

## *Back to the Future for Dialogue Systems*

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In this talk I will revisit the plan-based approach to dialogue and argue that it is (still) the way we should be thinking and building future dialogue systems. With a big whiff of nostalgia, I will present our progress on building a plan/BDI-based collaborative dialogue system that reasons its way through a dialogue. Founded on James' and my PhD theses, the system overcomes many of the limitations of today's so-called "slot-filling" systems by reasoning about its interlocutors' speech acts in terms of beliefs, (persistent) goals, and intentions, using part of the logic of intention that Hector Levesque and I did eons ago. The system collaborates with its user by inferring the user's plan, finding obstacles to its success, and planning actions to overcome those obstacles. It can explain why it said what it did by referring to the plan that led to its speech act(s). The system also can conduct multi-party conversations in virtue of reasoning about the different parties' mental states. I offer this system as an existence proof that our approach is not only viable, but one that may have considerable advantages going forward.

**Bio:** Phil Cohen has long engaged in research in the fields of human-computer dialogue, multimodal interaction, and multiagent systems. He is a Fellow of the Association for Computing Machinery, a Fellow of Association for Computational Linguistics, a Fellow of the Association for the Advancement of Artificial Intelligence, a past President of the Association for Computational Linguistics, and the recipient of the 2017 Sustained Accomplishment Award from the International Conference on Multimodal Interaction. He is also an Adjunct Professor of Data Science and Artificial Intelligence, in the Faculty of Information Technology, Monash University, Melbourne, Australia.