SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

The STSM applicant submits this report for approval to the STSM coordinator

Action number: CA16105
STSM title: Investigating user choices based on gender in game-based educational applications
STSM start and end date: 02/12/2017 to 14/12/2017
Grantee name: Branislav Bedi

PURPOSE OF THE STSM/

The purpose of the STSM was to gather literature review over existing research dealing with gender-based methodology in educational digital/computer games and applications. The aim was twofold: to compile an overview over various key aspects that would help build a sustainable and personalized user interface for a language learning platform, and to list important elements for building a user interface based on gender, thus making it relevant to both male and female users.

In order to build a sustainable multi-language learning platform for enetCollect, a personalized user interface may be the key. Apart from administrators and editorial board, the platform aims to have two main kinds of users, i.e. learners and language content providers. In order for the platform to be successful in the long run, it is important to study the elements that would make the user interface more attractive to both genders. The aim of the STSM is to understand the choices male and female users take in educational applications and provide suggestions and recommendations in a form of an overview to the enetCollect working groups that collaborate on the development of the crowdsourced language learning application.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

During the duration of the STSM 2-14 December 2017 (13 days), the following work was carried out:

- Reviewing various studies dealing with gender difference and computer assisted language learning;
- Gathering further research articles and books on this topic;
- Discussing the problem during regular meetings at Ruppin Academic Centre under the supervision of Dr. Rina Zviel-Girshin;
- Brainstorming sessions addressing various other important issues related to this topic, such as age, gamification, edutainment;
- Writing a structured summary about the analysed reading material;
- Compiling an extended abstract for a research article.

The work was carried out during regular meetings between the STSM grantee Branislav Bedi and the

STSM host Dr. Rina Zviel-Girshin. The meetings consisted of discussions, finding and reviewing new research articles, and consulting several issues about sustainability, motivation (badges) and retainment with another local expert Benny Bornfeld, This resulted in an invitation for Benny Bornfeld to attend the next MC meeting and give a keynote speech on the topic, which is very relevant to WG3, i.e. user-centered design strategies, where he would talk about the importance of reward in a form of badges that support gamification and stimulate progress.

DESCRIPTION OF THE MAIN RESULTS OBTAINED

Regarding the literature review, a list of scientific references about gender-based learning in educational applications was collected. A document listing all references and links to their online versions was created and shared between the host and the grantee. Both participants contributed to the reference list, which was shared in between them.

Regarding the analysis of the gathered research articles, the results of important elements were listed in a separate document. A structured overview was compiled. The findings show that there is a difference in user choices between genders, however, it also shows that the difference is also determined by age. That means that one has to create different age groups and list the user choices according to gender in those groups. The results furthermore shed light on other factors that are additional determinants in user choices to gender and age, and those are prior experience, e.g. in playing games or other educational application; culture and society; and economic factors/marketing. Further to this, the results covered definition of several terms, such as edutainment, blended learning, gamification, multi-language learning platform, gamified user interface, and the then typology of users. Our understanding of the results lead towards a gamified user interface, which, besides the ten principle of user interface, also includes gamified elements that make users pro-active because it can be personalized on the basis of the aspect of gender and age. This lead to defining other useful components helping to learn the language, such as what type of exercises and tasks will be offered to learn the language and culture for each gender, and how it can be technically solved.

In addition to the above, the STSM resulted in defining further issues related to users, i.e. finding ways how to implement cultural elements into language, and more importantly, which language skills will the enetCollect platform enable users to practice in order to design a user-centered and more personalized interface for learning a language and culture in a crowdsourced multi-language learning platform, which is simple, entertaining and user-friendly.

During the STSM several publishing journals were reviewed and a list of relevant journals for publication of our intended article was created. This helped us focus on relevant issues in the current state-of-the-art and find the target audience of scholars.

FUTURE COLLABORATIONS (if applicable)

There are several suggestions for future collaboration. The first one is to closely collaborate with WG4 of enetCollect on strategies and technological issues regarding building a personalized and gamified user interface for enetCollect. The second one is a close collaboration with WG5 on the issues of ethics, such as harassment of users if they come from different culture, and other issues. Also another possible cooperation was suggested with a British scholar, who investigated gender difference in playing computer games at girls school in Britain. The intention is to get into contact with the scholar and propose a further study of this problem at boys schools in Britain. Moreover, a possible cooperation with Dr. Rina Zviel-Girshin's college was established, who is the expert in the reward system of badges in (crowdsourced)

applications.

3

I received the report and I approve it. I hope that our future collaboration will be in writing an article about GUI for languages using crowdsourcing techniques.

Sincerely

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