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iEx6

Software Engineering I

CS 4263

1. Describe three services that a good programming environment should provide

The first service should be a clear syntax error indicator. While programming it is easy to hit wrong keys and not realize it, and a nice programming environment should offer some word-processing-like indication of incorrect syntax. The next service is a stable environment with an “crash protection.” A program that is buggy and crashes a lot which causes a loss of data can be very hindering to development. The last service

2. Describe three things you like about the Dracula programming environment

I like the ability to open multiple projects in tabs within one window with Dracula. It makes it very easy to include other files in a single project which I like. Lastly, I find it very helpful that Dracula color-codes text within the code for a project.

3. Describe three things you dislike about the Dracula programming environment

I dislike how the program tends to crash and/or ask for more memory if I accidentally write an infinite loop. I also dislike the slow loading time each time I open a new project. Lastly, I dislike the debugging ability of Dracula. It would be very helpful if Dracula could assist a little more with identifying compile errors.

4. Suppose you are a software engineer in an organization that has received a contract to design and implement the control software for a new kind of nuclear reactor to be constructed in a densely populated area. You have been assigned the task of choosing the programming environment to be used in the project. Draft a one-page memo that specifies the programming environment and provides a convincing rationale for that choice.

SUBJECT: Programming Environment Proposal

I propose the programming environment software to be used for the control software for the nuclear project should be Eclipse. This open-source software provides several useful tools which aid in development and is a diverse and stable environment.

Eclipse offers developers several tools to aid in writing programs. This environment is capable of project development in several languages including Java and C/C++. In addition, it is capable of programming for Android devices. This would benefit our organization by allowing us to develop programs which allowed monitoring of the site remotely. Furthermore, the environment itself is aided with ample online documentation to assist with the development. Lastly, the Eclipse environment offers coders several tools while programming to aid in debugging and software correctness.

In addition to the tools available to developers, Eclipse is a diverse and stable environment. Like previously mentioned, it is capable of programming in Java, C/C++, and Android, but is also able to develop web pages as well. This diversity would give freedom in not only developing a single desktop monitoring software, but would also give us the freedom to develop mobile and web software. Having access to the monitoring software could be important in critical situations to prevent disasters and Eclipse would provide us the ability to do so. Furthermore, since Eclipse is open-source, it is a stable user-tested environment that our organization can count on during our development and maintenance processes.

Overall, it is my recommendation that we utilize Eclipse as our programming environment for developing the nuclear monitoring system. Eclipse offers diverse tools and languages which would allow us to create an array of monitoring systems, has thorough and complete documentation online to aid in development, and is a stable environment proven to yield results.