

Web Enabled Automatic Test Generation and Management System (WEATGAMS)

The project objective is to design and to implement a generic tool that will be used for automatically generating a random set of questionnaires from a test data bank. This tool will be designed and configured for system independent, web-enabled, and most importantly, cross-curriculum deployment. To be able to achieve platform independence, the system needs to be written in *Java* and the database to be implemented using a generic database management system. The database of questions and answers for a specific course will be created and maintained by a faculty member or a group of faculty members teaching that course. Since the system will be made available on the web, the students will have a 24-hour access to the wealth of practice problems on which they can practice and get an immediate feedback on how well they have handled each question. The ultimate goal of making these practice tests available online is to provide the students a positive degree of confidence in test taking and to enable them to understand the materials better. After the tool has been fully tested, deployed, and evaluated, the system will be made available to other faculty members.

2. Rationale for the project:

Testing, in any form, is the ultimate tool that is used by educators in the direct evaluation of the progress of their students. It is also used, although indirectly, in the assessment of how close they have achieved their course objectives.

For most students, test taking is a very arduous experience that takes a great toll on their physical and mental state. As with any activity, the difficulty of the process tends to correlate, in inverse proportion, to the amount of preparation that was put into it. Can we better prepare our students in accomplishing these evaluation activities and, in turn, provide them with a better chance of academic success? The answer to this question is a resounding yes! I believe that if we provide our students with a facility with which to practice incessantly on questions about a specific subject matter, they will be better prepared to tackle the real test on it. On the other hand, test preparation and administration is a very tedious process. Instructors do not have the luxury of having extra time and effort to create practice tests for their students and even to grade them.

The proposed project will provide the necessary tool so that both the instructor and the student will be better served in reaping the benefits of online test taking, preparation, and administration.

The benefits that are directly derivable from this project are:

- (a) it will give the students a 24-hour access to test materials on which they can practice;
- (b) it will save the faculty some time and effort in test preparation and administration;
- (c) it will enhance the students' academic performance by providing an automated test generation and grading system;
- (d) it will provide the faculty with the facility to assess the effectiveness of course delivery through the practice test evaluation indicators; and finally,
- (e) it will provide a much richer learning environment for the students.

