Homework 1 — Therac-25

Due: September 6, 2017

This assignment focuses on the need for software engineering techniques and software development processes. You are asked to write a thoughtful 1 page (single-spaced, 11-point font, 1-inch margins) critique on the potential negative impacts when ad hoc software engineering techniques are used in the development of safety-critical, high-assurance applications.

After reading the Therac-25 paper, write a 1-page critique that addresses the following points. Use concrete examples to support your arguments.

1. Who was at fault for the Therac-25 accidents?

2. What could/should have been done differently to prevent such tragedies?

3. Describe similar software-based accidents that have happened in the past 5 years in the automotive or medical fields. Explain why and how. What can be done to prevent future such accidents?

Your critique will be evaluated according to the following criteria:

• Have you presented a cohesive write up? (Do not submit short answers for each of the above points. The critique should be read as one document.)

• Have you addressed all of the technical points, using concrete examples to support your arguments?

• Does each paragraph have a thesis sentence with the paragraph body containing supporting text?

• Has the document been thoroughly proofread and typos eliminated?

• If you cite examples from the literature, be sure to include a citation in the body text and a bibliography section at the end of the write up (this information can float to the second page).