



PREGEL: A SYSTEM FOR LARGE SCALE GRAPH PROCESSING

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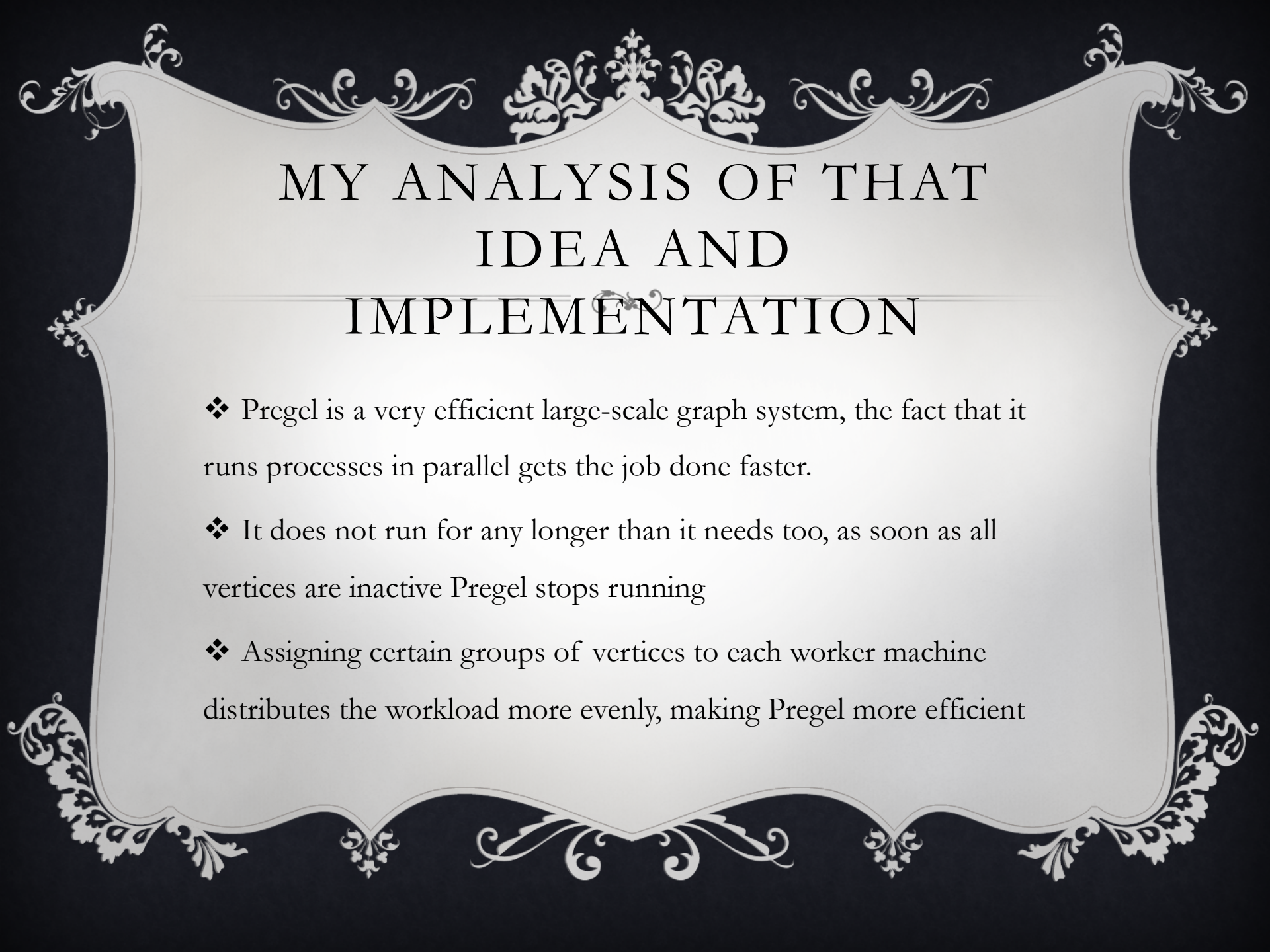
MAIN IDEA OF THIS PAPER

- ❖ Currently there is no good way to deal with large scale graphs and the data of those graphs
- ❖ Pregel is the best way to deal with large scale graphs with millions or billions of vertices that represent data sets and their connections
- ❖ Pregel's design and implementation makes it efficient



HOW THAT IDEA IS IMPLEMENTED

- ❖ One master machine, with many worker machines to work along with it
- ❖ All worker machines run in parallel, using supersteps to send, execute, and receive messages from other machines working on other groups of vertices, this allows efficiency
- ❖ Designed for google cluster architecture



MY ANALYSIS OF THAT IDEA AND IMPLEMENTATION

- ❖ Pregel is a very efficient large-scale graph system, the fact that it runs processes in parallel gets the job done faster.
- ❖ It does not run for any longer than it needs too, as soon as all vertices are inactive Pregel stops running
- ❖ Assigning certain groups of vertices to each worker machine distributes the workload more evenly, making Pregel more efficient



ADVANTAGES AND DISADVANTAGES

❖ ADVANTAGES:

- Processes graphs with billions of vertices efficiently
- There are already many applications that have been written for it
- uses parallel processing.

❖ DISADVANTAGES:

- No point in using Pregel on smaller scale graphs
- Limited memory space



REAL WORLD USE CASES

- ❖ Can be used to find shortest path from “A” to “B” on a large map very efficiently
- ❖ Works well with social networks seeing who is friends with who, and connections between people