CONVERSATION ORCHESTRATION IN INTERACTIVE AGENTS

TECHNICAL FIELD

[1] Embodiments described herein relate to improving interactions between a user and an Agent: more particularly, but not exclusively, improving Conversation Orchestration in Interactive Agents in the context of multi-modal human-computer interactions.

BACKGROUND ART

[2] US10742572B2 discloses a method of orchestrating a plurality of chatbots by parsing chat messages to discover an intent and entities contained in the chat messages. A ranking algorithm ranks the master chatbot and modular chatbots, and the chat messages are forwarded to the highest ranked chatbot.

[3] US7421393B1 discloses a system for developing a dialog manager using modular spoken dialog components. The dialog manager is generated according to a method comprising selecting a top-level flow controller based on application type and selecting available reusable sub dialogs for each application part.

SUMMARY OF THE INVENTION

[3a] According to a first aspect of the present invention, there is provided a computer-implemented interaction orchestration system for managing interaction between a user and a computer system presenting an Agent, including: a set of Interaction Rules, each Interaction Rule including a Condition and an Action configured to modify the interaction; and a Router, configured to: receive Input Requests from the user and forward the Input Requests to a Skill Module from a set of two or more Skill Modules; and receive Output Responses from the two or more Skill Modules and forward the Output Responses to the user and/or the Agent; wherein the Router is configured to trigger corresponding Interaction Rule Actions when Interaction Rule Conditions are matched from Input Requests and, the Router is configured to trigger corresponding Interaction Rule Actions when Interaction Rule Conditions are matched from Output responses.

[3b] According to a second aspect of the present invention, there is provided a method for managing an interactive conversation between a user and a computer system presenting an Agent including the steps of: receiving, an Input Request from the user or an output response from a set of two or more Conversation Instances, by a Router configured to intercept input requests and output responses; determining if a Condition of a Interaction Rule from a set of Interaction Rules matches the Input Request or output response; if the Interaction Rule matches, applying an Action specified by the Interaction Rule, wherein the action modifies the interactive conversation, and forwarding the Input Request to a Conversation Instance from a set of two or more Conversation Instances or forwarding the Output Response to the user, wherein each Conversation Instance is configured to deliver conversational content from at least one Conversation Source.

[3c] According to a third aspect of the present invention, there is provided a computer-implemented method for managing interaction between a user and a computer system presenting an Agent, the method including: receiving, a set of Skill Modules configured to receive input from and/or generate output to the interaction, wherein each Skill Module is associated with a Skill Metadata; for each Skill Module, generating one or more Interaction Rules using the Skill Metadata; and adding the Interaction Rule to a set of Interaction Rules; wherein the set of Interaction Rules route between the one or more Skill Modules to govern the interaction between the user and the Agent.

[4] Embodiments of the present invention improve interaction orchestration in interactive agents or to at least provide the public or industry with a useful choice.

BRIEF DESCRIPTION OF DRAWINGS

Figure 1 shows an interaction orchestration system;

Figure 2 shows a flow diagram of Input Request processing;

Figure 3 shows a flow diagram of Output Response processing;

Figure 4 shows a conversation orchestration system including an Augmentation Corpus;

Figure 5 shows a conversation orchestration system configured to support innate knowledge;

Figure 6 shows a Router having established multiple connections to the same corpus;

Figure 7 shows a multi-topic conversational system;

Figure 8 shows a method of generating Interaction Rules;