Toward Mobile Assisted Language Learning Apps for Professionals that Integrate Learning into the Daily Routine

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Abstract. In this short paper, we present some initial work on Mobile Assisted Language Learning (MALL) undertaken by the ATLAS research group. ATLAS embraced this multidisciplinary field cutting across Mobile Learning and Computer Assisted Language Learning (CALL) as a natural step in their quest to find learning formulas for professional English that adapt to the changing profiles and needs of our modern society. A needs-analysis undertaken by group members highlights the way in which professionals need to have language learning activities available on their mobile devices. The SO-CALL-ME project has been established to enable such MALL apps, designed and developed within the ATLAS group, to be studied with real users to explore the way in which they can improve their oral language skills. Here one such app, ANT – Audio News Trainer, is presented as an example of the development being undertaken.

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1.   Introduction

We live in a society that is constantly on the move, where individuals have difficulties committing themselves to conventional face-to-face taught courses. These courses require physical presence and undivided attention, and even saving dedicated time and effort in front of a computing device, which is usually not completely integrated and/or compatible with many other activities. These difficulties are particularly evident in the case of second language learning (SLL) since it aims at real communication in an ever-changing variety of scenarios, situations and subject-matters. Besides, SLL involves not only the learning of various types of knowledge (i.e. phonetic, lexical, grammatical, pragmatic, and sociocultural), but also the development of a range of skills, which may be viewed in terms of semantic notions and functions. Thus, SLL is an extended and complex process, calling nowadays for novel adaptive solutions that integrate the various forms and contexts in which professionals need to engage in at work, when they travel, etc. Accordingly, the social mobility factor appears not as an obstacle to save for lifelong learning, but as a valuable opportunity in this whole process. In the next pages, we present the actions undertaken in the context of the SO-CALL-ME (**S**ocial **O**ntology-based **C**ognitively **A**ugmented **L**anguage **L**earning **M**obile **E**nvironment) project in order to (1) identify the needs of users, (2) explore the SLL-related apps existing in the market, and (3) develop our own apps.

2.   Method

With the increasing need for immediate and customised solutions to satisfy social demands, learning is more dependent on technology than ever before. Concepts like lifelong learning and ubiquitous technology open up a number of possibilities for learning languages, particularly English. This is one of the eternal aspirations of the non-native population worldwide and a crucial capability in their professional and social lives nowadays. One of the fields that is receiving the attention of researchers is MALL, an approach to language learning that is assisted or enhanced through the use of handheld mobile devices. The original underlying idea of the 80's was that students would be able to both access their materials and communicate with their teachers and peers anytime and anywhere. This involved a notable increase of flexibility in comparison to desktop and laptop computers. However, since then, MALL research has moved from simulating more or less standard computer-based learning practice to designing specific mobile applications. The advantage is clear: whereas the former approach relies on small and light equipment and in formal educational institutions, the latter adapts to and benefits from the new forms and contexts of usage of mobile devices away from the classroom.

2.1. User needs and products available

Pomposo, Martín-Monje, and Bárcena (forthcoming) have undertaken a needs-analysis of the use of mobile devices for learning business English. In their study, firstly, they found out that middle managers and executives from national and multinational firms are regular mobile users who require English skills for key business activities that entail oral communicative situations such as meetings and product/service presentations. Secondly, they describe the precise communicative language competence needs of busy adult language learners to work effectively in such situations, such as conversational skills, register and intercultural competence.

This study served as the basis for the subsequent research on MALL undertaken by the ATLAS research group. A first step was the evaluation of some of the existing products in the SLL-related app market. To that end, a number of rubric-based evaluations of such apps were made (Arús-Hita, Rodríguez-Arancón, & Calle-Martínez, in press; Calle-Martínez, Rodríguez-Arancón, & Arús-Hita, in press; Martín-Monje, Arús-Hita, Calle-Martínez, & Rodríguez-Arancón, in press; Rodríguez-Arancón, Arús-Hita, & Calle-Martínez, in press). These evaluations show that some apps that are attractive to MALL users *a priori* do not necessarily have a sound linguistic content that is adequate for steady language learning. This represented a challenge that our group decided to face by engaging in the development of SLL apps that are attractive and pedagogically sound at the same time. We next describe one such application.

2.2. ANT: the first 'English on the Move' app for training oral comprehension for A2-B2 listeners

When faced with the development of an app for a mobile device, one of the first decisions to be made was which device was the intended target, and therefore, which operating system the app would run on. In general, this choice will limit how the app can be designed and developed. However, there are evermore options for developing cross-platform apps, which can then be run on multiple types of devices and operating systems. Hence, when the ATLAS research group started to focus on developing a series of related apps, called 'English on the Move', such a cross-platform solution was adopted.

The first app to be developed was the Audio News Trainer (or ANT). This app (1) dynamically collects a list of links to news podcasts available online every two days, (2) classifies and stores the podcast links in terms of three levels of difficulty, and (3) presents the classification to the student, colour-coded, following

the standard traffic light system. Once a student has selected and listened to a particular recording, it presents a short questionnaire with three basic questions, regarding (1) the volume level used, (2) the presence of background noise, and (3) the understanding level of the podcast content (nothing / the key concepts / great level of detail). These data, about the factors that affect audio comprehension, are logged on the ATLAS server and the student is returned to the list to listen to other recordings. As more students use ANT their data is stored giving an overall indication of which audio broadcasts were found to be easier or harder, thereby enabling the researchers to identify the elements present in the recordings that caused the problems. This app in its current version does not represent a complete learning resource but is the first step toward a social collaborative app where the students move on to discuss and collectively analyse what they have listened to, thereby reaching understanding at a group level.

3. Discussion

Before engaging in the actual development of ANT, which is meant for use on portable devices, such as smartphones and tablets, a number of issues concerning usability had to be tackled. In the era of desktop computers connected to the Internet, the metaphor 'point and click' was a *de facto* standard for interaction in online browser-based second language learning websites and their related activities. Since the appearance and acceptance of smartphones and tablets as a common way to access online information via local apps, this metaphor has given way to a set of finger-based gestures (such as pinching to reduce the size of something or swiping to move from one page to another). As well as the way in which the user actually interacts with the device, there is also the question of which types of materials can actually be presented on such a device and how the user can effectively interact with them. The fact that a standard page of text can be displayed on a tiny smartphone does not imply that it will be sufficiently legible. Similarly, even though audio can be reproduced quite clearly from such a device, as the user context changes, background noise might make listening difficult. Furthermore, as well as intrinsic limitations of the device and app being used, and the nature of the materials being presented, there are also personal factors that each user will present that can limit interaction.

Once usability issues were taken care of and the app was created, we could move on to the analysis of the data logged on the ATLAS server. This analysis reveals that the students do generally find the difficulty of the podcasts to follow the three levels highlighted by the researchers. As was expected, background noise was also a factor for oral comprehension. As was noted above, even though the app was

developed using a technology that would make it multiplatform, the majority of difficulties that the students have had were due to usability problems. For example, the app ran perfectly on iOS devices but had problems on Android when actually playing the podcast. On some devices the play button had to be pressed several times to get the recording running and on others it would just not work.

4.   Conclusions

This paper has described the steps leading to the creation of the ANT mobile app. We started with the identification of users' needs. This was followed by a scrutiny of educational apps in the market, with a focus on SLL apps. After this, and preceded by a number of considerations concerning the usability of apps on mobile devices, ANT was developed and tested. Finally, the users' data logged on the ATLAS server was analysed, with the results described in Section 3. Before the app can be used by a larger number of students or development of the next social component can take place, the technical problems specified in Section 3 need to be resolved. That will be our next task.

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