Software Kills

Motivation

You must, by now, know of my emphasis on code quality. I have said many times **"Software Kills"**. Maybe you've believed me, maybe you've blown me off as being dramatic.

This course, CSC 4730, is one of our Department's only two "systems courses". In this course, in particular, we study concurrent programming. Concurrent programming is amongst the most difficult kinds of programming to get right. Concurrency bugs, such as "race conditions" can be extremely difficult to diagnose and fix.

Assignment

You are to write a 500 word essay after having researched the case of the Therac-25. These words must be divided in the following way:

Description (100 words)

In this section, you will describe the background of the Therac-25 case. You must do this in formal and clinical terms, appropriate in tone and style of an engineering document.

Reflection (400 words)

You must write 400 words in reflection upon what you think and feel YOUR responsibility is, and obligations to society are in your practice of the discipline of Computer Science.

Some ideas to help suggest lines of reflection:

- Describe how the story of the Therac-25 has, or has not, changed your views of your own role as a software engineer.

- Describe some concrete practices you might change in your own work prompted by having done this assignment.

- Try to imagine yourself ten years from now. How do you think your coding practices and approaches to testing and debugging might differ from those you have today?

Sources and Research Requirement

Here are two suggested sources to get you going.

1. UT
2. CalPoly

Notice, both of these are from respected R1 (i.e. Research) universities. You are required to locate at least two more sources from other mainstream media (i.e. not random dudes on the Internet). Please list these at the end of your document (like an informal bibliography).

What does NOT count towards word count

Among the things that do not count towards your word count:

1. Headings do not count.

2. Your bibliographic text does not count.

3. Your name, date, the course name, etc. do not count.

What does count towards word count

Only your prose, laid out into the two sections described above.

Evidence of thought

I have read the Wikipedia article.

I have asked chat-gpt to do this assignment. Several times. In different ways.

Your results should not closely resemble the above but instead must demonstrate evidence of YOUR thought.

Allowed variance from 500 words

Word count may be no less than 450 and no more than 550.

What to hand in

Please hand in only PDF files.

Scaling the work

This reasonable looking web site says a typical college paper is 1500 to 5000 words. I hope 500 isn't seen as a burden when being asked to describe how you approach what can be a life-and-death subject.