

CSE 324 Project #2

Critical Language Selection

Introduction & Goal:

The goal of this project is to take what you learned from Project 1 and expand on it to a more practical application. In Project 1 you spent time researching and evaluating the strengths and capabilities of three different languages: C++, C# and Perl. In this project, you are going to be cast as a technical consultant and must select which of the three languages would be best for your customer's needs. You will then write a proposal to be submitted to your client containing your top recommendation using arguments based on the research you performed in Project 1. You may perform additional research if you feel that it would improve your work.

Scenario:

Your client is Mr. Phineas, the owner and CEO of an up and coming department store chain “Geek Chic”. He has had many complaints about the generic commercial Point of Sale (POS) and Inventory systems that his company is currently using, and so he is in the market for a proprietary custom build. This is where you come in. You are a consultant with one of several software development companies that are competing to acquire this lucrative contract. Mr. Ferb, an adviser to Mr. Phineas, is fairly knowledgeable about software and computer systems in general and will be overseeing the selection process. As such, you will need to impress him with your expertise and knowledge in order to secure your company's bid for the contract. Since Mr. Ferb has received numerous bids for this contract, he decided to turn it in to a competition in order to determine the best software developer for the job. The rules of this competition are as follows:

Requirements:

You are required to write a proposal according to the following items.

1. You must select a single programming language from the set of C++, C#, and Perl to implement the POS and Inventory systems. There is **NO** right or wrong choice out of these three languages.
2. You must identify the pros and cons of a language and assign them priority in a business setting.
 - For instance, using a language that is Efficient might not be as useful as having one that is more Robust and Secure. It all comes down to what you believe should have the highest priority and why. Your priority choices should be clear, if not explicit.
 - Note that for this exercise, you get to decide the priority, there is **NO** right or wrong choice. However, you are required to back up your choices with sound arguments and facts from your research. If you perform any additional research for this project, then you need to properly cite it in an appendix to your proposal
3. You must explain why you believe that your language selection is the best overall for implementing the POS and Inventory systems.
 - The POS system includes Cash register software (physical POS), Online register software (online POS) and it must interface with the Inventory system to accurately track items sold.
 - The Inventory system includes software to track current inventory, online orders, individual

- item sales, sale trends and to automatically order more product when its stock has been depleted.
- You are **NOT** responsible for accounting for additional infrastructure software, such as databases and websites. Assume that a generic set is being used that will interface equally well with all three languages.
4. You are **NOT** responsible for designing these systems and their components. You are only required to identify the attributes of your chosen language that are beneficial / detrimental to them.
 - (Extra Credit) Geek Chic is always looking to innovate new ideas. You may opt to design unique and useful new solutions that would make your selected language more appealing. For example, redesigning the Cash Register system to work with tablets could make Platform Independence and Efficiency more appealing.
 5. Your arguments must be made with respect to the 6 categories from Project 1. As a reminder, they are: Power, Readability and Maintenance, Security, Robustness, Efficiency and Platform Independence. All of these items need to be addressed clearly in your paper.
 6. Mr. Ferb is no fool, and he will not buy your Free Lunch. If you only present him with the good qualities of your language, then he will question what it is that you left out. You need to discuss the detriments to using your language and explain why they are acceptable and should be tolerated in the final product.

Formatting:

All proposals must be submitted in the PDF format. ACM format is unnecessary for this assignment, but it should still be written in a formal style, ie. 11pt font, 1" margins, section headings, references, etc. The proposal should have an Introduction and a Conclusion as well as several other sections that comprise the body of the proposal. This is left intentionally vague to allow you a greater degree of freedom to form your arguments and be persuasive. Your proposal is limited to a **total** length of 7 pages of content (not including appendices or citations).

Grading:

Each report will be graded as follows:

- 10% Formatting & Proper Submission
- 50% Arguments Supporting Your Language Choice
 - 30% Analysis of the Strengths of your Choice
 - 20% Analysis of the Weaknesses of your Choice
- 25% Addressing elements of the POS and Inventory Systems with Regards to Your Language Choice (minimum required is the elements listed in Requirements Section 3)
- 15% Persuasiveness

Extra Credit: Up to 20% per system innovation that would improve the business appeal of your language (Maximum 2 innovations that must be in their own section of your proposal)

Caution: Spelling & Grammar will influence your grade.

Project Submission:

Your assignment must be submitted before class on the due date to the moodle website as a single **PDF** file. The assignment's PDF file **MUST** conform to the following naming convention “lastname_project2.pdf”

Example: John Ashcroft would use the file name: “ashcroft_project2.pdf”

Note: All sources must be both scientific and credible (not Wikipedia). All work must be your own and you must cite any contributions that you receive from classmates or external sources; failure to do so will result in a zero for the report. All rules in the Academic Honesty Policy strictly apply