

Making Database Management Systems Manageable

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Project Overview

- Built system to auto-generate reports
GrunDB: Generating Reports
for **User-centric NewSQL DataBases**
- Optimized system to reduce tardiness
- Evaluated performance using a real dataset

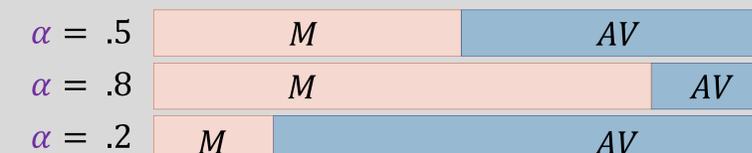
Users' input:



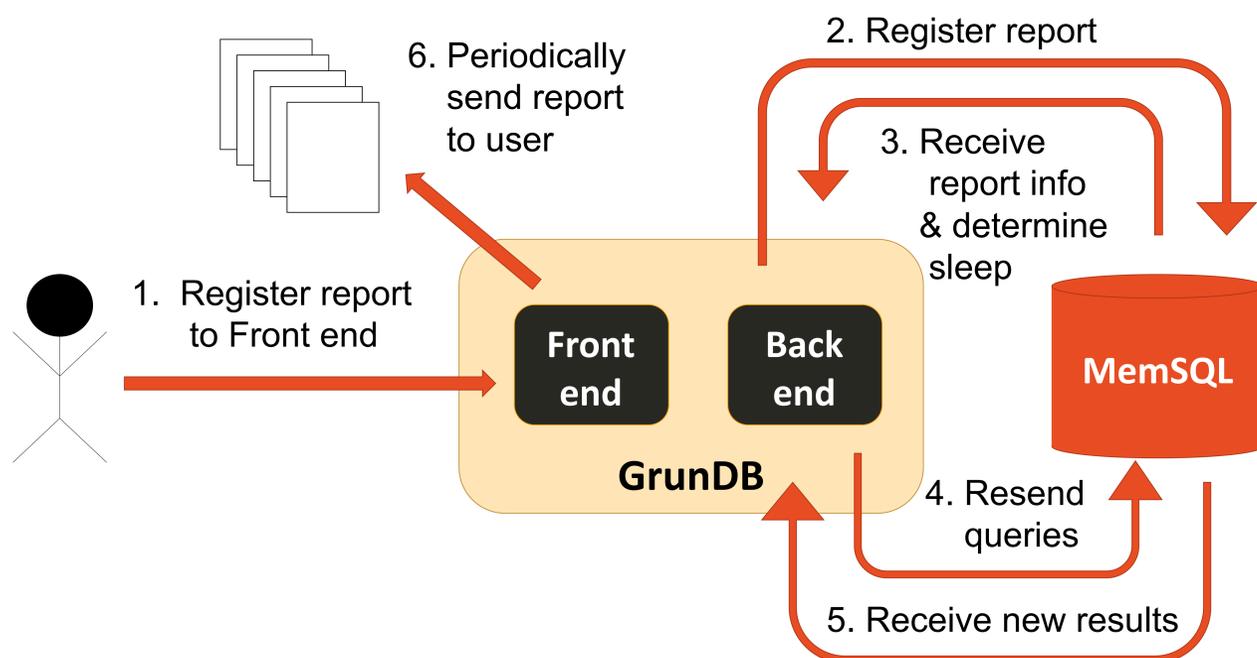
Time Optimization

$$\text{Weighted Average} = \alpha \times M + (1 - \alpha)AV$$

weight factor = α (between 0 and 1)
last measurement = M , average = AV

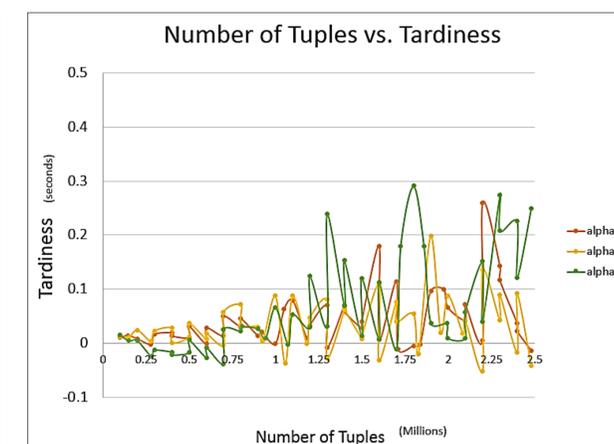
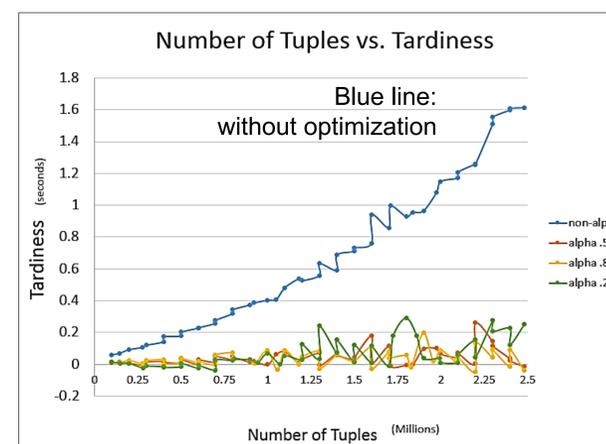


Lifecycle of GrunDB

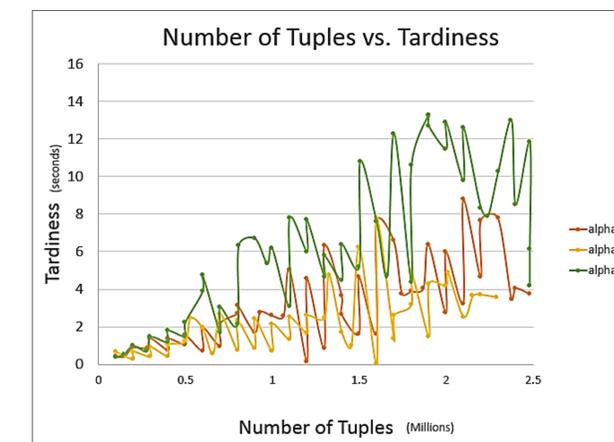
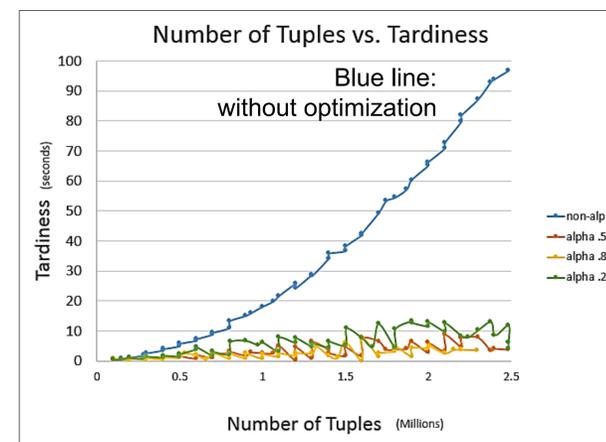


Evaluation with Real Dataset

Static report: report length does not change as the volume of data changes
Query: determine the busiest hour in a supermarket



Dynamic report: report length changes as the volume of data changes
Query: determine the number of baskets for each customer



Tardiness

