

Praxis 2017

Problem Statement for 'VESIT HACKs'

VESIT wishes to start a project called Coding'sKool (called as Coding School). Aim of Coding'sKool project is to impart good computer programming skills in VESIT students and develop an easy and transparent mechanism to recognize the students' computer programming skills.

As a part of the progress measure the project defines 4 programmer's proficiency levels (PPL). Description and qualification for obtaining a PPL are mentioned herebelow:

- **Programmer's Proficiency Level 0** (Student to be called as '**Level 0**' programmer)
 - Prerequisite
 - Student has basic Know-How of computer programming
 - To be awarded to any student who has taken and cleared any programming course
- **Programmer's Proficiency Level 1** (Student to be called as '**Level 1**' programmer)
 - Prerequisite
 - Must have qualified Level 0
 - To be awarded to any student who has following skills
 - Does proper indentation while writing a computer program
 - Has typing speed of minimum 30 wpm
 - Has solved at least 50 intermediate level competitive / logical problems
 - Has above average aptitude(Level 1)
 - Knows basic algorithms viz.
 - Sorting
 - Searching
 - etc.
- **Programmer's Proficiency Level 2** (Student to be called as '**Level 2**' programmer)
 - Prerequisite
 - Must have qualified Level 1
 - To be awarded to any student who has following skills
 - Has typing speed of minimum 40 wpm
 - Knows basic system troubleshooting
 - Has good idea of Computer Networking
 - Has good idea of DBMS
 - Knows advanced algorithms viz.
 - Trees
 - Graph
 - etc.
 - Has good idea of OOP

- Has developed at least one good Web App or Mobile App
 - Has solved at least 100 competitive / logical problems
 - Knows Linux basics
 - Has a good aptitude (Level 2)
 - Has proficiency with GitHub or similar platform.
 - Has shown sincerity / dedication in earlier assigned projects.
- **Programmer's Proficiency Level 3** (Student to be called as '**Level 3**' programmer)
 - Prerequisite
 - Must have qualified Level 2
 - This is ultimate Level
 - Criterion for awarding '**Level 3**' should be decided by a panel of experts and the same should be updated from time to time.
 - Current suggestions to award this level to any student are listed below
 - Student should have developed a fully functioning Web App, as well as a Mobile App
 - Preferably using cutting edge technologies
 - These apps should be actually deployed on a proper platform
 - Student should be an advanced user of Linux Operating System
 - Student should have good idea of server security concepts
 - Student should have good idea of setting up clusters and cloud

Your goal is to develop software application to assist the Coding'sKool project.

Suggestions:

1. Good ideas will carry high weightage.
2. Concentrate on proposing a complete, useful system and developing important modules thereof.
3. Plans of developing fully automated tools for checking students' programming skills should be avoided as it is another challenge in itself, rather you should plan to integrate existing facilities of the same nature. It is alright if the process becomes little manual because of this tradeoff.