# iEx6 - Programming Environment Survey

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CS 4263

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Things a good environment should have.

1. Debugging – Debugging is one of the most frustrating and time consuming aspects of programming. A good programming environment should have a good debugger to help ease the stress of finding bugs.
2. File Organization – Since no real program is just a single file, a good environment needs to have some way of organizing the files into an easily readable and navigable format.
3. Text Editing Tools – This one almost goes without saying, but any kind of tool that helps with the text of the code. Highlighting, parenthesis closing, tabbing, etc. would fall under this category.

Things I like about Dracula.

1. GUI Stuff – Once you've learned them, the graphics functionality of Dracula is quite intuitive and lends itself nicely to a functional programming language.
2. Check Expects – Very simply done and allows you to think ahead of time on what your functions need to actually do.
3. Theorem Checker – Fairly intuitive and guaranteeing that certain parts of your code will work is a nice thing.

Things I do not like about Dracula.

1. Debugger – Crashes half the time I use it and even when it does work doesn't always give usable information.
2. Documentation – Very little documentation seems to exist on the main Dracula website. There is some scattered across the internet, but finding it can very difficult and even when you do, it's not comprehensive.
3. Error Messages – I've probably had three error messages total that have made instant since. Usually all I can get it what operation I used spawned the error.

# Programming Environment

**To**: Engineering Lead
**From**: Matt Rainwater
**Date**: November 15, 2011
**Re**: Nuclear Facility Programming Environment Selection

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For this task, the most important feature we should require of our programming environment is the ability to *guarantee* the code will perform as expected.

Since this facility will be placed in a densely populated area, the safety of the surrounding people should be our top priority. By using an environment that can guarantee that code will do exactly as we wish it to, we can more safely protect the people who live nearby. The best programming environment for this purpose is ACL2.

With several ways to extend its already impressive ability to test and prove code, ACL2 is the best choice to provide the features we need to properly control the nuclear facility.