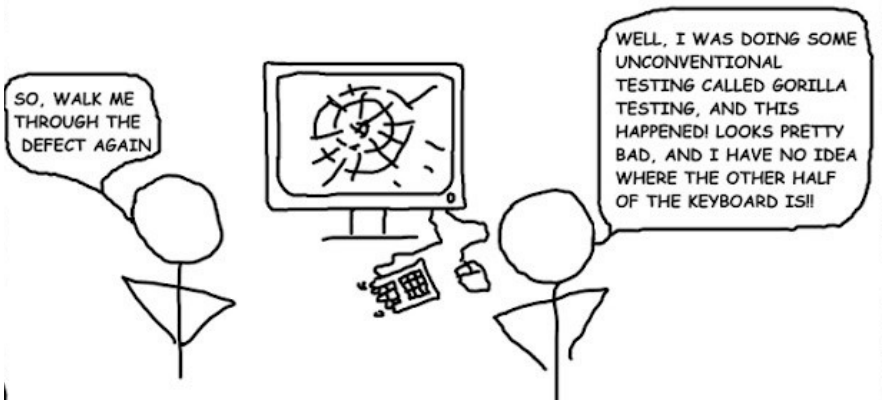
IC470, Software Engineering

Lab7 Peer Testing

Due: As per the course syllabus

Focus: Peer testing of another lab group's working system



Grading: Since this is *peer* testing, your evaluation results will not impact the other group's grades in this course. **However**, *your* group will be graded based on the quality of your Peer Testing Report (outline given in section 3 below).

Lab group: If there are other mids in this section from your capstone team, you may work together as a lab group. If not, pair up with another free mid from this section and work together as a lab group.

1. Find another lab group in this section. Lab groups with mids from different capstone teams will select one of their systems to be tested as part of this review.
    a. Note that you will need <u>two copies</u> of the Peer Testing Report (part 3) so type up your responses rather than hand write them.

2. **Peer Testing.** Take turns having one lab group run *their own* capstone system for another lab group (the 'other' lab group is referred to below as the 'Testers'):

    a. **Lab group whose system is being tested**: Bring up a copy of your capstone's Functional Requirements Trace Table.

    b. **Acceptance testing:** Acceptance testing attempts to verify whether the system meets the customer-specified requirements by running test cases that trace back to the system's functional requirements.

i. **Lab group being tested**: Run your system for the Testers and demonstrate all of your acceptance test plan test cases that *you* think your system passes *using input values that you select*.
ii. **Testers**: Keep track of the input or other conditions for each test case, and whether each of these test cases were demonstrated as passed or failed *from your perspective* (think like a Customer, and be picky!).

c. **Stress testing:** Stress testing puts a greater emphasis on robustness, availability, and error handling than would be considered as normal circumstances for a software system. A goal of the stress testing in this lab is to try to get the other group's system to "break" by providing unexpected or unusual input and also to see what happens when the system is used in an abnormal way that the lab group being tested may not have considered. Rigorous stress testing requires creativity and fresh perspectives on the part of the tester.

i. **Lab group being tested:** Re-run each *previously passed* acceptance test plan test case from step 2.b.ii, but this time allow the Testers to *provide whatever input values they want* you to enter into your running system as you demo each test case as many times as they want.
ii. **Testers:** Keep track of any failed test cases or unusual system states that result from the stress testing, as well as the input or other conditions that were in place when the system failed.

d. **Progress Status**:
i. **Testers:** Add up the effort values for only those acceptance test plan test cases that pass <u>both</u> the Acceptance testing and the Stress testing discussed above. These represent the 'completed' test cases.
ii. **Project Status.** Testers, complete the following table:

Starting Backlog (for entire project of lab group being tested)	**Completed Effort Values.** The summation of the effort values for only those test cases that passed *both* Acceptance testing and Stress Testing today	**% of Starting Backlog Complete** (Completed Effort Values/Starting Backlog)
143	36	25.17%

Table 1. Project Status

e. **Switch roles:** The Testers becomes the lab group being tested and vice versa, then repeat steps a, b, c, and d.

3. **Peer Testing Report:** Each lab group, in your role as Testers, prepare a Peer Testing Report (make two copies) that address the following (use the following section headings in your report):

    a. **Testers:** Give the names of the Testers.

    b. **Lab group being tested:** Give the team number of the team whose system you peer tested.

    c. **Testing Results.**

        i. **Acceptance testing results.**
            1. For each test case in 2.b.ii that was demonstrated as being passed to the Testers' satisfaction *using the team being tested's own input:*
                a. Give the number, effort value (as determined by team being tested), and a brief description of the test case
                b. Give the input or conditions that were used to successfully demo the test case

            2. For any test case in 2.b.ii that was demonstrated but was *not* considered as being passed to the Testers' satisfaction *using the team being tested's own input*:
                a. Give the number, effort value, and a brief description of the test case
                b. Give the input or conditions that "broke" the test case
                c. Evaluate whether this input constitutes a normal or abnormal use of the system

        ii. **Stress testing results.** For any test case in 2.c that the lab group being tested was previously able to demo as passing using *their* own input but was "broken" with the *Tester-supplied input*:
            1. Give the number, effort value, and a brief description of the test case
            2. Give the input or conditions that "broke" the test case
            3. Evaluate whether this input constitutes a normal or abnormal use of the system.

        iii. **Missing test cases:** Are any Acceptance Test Plan test cases missing from the Testers' perspectives? Did anything become apparent during testing that the team being tested may not have considered prior to demo'ing their system to you? *If so, identify what is missing or was not considered.*

d. **Project Status**. Give the Project Status table for the system that you peer tested.

e. **Quality Evaluation**. Evaluate just the "Quality" portion of the Customer's evaluation section using the IC470/IC480 Customer's Evaluation Cover Sheet (see IC470's Milestone 5). Give your specific evaluation ~~number (9..1)~~ using the indicated criteria (e.g. Sometimes Exceeds Expectations, Mostly Meets Expectations, or Sometimes Need Improvement, etc). Include any comments that would be helpful to the capstone team in understanding the basis for the evaluation.

Deliverables:

1. **To the instructor**. Testers give their instructor a copy of their Peer Testing Report of the lab group being tested.
2. **To the lab group being tested.** Testers give the lab group being tested a copy of their Peer Testing Report.