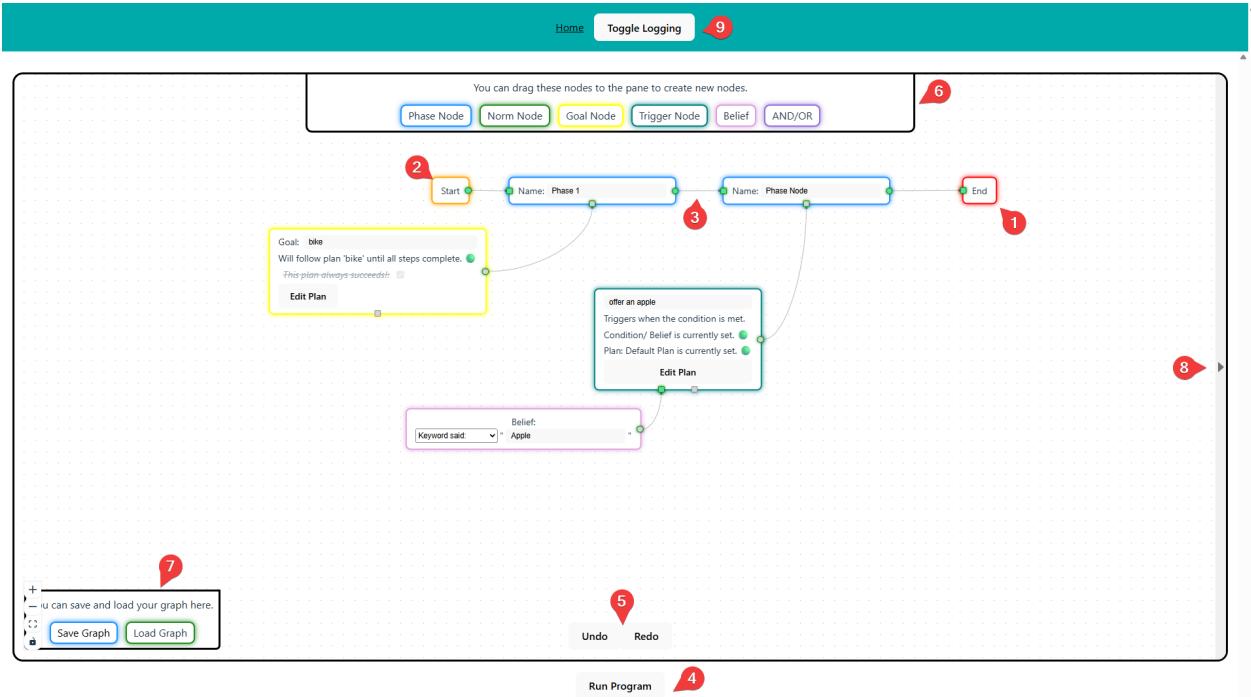


INFOSP - Fall 2025 - User Manual
Manual for Users of the Pepper+ Software
Pepper+ Team
January 2026



1 Program Editor



1. End Node	6. Drag-and-Drop sidebar
2. Start Node	7. Save/Load Graph
3. connection (edge)	8. Warning sidebar (collapsed)
4. Run Program button	9. Button to open/close the real-time debug logs
5. Undo/Redo Buttons	

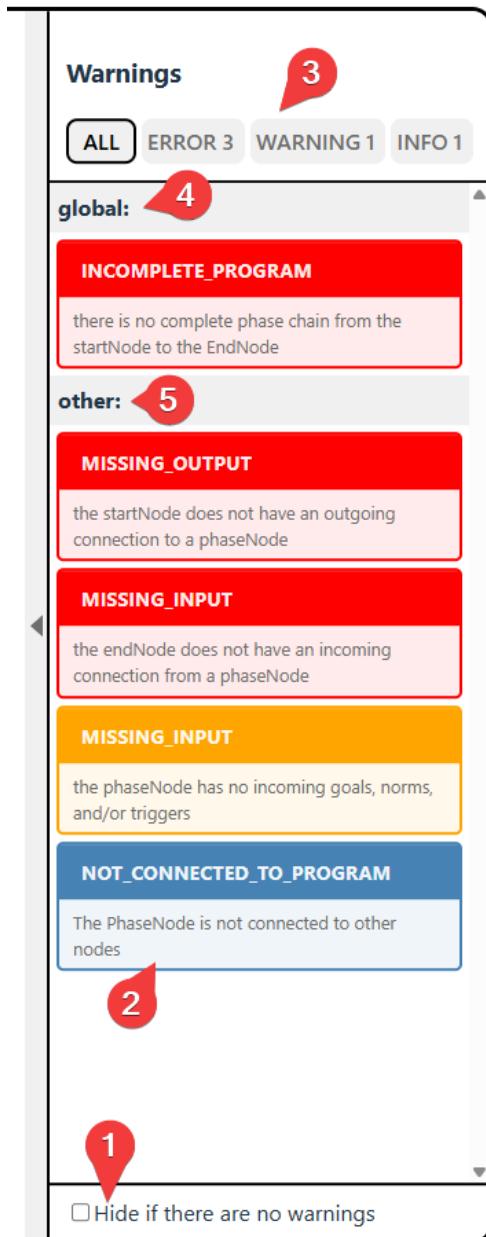
Figure 1: The Visual programming editor

Creating A Program: A program is created by connecting nodes inside the editor window. Start your program at the Start node (figure-1: 2) and then add one or more phase nodes connected in chronological order. Complete your base program by connecting the final phase of your program to the End node (figure-1: 1).

Adding nodes: To add more nodes to your program, click and hold on any of the nodes inside the drag-and-drop sidebar (figure-1: 6) using the left mouse button, then drag the node onto the graph. Release the left mouse button to drop the node and add it to the graph. Once in the graph, you can connect the node to the program by creating a connection (figure-1: 3) to another node. A connection (figure-1: 3) can be made by left-clicking on a handle and dragging to a compatible handle on a different node.

Connecting Nodes: All connections have to be made between an input and an output handle. Input handles are displayed as squares, and output handles are displayed as circles. Red handles can only accept a single connection, whilst gray handles can accept multiple connections at once.

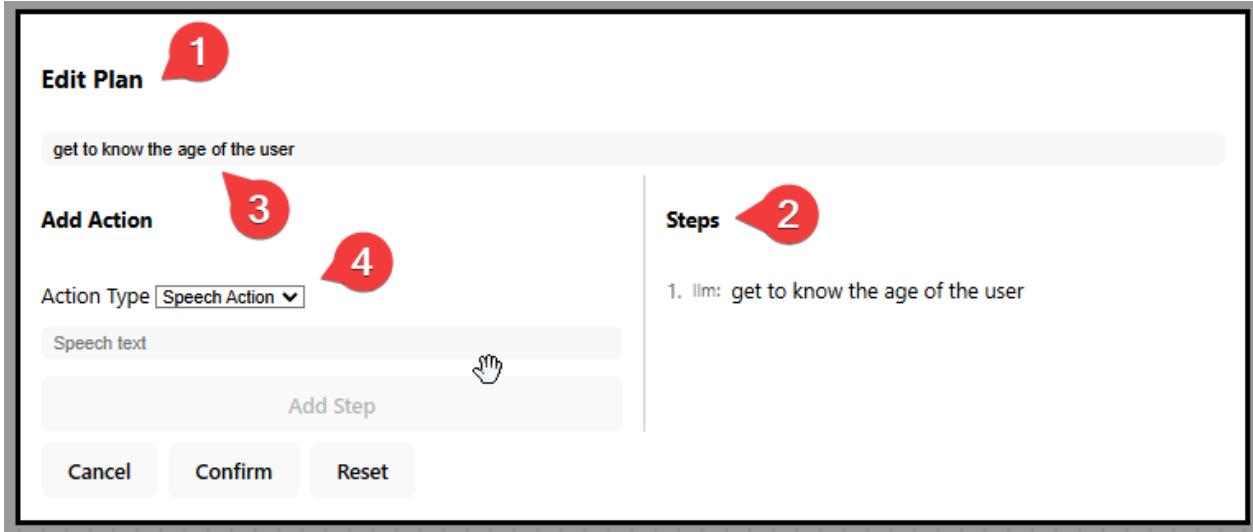
Warning Sidebar:



1. **Auto Collapse:** check this checkbox to enable automatic collapsing of the warning sidebar if there are no warnings present. If enabled, the sidebar will also open automatically if new warnings appear in the sidebar; this will only happen if there were no warnings present before you collapsed it.
2. **Warning Message:** a warning (INFO) message, the message includes the type of warning and a short description of the warning.
3. **Severity Filters:** use these buttons to switch between showing all warnings or just warnings of one severity level.
4. **Global Warnings:** these warnings are about the entire program.
5. **Other Warnings:** these warnings are specific to single nodes and/or handles. By left-clicking on any of these warnings, you can make the editor focus on the node that produced the respective warning.

Figure 2: The Warning sidebar

Plan Editor:



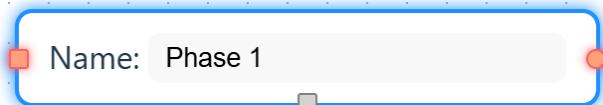
1. **The Plan Editor:** When you click the “create Program” button on a node that supports plans, you will be presented with the Plan Editor, which is the interface that allows you to create and modify your plans.
2. **Plan Overview:** The plan overview (Steps) displays the details of your plan, it shows the order of the included steps, and details about the actions that are performed during each step.
3. **Name Input:** This is where you can name the plan; the name of the plan will show up on the
4. **Add Action:** This is where you can define new actions to be added to your plan. The supported actions are: speech (Pepper says the provided text), gesture (Pepper performs a gesture, either specifically selected using the single mode, or randomly chosen from a set of gestures that fit the chosen expression using the tag mode).

Figure 3: The Plan Editor

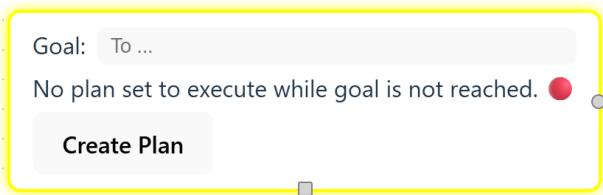
1.1 Nodes



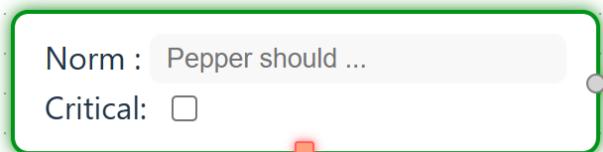
Start&End: The Start and End nodes signify the start and end points of a program. A program will start running from the Start node to the End node, executing every phase that is a part of the chain of phase nodes between the Start and End node.



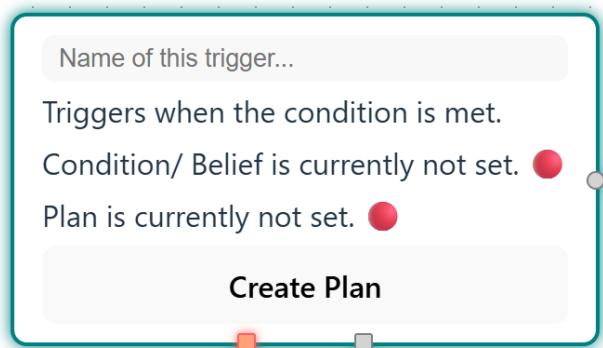
Phase Node: Phase nodes provide structure to your program, connect them in sequence to define how your program flows. Connect Norms, Goals, or triggers to the input at the bottom of the node to configure what happens during the respective phase



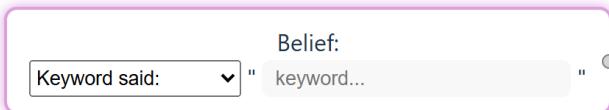
Goal Node: A goal node represents a goal for Pepper to achieve during the interaction. If a goal can fail, the provided condition has to be met before Pepper can move to the next phase. You can also connect other goals to the bottom input of a goal node; these goals will then act as sub-goals and will have to be completed before the parent goal is considered to be achieved.



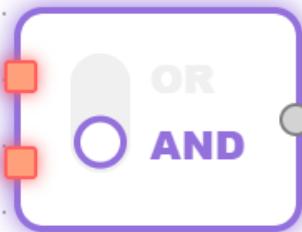
Norm Node: The Norm node describes rules for Pepper's behavior, for example, "talk like a pirate." If you connect a belief to the bottom input of a Norm node, it becomes conditional and will only be active if the condition described by the belief node is met.



Trigger Node: A trigger Node allows you to create Actions that will happen when the connected condition (belief) is fulfilled. These actions are intended to be repeatable whenever the condition is fulfilled, for example, offering food whenever the conversation partner says "I'm hungry".

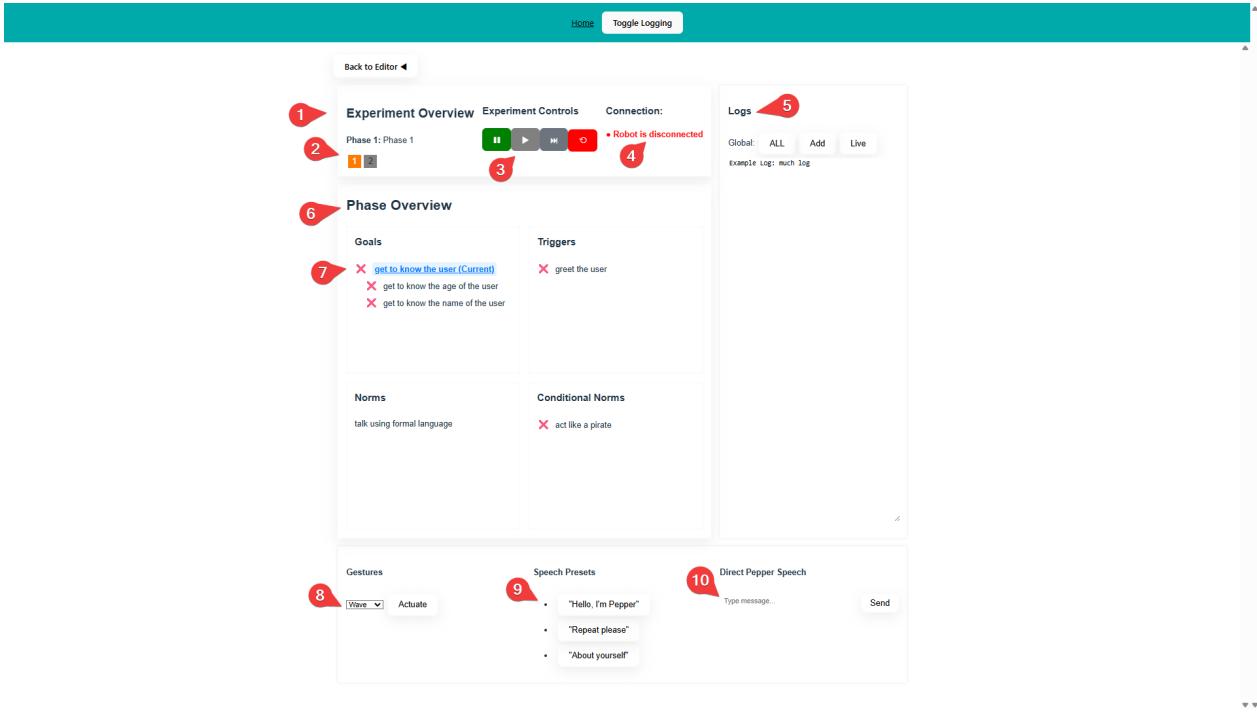


Belief Node: A belief Node is used to describe a condition and can be connected to a Norm or a Trigger, or combined with other beliefs using the AND/OR Node to create a more complex condition.



AND/OR Node: The AND/OR Node is used to combine two beliefs into one belief, by requiring either both or one of the connected beliefs to be met. It is also possible to use the AND/OR node to combine beliefs that were created using other AND/OR nodes.

2 Monitoring Page



- The Experiment Overview:** Gives basic information about the experiment and offers controls for the experiment flow.
- Progress:** Shows you which phases are completed, what the current phase is, and what phases are still left in the program.
- Program Controls:** Provides basic control over the execution of the program, allowing you to skip a phase, to pause and resume the program, and to completely restart the program.
- Connection Status:** Shows if the software is connected to a robot.
- Interaction Logs:** Gives logs of the interaction, provides info about goal completion, belief creation, and the actual conversation with Pepper.
- Phase Overview:** Describes the current

phase; shows you what Goals, Triggers, Norms, and Conditional Norms are present in the current phase.

- Status Indicator:** Shows if the respective Trigger, or Conditional Norm, is activated, and if a goal is achieved. You can manually override the Completion status by clicking the Status Indicator.
- Gestures:** Allows you to force Pepper to perform a gesture. Select your desired gesture from the drop-down menu.
- Predefined Speech:** Allows you to force Pepper to say some Predefined sentences by clicking the respective buttons.
- Custom Speech:** Allows you to force Pepper to say what you entered into the text input, by pressing the button next to it.