CSC305 - Software Engineering, Fall 2006

The Reunion: A Software Engineering Metaphor

Your Name: ____________________________________________________________

This exam is worth 10 points.

Instructions, Tips, Advice

1). Read the story twice. The first time, just read it to get your mind around what's going on. The second time, look for clues. Note that particular sentences are numbered. Pay attention to these and don't be concerned if you aren't sure why they're important.

2). Read the quiz twice. The first time, just read it to get your mind around what the quiz wants to know. The second time, understand the quoted passages and explanations forming the questions.

3). Read the story a third time and, as you encounter each numbered sentence, determine if there's a place for it in the quiz. If there is, write it down everywhere it applied. Then continue reading & answering.

4). I've tested this quiz on a number of very old people. On average, it takes 2 hours to do all the reading and answering as described above. It will be 2 of the best hours you'll ever devote to understanding Software Engineering.

QUIZ

1). Brooks says "People Are Everything..." which reinforces his "...conviction that the quality of the people on a project, and their organization and management, are much more important factors in success than are the tools they use or the technical approaches they take." He goes on to say, "...Boehm's COCOMO model finds that the quality of the team is by far the largest factor in its success, indeed four times more potent than the next largest factor. Most academic research on software engineering has concentrated on tools." Brooks cites the work of DeMarco and Lister wherein they theorize that "The major problems of our work are not so much technological as sociological in nature."

List the sentences that tend to support these assertions.

List the sentences that suggest the reunion will be performed by a strong team.

List the sentences that suggest the reunion will be performed by a weak team.
2). In Chapter 7 of the Brooks text, Brooks asserts that "The Tower of Babel project failed because of lack of communication and of its consequent, organization." It's possible that the reunion project will fail for the same reasons.

List the sentences that suggest that the Reunion project will NOT fail due to communication or organizational issues.

List the sentences that suggest that the Reunion project WILL fail due to communication or organizational issues.

3). Brooks refers to "conceptual integrity" (ch. 4, "Aristocracy, Democracy, and System Design."). He says that "to achieve conceptual integrity, a design must proceed from one mind or a small group of agreeing minds." He further asserts "If a system is to have conceptual integrity, someone must control the concepts. That is an aristocracy that needs no apology." He claims that "...most programming systems reflect conceptual disunity...not from a serial succession of master designers, but from the separation of design into many tasks done by many [people]...It is better to have a system omit certain anomalous features and improvements, but to reflect one set of design ideas, than to have one that contains many good but independent and uncoordinated ideas." [pg 42]. In other words, a website with consistent color schemes, iconography, navigation menus, fonts, and other features, across all pages in the website, demonstrates a website with strong conceptual integrity. A website that uses different fonts and color schemes on every page lacks conceptual integrity, and might be an example of a website where each individual was assigned the task of designing and developing his or her own page.

List the sentences in the story that tend to support a reunion that will have conceptual integrity.

List the sentences in the story that suggest a reunion bereft of conceptual integrity.

4). While addressing the artifacts (a.k.a. "documents") that a manager depends upon most, Brooks states, "...a certain small set of these documents embodies and expresses much of his managerial work. The preparation of each one serves as a major occasion for focusing thought and crystallizing discussions that otherwise would wander endlessly. It's maintenance becomes his surveillance and warning mechanism. The document itself serves as a check list, a status control, and a data base for his reporting."

List the sentences that suggest Brad and Jane will have documented their goals or tasks.

List the sentences that suggest Brad and/or Jane will have undocumented goals or tasks.
5). Brooks quotes "Conway's Law" which predicts: "Organizations which design systems are constrained to produce systems which are copies of the communication structures of these organizations."

List the sentences that suggest ways in which the reunion will reflect the communications between Jane and Brad.

6). Brooks says, "Only when one writes do the gaps appear and the inconsistencies protrude."

List the sentences that suggest that Jane and Brad are closing gaps by documenting their plans.

7). According to the "Building Blocks for Teams" website at http://tlt.its.psu.edu/suggestions/teams/about/definition.html, quoting Katzenbach and Smith, "A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they are mutually accountable."

List the sentences that suggest the reunion is being organized and executed by a team.

List the sentences that suggest the reunion is NOT being organized and executed by a team.

8). At the Department of Justice Systems Development Life Cycle website, found at http://www.usdoj.gov/jmd/irm/lifecycle/chi.htm#para1, the authors claim that, "The DOJ spends millions of dollars each year on the acquisition, design, development, implementation, and maintenance of information systems vital to mission programs and administrative functions....There is also a need...to develop acceptable implementation strategies for these practices." They conclude, therefore, that "The DOJ needs a systematic and uniform methodology for information systems development. Using this SDLC will ensure that systems developed by the Department meet IT mission objectives; are compliant with the current and planned...ITA..." and other factors.

List the sentences that suggest Jane and Brad are going to make wise use of their money in order to get the most reunion for their buck.
9). A risk factor is some assumption that may or may not come true. The assumption will either go their way, or it won't. If it does, everything goes smoothly. If it doesn't, the goal is at "risk" of being unachievable. List all of the sentences that suggest risk factors.

10). In short-essay form (a few paragraphs will do), predict the outcome of the reunion. Be prepared to discuss your prediction in class. In particular, be prepared to explain why you think your forecast will come true.