Abstract: This paper presents the design and development of an intelligent voice recognition chat bot. The paper presents a technology demonstrator to verify a proposed framework required to support such a bot (a web service). While a black box approach is used, by controlling the communication structure, to and from the web-service, the web-service allows all types of clients to communicate to the server from any platform. The service provided is accessible through a generated interface which allows for seamless XML processing; whereby the extensibility improves the lifespan of such a service. By introducing an artificial brain, the web-based bot generates customized user responses, aligned to the desired character. Questions asked to the bot, which is not understood is further processed using a third-party expert system (an online intelligent research assistant), and the response is archived, improving the artificial brain capabilities for future generation of responses.

Keyword: Chat Bot, Web-Based bot.

I. INTRODUCTION

At present the application of intelligent chat robot is more widely used, besides the basic function of intelligent reply, it also has the extensive function such as online customer service, entertainment and education etc. The bot framework of Microsoft Company did provide the simple and easy to use platform for developing the personalized intelligent chatting robot. By utilizing such platform and mobile internet, it can establish an autonomous learning platform. With such platform, it may effectively inspire students internet on study and improve the effectiveness of autonomous learning. Then, first we have to create one android app for using speech recognition.

II. LITERATURE REVIEW

Agnese Augello et al., [1] approached a conversational agent, capable to have a “sense of humour” is presented. The agent can both generate humorous sentences and recognize humoristic expressions introduced by the user during the dialogue. HumoristBot makes use of well founded techniques of computational humor and it has been implemented using the ALICE framework embedded into an Yahoo! Messenger client. It includes also an avatar that changes the face expression according to humoristic content of the dialogue.

Yoko Nishihara et al., [2] approached it is more difficult to activate text based discussions than face-to-face discussions because participants tend to hesitate give their opinions. To activate text based discussions, it is necessary for participants to give their opinions many times. We suppose that participants will give their opinions if questions are thrown to discussions. This paper proposes an agent that throws questions automatically in text based discussions. The questions are generated from comments posted by discussion participants previously in a discussion. The agent chooses a comment including a word that appears frequently in previous posted comments. The agent adds “why” or “how” to the beginning of the chosen comment, then the agent throws the comment as a question to the discussion participants. We experimentally verified that the agent could activate discussions by throwing questions.

Richard S. Wallace et al., [3] approachTh winds up with a survey of some of the philosophical literature on the question of consciousness. We consider Searle’s Chinese Room, and the view that natural language understanding by a computer is impossible. We note that the proposition “consciousness is an illusion” may be undermined by the paradoxes it apparently implies. We conclude that A.L.I.C.E. does pass the Turing Test, at least, to paraphrase Abraham Lincoln, for some of the people some of the time.

K. Toutanovva et al., [4] approach present a new part-of-speech tagger that demonstrates the following ideas: (i) explicit use of both preceding and following tag contexts via a dependency network representation, (ii) broad use of lexical features, including jointly conditioning on multiple consecutive words, (iii) effective use of priors in conditional loglinear models, and (iv) fine-grained modeling of unknown word features. Using these ideas together, the resulting tagger gives a 97.24% accuracy on the Penn Treebank WSD, an error reduction of 4.4% on the best previous single automatically learned tagging result.

P. A. Ertmer et al., [5] approach was an international wiki-based collaboration was integrated into a large introductory educational technology course enrolling 346 students, divided into 43 teams. Student teams participated in a 5-week project in which they created wiki chapters about the educational uses of specific Web 2.0 tools. Two to four international students, located in their home countries, participated on each team, collaborating via the evolving wiki, as well as other Web 2.0 tools. Using expectancy-value as our motivational framework, we gathered pre- and post-survey data, triangulated with focus group interview data, to examine changes in students’ confidence and perceived value for using these tools to facilitate international collaborations. Survey results showed significant changes in confidence and perceived value, while qualitative results
provided insights into students’ perceptions of critical project components. We discuss students’ perceptions of project barriers as well as the strategies they implemented to achieve success.

T. C. T. Kuo et al., [6] approach aimed to apply Speech to Text Recognition (STR) for individual oral presentations and group discussions of students in a synchronous cyber classroom. An experiment was conducted to analyze the effectiveness of applying STR on learning performance. Students’ perceptions and behavioral intentions toward using STR were also investigated. The results revealed students of the experimental group performed significantly better compared to the control group students in two sessions of writing essays, intermediate test and post-test. Most of students perceived that STR was useful for individual presentations and for essays writing. Students also expressed they are willing to use the STR for learning in the future. However, students who had experienced low accuracy rate and experienced delay in STR-text generation did not perceive the STR as easy to use and useful for group discussions. Meanwhile, the results of this study showed that the STR is beneficial to students’ oral presentations and group discussions in a synchronous cyber classroom so as to improve their overall learning performance.

G. Osmanet al., [7] approach as a case study evaluates the potential of synchronous chat for deep learning in the context of a distance education program between two universities in different cultural contexts, with a focus on interaction and facilitation. Three rubrics—functional moves, social construction of knowledge, and teaching presence—were applied in a longitudinal content analysis of chat sessions between four adult learners in Azerbaijan and their two facilitators in the U.S. The findings reveal that although the quality of the interaction was limited by the nature of the task, language difficulties, and differing cultural expectations about instruction, conceptual negotiative activity increased over time. In conjunction with previous research on constructivist learning, these results support the view that synchronous chat can facilitate deep learning, but also suggest that the cost may outweigh the benefits, especially when language and cultural barriers must be overcome.

B. L. Reynolds et al., [8] approach as Lack of knowledge in the conventional use of vocabulary and multiword patterns in one’s respective field of expertise causes Taiwanese students to produce academic writing that is markedly “non-nativelike.” This is because Taiwanese students are first and foremost second language readers and often have difficulty “picking up on” the regularly encountered language patterns found in scholarly texts. As one step in determining a solution to this problem, this article reports on a pilot implementation encouraging graduate Taiwanese students for whom English is a foreign language to use self-editing techniques in their own field-specific academic writing by use of a corpus tool. Classroom interviews, draft comparisons, and individual stimulated recall interviews showed a difference in acceptance and success after using the corpus tool (StringNet Navigator) as an aid to self-editing academic English writing. The corpus tool’s functions, results of its use by industrial management graduate students for self-editing academic writing, and pedagogical implications are described.

P. C. Roger et al., [9] approach as the amount of resources being poured by Western universities, companies, and governments into creating educational content to be exported (via the Internet) to other cultures is astounding. Those assigned to accomplish this task are left with the great challenge of meeting the needs of learners who come from cultures that are foreign to them, and who often have very different abilities and expectations than originally assumed. This study explores the cultural competence in the lived experience of 12 professionals who have been involved with such efforts. Often they have had to question their assumptions, recognizing flaws in their own thinking and in the organizations that support them, and tried to alter their practice accordingly. Their awareness of cultural differences and the importance and impact of these differences in their practice will be discussed.

R. Shadiyet et al., [10] approach as designed and implemented cross-cultural learning activities for this study. Participants from two countries, geographically located very far from each other, represented different cultures that have no communication language in common. Two systems were applied to learning activities in order to enable interaction and information exchange among the participants: (1) a speech-to-text recognition system, which generates texts from a speaker's voice input in his/her native language and (2) computer-aided translation system, which simultaneously translates texts into the language of the speaker's foreign peers. The goal was to test the feasibility of learning activities supported by the two systems and their effectiveness for cross-cultural learning. To this end, we evaluated participants’ learning outcomes, analyzed their online communication with peers, and carried out a questionnaire survey and interviews with both the participants and their instructors.

The use of multiple data sources allowed triangulation of the findings, thus adding rigor to the research. We obtained three findings through this study. First, cross-cultural learning took place. Second, the questionnaire and interview results show that the two systems are easy to use and useful for cross-cultural learning. According to participants, even with no common language, they could still interact and exchange culture-related information using the two systems. Finally, the results indicate that the texts produced by the two systems are acceptable and useful for the cross-cultural learning of participants (except texts translated from Russian into Chinese in the second week). These findings suggest that the educators and researcher can implement cross-cultural learning activities for participants with no common language with the support of speech-to-text recognition and computer-aided translation systems, as these two systems can help participants to communicate and exchange culture-related information.

III. EXISTING SYSTEM

Conventionally web-bots exist; web-bots were created as text based web-friends, an entertainer for a user. Furthermore, and separately there already exists enhanced rich site summary (RSS) feeds and expert content processing systems that are accessible to web users. Text-based web-bots can be linked to function beyond an entertainer as an informer, if linked with, amongst others, RSS feeds and or expert systems. Such a
friendly bot could, hence, also function as a trainer providing realistic and up-to-date responses.

IV. PROPOSED APPROACH

A conversation is an assimilation of information where one creates differences and similarities during the duration of a conversation. To create a more user-accessible chat system; a simpler input method using voice is introduced; creating and catering for a more personal and convenient experience. The input voice is then processed and a response is generated. This process places a large processing requirement on the server’s processor and memory resources. This limitation is even more evident when a large number of users are to be simultaneously accommodated on the system.

V. SYSTEM SPECIFICATIONS

The system presented in this paper meets the following requirements. • The client application is easily accessible through the client browser. • All communications to and from the server is text and XML formatted. • XML messages conform to a schema which describes the format. • Communications with the server is black box oriented and parses incoming XML messages seamlessly. • The user is allowed to register and login to the system allowing for authenticated, personalized and controlled communication with the server. • The client applet provides the user two options: text input or voice input. • The self-training AI module prevents a service bottleneck, and therefore prevents modules from competing for resources.

VI. RESULTS

The combination of voice input and voice output allows for a simpler experience which allows a client to run on many types of platforms. Since the client is internet based the next step would be mobile or even thin client systems. A thin client system is considered an embedded computer or platform with limited processing where the processing is done by a controlling server. Examples include a mini computer on a fridge, GPS unit or a mobile phone. Although the aim of this paper was to implement an intelligent virtual online friend, the system resulted in a distributed environment to allow for resource management and stability between modules. This is shown in Fig. 10, handling the hosting of the site, processing responses using the ALICE-bot engine, content acquisition and processing using an expert system to increase the intelligence of the chatbot autonomously. The use of the distributed framework allows for an increase in throughput and the number of users it can handle. The lifetime of the expert system can be a limitation to the age of the technology demonstrator presented in this paper.

VII. CONCLUSION

Using modular design for all its components a distributed environment facilitating transparent and high performance of the overall system has been created. The performance is relative to the processing capacity of the systems involved. Since all the modules are not running off one system the possible load has been decreased and further decreased by delegating the voice processing to the chat client communicating with the service.

REFERENCES
