

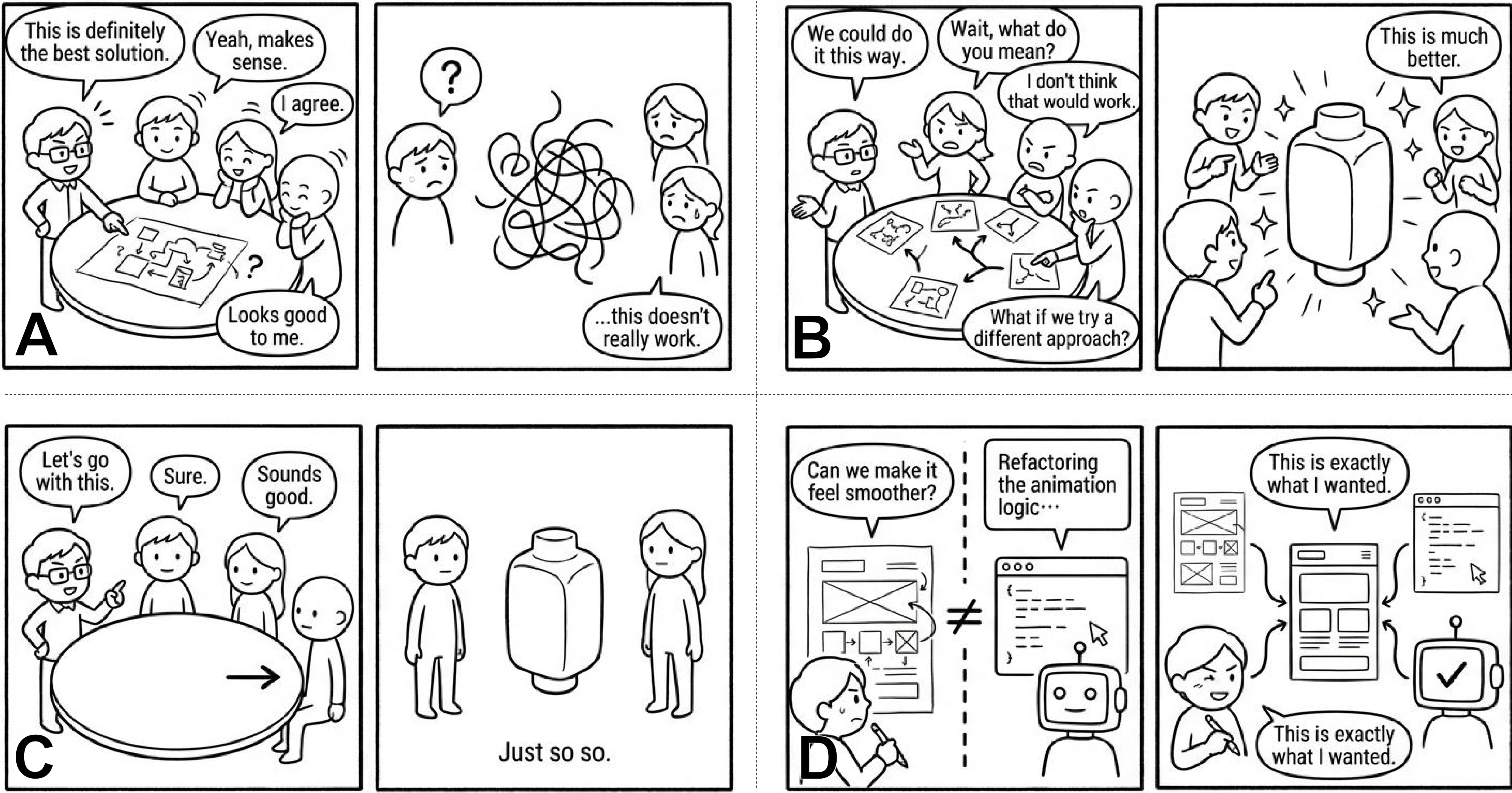
Alignment–Process–Outcome: Rethinking *How AIs and Humans Collaborate*

Haichang Li, *George Mason University*, hli52@gmu.edu
Anjun Zhu, *Simon Fraser University*, aza99@sfu.ca
Arpit Narechania, *HKUST*, arpit@ust.hk

Background

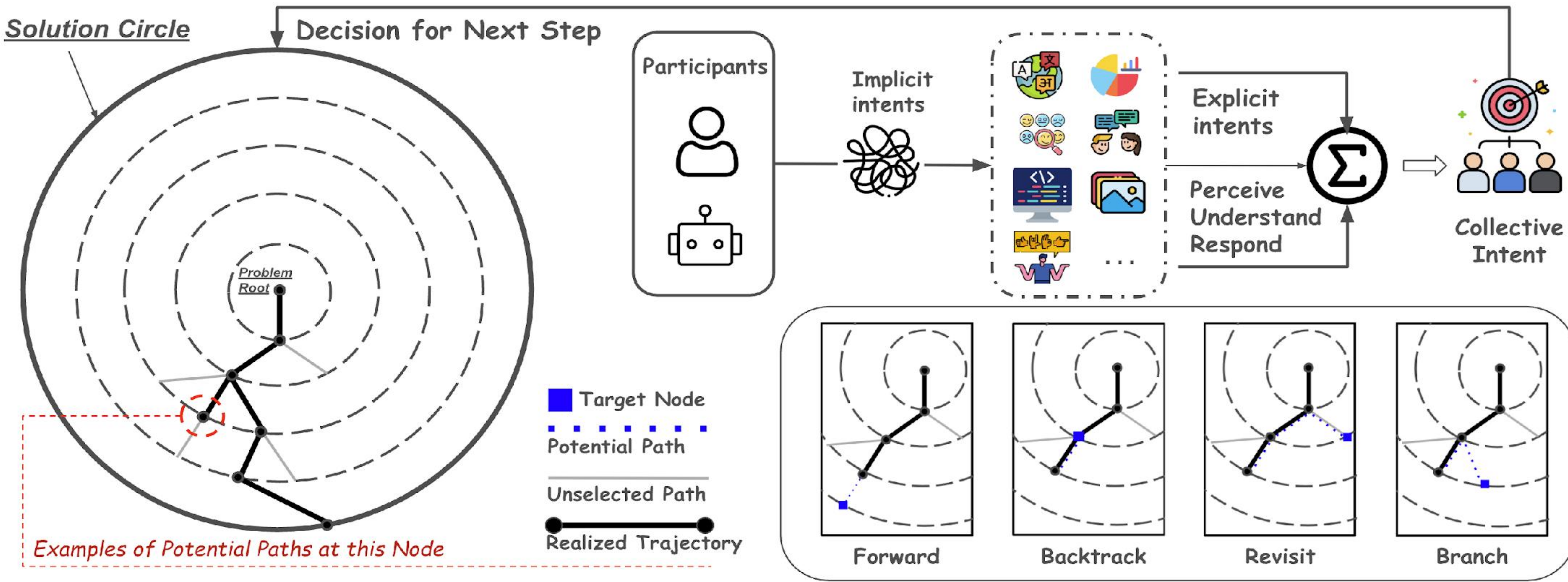
*Alignment, process, and outcome
do not always move together*
across Human-AI, H-H, A-A collaboration.

- For example, sometimes:
- A: People blindly follow leader’s wrong answer, and the result turns out poorly...
 - B: Some people disagree and some don’t fully understand, but through the process they end up with a very good result...
 - C: The whole process feels smooth and efficient, but the result is just average...
 - D: The human does not really understand the AI, but they still use “Vibe Coding” to get a good result...



Two-Lens Framework

So, we propose a two-lens framework for understanding collaboration through both *task progression* and *intent dynamics*.



The *task lens* models collaboration as a trajectory evolving in a task space, while the *intent lens* captures how individual intents in shared context are expressed, compared, and aggregated into a collective intent for group decision.

Our findings

Not all alignment is the same.

- ✓ Alignment operates at three levels: contextual (shared context), radial (progress), and angular (path).

Collaboration is driven by weight allocation.

- ✓ Even without strong alignment, collaboration can still move forward and reach outcomes, depending on how intents are weighted and aggregated.

Collaboration unfolds as a trajectory.

- ✓ The process reflects the shape of the trajectory, while the outcome depends on where it lands, and they can diverge significantly.

Calls and Implications

Evaluation:

Collaboration should be evaluated through outcome, efficiency, and trajectory structure, where **backtracking is treated as meaningful exploration** rather than failure.

System Strategy (Ongoing work):

System should treat weight allocation as a flexible protocol and introduce **strategic friction** when needed to balance convergence and exploration.

Interface (Ongoing work):

Interfaces should move **beyond linear interaction** logs and represent collaboration as navigable trajectories with branching and alternatives.