Below is a glossary for terms used in this project. Red links are clickable cross-references.

Glossary

Action For the Patient, An Action describes the Patient's selected Action of a given Action Type for a given Epoch. An Action is determined statistically by the Simulation Manager. More specifically, a Patient takes a given Action from a predefined set of Actions based on the Interventionist's Assistive Type, and the designated value in the Agent Parameters list. For example, a simulation of a Patient with moderate dementia has a 1% chance of reacting to a Verbal Supportive Intervention with an "Anger" action. Actions are defined in the Context object and provide context and guidance for GPT to generate a response. Given an Action, GPT will generate a response (both verbal and nonverbal), which is then sent to the Interventionist.. 1–3

Action Type Defines the type of Action the Patient takes on a given Epoch. Selected by the Simulation Manager. Can be: "Forgetful", "Frustration", "Anger", "Disengaged", or "None". 1

Agent An object that communicates with GPT and another Agent. Receives State from either Context files, simulated random parameters, or other Agent. Interventionist and Patient are both Agents. , 2, 3

Agent Parameters Parameters that are used to define the behavior of the Interventionist and Patient. These parameters are defined in the Simulation Manager, and are used to determine the behavior of the Interventionist and Patient on a given Epoch. These parameters are used to determine the probability of the Interventionist performing a given Intervention or Patient performing a given action, and the probability of the Interventionist or Patient changing state. 1, 2

Assistive Type Defines the type of assistance the Interventionist provides to Patient on a given Epoch. Selected by the Simulation Manager. Can be: "None", "Verbal Supportive", "Verbal Non Directive", "Verbal Directive". 1, 2

Communication A Communication is a single interaction between the Interventionist and Patient. A Communication is composed of a single Intervention by the Interventionist, followed by a single Action by the Patient. A Communication is determined by the Simulation Manager. The Simulation Manager determines the Patient's Action and the Interventionist's Intervention based on the Agent Parameters. The Simulation Manager then sends the Interventionist's Intervention to the Patient, and the Patient's Action to the Interventionist. The Simulation Manager manages

changing of State for the Patient and Interventionist before each Communication and between Communications.. , 2

Context Stores context information for an Agent. Context is provided to GPT on initialization of Simulation, and provides initial guidance regarding the Agent's role, rules for its responses, example formats for responses and inputs, and details regarding format for communicating in/out of the Simulation. 1, 2

Epoch An Epoch is a single iteration of the Simulation. An Epoch is composed of a single Intervention by the Interventionist, followed by a single Action by the Patient. An Epoch is determined by the Simulation Manager. The Simulation Manager determines the Patient's Action and the Interventionist's Intervention based on the Agent Parameters. The Simulation Manager then sends the Interventionist's Intervention to the Patient, and the Patient's Action to the Interventionist. The Simulation Manager manages changing of State for the Patient and Interventionist before each Epoch and between Communications.. 1, 3

GPTObject An object that is used to communicate with GPT. Handles authentication, sending of API keys, adding/receiving context from other Agent or Context objects, and sending/receiving messages from GPT.

Intervention An Intervention is an action of a given Assistive Type taken by the Interventionist to influence the Patient's behavior. An Intervention is determined statistically by the Simulation Manager. More specifically, an Intervention is taken from a predefined set of Interventions based on the Interventionist's Assistive Type, and the designated value in the Agent Parameters list. Interventions are defined in the Context object and provide context and guidance for GPT to generate a response. Given an Intervention, GPT will generate a response (both verbal and nonverbal), which is then sent to the Patient. 1–3

Interventionist Agent that is responsible for initiating the Task, continuing through Steps and Substeps, ensuring that the Task is completed, communicating with the Patient, and Intervening during Task Breakdown moments. Interventionist has its own Context object. Interventionist Interventions are determined by the Task, the Patient, and the Simulation. 1–3

Patient Agent that is responsible for receiving the Task, communicating with the Interventionist, and completing the Task. Patient has its own Context object. Patient's actions are determined by the Task, the Interventionist, and the Simulation. 1–3

Simulation Manager The Simulation Manager is responsible for initializing the Simulation, initializing the Interventionist and Patient, and running the Simulation. The Simulation Manager is responsible for receiving messages from the Interventionist and Patient, and sending messages to the Interventionist and Patient, and changing Patient or Interventionist State according to predefined statistical parameters. The Simulation Manager is responsible for determining when the Simulation is complete, and for saving the Simulation to a file. Generally, the Simulation Manager is responsible for all interactions between Agents, defined parameters, and output. 1–3

State For the Patient, State describes the Patient's selected Action for a given Epoch. State is determined statistically by the Simulation Manager. 1–3

Step A single step in a Task. A Step is composed of Substeps. A Step is defined in the SubtaskGuidance "passlist". A Step is generally a distinct action that must be successfully completed for the Patient to continue. The Interventionist will describe the Step to the Patient, which may be presented as an initial comprehensive description, or a series of descriptions of Substeps as the Patient progresses. An example Step is "Find the first 4 items on this grocery list". , 2, 3

Substep A distinct action, usually in a set of multiple actions, that the Patient must complete to successfully complete a Step. , 2, 3

Task A task that is to be completed by the Patient. A Task is composed of Steps, which are composed of Substeps. A Task is provided to the Patient by the Interventionist. Tasks and Steps are provided to the Patient, and are defined in the SubtaskGuidance "passlist". An example Task is the "Grocery Shopping" Task. , 2, 3

Task Breakdown A moment in the Task where the Patient is unable to continue. A Task Breakdown is determined by the Patient's State. A Task Breakdown is determined by the Simulation Manager. A Task Breakdown is generally caused by the Patient being unable to complete a Step or Substep due to an Action. A Task Breakdown is resolved by the Interventionist providing an Intervention to the Patient that successfully allows the Patient to continue. An example Task Breakdown is the Patient being unable to find the first item on a grocery list, and the Interventionist providing an Intervention that allows the Patient to successfully proceed.. , 2