

Automatic Coffee Brewing Robot Utilizing AI Skills to respond to Orders in Natural Language

- By using an LLM (large language model) to understand orders in natural language and adopting specialized AI skills*¹, the robot can brew coffee via continuous powder scooping and high-accuracy pouring of liquid

*¹: Software that enables AI to learn robot movement and the information of multiple sensors to reproduce human labor.

Use Integral Task Planner to Generate Robot Programs from Natural Language

A Task Planner developed by Integral with an embedded LLM enables natural language input and generates robot programs that understand the nuances of abstract instructions and ambiguous orders and support complex conditions.

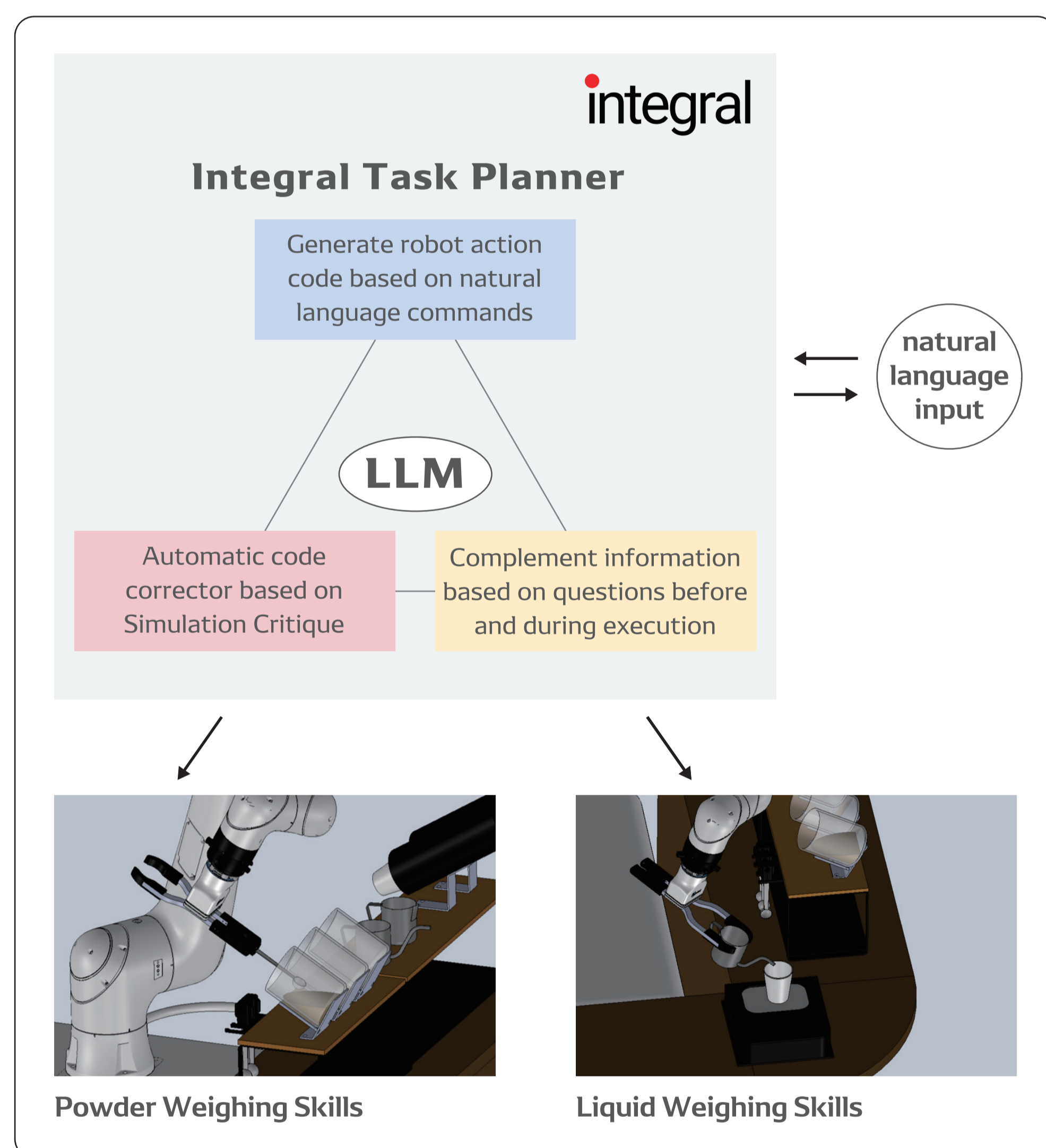
Achieves stable program generation and prevents program errors because if the information input with natural language is insufficient, it is complemented via a dialog between Task Planner and the human operator, and the generated code is corrected via simulation in Task Planner

Utilize Powder Weighing Skills to Input Powder

An AI model is taught to scoop up powder and select to stir or perform other operations based on information on the remaining amount and tilt of the powder observed with a camera inside the container, which achieves continuous scooping.

Utilize Liquid Weighing Skills to Input Liquid

An AI model is taught to perform high-precision pouring of the specified amount of liquid based on information on the angles of the robot axes and the measured weight, regardless of the liquid properties and shape of the container.



System configuration

