

Team PJC:

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HPC

Quest 1

Pioneer Junior College



HPC QUEST 2010

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- Quest 1
 - Challenge 1 – Auto-categorization
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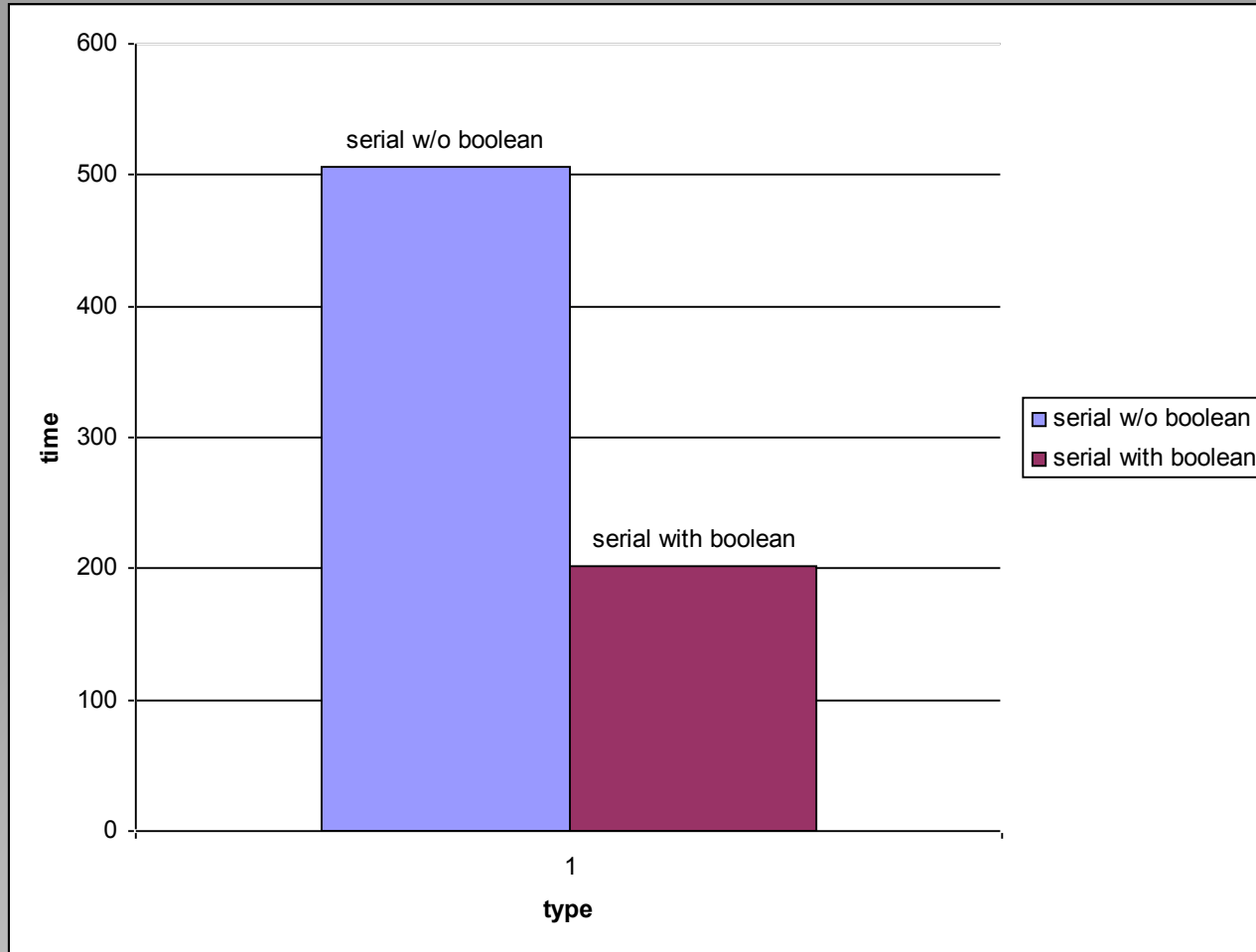
Challenge

- Challenge 1
 - Complete-linkage
 - Average-linkage
 - **Single-linkage**
 - Other algorithms – K-means
- Challenge 2
 - **OpenMP**
 - MPI
- Challenge 3
 - **Ggobi**
 - **R language**
 - Matlab
 - Visumap
 - gcluto

Possible Methods

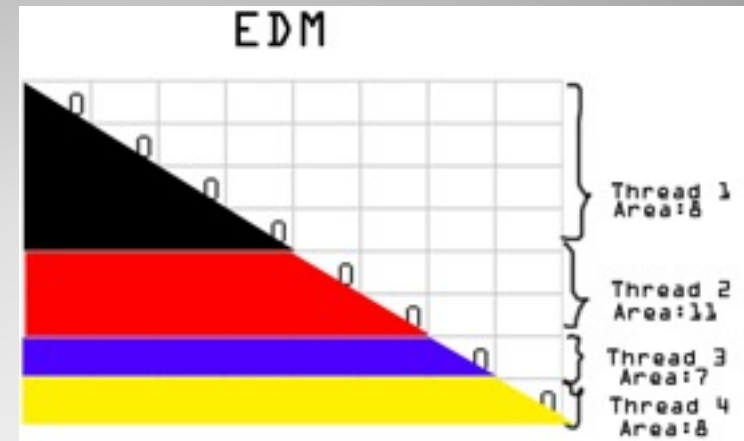
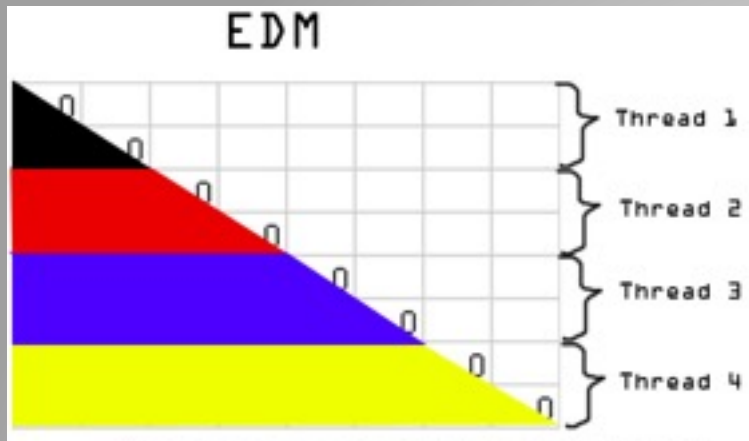
- Modified algorithm
 - Step 1 : Compute EDM
 - Step 2 : Find min in matrix
 - Step 3 : Merge clusters
 - Step 4 : Update boolean matrix
 - Repeat
- Faster due to less memory modification
- Requires additional memory

Solution – Challenge 1



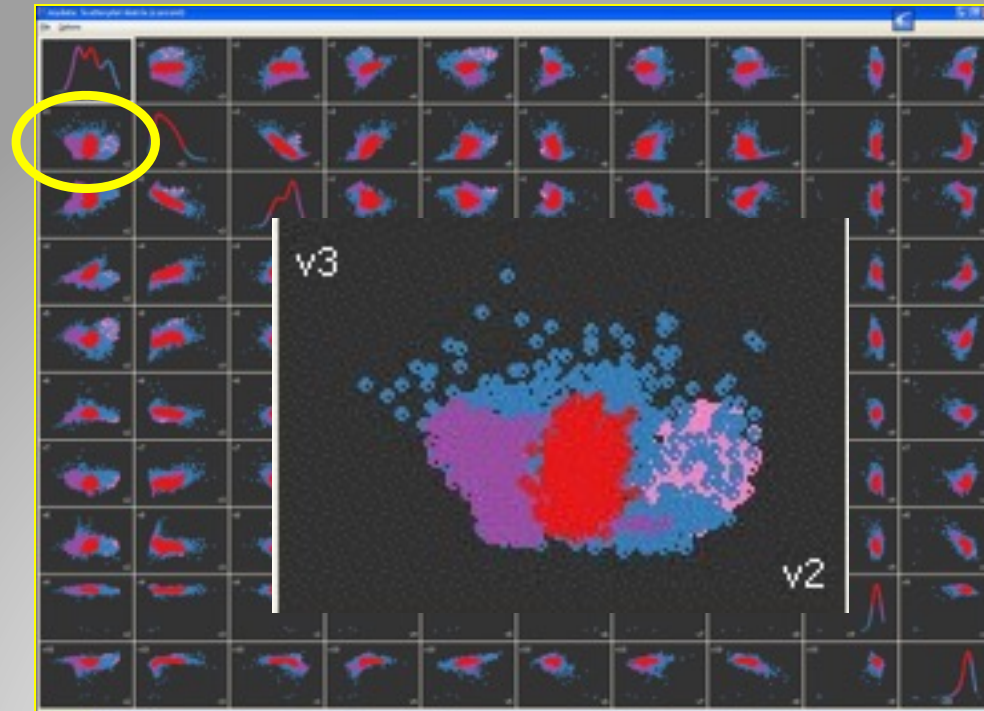
Solution – Challenge 1

- OpenMP
- Parts to parallelize
- Taken note of
 - Load balancing



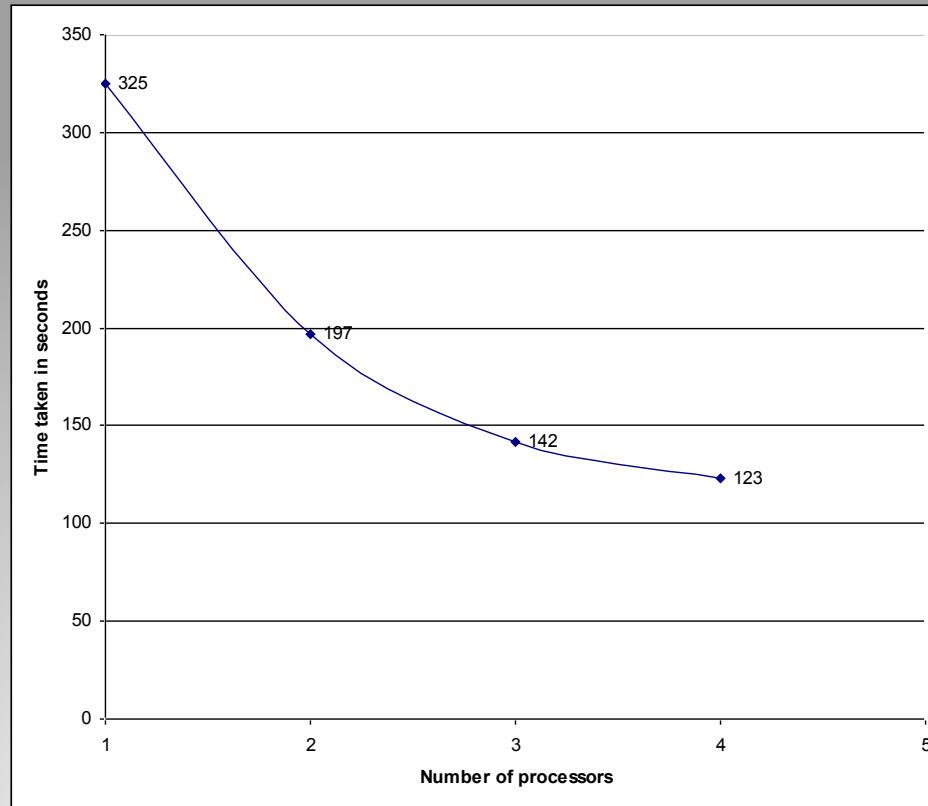
Solution – Challenge 2

- GTK+
- Identify tool
- Scatterplot matrix view



Solution – Challenge 3

- Time Taken
- Scalability



Results

- Before
- During
- Now

- Acknowledgements

Reflections