Virtual Health Agents

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Abstract. One domain in which intelligent virtual agents are becoming more popular is the health domain. With the changing demography in the western world, the health-care costs are expecting to increase. Less health care professionals will be available for more "care needy persons". Virtual health agents could play several roles to address part of the increasing care needs. For example, they could act as virtual patients to train doctors, provide patients with information and advice in or outside health centers, or act as coaches as part of self-health management at home. This workshop will bring together researchers to discuss recent and ongoing research in their area. They will discuss conceptual and technical aspects of virtual health agent development and behavior, the relationships and interactions with humans, but also design and evaluation methods.

Keywords: behavior change support systems, healthcare, epartners

1 Introduction

Virtual health agents are interactive characters that often have anthropomorphic elements to evoke responses that humans would exhibit when interacting with other humans. Set within the health domain, these agents can help both care providers and clients to manage people's physical and mental health. Virtual patients, virtual nurses and virtual mental health coaches are all existing applications that show the potential benefits this technology can bring, such as accessibility, i.e. any time any place when offered on a mobile platform, and personalization, i.e. adapting interaction and services to the needs and desires of the clients and their situation. In the intelligent agent community, health is becoming an important domain. The IVA2014 conference had Healthcare as a special topic, attracting several papers. With ever increasing societal attention for affordable and accessible health care, interest for virtual health agents is likely to increase further. The design and development of virtual agents is often based upon our knowledge and theories of human-human relationships and human-human

adfa, p. 1, 2011.

interactions. The objective of this approach is, of course, to copy the benefits of successful existing care practices into the human-agent collaboration. However, the downside is that it also incorporates the limitations and inefficiencies. It seems worthwhile to explore new theories, models and methods of human-agent collaboration. Such new approaches may be better suited to exploit the potential of technological opportunities and human's adaptability, and to cope with technical and situational constraints. Such theories might help to go beyond the paradigm of replacing human health services with agent-based services in a cost reduction and efficiency improvement drive, by providing a paradigm of improving key processes and outcomes of health services.

2 Objective

The workshop invites researchers, designers and developers that are interested in the concept and development of effective virtual health agents, the interplay between humans and agents, and methods for evaluation. The workshop participants could have various backgrounds, such as artificial intelligence, human computer interaction, and psychology. The broader objective of the workshop is to strengthen the growing community within the field of intelligent agents that focus specifically on the health domain with its own set of constrains and opportunities. The workshop aims at creating a lively exchange of ideas with the aim of supporting the research of the individual workshop participants.

3 Workshop focus

A workshop in the area of virtual health agents is not new. Take for example the Cybertherapy 2013 workshop on electronic health coaching, the AAMAS 2014 workshop on Multi-Agent systems for Healthcare and the CHI 2010 workshop on Interactive Systems in Healthcare. This workshop will continue this tradition and will focus on the use of intelligent agents in the health domain, both for clinical and non-clinical users. Possible research topics in this area are (but the workshop will not be limited to): health education, health coaching, health games, health training systems, behavioral change support systems, resilience support, self-therapy, long-term relationships with health agents, building rapport and therapeutic alliance.

4 Workshop Format

This is full-day workshop. Workshop members are invited to present their research that is followed by in-depth discussion of this work. Members are strongly encouraged to demonstrate their agents. Researchers that are interested to attend the workshop are asked to submit a position paper of their work. These will be reviewed and authors of accepted papers will be invited to attend the workshop. In preparation for the workshop, workshop members will get access to the accepted position papers.