

Status update  
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Dean De Leo

# SQL extension for MonetDB

- Introducing a shortest-path and reachability operator
- Closure: the input are relations (tables), the output is a relation (table)
- The graph is implicitly determined by the provided columns, as far as types are compatible
- The graph only determined at run-time
- The operator allows to compute many to many shortest paths

```
SELECT v1, CHEAPEST p SUM(e:distance) score, ..  
FROM .. (introducing v1 and v2 here) ..  
WHERE v1.key REACHES v2.key OVER E e EDGE  
E_from, E_to  
GROUP BY v1  
ORDER BY ..;
```

# Current state

- Runtime implementation of the Dijkstra algorithm
- Tentative parallel algorithm, map paradigm over source/destination pairs.
- Load the input graph (as set of columns), execute the operator, store the result at the MAL level, MonetDB intermediate language.
- SQL front-end is missing

# Ongoing work

- SQL front-end & definition of the operator in the query plan
- Tuning the heap data structure in the shortest-path implementation
- Experiments