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Music and Computers

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MUSIC AND COMPUTERS

by Roger O'Neel

The purpose of this independent study is to investigate and summarize an Honors Program independent study in the field of computers and music, and is written in partial fulfillment of the requirements for graduation in the Honors Program. Research for a previous Honors Program Independent Study in this

Advisors - Dr. Thomas Bolton

Mr. Harold Jones

Mrs. Mary Beth Zeagler

In his article, "Music Composed with Computers - A Historical Survey," Lejaren Hiller breaks down the categories of the uses of computers in music as follows:

Spring 1985

1. Systems for I/O Storage & Sorting of Musical Data
2. Musicological and Analytical Studies
3. Composition with Computers
4. Sound Analysis and Synthesis.

Advisor's Approval

For the purposes of this study, the first and second categories will be combined into one category, while another important category will be treated separately. The third and fourth categories will be treated as separate categories.

SEARCH

The first area of investigation will be the analysis of music by computers. This analysis can take several forms, (harmonic, melodic, statistical, etc.) The computer can be programmed to identify chords, tabulate statistics and analyze other musical elements, and the computer can perform many of these often tedious jobs very rapidly.

PREFACE

The purpose of this paper is to culminate and summarize an Honors Program independent study in the field of computers and music, and is written in partial fulfillment of the requirements for graduation in the Honors Program. Research for a previous directed study has been included in this paper to give an overview of other subjects not specifically explained in detail.

In his article, "Music Composed with Computers - A Historical Survey," Lejaren Hiller breaks down the categories of the uses of computers in music as follows:

1. Systems for I/O Storage & Sorting of Musical Data
2. Musicological and Analytical Studies
3. Composition with Computers
4. Sound Analysis and Synthesis.

For the purposes of this study, the first and second categories will be combined into "Analysis and Research", while another important usage of computers and music, "Computer Assisted Instruction" or "CAI" for short, will also be considered.

ANALYSIS AND RESEARCH

The first area of investigation will be the analysis of music by computers. This analysis can take several forms, (harmonic, melodic, statistical, etc.) The computer can be programmed to identify chords, tabulate statistics and analyze other musical elements, and the computer can perform many of these often tedious jobs very rapidly.