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ABSTRACT

The master's project provides the receptionist of a beauty parlor with an organized and efficient method of scheduling appointments to eliminate the use of an appointment book. The creation of a computerized appointment system involved designing files, screens, writing and testing programs, and developing procedures for a menu driven system. The "heart" of the system is an interactive maintenance/viewing of appointments program that allows appointments to be scheduled at any time and day, and viewed according to a selection criteria. An interactive operator file maintenance program allows the user to maintain employee information, and a program to list the file is also provided. An appointment schedule printing routine displays an operator(s) appointments for a particular day. The end of day routine prints an edit of all appointments for the day to be processed. Errors are flagged and once corrected, a commission statement for each operator is printed. The operator file year-to-date commission field is updated and the appointment file is recreated omitting processed records. An end of year reset routine initializes the commission field to zero.
CHAPTER 1

INTRODUCTION
INTRODUCTION

The appointment system is a computerized method of scheduling beauty parlor appointments. It also provides useful printouts, such as appointment schedules and commission statements. The system uses the appointment file and the operator file, described in Chapter 2, to execute the items listed below:

1. Appointment Viewing and Maintenance.
2. Operator Maintenance.
3. Operator Listing.
4. Appointment Schedules.
5. End of Day Statements.
6. End of Year Reset.

The system provides maximum flexibility in that appointments can be scheduled at any date and time, and appointments may be spaced at an interval determined by the user. It also allows flexibility in scheduling appointments from operator to operator.

PROGRAMS

The programs are written in RPG II for an IBM System/34 (Release 8). A programming template is placed at the front of the binder for the reader's convenience. The following is a brief description of each specification.
"F" - Describes files used by the program and their mode of processing.

"E" - Definition of tables and arrays.

"I" - Input and update files and their fields are defined.

"C" - Calculations. Example: ADD, READ

"O" - Output to the printer, file, or workstation.

SCREENS

All data entry is done interactively through screen programs designed through IBM's SDA (Screen Design Aid). All screens validate fields one at a time, top to bottom, left to right, with the field in error reverse imaged, highlighted, and the cursor positioned on the field. The error message is reverse imaged and highlighted on line 24. The user cannot continue until the field is correct, or a command key is pressed to exit the screen. Message member APSMSG contains the error messages used in the system. (Refer to the MESSAGE MEMBER section of the binder.) The message member and program are linked through the // MEMBER USER1-APSMSG statement in the procedure, the '0001U1' references in the output specifications in the program, and the "M" in the screen "D" specification describing the error line. (See Appendix 1, Figure 1) Pressing a command key, other than those provided in the program, will cause the system to issue an error message.

Numeric fields can be entered without leading zeroes. Pressing the "field exit" key will right adjust and zero
fill the field automatically. Numeric fields defined with an "N" on the "D" specifications for the screen must be validated for digits zero through nine, whereas those defined with "S" for signed numeric do not. The "N" field allows entry of other characters, such as "+", "-", ".", and ",". The "S" field only allows digits zero through nine and the negative entry key may be pressed. "N" fields are always positive.
CHAPTER 2

FILE DESIGN
FILE DESIGN

The files designed to be used by the system are shown in the FILES section of the binder. The file containing the appointment data is APPTMAST, and the operator data file is OPERATOR. An empty operator file is built the first time procedure APSP02 (Operator Maintenance) is executed. An empty appointment file is also automatically built the first time procedure APSP01 (Appointment Viewing and Maintenance) is executed. (Refer to the PROCEDURES section of the binder for a listing of both of these procedures.) In both procedures, the // IFT DATAF1 statement is a check to see if the files already exist on the disk.

Both of the files are indexed-sequential to allow random access and on-line maintenance. The files are also defined as immediate access to allow immediate access of added records and to avoid a KEYSORT everytime a record is added to the file. The immediate access/indexed feature is defined by the "A" in the build file (BLDFILE) statement. The files are also delete capable, DFILE in the BLDFILE statement. This characteristic is useful because the user may delete and add a record with the same key without having to end the job to organize the file. When a user deletes a record, that record is set to hexadecimal F's. It still physically exists, but the user may add that
record key again in the same execution of the program. If this feature were not used a deleted record would have to be logically deleted by the programmer.

Disposition shared (DISP-SHR) is placed on the appointment file name statement (// FILE NAME-APPTMAST,DISP-SHR) to allow the file to be shared with itself. This is necessary in the maintenance/viewing program because the file is accessed in two modes, randomly for maintenance and sequentially by key for viewing.

The appointment and operator file are the permanent files of the system stored on disk. A temporary file is created and deleted in the procedure it is used. Its' label is PARM?WS? (?WS? represents the workstation id) and is used to pass parameters between programs. (See procedures APSP04 and APSP05 in the PROCEDURES section of the binder.)

APPOINTMENT FILE - APPTMAST. (Refer to the FILES section of the binder).

The key to the appointment file is, in major to minor order, date, operator, and time. The date is kept in reverse order (year/month/day) so as the file is read sequentially by key, appointments will be in chronological order, eliminating the need for a sort. The next field in the key, operator number, will group all appointments for the same operator within a particular day. The time is stored in military time to allow appointments to be viewed in clock order. This key structure allows a
maximum amount of flexibility because appointments can be scheduled at an interval determined by the user. Walk-in and "squeeze-in" customers can handled easily without being locked into a fixed number of time slots.

A description of the service to be performed is useful in helping the receptionist space appointments, and determining whether an operator will have time for a squeeze-in or walk-in customer. A phone number where the customer can be reached is necessary if the operator becomes ill or for some other reason has to cancel or delay appointments. It can also be useful in shops that call their customers to remind them of their appointment. The service price is needed to calculate the operator's commission. The absence of an arrival time means the customer did not keep his/her appointment. These can be thought of as "no-shows" since, if a customer calls to cancel his/her appointment, the record should be deleted to allow another appointment to be scheduled. The walk-in field is useful because it may represent a new customer. The service description and the customer name field may also be used for noting miscellaneous information, such as a third telephone number.

OPERATOR FILE - OPERATOR. (Refer to the FILES section of the binder.)

The key to the operator file is a four digit number. The user may assign numbers in any fashion, sequentially or randomly. The file is used to store employee information. It provides up to two address lines, and a nine
digit zip code. The commission percentage field is used in calculating the operator commission. In some shops all operators receive the same commission, but in others each percentage is different. The commission field is designated as year-to-date although its usage can be determined by the user. This field is updated when the end of day statements are printed. (Procedure APSP05) The user may run the end of year procedure, APSP06, to reset this field to zero. The user may choose to run the procedure after issuing payroll checks, or at the end of each month. The field will be initialized to zero when an operator is added in the operator maintenance program, but cannot be maintained because it is machine updated.