

VITHEA virtual therapist for aphasia treatment

First annual follow-up meeting

(4/X/2011)



Outline

- S/T workplan review:
 - Done (**finished** or **partially**)
 - Future: **Sure**, **likely**, **unlikely**, etc.
 - Need to improve
- Prototype functionalities
- Other

Objectives review

- Development of a **software program for the treatment of aphasic patients** --particularly those that show difficulties when recalling words-- incorporating recent advances of speech and language technology:
 - The software must act as a "virtual therapist", asking for the patient to recall the contents of a picture that is shown.
 - Use of ASR to recognize what was said by the patient and to validate if it was correct or not.
 - The "virtual therapist" must be able to provide help both semantically and phonologically (TTS).

Tasks review

Project reference : RIPD/ADA/109646/2009
 Project title: VITHEA

Task N°	Task Denomination	Person*month	Participant responsible for task	Acronyms of partners involved in task	Year 1												Year 2											
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	T1 Word Recall Confidence	20.00	Hugo Meinedo	L2F	█						█						█											
2	T2 Design and Specifications	7.50	Jose Fonseca	L2F/LEL	█																							
3	T3 Prototype development	32.00	Alberto Abad	L2F							█						█											
4	T4 Clinic Evaluation	6.00	Gabriela Leal	LEL													█											
5	T5 Management and dissemination	3.00	Alberto Abad	L2F/LEL	█						█						█											
		68.50									M1						M2						M3		M4			
											1st Progress Report												Final Report					

Task 1 review

T1 Word Recall Confidence Research

– Description:

- Study best performing/more efficient techniques for IWR
- Generation of a reliable confidence result for providing feedback to patients in word recall exercises.
- Study influence of particular characteristics of aphasic individuals

– Comments:

- First two points need more work (L2F)
- Third point needs joint effort (L2F+LEL) – Research Grant?

Task 2 review

T2 Design and Specifications

– Description:

- Plan and prepare the therapy exercises.
- Propose a series of desired user specifications for the prototype.
- Data collection.

– Comments:

- Research Grant for point 1?

Task 3 review

T3 Prototype development

- Description: Implement the VITHEA prototype according to the conditions imposed by the desired exercises, the user specifications and the speech technology adopted. Sub-tasks:
 - Sub-task 1 Architecture definition and front-end development (**design & accessibility improvement?**)
 - Sub-task 2 Speech and Language Technology integration: **ASR**, **server**, **TTS+Face**
 - Sub-task 3 Data Management (**roles**)
- Comments: Plenty of work done, but still to do!

Task 4 review

T4 Clinic evaluation

– Description:

- The **clinic application** of the developed prototype.
- Comparative study of the **usefulness** of the program.

– Comments:

- Very important in my opinion!
- Are really **feasible**, or **partially**, or **no way**?

Task 5 review

T5 Management and Dissemination

– Description:

- Coordination and supervision.
- Assure deliverables production.
- External dissemination.

– Comments:

- NEW Webpage
- Conferences (others?)
- Difficult publishing collaboration:
 - Better planning/more time (my fault)

Milestone review

M1 Specifications deliverable

The training exercises are designed and the final users specifications document is written.

M2 First VITHEA prototype

A first prototype application is released. Start of clinic evaluation application

M3 End of Evaluation

The evaluation results are obtained.

M4 Final VITHEA Prototype

The final prototype and the user's manual are released. This prototype will be improved thanks to the users comments and the evaluation experience.

Admin module functionalities

<http://vithea.l2f.inesc-id.pt/vithea-admin/index.action>

- AUDIMUS web-service
- Role administration
- Groups of patients, associated exercises and resources
- Automatic password generation
- New types of exercises
- Statistics
- Automatic image re-scaling
- Search tool for resources/exercises

Client module functionalities

<http://vithea.l2f.inesc-id.pt/vithea/index>

- Help strategies
- TTS
- Virtual agent
- Score/Goodness of pronunciation

- Discuss exercise strategy?
 - Provide results after a set of several tests

Other

- We are doing pretty well, but we still...

Can (*need to*) improve:

–Publications:

- Conference

- Journal

- Collaboration:

 - Writing

 - Results analysis

–Number of thesis

- Ask FCT extension?

- ...