SOCIAL GATHERINGS IN VIRTUAL REYKJAVÍK

UNITY-BASED PLATFORM FOR SOCIAL AGENT RESEARCH. LAYERED APPROACH WHERE BASIC AGENTS INCLUDE AWARENESS OF SOCIAL TERRITORY AND SHOW REACTIVE TERRITORIAL MOVEMENT. HIGHER LAYERS INCLUDE FLOOR MANAGEMENT AND DELIBERATION OF ABSTRACT COMMUNICATIVE FUNCTION.

CONTINUOUS REACTIVE MOTION
A reactive social intelligence layer right above Unity’s animation system ensures that the agents continuously adapt to their environment. The reactive behavior is dictated by social context and inner state. Deliberate social action, such as ‘request turn to speak’ will also generate behavior.

GROUP CONVERSATION WITH PLAYERS
The human player is fully integrated into the social environment and can join groups of agents and strike up a conversation, subject to normal rules of turn-taking. The player avatar is simply one of the agents with additional means of control. Some automation is retained in the avatar, e.g. turn-taking behaviors. This is one of the first embodied conversational system in the Icelandic language.

LANGUAGE TRAINING AND DOMINANCE RESEARCH
Virtual Reykjavik is being used to provide an interesting dynamic social environment for Icelandic language and culture training. Students will need to interpret both verbal and nonverbal behavior. The platform is also used to experiment with dominance modeling. Dominant individuals influence the behavior of all group members, who become more submissive. Nonverbal cues of dominance include a more expansive posture.

Hannes Vilhjálmsson1, Eliás Björgvinsson1, Hafdis Helgadóttir1, Karl Kristinsson1, Stefn Ólafsson1, Angelo Cafaro1, 2, Nicole Krämer3, Jonas Braier3, Philipp Wegge3, Sina Youn3, Claudio Pedica4, Birna Arnbjörnsdóttir5, Branislav Bédi5.
1CADIA, Reykjavik University, 2CNRS-LTCI, TELECOM ParisTech, 3University of Duisburg-Essen, 4Gagarin Ltd., 5University of Iceland