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THE COMPUTERIZED EXPLORATION OF GRAPHS

Alan M LaMielle *Central Michigan University*

Abstract of Talk: A computer application, written in the Java programming language, is presented which calculates useful information about graphs. The particular graph to be analyzed can be specified in multiple ways including graphically designing it by adding individual components. As a graph is created information such as the graph's adjacency matrix, eigenvalues, and diameter is calculated and updated in real time. This tool was developed over the summer of 2005 and used by students in an undergraduate research program. Future plans for work to be done on the application are also presented.