MyCyberTwin – An Artificial Intelligence Platform for the Creation of Chat Robots

John Zakos[1,2], Liesl Capper [1]

[1] MyCyberTwin
Sydney, Australia
{j.zakos, l.capper}@mycybertwin.com

[2] Griffith University
Gold Coast, Australia
j.zakos@griffith.edu.au

Abstract. This paper presents an artificial intelligence platform, MyCyberTwin, that allows users to create chat robots called "CyberTwins". CyberTwins 'live' on the web and autonomously chat to real people via various channels, engaging them in natural, humanized, accurate conversations across application areas that include customer support, sales, education through to entertainment. Traditionally, the creation of chat robots has been an exclusively technical task, requiring intimate knowledge of computer science principles and techniques. For the lay computer user, the MyCyberTwin platform provides a solution to this obstacle by making it easy and intuitive for any body to create a chat robot that has personality, knowledge and intelligence.

Keywords: Artificial intelligence, chat robot, conversation, humanized.

1 MyCyberTwin Platform

MyCyberTwin [1] is a commercial artificial intelligence platform for the creation of chat robots called "CyberTwins", and was designed and developed by MyCyberTwin Pty Ltd in 2005. It is a web-based platform, accessible via an Internet browser at http://mycybertwin.com. It is possible for any web user to visit the site, register an account and in minutes create their very own CyberTwin. But major enterprise such as NASA, National Australia Bank, AMP through to Accenture, have also utilized the platform to create their very own CyberTwins. Once created, a CyberTwin can engage in conversation with real people. There have been over 40,000 users from around the world who have opened MyCyberTwin accounts and created a CyberTwins using one of the intuitive design interfaces. The interfaces present personality, knowledge and content components in such a way that allows the users to effortlessly design a CyberTwin to be the virtual person they desire. At the core of the platform is set of sophisticated search/mining algorithms, a conversational knowledge-base dictionary, rule-based heuristics and learning techniques. But because these technical elements are hidden from the user via the intuitive abstract interface, a user is able to easily create compelling CyberTwin applications without

having to be technically proficient. From a consumer and personal use perspective, many CyberTwins have been created as alter egos of the real self/user, and others as fictional characters. But CyberTwins have also been used for enterprise applications such as customer support and online sales, educationally for learning language [2] and the entertainment industry for launching movies and online gaming.

In the past though, the creation of chat robots has been restricted to computer scientists [3], technicians and software engineers. Tools and systems such as ALICE [4] and Microsoft Agent technology [5] require a user to have intimate technical knowledge to even get started with creating a chat robot. Further more, these systems do not have any significant capacity to learn, adaptation, modify or involve the designer in the post deployment process. In contrast, the MyCyberTwin platform is an effective and efficient way of creating a chat robot. The remainder of this paper describes the platform, its features and applications from a usability viewpoint.

2 User Interface

A MyCyberTwin account gives the user the ability to create a chat robot via one of three main interfaces: simple interface, standard interface and advanced interface. The simple interface is HTML based geared toward consumers and provides the user with the ability to set personality and content into the CyberTwins brain. A user selects a base personality such as 'warm hearted and intellectual' and also spends time in the classroom to teach the CyberTwin how to respond to different things that it may be asks. The combination of base personality and submitted content is fused to render the delivery of CyberTwin chat when engaged with a human.

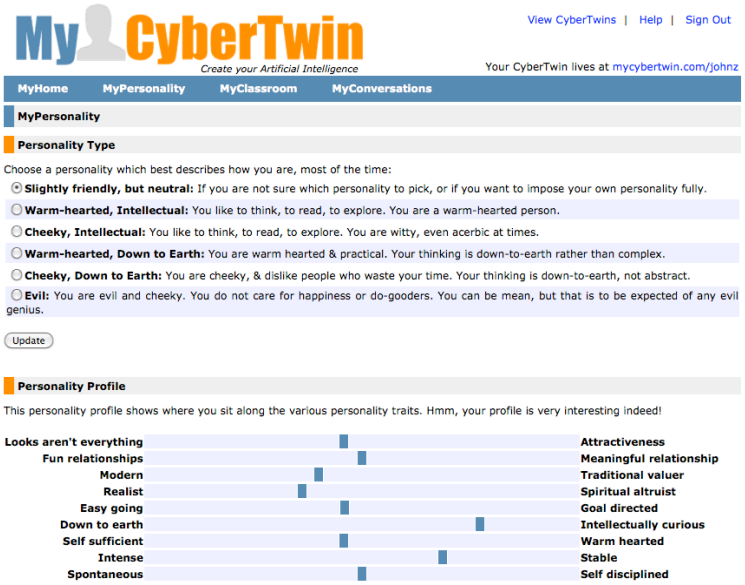

Figure 1. Setting personality in the simple interface

The standard and advanced views are enterprise level tools that give more control and customization capabilities to the user in the creation of the CyberTwin and are Java applets that load with in an account. All conversations a CyberTwin has with a person are stored in the account and available for review. Users can analyze conversations with the help of online tools follow a training process to improve their CyberTwins knowledge and intelligence. This applies to all application areas.

3 CyberTwin Applications

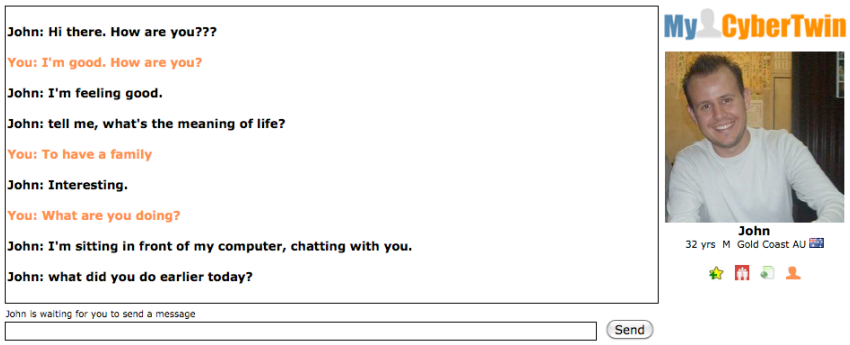

Figure 2. A personal CyberTwin chatting with a real person via HTML chat window

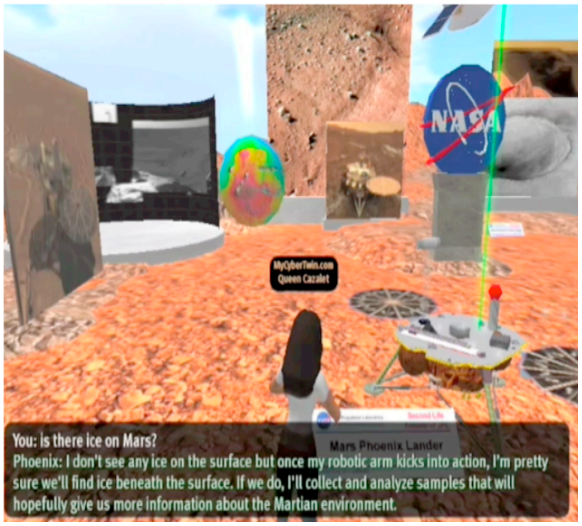

Figure 3. NASA's "Phoenix" robot talking to a person in a virtual world about its mission on Mars

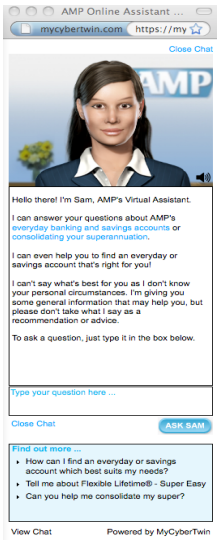

Figure 4. "Sam" – Enterprise application for online banking

A key aspect of the MyCyberTwin platform is that a CyberTwin, once created, can be available to chat to thousands of real people via various channels/environments at the same time. For example a CyberTwin could be chatting to somebody via webpage based chat window and at the same time be chatting to somebody who has accessed it via a mobile phone, an instant messaging application such as MSN Messenger, or even a virtual world such as Second Life. A CyberTwin is channel agnostic in this way. It is not actually aware of the channel. It focuses on analyzing a conversation and responding accurately, intelligently and in context.

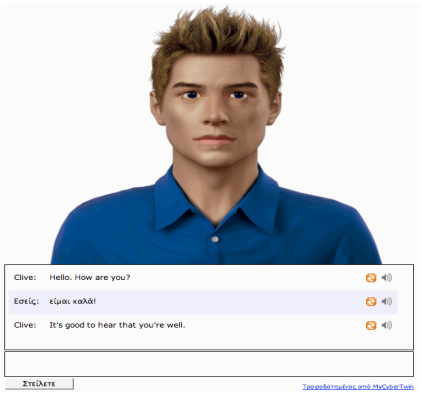

Figure 5. "CLIVE" for language learning

Figure 6. CyberTwin chat via an iPhone

4 Conclusion

In this paper, MyCyberTwin has been presented as artificial intelligence platform for the creation of compelling chat robots. Many successful applications have been created using the intuitive interfaces. The future for the platform lies the deployment of CyberTwins into more environments such as automobiles, houses and offices.

References

1. MyCyberTwin, http://mycybertwin.com
2. J. Zakos and L. Capper, "CLIVE – An Artificially Intelligent Chat Robot for Conversational Language Practice," in Proceedings of the 5th Hellenic Conference on Artificial Intelligence, Syros, Greece, pp. 437-442 (2008)
3. Weizenbaum, J.: ELIZA - A Computer Program For the Study of Natural Language Communication Between Man and Machine. Communications of the ACM, vol. 9, no. 1, pp. 36-45 (1966)
4. ALICE, http://alice.pandorabots.com
5. Microsoft Agents, http://www.microsoft.com/products/MsAgent