

Project Proposal

IIT Programming Platform

Course: SE 505 Software Project Lab -II

Submitted by

<i>Md. Hasan Tarek</i>	<i>Roll: 818</i>	<i>2015-16</i>
<i>Md. Shayakh Shihab Uddin</i>	<i>Roll: 813</i>	<i>2015-16</i>

Document Version: 1.0

Submitted to

SPL 2 Coordinators



**Institute of Information Technology
University of Dhaka**

[25-01-2018]

Project Proposal: IIT Programming Platform

25-01-2018

SPL-2 Coordinators

Institute of Information Technology

University of Dhaka.

Subject: Seeking permission for project approval.

Sir

By referring to the above matter, we would like to present the Project Proposal document.

The main purpose of this proposal is to explain the project idea. We hope that going through the document you will leave your suggestions. Please notice for any sort of modification.

Your cooperation is really appreciated.

Sincerely yours

Md. Hasan Tarek

Roll: 0818

Md. Shayakh Shihab Uddin

Roll: 0813

Institute of Information Technology

University of Dhaka.

Date and Signature

Dr. Mohammad Shoyaib

Professor

Institute of Information Technology

University of Dhaka.

Introduction

Online judges are systems designed for the reliable evaluation of algorithm source code submitted by users, which is next compiled and tested in a homogeneous environment. ^[1] A programming platform provides a user the opportunity to practice and develop their skills.

Rationale

There are many online platforms which provide scope for the students to practice programming problems such as LightOJ, Codeforces, UVA etc. Developing the project is mainly focused on the classrooms' programming practices. In today's technologies, there is a little scope for the teachers to set their own problems for their students in an online platform.

We, therefore focus on developing an online platform where teachers can set their problems and evaluate their students' performances.

Objective

The objective of developing an online programming platform is to provide scope to the students interested in programming to practice programming problems.

Again, developing an online programming site is much of challenge as it needs so much effort to ensure system resource usage and efficiency. As a result, it would be very beneficiary to develop our programming skills and project management.

Project Description

In an online platform, there will be some predefined programming problems which are set by some problem setters. Users can surf the problem set which is on the website. Any authenticated user can solve a problem and submit the solution of the problem for judges' query.

The system can compile and execute the solution provided by the user. Then against some pre-constructed input set, the solution is verified. If the solution satisfies all the input set, the solution is accepted as a correct solution. Otherwise, the solution is not granted as a correct solution. There may be a couple of other reasons for the solution not to be a correct solution such as compilation error, segmentation fault, runtime error, memory limit exceed, time limit exceed etc.

The online system also provides an interface to arrange programming contests where contestants compete with each other. Based on the performance of the contestants in the contest, a rank list is generated.

In this platform, any authenticated user can see the problem set and solve problems.

Scope of development

We are interested in developing an online programming platform which will include these features

- Authentication system
- A set of programming problems
- An authenticated user can see the problem set.
- A user can solve the problems and submit it for judges' query.
- The system will check the output results against some predefined input and give a verdict.
- A verdict may be a compilation error, wrong answer and right answer.
- The programming language will be C++.
- A user's profile, where they can update their information, the numbers of problems he/she solved.

In future, we will try to add some other features such as time limit exceed, other programming languages etc.

Stakeholder

A stakeholder is an individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.

The stakeholders of this project are problem setters, participants and an administrator.

Problem setter will set the problem and participants will solve the problem. An administrator is responsible for the maintenance of the site.

Conclusion

A programming platform is important for practicing programming problems to both students and teachers. Building up such a platform will help them in a great way.

References

1. A Survey on Online Judge Systems and Their Applications.
Link:<https://pdfs.semanticscholar.org/6155/6f2b722367c91a60557a1de452452d3bde30.pdf> (Last accessed on 4pm, 24th January 2018)