SYNOPSIS OF PROPOSAL

Project Title: **WEaVE Web Exploration and Analytic Engine for Scientific Sources**

We are submitting an NSF proposal for a research on a Web Exploration and Analytic Engine for Scientific Sources. We would like to initiate the IRB approval process prior to submitting and / or receiving funds as this was suggested by a reviewer of a previous proposal. Since the funding decision will be made about a year from now we anticipate that at the time we will ask for continuation.

Please note that this study is very similar to Dr. Dan Tamir's previously approved protocol for "Process Control System Usability Evaluation" (IRB # **2009W7899**). The main differences are: 1) Subjects will evaluate a Web Exploration and Analytic Engine for Scientific Sources which is a software tool. They will interact with the software in order to mine data from scientific sources. In specific, before the experiment subjects will receive a short tutorial explaining how to use the system. During the experiment a set of goals would be presented to the subjects. In general theses goals call for a mining data from a scientific resource such as a genome bank. The goals are completed through interaction with computer programs. 2) One group of human subjects will participate in the experiments; students from the department of computer science and / or students from the biology department at Texas State University. The experiments conducted in Texas State University.

1. Identify the sources of the potential subjects, derived materials or data. Describe the characteristics of the subject population, such as their anticipated number, age, sex, ethnic background, and state of health. Identify the criteria for inclusion or exclusion. Explain the rationale for the use of special classes of subjects**,** such as fetuses, pregnant women, children, institutionalized mentally disabled, prisoners, or others, especially those whose ability to give voluntary informed consent may be in question.

One group of human subjects will participate in the experiments; six students from the departments of computer science and / or department of biology at Texas State University.

In order to participate in the experiments the equipment has to be calibrated according to specific parameters of the subject's eyes. In some cases it is impossible to calibrate the equipment to the eyes of a specific subject. In this case, the subject will not be able to participate in the experiment. He or she will be notified about their inability to participate in the experiment promptly after the failure of the calibration routine. In addition, subjects who cannot interact with a computer using a conventional mouse will not be able to participate in the experiments. They will be informed about the fact that they cannot participate in the experiment following an assessment of their ability to operate a standard mouse by the experiment facilitator. The consent form will explain this to participants.

Subject from Texas State University are graduate and undergraduate students from the College of Science. These subjects are selected for the experiments since they are expected to have computer skills that will enable them to effectively interact with the search engine. Each student will participate in one experiment that is expected to take about 120 minutes. An e-mail sent to graduate and undergraduate students in the department of computer science and / or biology will state the framework and goals of the project. Interested students would be able to participate.

Subjects will volunteer to participate in the experiment. Nevertheless, they will receive a gift card with a value of $35.00 as an incentive for completing the tasks in the study. They will be able to stop the experiment art any given time, but will not receive the $35.00 gift card. Funds for the gift cards will be available through the total funds allocated for this grant proposal.

2. Describe the procedures for recruitment of subjects and the consent procedures to be followed. Include the circumstances under which consent will be solicited and obtained, who will seek it, the nature of information to be provided to prospective subjects, and the methods of documenting consent. (Include applicable consent form(s) for review purposes.) If written consent is not to be obtained, specifically point

this out and explain why not.

An e-mail that will be sent to graduate and undergraduate students in the departments of computer science and / or the department of biology will state the goals of the project. The Department of Computer Science staff will send the e-mail on the PI's behalf. The consent form will be given out to each subject before participation. The consent forms will be stored in the Computer Science main office. Information in terms of description of the study will be provided to the subjects.
The consent form is attached.

3. Describe any potential risks — physical, psychological, social, legal or other — and assess their likelihood and seriousness. Describe alternative methods, if any, that were considered and why they will not be used.

There are no potential risks, beyond regular use of a computer, involved in the proposed study.

It is important to note that the data collected will be entirely anonymous and devoid of any identifying information. Surveys will be anonymously coded with participant numbers (i.e., in the order in which participants sign up for the study: participant #1, #2, #3, etc.) and consent documents will be obtained and stored separately so that the two items cannot be linked in any way. In the surveys, participants will indicate only demographic information limited to their age, gender, ethnicity, and the previous experience with computer interfaces.

There are no alternative methods available to obtain this important data for this study.

4. Describe the procedures for protecting against or minimizing any potential risks and include an assessment of their likely effectiveness. Include a discussion of confidentiality safeguards, where relevant, and arrangements for providing medical treatment if needed.

There are no potential risks, beyond regular use of a computer, involved in the proposed study.

If a participant feels uncomfortable providing information asked in the survey they would have an option of not filling out the survey. The data collected in the survey will be entirely anonymous and devoid of any identifying information. Surveys will be coded with subject numbers and consent documents will be obtained and stored separately so that the two items cannot be linked in any way. In the surveys, participants will indicate only demographic information such as their age, gender, ethnicity, and their previous experience with computer interfaces.

5. Describe and assess the potential benefits to be gained by the subjects, as well as the benefits that may accrue to society in general as a result of the planned work.

These experiments are a part of a study that is intended to advance the state of the art on mining data from scientific resources on the web as well as evaluating software usability. It is expected that this study will lead to further funded research.

Participants will receive a $35.00 gift card, for completing the study. In addition they would probably have sense of accomplishment associated with participating in a study that will further the scientific knowledge in the area of usability of computer interfaces. It also provides subjects with an exposure to data mining software, which may spark their interest in this type of application.

Society, in general, will benefit from the advancements of this study that will potentially allow improving the usability of computer interfaces.

6. Discuss the risks in relation to the anticipated benefits to the subjects and to society.

The risks associated with the current study are minimal compared to the benefits to society.

7. Identify the specific sites/agencies to be used as well as approval status. Include copies of approval letters from agencies to be used (required for final approval). If they are not available at the time of IRB review, approval will be contingent upon their receipt.

N/A

8. If you are a student, indicate the relationship of the proposal to your program of work and identify your supervising/sponsor faculty member.

N/A

9. In the case of student projects, pilot studies, thesis, or dissertations, evidence of approval of Supervising Professor or Faculty Sponsor should be included. Thesis and dissertation proposals must be approved by the student's committee before proceeding to the IRB for review.

If needed we will provide a copy of our NSF proposal..

10. Has the project had prior review by another IRB? If yes, attach copy of approval/ disapproval and related correspondence.

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11. Identify all individuals who will have access, during or after completion, to the unpublished results of this study.

Dr. Dan Tamir, Dr Oleg Komogortsev, Dr. Carl Mueller and Research Assistants working on the project.

Dr Oleg Komogortsev and Dr. Carl Mueller do not participate in this specific research. They are experts in this area and may be granted access to the data in order to assist in the data evaluation process.