

CLAIMS

1. A method for visualising an interaction between an embodied artificial agent and digital content on an end user display device of an electronic computing device the method comprising the steps of:

creating an agent virtual environment, having virtual environment coordinates; simulating the digital content in the agent virtual environment;
simulating the embodied artificial agent in the agent virtual environment;
enabling the embodied artificial agent to interact with the simulated digital content;
and displaying on the end user display device the interaction between the embodied artificial agent and the digital content.

2. The method of claim 1 wherein the virtual environment is a 3D virtual space, and the virtual environment coordinates are 3D coordinates.

3. The method of claim 2 wherein the interaction is one or more of the group comprising: moving towards the digital content, looking at the digital content, gesturing towards a digital content, or touching the digital content item by moving a multi-joint effector.

4. The method of claim 3 wherein digital content is simulated on a plane within the agent virtual environment.

5. A method for interacting with digital content on an electronic computing device via an embodied artificial agent the method comprising the steps of:

displaying the digital content to a user on a user interface on the electronic computing device;
creating an agent virtual environment, having virtual environment coordinates;
simulating the digital content in the agent virtual environment;
simulating the embodied artificial agent in the agent virtual environment;
enabling the embodied artificial agent to interact with the simulated digital content;
translating the interaction into an actuation or manipulation of the digital content on the user interface;
and displaying the interaction by overlaying, underlaying, and/or blending the embodied artificial agent with digital content on the user interface.

6. The method of claim 5 wherein the digital content is simulated in the agent virtual environment as one or more pixels in the agent virtual environment, each pixel having a coordinate location in the agent virtual environment.
7. The method of claim 6 wherein the interaction is an intersection between the coordinates of a pixel corresponding to digital content and a body of the agent.
8. The method of claim 7 wherein translating the simulated embodied interaction includes mapping the embodied interaction to an input device event.
9. The method of claim 8 wherein the human input device event is one or more of the group comprising: a mouse event, keyboard event or touchscreen event.
10. A system for facilitating interaction with an electronic computing device, the system including:
 - at least one processor device;
 - at least one memory device in communication with the at least one processor; an agent simulator module executable by the processor arranged to simulate an embodied agent; an interaction module executable by the processor arranged to translate digital content into conceptual objects perceivable by the embodied agent and enable the embodied agent to interact with the digital content; a rendering module executable by the processor arranged to render the digital content,
 - the embodied agent and the interaction of the embodied agent with the digital content.
11. The system of claim 10 wherein the interaction module is further arranged to translate embodied agent actions on the conceptual object into changes to the digital content.
12. The system of claim 11 wherein the interaction module associates conceptual objects with coordinates representing a location of the conceptual objects relative to the embodied agent.
13. The system of any one of claims 10 to 12 wherein the interaction module associates conceptual objects with one or more affordances of the corresponding digital content.
14. The system of claim 13 wherein the computing device provides a web content and the interaction module is JavaScript code integrated into the web content.

15. An embodied agent situated in a virtual environment created on an electronic computing device, the embodied agent programmed to:

receive input from a real world environment;

receive input from the virtual environment;

and behave dependent on the input from the real world environment and the virtual environment,

wherein the received input from the real world environment and the virtual environment is received in real-time via continuous feedback loops from both the real world environment and the virtual environment.