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Title Impact Of Programming Routines On The Musical Aspects Of Game Music On The Commodore 64 Home Computer		
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ABSTRACT In this study I've analysed the impact of different kinds of programming routines on the musical qualities of game music made on the Commodore 64 home computer. Four different programming routines, that were used in game music programming during the years 1985-89, were analysed and explained. The analyses were based on the source code used by these routines, and the comments and conclusions concerning the functionality of these routines in music composing in general especially in game music environment were based on the facts obtained from the analysis. The analysed programming routines were reverse engineered from the games Driller (Incentive 1988), Arkanoid (1987) and Monty On The Run (Gremlin Graphics 1985). The songs for these games (in same order) were composed by Matt Gray, Martin Galway and Rob Hubbard. The fourth routine is actually an independent music editor called SoundMonitor programmed by Chris Hülsbeck in 1986. The study reveals that all the analysed routines use the built-in synthesizer chip of the Commodore 64 computer, Sound Interface Device (SID), very efficiently. Major differences between the programming routines were also found. Some routines didn't even take advantage of some of the built-in qualities of the SID chip itself (e.g. Matt Gray and Rob Hubbard didn't use the built-in filter in their routines) while other routines contributed new ways of producing sound by using sophisticated programming methods (e.g. creating drum sounds by using the voltage leakage found in the first version of the SID). The study also shows that the different approaches taken in programming the routines dictated the musical aspects of the compositions. For example Martin Galway used a very distinctive programming technique for creating full and vibrant lead sounds - these sounds often characterised the music he made and influenced him to write very melody-orientated music. On the basis of this remark further studies analysing the impact of playing techniques on the musical aspects of compositions made for instruments not controlled by computer programs should be made.		
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