

EchoQuery: Chatting with Your Relational Database

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As information culture becomes increasingly on-demand, there are situations where traditional interfaces for gaining insights about data, such as SQL queries or visualization tools, grow increasingly cumbersome. Why not just be able to ask the question and get the answer? Current tools rely on keyboards, mice, or gestures and although this may be fine for many settings, there are situations where the convenience and accessibility of a hands-free interface prevails.

We present EchoQuery: a system built on top of the Amazon Echo that allows users to verbally ask database queries in structured natural language and get results spoken and visualized back to them. Namely, users are able to ask select or aggregation queries over their SQL database with multiple where clauses and group-bys. If the user references a column from a different table, EchoQuery attempts to infer the correct join. If something is malformed or ambiguous, EchoQuery attempts to interactively resolve the problem by asking the user to clarify. After the user gets an answer, they can refine their query by adding, removing, or replacing specific where and group-by clauses without re-specifying the entire query again. Finally, users can also ask EchoQuery to visualize specific columns of their results to quickly produce histograms and heat-maps.

Demo Video: <https://vimeo.com/151847274>

Github: <https://github.com/vqtran/EchoQuery>