**REFLECTION 2**

What is the difference from “Fault”, “Error” and “Failure? Well, this would be all categorized as dependability that we read in chapter 13 and 14. If we talk in term of dependability it is the system property that cohesively unite elements such attributes as reliability, availability, safety, security, survivability, maintainability. The aim of the reflection is to summarize basic concepts of dependability occur in several articles: Thearac-25 Accident, 2010 Radiation Follies, FBI Auto Warning, Spacecraft Accident, FBI Fiasco 2005, FBI Fiasco 2010, Why Software Project Fail etc.. A structured view of dependability follows, according to a) the threats, i.e., faults:  It is a condition that causes the software to fail to perform its required function., errors:  refers to difference between Actual Output and Expected output and failures: It is the inability of a system or component to perform required function according to its specification., b) the attributes, and c) the means for dependability, that are fault prevention, fault tolerance, fault removal and fault forecasting. If we look at the article Thearac-25 Accident which discusses radiation therapy machine. One can see it is a major breach security and dependability. It is basically a X-Ray or a combination of electron to kill cancer cell deep in the body. However, this type of treatment killed many people due to overdose of radiation in the body. This is “Fault” because it was discovered that there were many bugs in the software meaning the bug was the component which was the turntable and magnets being in the wrong position and in causing overdosing patients. Preliminary risk assessment and analysis aim to identify the generic security risks for a system and its associated data. This risk assessment is an important input to the security requirements engineering process. Security requirements can be proposed to support the general risk management strategies of avoidance, detection, and mitigation. Which they failed to do. Which is a faulty software design. Then if we look at 2010 Radiation Follie is another radiation overdose case. While in some cases technicians did not know how to properly administer the test, interviews with hospital officials and a review of public records raise new questions about the role of manufacturers, including how well they design their software and equipment and train those who use them. If we look at the article “Why So Project Fail” it is stated that 55 % project fail due to the lack of time, staff and resources. Hospital are populated throughout the world and the amount of equipment and software they need only increases so we can assume that software engineers are pressured to produce fast and efficient software which can connect to the lack of time. Both causes of overdose can also relate to the lack of testing that manufacturers did. But when there’s a lot of pressure to deliver on a project at a certain time, testing is typically the first thing to be abandoned. If we look at the article Spacecraft Accidents which is collection of software failure in spacecraft and look at some of the accidents. For example: Ariane 501 which flew off course. If we look at the accident report we can discover the loss of information was due to specification and design errors in the software of the inertial reference system. The software was reused from the Ariane 4 and included functions that were not needed for Ariane 5 but were left in for “commonality.” In fact, these functions were useful but not required for the Ariane 4 either. However, I just see this a laziness and not wanted to modify such changes to be efficient thus I find this as an exposure which is possible loss or harm to a computing system. This can be loss or damage to data or can be a loss of time and effort if recovery is necessary after a security breach. If we look at the rest of the article we will see the same pattern of common trends that is breach of security such as : insufficient time, inadequate planning, unclear on project specifications, to many people on one project and lack of testing .