 **Bangabandhu Sheikh Mujibur Rahman Science and Technology University**

**Department of Computer Science and Engineering**

**(Project Proposal)**

**Application for the Approval of B.Sc. Engineering Project**

**(Computer Science & Engineering)**

**Date: 23.01.2015**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. **Name of the student**   **Roll No.**   **Session**   1. **Present Address** 2. **Name of the Supervisor**   **Designation**   1. **Name of the Department**   **Program**   1. **Date of First Enrolment in the Program** 2. **Tentative Title** | **:** Md. Moshiur Rahman  **:** 20121201029  **:** 2012-2013   |  | | --- | | **:** Swadhinata Dibash Hall, |   BSMRSTU,Gopalganj-8100     |  | | --- | | **:**  Md. Akkas Ali |     **:** Assistant Professor  Dept. of Computer Science and Engineering,  BSMRSTU    **:** Computer Science & Engineering  **:** B.Sc. Engineering  **: 01.01.2013**  **: Desktop Based Programming contest platform** |
|  |  |

1. **Introduction:**

This is a platform where we can arrange programming contests. A programming contest is a kind of contest where contestant have to answer questions writing some codes in some allowed programming languages.

In a programming contest A question set is provided which contains various problems. The question set is also termed as a problemset. Contestant thinks about the problem and solve those problem. When they solve the problem they write the solution in any of some allowed set of programming language. Then the solution is judged. The judgment is done with contest platform. This is nearly impossible to judge with eye(without any platform) as the same Accepted solution of a problem in any programming contest may look different. So, A platform is needed to arrange a programming contest.

A programming contest platform is mainly of two different kind.

One of them accepts contestant’s solution as source code in any of some set of programming language. Then compile the source code. If It’s successfully compiled then The compiled program is run against some hidden input file and generate some output. If the generated output is correct then the solution is accepted, otherwise, rejected!

Another kind platform provides contestant some random input and contestant generate an output file and submit the output file to the platform. If contestant submit the correct output file then the submission is accepted, otherwise, rejected!

Platform of first kind can accommodate less contestant than of second kind. Because in the first kind platform has huge pressure running contestant’s code in the server side. On the other hand In second kind there is huge task of the platform to run contestant code. So it can accommodate a large number of contestant.

In both kind of platform they provided an scoreboard.

**8. Background and present state of the problem:**

Very common and popular freeware desktop based platform in recent past is PC^2 read as “PC Square”. This is a first kind of platform. There are some java applications to arrange a contest in PC^2. But the features are so limited and also not very user-friendly. In every contestant’s PC there should be a PC^2 app and they need to be configured! Then, contestant can only send the solution with this platform. For scoreboard and problem-set they need to access some other website through Web Browsers. And the submission judgment is also manual.

Then there comes platform which is Accessible fully with web browsers. They are modern contest platforms. They are so user-friendly and there is no need to configure every PC to arrange a contest. So, PC^2 is rarely used now. The modern platform are used to arrange a Programming contest. Some examples of modern platforms are given below:-

Some example of first kind platform are Codeforces, Codechef, Topcoder, HackerRank, CodeMarshal, Toph, LightOJ. Codeforces can accomote about 10K participants at a time. Codemarshal, Toph and LightOJ are Bangladeshi platforms.

Google Codejam, Facebook HackerCup platform are examples of second type. They can accomate very huge number of contestants(>50K).

All of these platform are Some Web domain and only accessible via internet. Any of them are not desktop based anymore. If there is no uninterrupted internet connection they are not usable. And they are not suitable to arrange small contest like weekly practice contests.

So, this is a project to build a desktop based platform which can be accessible via Web Browsers and also have almost every modern platform features.

**9. Objective with specific aims and possible outcomes:**

### Build a Desktop based Programming contest platform.

### Accessible via Web Browser in contestant and judge end.

### Automatic Submission Judgment. Manual is also supported.

**10. Features:**

### In platform problem-set distribution.

### Code viewing mechanism. \* this feature will be included to BSMRSTU domain.

### Challenge-accepted-solution round will be included after contests.

### Capability of submission after contest for the purpose of practice.

**11. Proposed method**

There will be two end of the platform.

User Interface and Interaction end.  
  
tools: php, html, css, javascript, jquery ,ajax

Submission Judgment End.  
  
tools: java, c++, Windows Kernel Programming

Mysql as database, Apache as http server.

The communication between this two end will be done through database and some file system based message passing.

**12. References:**

**[1]** http://stackoverflow.com/

**[2]** www.w3schools.com

**[3]** www.codeforces.com

**[4]** www.codemarshal.com

**13. Cost Estimation:**

There is no hardware upgrade needed. It’ll be compatible with existing windows based Desktop.

So, there is no hardware cost.

And as it’ll be accessible in local area and Already existing bsmrstu.edu.bd domain. So, there is no domain cost also.

And all the coding and building the project will be done by me.  
So, it’s **Free of cost** **.**

**----------------------------------**

**Signature of the student**

**----------------------------------**

**Signature of the supervisor**

**---------------------------------------------------**

**Signature of the chairman of the department**