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SE 494: Ethics Essay

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If I was a software engineer in the Therac-25 project I would have tried to lead an effort to do more end-to-end testing with the entire system before assembling it in the hospital. Even though the error occurred in a very specific case, doing more testing of common settings and procedures done on the machine could have potentially brought the flaw to light. Another thing I would have done is ensure that documentation was very thorough and changed the error messages to more accurately convey what is going on through the system. If the error messages were more than just “MALFUNCTION” then people using the system may have taken more time to evaluate what is happening in the system and look at the manual. The manual would then properly explain what the error codes mean as well as potentially effects it may have on the machine and the patient.

I think the engineers in the Therac-25 project ended up doing what they did because of time constraints and wanting to cut cost. Removing the hardware lock component of the system I believe was solely to cut the cost to produce the system. Cutting cost was probably one of the requirements when creating the new system and they saw that as a way to do it, since it could be reproduced using software. Blindly using code from the previous system was probably due to time constraints. I worked on recreating an old prototype this past summer, and we spent a large amount of time trying to figure out what they did and talking to old employees that worked in the project. This was very helpful because then we understood the entire system and new where to start. I believe this is a step that if you have the time must be done and the engineering team did not because of constraints on time or potentially lack of people to talk to.