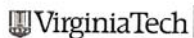


V. Appendix V: Experiment 5



Office of Research Compliance
Institutional Review Board
1880 Pratt Drive (D497)
Blacksburg, Virginia 24061
540/231-4991 Fax: 540/231-0959
E-mail: moore@d@vt.edu
www.irb.vt.edu
IRB # 1102000002

DATE: April 13, 2007

MEMORANDUM

TO: Edward A. Fox
William Richardson

FROM: David M. Moore 

SUBJECT: **IRB Exempt Approval:** "Concept Maps as a Cross-Language Summarization Tool for English/Spanish", IRB # 07-229

I have reviewed your request to the IRB for exemption for the above referenced project. I concur that the research falls within the exempt status. Approval is granted effective as of April 12, 2007.

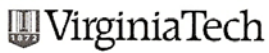
As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

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Office of Research Compliance
1880 Pratt Drive (0497)
Blacksburg, Virginia 24061
540/231-4358 Fax: 540/231-0959
E-mail: ctgreen@vt.edu
www.irb.vt.edu
FWA0000572 (expires 1/20/2010)
IRB # is IRB00000667

DATE: April 13, 2007

MEMORANDUM

TO: Edward A. Fox
William Richardson

FROM: Carmen Green 

SUBJECT: **IRB Amendment 1 Approval:** "Concept Maps as a Cross-Language Summarization Tool for English/Spanish", IRB # 07-229

This memo is regarding the above referenced protocol which was previously granted approval by the IRB on April 12, 2007. You subsequently requested permission to amend your IRB application. Approval has been granted for requested protocol amendment, effective as of April 13, 2007.

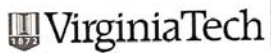
As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

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www.irb.vt.edu
FWA600005721 expires 1/20/2010
IRB # 18 IRB00000567

DATE: April 20, 2007

MEMORANDUM

TO: Edward A. Fox
William Richardson

FROM: David M. Moore 

SUBJECT: **IRB Amendment 2 Approval:** "Concept Maps as a Cross-Language Summarization Tool for English/Spanish", IRB # 07-229

This memo is regarding the above referenced protocol which was previously granted approval by the IRB on April 12, 2007. You subsequently requested permission to amend your IRB application. Approval has been granted for requested protocol amendment, effective as of April 20, 2007.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

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Pre-Test Questions (Spanish version used in experiment):

Antes de empezar, le pedimos que por favor conteste 5 breves preguntas.

¿Cuál es su ID#?

1. ¿Cuántos años ha estudiado informática en la universidad?

Indique cuántos años de carrera (p.ej., si está en 4to año de la carrera, indique 4), no años calendario.

2. ¿Sabe lo que son los mapas conceptuales, o mapas de conceptos? Si lo sabe, los ha usado alguna vez en clase?

3. ¿Cuántos años ha estudiado inglés? Incluya todos los años en que estudió en la secundaria, la universidad y en institutos privados, pero no cuente un mismo año 2 veces.

4. Por favor, califique su nivel de conocimiento de inglés en una escala de 1 a 5, donde:

1-No se inglés

2-Principiante

3-Nivel Intermedio

4-Competente

5-Nivel Avanzado, entiende inglés de manera fluída

5. ¿Ha escuchado antes el término "Bibliotecas Digitales". Si es así, ¿ha tomado algún curso que incluya material sobre Bibliotecas Digitales?

Pre-Test Questions (English translation):

Before beginning, we ask you to please answer 5 short questions.

ID Number:

1. How many years have you studied computer science in university?

Indicate how many years in the major (e.g., if you are in the 4th year of the major, put 4), not calendar years.

2. Do you know what concept maps are? If so, have you ever used them in class?

3. How many years have you studied English? Include all years in which you studied in secondary school, university, and in private institutions, but do not count the same year twice.

4. Please rate your level of knowledge of English on a scale from 1 to 5, where
- 1-I don't know English
 - 2-Beginner
 - 3-Intermediate
 - 4-Competent
 - 5-Advanced, I understand English fluently
5. Have you heard the term "Digital Libraries" before? If so, have you taken a class that included material about Digital Libraries?

Survey Questions (English version):

What is your ID#?

Please answer the following 6 questions, and for each use ONLY the resources that have the same number as the question. For example, for Question 1, only use the resources present in the table titled "1".

1. Which these(s) deal with text classification?

- Perugini
- Schafer
- Schneider
- Zhang
- Zhou

2. Which these(s) mention 'think-aloud' as a type of evaluation?

- Ali
- Bhardwaj
- Hanumansetty
- Nowell
- Shenoy

3. Which these(s) talk about the 5S theory of digital libraries?

- France
- Kelapure
- Ravindranathan
- Rode

Suleman

4. Which these(s) have the concept of scalability?

Abdulla

Saraiya

Shen

Sornil

Wang

5. Which these(s) have information about "Markov chains"?

Manek

Phanouriou

Williams

Wingrave

Xi

6. Which these(s) have the concept of workspace?

Capra

Liu

Saini

Shah

Zhu

7. On a scale from 1 to 5, in general, how useful did you find the abstracts to be?

poor 1 2 3 4 5 good

8. On a 5-point scale, how would you rate the concept maps, based just on the nodes that they contain?

poor 1 2 3 4 5 good

9. On a 5-point scale, how would you rate the concept maps based on the links between the nodes?

poor 1 2 3 4 5 good

10. On a 5-point scale, how helpful did you find the concept maps to be, overall?

poor 1 2 3 4 5 good

Survey Questions (Spanish version used in experiment, 1 of 7 orderings of the questions):

¿Cuál es su ID#?

Por favor conteste las siguientes 6 preguntas, y para cada una use SOLAMENTE los recursos que tengan el mismo número que la pregunta. Por ejemplo, para la pregunta 1, sólo use los recursos presentes en la tabla titulada "1".

¿Cuál o cuáles tesis tratan de clasificación de texto? (1)

- Perugini
- Schafer
- Schneider
- Zhang
- Zhou

¿Cuál o cuáles tesis mencionan 'Pensar en voz alta' como un tipo de evaluación? (2)

- Ali
- Bhardwaj
- Hanumansetty
- Nowell
- Shenoy

¿Cuál o cuáles tesis hablan acerca de la teoría 5S de bibliotecas digitales? (3)

- France
- Kelapure
- Ravindranathan
- Rode
- Suleman

¿Cuál o cuáles tesis tienen el concepto de escalabilidad? (4)

- Abdulla
- Saraiya
- Shen
- Sornil
- Wang

¿Cuál o cuáles tesis tienen información sobre "cadena de Markov"? (5)

- Manek
- Phanouriou
- Williams
- Wingrave
- Xi

¿Cuál o cuáles tesis tienen el concepto del espacio de trabajo? (6)

- Capra
- Liu
- Saini
- Shah
- Zhu

7. En una escala de 1 a 5 ¿En general, qué tan útiles encontró a los resúmenes?

pobres 1 2 3 4 5 buenos

8. En una escala de 1 a 5 ¿cómo calificaría a los mapas conceptuales, basando su opinión solamente en los nodos que lo forman? (ignore las relaciones entre nodos)

pobres 1 2 3 4 5 buenos

9. En una escala de 1 a 5 ¿cómo calificaría a los mapas conceptuales, basándose sólo en la relaciones entre nodos que lo forman?

pobres 1 2 3 4 5 buenos

10. En una escala de 1 a 5 ¿En general, qué tan útiles encontró a los mapas conceptuales?

pobres 1 2 3 4 5 buenos

App. V. Table 1: Full results of experiment.

| | Factor A (Presentation Type) | | | ID # |
|------------------|------------------------------|----------------|------------------|--------|
| | a1=Abstract | a2=Concept Map | a3=Abstract + CM | |
| Factor B | 4 | 3 | 4 | 125769 |
| Translation Type | 5 | 2 | 3 | 123987 |
| | 3 | 3 | 4 | 116351 |
| | 3 | 5 | 5 | 121911 |
| | 3 | 5 | 5 | 122113 |
| | 2 | 5 | 3 | 123487 |
| | 4 | 5 | 4 | 124656 |
| | 2 | 3 | 3 | 144155 |
| | 2 | 4 | 4 | 119415 |
| | 4 | 3 | 5 | 125712 |
| b1 | 3 | 3 | 3 | 118381 |
| (Human- | 3 | 3 | 4 | 122391 |
| translated) | 4 | 5 | 4 | 121347 |
| | 4 | 5 | 4 | 125518 |
| | 4 | 5 | 4 | 118306 |
| | 4 | 5 | 3 | 115365 |
| | 4 | 5 | 4 | 206377 |
| | 3 | 4 | 3 | 121994 |
| | 2 | 3 | 3 | 123784 |
| | 2 | 5 | 3 | 117151 |
| | 2 | 3 | 3 | 118145 |
| | 4 | 3 | 3 | 119519 |
| | 4 | 3 | 3 | 125769 |
| | 4 | 4 | 3 | 123987 |
| | 3 | 1 | 3 | 116351 |
| | 3 | 5 | 5 | 121911 |
| | 3 | 5 | 5 | 122113 |
| | 4 | 3 | 3 | 123487 |
| | 4 | 4 | 1 | 124656 |
| | 3 | 3 | 3 | 144155 |
| | 3 | 5 | 3 | 119415 |
| b2 | 3 | 5 | 5 | 125712 |
| (Machine- | 3 | 5 | 3 | 118381 |
| translated) | 3 | 4 | 1 | 122391 |
| | 2 | 5 | 5 | 121347 |
| | 2 | 5 | 5 | 125518 |
| | 3 | 5 | 3 | 118306 |
| | 3 | 5 | 4 | 115365 |
| | 4 | 3 | 5 | 206377 |
| | 3 | 3 | 2 | 121994 |

| | | | | |
|--|---|---|---|--------|
| | 3 | 3 | 3 | 123784 |
| | 3 | 3 | 5 | 117151 |
| | 1 | 3 | 3 | 118145 |
| | 2 | 4 | 2 | 119519 |

The number (theoretically from 0 to 5, although only 1 to 5 actually occurs) indicates the agreement between the subject and the 3 judges on whether the 5 ETDs are relevant to the given question.

Subject 119519 only answered the first of the six main questions (and none of the Likert questions), so his responses were ignored.

App. V. Table 2: Means of agreement measure.

| | Abstract | Concept Map | Abstract + CM |
|--------------------|----------|-------------|---------------|
| Human translated | 3.19 | 4.00 | 3.71 |
| Machine translated | 3.05 | 3.90 | 3.48 |

| | | | |
|-----------------------|--------------|--------------|-----------------|
| a1 vs a2, Human, p= | 0.013 | a1 vs a3, p= | 0.024 |
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| | | | |
| a1 vs a2, Machine, p= | 0.014 | a1 vs a3, p= | 0.242 |
| | | | Not significant |

App. V. Table 3: Responses to the 5 pre-questions (X=no response).

| ID | Years Studied CS | Used CMs? | Years Studied English | Self-assess English | Studied DLs? |
|--------|------------------|-----------|-----------------------|---------------------|--------------|
| 125769 | 3 | Yes | 11 | 3 | no |
| 123987 | 4 | Yes | 2 | 3 | Yes |
| 116351 | 4 | Yes | 18 | 5 | no |
| 121911 | 4 | Yes | 6 | 4 | no |
| 122113 | 4 | Yes | 13 | 5 | Yes |
| 123487 | 3 | Yes | 10 | 4 | Yes |
| 124656 | 3 | Yes | 15 | 4 | no |
| 144155 | 4 | no | 3 | 3 | no |
| 119415 | 4 | Yes | 11 | 5 | no |
| 125712 | 3 | Yes | 7 | 4 | no |
| 119519 | 4 | Yes | 13 | 3 | no |
| 118381 | 4 | Yes | 4 | 3 | no |
| 122391 | 4 | Yes | 6 | 3 | no |
| 121347 | 4 | Yes | 4 | 4 | Yes |
| 125518 | 3 | no | 2 | 3 | no |
| 118306 | 5 | Yes | 11 | 4 | Yes |
| 115365 | 4 | Yes | 6 | 3 | no |
| 206377 | 5 | Yes | 15 | 5 | Yes |
| 121994 | 4 | Yes | 11 | 4 | no |
| 123784 | 4 | Yes | 2 | 3 | no |
| 117151 | X | X | X | 4 | no |
| 118145 | 4 | Yes | 4 | 5 | no |
| | 3.86 | | 7 | 3.82 | |
| | Mean | | (Median) | Mean | |