT8-AFGAS4ORYbM3CdZruPpXyRTOHETJ G V9R7G jAo-6w1XAwe5LmUKpVtyjMNMwXCQfmyo8j1krIHlz7IR7YVviK8qOlubPPDQ81tFz-5bS-BxXRcXz5bLKPqYBpe2WGjti77TOZDbeYTzYbJ6d7ZxSbUizk5pwBAw05g9XHZ2kXHf0hqFOy1kcwpfus jhRc9UcqX8QYDUrC YP-FkPld

THANK YOU