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Chapter 8 questions

8.1, 8.2, 8.4, 8.6

8.1 There was the therac25 incident outlined in the book as well as some billing errors such as a woman receiving a $6.3 million bill for electricity caused by not testing the systems before putting them in use.

8.2 Two of the cases were from the NASA shuttle launches that each ended in disaster killing the crew on board. The Challenger incident NASA was warned by the engineers that it may not be safe to launch on the cold day but they went ahead anyway and the other was from the Columbia when some foam dislodged and struck a wing but they went ahead with the mission anyways.

8.4 The Therac-25 reused some software from the Therac-20 and they made some assumptions about the software being okay. Due to this the Therac-25 malfunctioned frequently.

8.6 Feedback principle is extremely important in applications because it allows the user to know what is going on.

8.20 The program should check for empty seats on the ride and show a display of which seats are empty before the ride starts so the person running the ride can ensure the program is correct. The system should implement emergency stop and other emergency protocols to ensure the rider safety. The program should include sensors for the safety harnesses to ensure that all of them are locked in place before the ride can start. Once the system has been developed it should be tested multiple times in all sorts of conditions to ensure it is safe for the general public.