# US-4829468-A Print control system

(1) BACKGROUND OF THE INVENTION  
(2) The present invention relates to a print control system for controlling computer systems for creating documents, such as personal computers and word processors and, more specifically, to a print control system suitable for controlling the operation of such computer systems for printing documents in large quantities by a printer.  
(3) The computer system, such as the personal computer or the word processor, comprises a processing unit, a storage unit, a display unit, an input unit and a printing unit, and is capable, in general, of an editing function.  
(4) The conventional computer system of this kind is capable of parallel execution of a printing task and an editing task and is capable of simultaneously giving print instructions for a plurality of documents. However, the conventional computer system is unable to identify a document in printing process. Furthermore, once a print instruction is given, it is impossible to cancel the print job specified by the print instruction and to change the print sequence.  
(5) Since the conventional computer system is not designed to enable the cancellation and change of a print instruction after the print instruction has been given, the conventional computer system has drawbacks in accessibility.  
(6) SUMMARY OF THE INVENTION  
(7) Accordingly, it is an object of the present invention to provide a print control system capable of cancelling a print instruction through conversational operation and changing a print sequence specified by print instructions.  
(8) It is another object of the present invention to provide a print control system capable of cancelling a print instruction and optionally changing a print sequence so that chances of executing an unnecessary print operation can be reduced remarkably.  
(9) It is a further object of the present invention to provide a print control system capable of preferentially printing an urgent document.  
(10) The objects of the invention are achieved by a print control system having processing units, a memory unit, a display unit, an input unit and a printer, and capable of editing and printing operation, which comprises: a print request block for storing information necessary for each document to execute a print job; a print queue for managing the print request sequence of the print request block; file operating means for setting information necessary for a printing operation in the print request block according to a print request provided by the operator and registers the print request block in the print queue; print management means for fetching information set in the print request block according to the sequence registered in the print queue and for controlling the printer for to effect a printing operation on the basis of the information fetched from the print request block; printing status operating means for displaying the contents of the print queue on the display unit and for changing the print request according to an instruction given by the operator; and a system management means for activating file operating means, print control means and the printing status operating means according to instructions given by the operator and for controlling the execution of the printing operation.  
(11) The print request block and the print queue are provided in the memory unit and, preferably, the printing status operating means, the file operating means, the print management means and the system management means are programs to be executed by the processing units, respectively, stored in the memory unit.  
(12) The file operating means is a print instructing program for producing the print request block according to instructions given by the operator and adds the print request block to the print queue to accumulate print requests. The print management means is a print execution program for fetching the print request blocks sequentially from the print queue and drives the printer according to the contents of the print request block to print a corresponding document. The printing status operating means is a printing status operating program for changing the print request by removing a print request block from the print queue or changing the sequence of the print request blocks in the print queue. The system management means activates programs given by the operator by a system management program and controls the execution of the programs according to instructions given by the operator.  
(13) The print request block holds sufficient information for printing a document. The print request block has a link pointer and comprises, as sufficient information, a print file name, a print file class, a temporary print file name, a temporary print condition file name, a print program number, a print condition setting program number and print condition setting flags.  
(14) The print queue is a list construction employing the link pointers of the print request blocks.  
(15) The memory unit stores a print queue control table storing a print queue head indicating the first print request block of the print queue, a print queue tail indicating the last print request block of the print queue, and a print queue block number corresponding the number of print request blocks added to the print queue.  
(16) When a print instruction is given by the operator to the system management program of the system management means, the system management program activates the print instruction program of the file operating means to store a print request block in the print queue. When the print queue is not empty, the system management program activates the print execution program of the print management means to execute a print job.  
(17) In this state, the operator is allowed to give instructions to the system management program to add a further print instruction by activating the print instruction program and to conform or change instruction which has previously been given, by activating the printing status operating program.  
(18) Incidentally, applicant has also filed a U.S. application Ser. No. 063,115, for an invention entitled "SYSTEM FOR PRINTING DOCUMENTS" with the U.S. Patent and Trademark Office on June 17, 1987. This application is the convention application of Japanese Patent Application No. 61-140128.