



Deep Seed

Solutions

Beyond Technology

DEEP SEED SOLUTIONS' 2017 RECRUITMENT CAMPAIGN**Software Developer****Tests of logic and specific skills*****Written by:******Matheus Passos – Software Engineer at Deep Seed Solutions******July 2017***

1. Problem Description

You have a main desktop application that needs to pass some data to a plugin (DLL) which in its turn will present this data graphically, following the given guidelines.

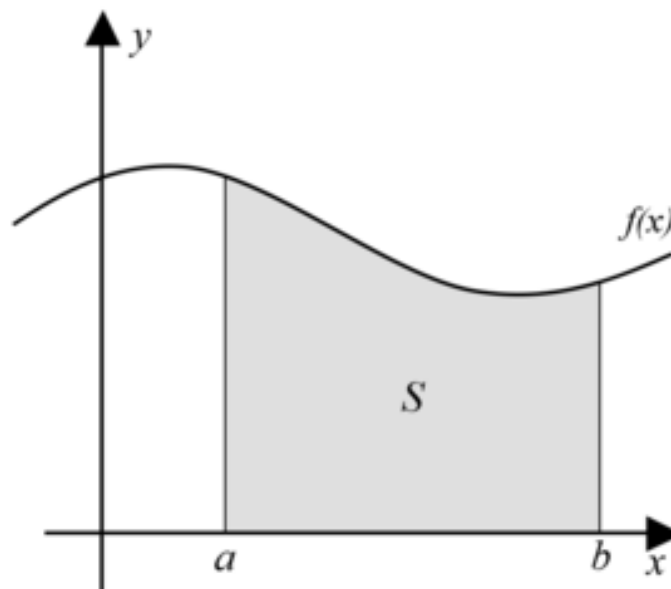
2. Development environment

Qt is the corporative cross-platform application framework. The code to be developed and delivered by the candidate is for test purposes, idealized and conceived by Deep Seed Solutions unique and exclusively to evaluate the applicant skills. No commercial software or alike (add-ons, plug-ins, macros, etc.) are applicable, which makes the code eligible to be constructed using Qt open source environment. Download and use the latest Qt Community version that will work on your environment.

3. Guidelines

The main information for the problem definition are present as follows:

- The candidate shall create a simple main application project with a user interface that will allow the end user to input X and Y values (10 values).
- While inputting the data, the user will click on a button on the main interface. This button will take the X and Y values and pass to the plugin.
- The candidate shall create a simple plugin project that will receive the Y values inputted by the user and integrate it along X-axis.
- Once the Y values are obtained, they must be returned to the main application, which will display the X domain values and integrated Y values to the user through an interface (could be a table or chart, whatever display device).



4. Scope

- The main project application shall contain the user interface as described.
- The plugin project shall receive the data work it and return the result.
- When the work is done, compile both projects as release.

5. Deliverables

- Main Project Application (all necessary files to compile the project)
 - Project (*.pro) file;
 - Header (*.h) file(s);
 - Source (*.cpp) file(s).
 - User interface (*.ui) files.
- Plugin Project (all necessary files to compile the project)
 - Project (*.pro) file;
 - Header (*.h) file(s);
 - Source (*.cpp) file(s).
- Main application EXE file, Plugin DLL file and all other files necessary to run the application outside Qt Creator environment contained in a separated folder.

6. Deadline

The proposed task is dimensioned to be executed with good margin within 1 working day, and scheduled to commence at the most convenient time for the candidate, who must deliver the results within 24h counting from the time he/she receives this test instruction. It is strongly recommended not to exceed 8 hours of work.

7. Performance indicators tips

- Objectiveness: Go straight to the point. Avoid unnecessary processes and optimize as much as possible the structure size & syntax;
- Clearness: Use wisely comments and indentations within the code. Keep in mind that everyone on board eventually has to hand-over/get the job to/from a peer;
- Stability: Observe that the application must be unconditionally stable no matter how many times the user uses its functionalities;
- Quality: Revise what is produced by yourself and present the product of your effort in a properly manner. Type mismatch, bad mathematical formulations and disordered code structure in programming do not bring confidence.