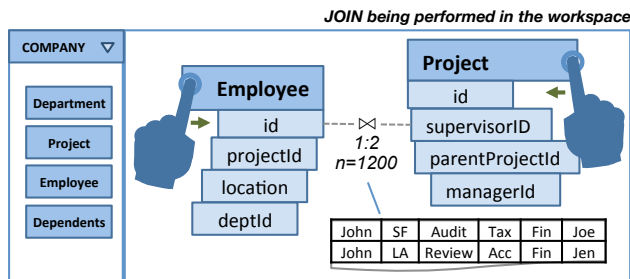


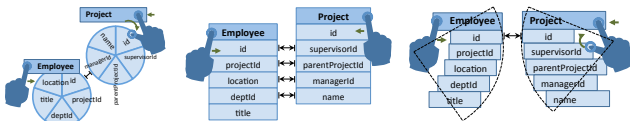
# The Interactive Join: Recognizing Gestures for Database Queries

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We present a novel gesture recognition system that supplements gestural input with database content information to predict database queries.



## Design Considerations

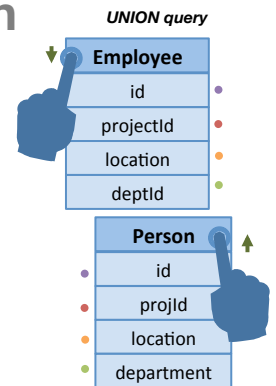


Potential Table Layouts include Tabular, Radial and Arc. The responsive **arc** layout allows all queries to be expressed unambiguously while still achieving readability.



## Gesture Recognition as Classification

Classification based solely on proximity is the currently prevalent UI paradigm. By adding **compatibility**, we are able to increase the likelihood of selecting semantically meaningful queries. Compatibility criteria include schema information like field type, and data distributions, like histograms, extreme values, intersection in random samples, or total intersection. We use a maximum entropy classifier in which we define **features** of queries, including proximity and compatibility features.



## Preliminary Results

Information from the schema and data in the database allows our classifier to better predict the intended database query for ambiguous gestures such as JOIN. We present **prediction** scores for a workload of 15 queries, where 100% represents correct classification at the start of the gesture and 0% represents an incorrect classification even after completion of the gesture.

*Table PREVIEW*

Employee	id	projectId	location	deptId
	1	2	3	
	2	2	4	
	NYC	SF	ATL	
	22	31	3	

