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# Devising a Supplementary Solution to Overcome Interview Anxiety

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## 1 Abstract

Foreign language learners and speakers have to be able to face challenges in a self-confident way during examinations and interviews in order to be successful. Anxiety plays a vital part when it comes to the quality of responses to questions from the interviewer and during school years teachers should provide as many occasions for preparation as possible. One reasonable way, offered in this article, is to use computer technology to simulate interviews and turn-taking with the help of TTS (Text-To-Speech) voices embedded in an interactive, animated interface. As TTS voices can read out any written material, the supplementary possibilities for practising is literally endless. It can be very difficult to treat anxiety with positive results as it is very exasperating when people cannot recall what they have learnt during school years because of nervousness. Every single generation can share this inconvenient obstacle. Practising with TTS technology can help experience how exams and interviews will proceed in life under real conditions. Accordingly the users are able to familiarise themselves with unknown and unpleasant impulses, and the gathered experience will help them during real challenges.

## 2 Keywords:

*Language anxiety; Text-to-speech; Interview simulation;*

## 3 Introduction

One of the most important issues of language learning is the anxiety of the foreign language learner when it comes to self-expression. The fear of saying something wrong during a lesson and get corrected can sometimes cause severe cases of inhibition. With time the learner loses the connection with the language in

question and will never be able to get any certificates. Because of that, the learner will be more and more nervous when it is necessary to say a single word in a foreign language.

Also there are instances when language learners admit that they cannot answer topic-related questions not even using their own mother tongue. There are of course methods to make the learners overcome their fears, but candidates of a language course need to be given a chance to practise on their own and with the amount of real-life simulating materials as possible. This aspect also needs to be extended with the implementation of a relaxing environment for speaker comfort and sense of security. In that case, the learners can prepare on their own pace, in order to avoid the mentioned vicious circle, which can destruct the whole time what they devoted to study.

The fear of speaking with an interlocutor in any given situation can last from school answering sessions to job application interviews and so, one of the most crucial developmental tasks for our development team is to search for new and enjoyable utilizations of TTS technology to help learners. An interview simulation can provide one such possibility.

TTS solutions are suitable to address the problem, because they are capable to read aloud any written material on a computer. Computer-generated voices can be also arranged in a dialogue layout where any form of verbal interaction among people can be simulated. The voices don't even need to be recorded and can be used in real-time. Both grammatical and communication contexts can be represented in as many samples as needed for the curricula. The dialogues can also be illustrated in order to make them immersive [1].

The aim of this article is to investigate the use of TTS-aided simulations in order to help learners overcome their foreign language anxiety with an interactive approach typical of role-playing games with dialogue elements.

## 4 Literature Review

Games can be used to conquer anxiety, just let us think of ice-breaker activities and language games are considered to be very effective tool in teaching. They reduce the difficulties and

bring difficult topics, such as grammar, closer. The reception of a playful environment for reaching the goals set by the curricula is beneficial both for the teacher and for the student alike, as all school materials should be demonstrative in nature and provoke creative solutions. The effectiveness of using games can also build a bridge when difficult or tense classroom situations arise during late classes when concentration is at the lowest. Activities make the class more energetic and vigorous and the students perform better in new learning tasks as the years progress. Also the rise of gaming culture nowadays cannot be overlooked as students acquire most of their language knowledge by using technology and having direct experiences with them [2].

One of the most influential media sources for learners are the role playing games which are also linked to community sites. In them the players can use aliases and by that way their communication can be more fluent and the game elements also overpower anxiety. Role plays must also be present in the classrooms, but their realm should be extend beyond situations mentioned in a coursebook. The aim of this article is to look at possibilities that handle learner anxiety and provide a rich source for language practise.

Individual reactions to learner anxiety vary widely. Some students postpone classroom participation in high school classrooms until the last possible moment - until the teacher asks them, or at university leave language courses as the very last things they have to do to obtain a degree. We can think about the high rate of unfinished academic careers that depend on a language certificate. There are also students who only procrastinate in doing homework and try to sit very far from the teacher.

Unfortunately anxiety can extend both in time and space school participation. Job interviews may depend on how well the candidates can express themselves in a foreign language. Not to mention that sometimes the applying people don't even think through their answers and they stutter when they have to describe everyday issues. No matter how easy the tasks may be, the examinees have objections against them. The learners' intrinsic motivation can provide a key. If the educators can reach the students on that level, language learning may also become a pastime rather than a chore. The goal of reaching spontaneous self-expression through building communicative competences is vital, or the learners simply have a passive knowledge of the lexicon and are not be able to express their thoughts and needs [3].

We must not only teach the learners how to overcome anxiety, but also give them cultural examples with as many materials as possible. Videotapes and transcribed language situations can bring the materials closer, but their production costs may sometimes be high and they may arrive late to classrooms. A solution must be found to keep these sources up-to-date and also engaging for even teenagers.

If we take a look at job interviews in general, we may find that assertiveness and interpersonal warmth are the to key factors that influence anxiety and performance. The tone and speech rate of both the interviewee and interviewer mediate the chances of the outcome. Anxious people also pay plenty of attention to their nuances - like the cracking of the hands - rather than taking it easy and go with the flow of the interview. Sometimes the nuances

appear even stronger than they would normally and the speaking situation becomes a forced language environment [4].

We should not forget that anxiety can affect all levels of language learning. The psychological fear of performing well is much a greater factor than language knowledge. Also the fact of expressing someone's thoughts in a system different from the mother-tongue represents a natural barrier when it comes to communication. Performance depends on actually what is asked from the candidate, like the expression of personal or professional thoughts. During an answering session, an exam or an interview much more is at stake than during a casual talk with a stranger.

The professionalism and the origin of the interlocutor are as important as the topic. A native interviewer may hear out the smallest of mistakes the speaker makes. Naturally casual conversations with different level language speakers help to gather proficiency. It is the learner's responsibility to make good use of language-related memories in order to sound more convincing during an interview. Unfortunately anxiety does not seem to coincide with the way how proficiency is acquired. Teachers should always pay attention to signs of anxiety and keep a balanced pressure which is in accordance of the language-learning groups' abilities and aims [5].

Awareness and volition combined can reduce anxiety during production. These factors must be supported with the clarification of requirements and also with the element of enjoyment used through finishing the curriculum. The teachers should emphasize the importance of foreign language use, but avoid a stressful environment. The tasks should always be only a bit over the limits of the learners and assistance should be present at all times to suggest solutions for different language situations. This way intrinsic motivation may develop and drive the learner even towards a competitive direction needed for successful job interviews [6].

The more learners use their second language, the more self-confident they become. Teachers should provide ample chances for their students to express themselves and in the modern day of media, this should happen both in and outside the classroom, during and after the lesson. Well-designed extra activities and clear instructions are needed that can promote students' familiarity with the material and their proficiency in a foreign language as nowadays teachers also have to play as guides, even from elementary levels, towards a subject, and not just be controllers of answers. Providing interactive tasks and learning materials are extremely important as the compulsory subjects need to compete with the entertainment factor of the media - the teachers pure personality and professionalism is not enough anymore [7].

The teacher's role becomes a guide especially when it comes to games. The introduction and the aim of the game are the things need to be clarified and the rest of the procedures during the activities becomes open-ended. A game-like approach inserts many more variables into the handling of the tasks, and perhaps the outcome of the classroom exercises transforms into a rich experience [8].

As the learners advance to higher levels of proficiency, memory strategies are used in an ever-decreasing frequency. Use does not vanish totally, but awareness of using the helping strategies becomes less. The teacher's guidance must focus on that know-

ing a word involves both knowing what it means and knowing in which contexts it can be used. Specialist vocabulary items present a special case as they are needed in specific fields and so are less demanding to learn. English is full of words that have different meanings with the same spelling and pronunciation. During any conversation the meaning of one's words is the basis of communication [9].

On the next pages, we will introduce a possible way to combine interactive and visual elements with a psychology-driven project to prepare for interviews.

## 5 Methods

Based on our previous research in connection of using text-to-speech (TTS) voices for language education, our team has developed an online computer application that is designed to help language learners overcome anxiety during an interview event. The new project, called the The Interview (XMNR - Examiner), is a turn-based and highly visual web page that enables to simulate any exam or answering session.

We have previously developed a way how TTS voices can be used not only to read out passages, but also whole illustrated dialogues for listening comprehension tasks. The old project Duenna won critical acclaim for utilizing already existing technology in new ways. The new project is highly visual as we recruited people to serve as models and we took photos of them sitting at a table with notepads and pens in their hands, as they were interlocutors. The whole idea is like a graphic novel and we also photographed the different facial expressions reacting to correct and wrong user answers [1].

A much greater level of immersion was the main goal to be reached. All elements, let there be audio or visual, serve the purpose of ensuring learning and interactivity at the same time. The person who takes the interview has to feel the atmosphere as well as know the correct answers which are presented in multiple-choice fashion. These character photographs are placed in front of a random office backdrop. So far three female voices are used for the three interviewers and two voices for the interviewees. This was not done by chance as the user has the liberty to choose a name and a gender.

The topics of the interviews are freely editable with two demo samples presented so far for the greater public, concentrating on job application. The simulation is able to imitate any spoken situation of any oral exam, including school exams and we are now conducting empirical tests for evaluation. User effectiveness is measured in percentages and it is open-ended depending on results. The length of the interview is not limited and the user could be hired or dismissed based on the chosen replies to the questions.

The project was introduced as a motivational tool with 100% of success. Regardless of age, all members expressed their enthusiasm towards originality, and were willing to try out the simulations. Particular interest was shown towards the used animations and to the fact that all written lines were spoken out as well. The aim of the introductory served for promotional purposes and based on them, the project demo was also made public on the website of Mywords.hu (direct link: <http://meltingpot.hu/theinterview/>) for further evaluation.

Further testing will have to commence as the emphasis is on active user involvement and not on pure listening comprehension. Item writing is the next task as attention should be played for the balanced nature of the items and the sense of the distractors per each item. The distractors should make enough sense that they touch upon common mistakes and not derail the flow of the exercise due to their phrasing. The distractors may also address grammatical issues as well for the sake of language awareness.

So far the project loads in in any web browser about just 2.5 seconds (based on Gtmetrix page performance diagnostics results) and thanks to this, the next aim is to enable users to edit the online versions of all our TTS solutions real time and by using accounts. Several requests have reached us concerning this feature and we will try to implement it the coming years. The only concern is that we will not be able to ensure that every user provides syntactically or grammatically correct data. If the project succeeds, it will be the duty of other language tutors to assure quality.

As the project uses TTS voices it can already present hundreds and thousands of interview topics and items without using much of the space available. All data are stored in databases also readable by simple notepad applications.

Another theoretical issue beside free editing would be to enable the learner or the interviewee to type in or pronounce his or her own responses and let the system calculate how accurate they are. One stop-gap measure would be to have pre-written answers, but the user would read them out in a microphone and the system could evaluate their pronunciation. That way true communication with a computer would be also simulated.

The development of this feature is extremely hard, but it is indeed worth to try. We would like to mention that two previous applications, the Talk to Me package back in the late 1990s and Duolingo website, are both capable to compare sounds to pre-calculated patterns, but their nature resembles to drilling activities and not simulations. The opportunity to provide real time and interactive feedback on any pronounced material could offer a huge boost on learner motivation, mobility and objective assessment of knowledge on any language skill level.

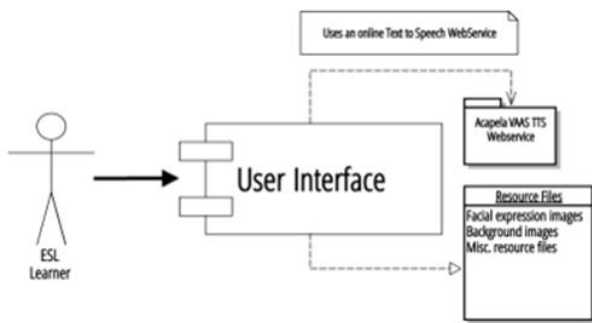
## 6 Technical Details

### 6.1 Software Architecture

The actor is the ESL (English as a second language) learner. He/she accesses the software functions via the User Interface (UI). The mentioned UI allows the ESL learner to select a pre-saved interview from various topics that illustrate a situation in an imaginary interview. Then the software plays back the conversation using a comic-like imagery, and utilizing TTS voices. The application thus makes use of an external web service (Acapela VAAS) and also software resource files like such as facial expression and background images. The overall software architecture is depicted below (Figure 1).

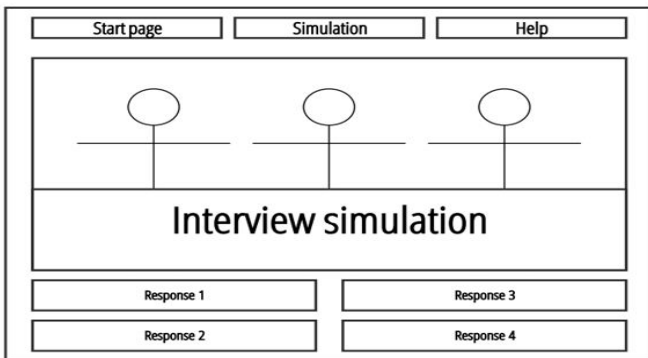
### 6.2 User Interaction Design

The graphical UI enables the learner to observe an imaginary situation that is played back using photos of actors and utilizing



**Figure 1** The Interview - software architecture

TTS voices. The learner can select from a variety of interview situations. The principal software functions are shown in the image below (Figure 2).



**Figure 2** The Interview - mockup for user interface

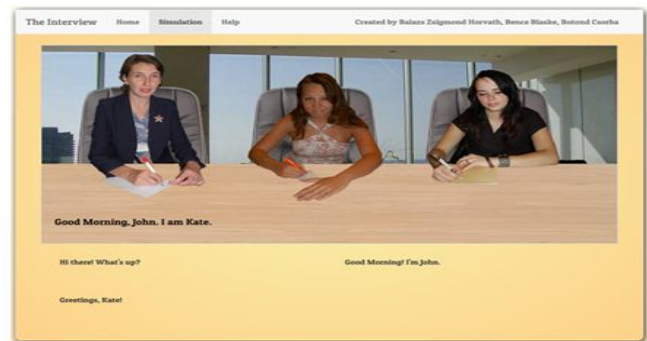
The user interface and the corresponding model and view is all coded in JavaScript. It is using modern frameworks such as backbone.js, underscore.js and jQuery. For the user interface, it is implementing the bootstrap UI framework. The interviews are persisted on the webserver as JSON files, which can be edited with ease using a regular text editor. This lends itself for easy extension in later revisions of the software. The voices are utilizing TTS webservices, thus require no additional effort to be implemented (recorded) when extending the set of interviews. The actual working of the software functions are shown in the images below (Figures 3-5).

## 7 Results

A total of 51 high school students were asked to try out the program during January and February. The students were between 16 and 21 years of age and attend the last four years of school. Trying out the program with this large sample of age group was useful because the school-leaving age in Hungary is 16 years and the students are all preparing for vocational school final examinations with professional career aspects. The tests were anonymous so that no privacy rights would be harmed in case of young students and for the sake of preventing tensions between group members as there were age differences also in the individ-



**Figure 3** The introduction screen of the application. The user can give a name, choose the gender and select the topic of the interview simulation

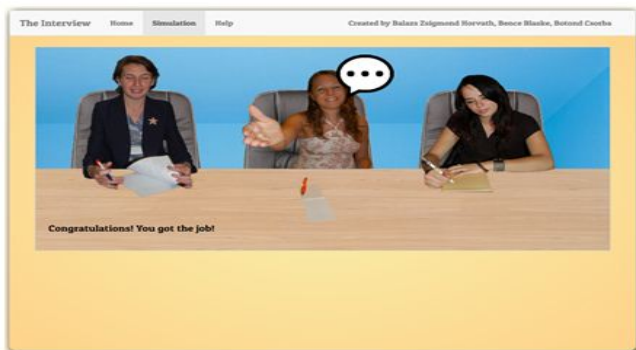


**Figure 4** The interface in action with a question and three answer possibilities

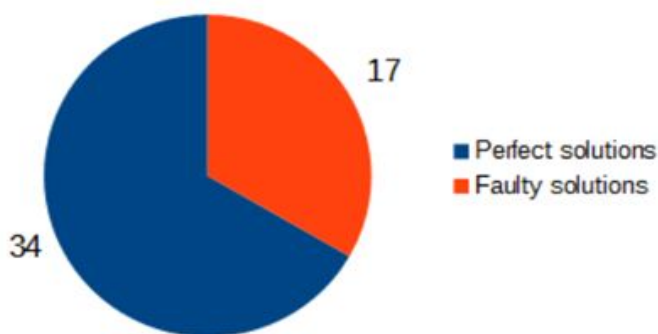
ual groups. The success of the tests depended on if the users were hired or rejected at the end of the interview. The testers could differentiate between the good and bad answers by the look on the face of the animated character that formulated the question. If she was smiling, than the answer was good and if she was frowning, than the answer was bad. The gestures were photographed in a way that the responses were obvious body language reactions like during a real event.

The distractors consisted of inappropriate informal speech formulations and obvious non-sensical solutions. The biggest problem seemed to be the identification of the inappropriate forms. This assumption comes from short interviews with the students when the tests were concluded. Even so, the worst score rate was 63% with 7 bad answers out of 11 items. The number of items were 11, so that the test takers could finish the task easily within reasonable time and not lose concentration and enthusiasm. The questions concentrated on: greetings, ice-breaker interactions, general conception of values, self-evaluation, etc. The pre-programmed limit for getting hired were 4 mistakes and 4 students did not manage to successfully complete the task. The ratio between perfect and faulty solutions and passes and fails are shown in the images below (Figures 6-7).

The test is considered successful as all students regardless of their results expressed their positive attitude towards the interview simulation and their willingness for further participation as

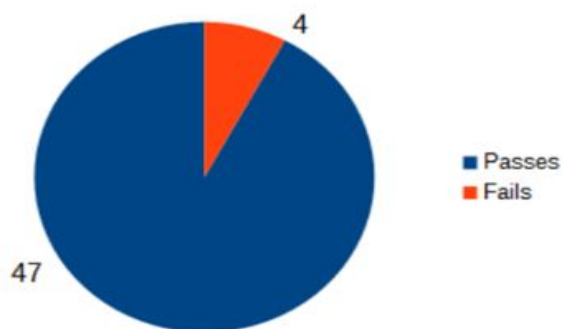


**Figure 5** The successful conclusion of an interview if the correct answers were selected



**Figure 6** Ratio of perfect and faulty solutions (age of students: 16-21)

newer versions appear.



**Figure 7** Ratio of passes and fails (age of students: 16-21)

### 7.1 Future research

There were four worthy suggestions from the students. The first one was adding a timer to the simulation to make it more dynamic. The timer should be used only with the option of an increased difficulty level. The second suggestion was adding letters to the answers, like A, B, C, etc. in order to identify them better during class discussions and practise. The third one was to add more hints showing the best suitable tone of the interview and, last but not least, show the good/bad answer ratios (with-

out naming the correct solutions) at the end of the interview to orientate the test taker.

Apart from the above mentioned issues and for the sake of further language learner immersion, an assortment of the most useful games and puzzles that involve TTS technologies as well and backed by empirical results is the next immediate research target of our group.

## 8 Conclusions

Our ongoing research shows both positive and optimistic results concerning the acceptance of an online interview simulator and the acceptance of using TTS solutions. Our previous research in connection with dialogue simulation was successful enough to make the next step of programming interactive dialogues that also use the same computer-generated voices for listening comprehension and immersion. TTS technology is advanced enough to be used creatively in a classroom environment and to establish a more colourful approach towards language learning with minimal to no costs. Previously we managed to show that there is no significant difference between the understanding of natural and artificial voices if they are good quality [1]. We have just begun as the next step to implement the technology in as many interactive interview environments as reasonable, and the initial reaction of the users shows that our endeavour of combining TTS voices with an animated interface is fruitful. The way the simulation handles the nature of interviews also serves as a supplementary tool to overcome language learner anxiety.

## 9 Acknowledgments

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