

Virtual Patients



GOALS

- Design intelligent Virtual Patients that have realistic and consistent human-to-human interaction and communication skills to open up possibilities for clinical psychosocial applications that address interviewing skills, diagnostic assessment and therapy training.
- Create a comprehensive Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnostic trainer that has a diverse library of VPs modeled after each diagnostic category. The VPs would be created to represent a wide range of age, gender and ethnic backgrounds and could be interchangeably loaded with the language and emotional model of any of the DSM disorders.

There is a great need to train doctors, psychological clinicians, and social workers in practices of interviewing, diagnosis, therapy and bedside manners. Although schools commonly make use of standardized patients to teach interview skills, the diversity of the scenarios standardized patients can characterize is limited by availability of human actors. This can be overcome with augmenting current curriculum with virtual patient (VP) characters. The virtual patient project is researching and developing these advanced virtual characters for use in clinical training and interpersonal skills development.

These fully embodied characters portray and model psychological problems in a realistic manner. The system uses advanced technologies such as: speech recognition, natural language understanding and engages the user with verbal and non-verbal behavior, procedural animation, psycho-physiological responses and natural speech in an immersive scenario. Subject testing with resident clinicians is ongoing in understanding how people interact with these characters and to assess if they can carry on a proper dialog with the characters and come up with a diagnosis.

ICT's initial project in this area involved the creation of a virtual patient, named Justin, a 16-year old male with a conduct disorder who is being forced to participate in therapy by his family. The second VP project involved the creation of Justina, a female sexual assault victim. Newer projects will further modify the Justin and Justina characters for military clinical training. In one project, both Justin and Justina will appear as soldiers who are depressed and possibly contemplating suicide, as a training tool for teaching clinicians and other military personnel how to recognize the potential for this to occur. Another project focuses on the military version of "Justina" with the aim to develop a training tool that clinicians can practice therapeutic skills for addressing the growing problem of sexual assault within military ranks. Also, both military VP versions will be used in the role of a patient who is undergoing Virtual Reality exposure therapy in order for therapists to practice the skills required for this treatment.

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