Solutions: Chapter 2~~1~~: ~~Software and~~ Software Engineering

2.1) You might suggest that students use the Further Readings and Information Sources section of Chapter 21~~16~~ for pointers.

2.2) The definition for software engineering applies to the WebApps since quality and reasonable development costs are important to their creation. The subtle difference between a WebApp and a conventional software product is the need for short development times and acquisition process for web content. This the suggests the use of agile process models that will discussed later in the text and including aesthetics as part of the design considerations included during user interface design.

2.3) There are literally dozens of real life circumstances to choose from. For example, software errors that have caused major telephone networks to fail, failures in avionics that have contributed to plane crashes, computer viruses (e.g., Michelangelo) that have caused significant economic losses and attacks on major e-commerce sites.

2.4) Process framework is applicable to all the projects; hence the same work tasks are applied for all projects, regardless of their size or complexity. A process framework involves heavy communication with the customer to gather requirements; this activity establishes a plan for the software engineering work that follows. It involves creation of models that will assist the developer and the customer to understand the requirements and design them; it thereby involves construction (code generation and error testing). It finally provides feedback based on the evaluation.

2.5) The umbrella activities occur throughout the software process they are applied evenly across the process, the analysis encompass a set of work tasks (eg. requirement gathering, elaboration, negotiation specification and validation). A process framework has a set of umbrella activities that are applicable across the entire software process. These activities include Software project tracking and control, Risk management, Software quality assurance, and formal technical reviews, measurement, Software configuration management, reusability management and work product preparation and production.

2.6) Answers will vary (e.g. Testing can be used to remove all program errors).