In the playable demonstration, there is currently one country, named Malahide, with two Critical Incidents. The first one takes place in a bar (see Figure 1) where the user needs to get directions to his hotel and the second one occurs in a museum where the user needs to ask a park supervisor for his permission to enter a park. The behaviour of the characters emerges from their ascribed cultural parametrisation. This allows the scenarios to be replayed with the user dealing with multiple cultures in similar situations.

Figure 1: Small talk in the Bar

3. CULTURALLY-ADAPTIVE AGENTS

In Traveller we aim at creating agents that not only react and behave in a believable way (as they are meant to be included in a computer-based learning game) but also do so while being able to express cultural differences in their behaviour. As such we need to consider not only a generic set of "basic" components that the agent's architecture may embed (such as a reactive component, a planner, an emotional component) but also, specific requirements associated with the need to behave in a culturally shaped manner.

In order to address this issue, we have extended an agent architecture for virtual agents that has emotional capabilites [1] with a culturally-adaptable model of relational behaviour. The model [5] enables the encoding of cultural conventions on how agents perceive others, how much they are willing to act for others and how much they feel entitled to have others acting in their favour. As an example, in one of the cultures in the demonstration, the agents make a clear distinction between outsiders and locals, finding inappropriate when outsiders directly approach them. Such distinction is meant to reflect a highly collectivistic culture [2].

4. TECHNOLOGY

The application is being developed with Unity 3D[2], a game engine, and ION [6], a framework that manages the communication to the agent architecture. Moreover, users interact with the application through the Kinect allowing the user's choices to be made by gesture facing a large screen in free space rather than tying the user to a keyboard and small screen. Kinect interaction has been built into the application using FUBI [4], an open source framework for recognizing full body gestures from a depth sensor as the Microsoft Kinect. Gestures are defined via XML and consist of several states that contain certain body postures or joint movements. Body postures can be defined by joint angles

[2]http://unity3d.com

Figure 2: Kinect gestures at start of the bar scene

or the relative positions between joints, while joint movements need a specific direction and speed. The states of one gesture are composed to a sequence with specific time constraints between the states. As soon as a user input is requested, a gesture symbol or animation for every possible input gesture is shown on screen accompanied by short text describing the corresponding in-game action (see Figure 2). Finally, characters in the application are given voice using the Microsoft Speech API and voices from CereProc[3].

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