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ABSTRACT

This project is the design and implementation of a menu-driven database management system to monitor personnel information for the Hoechst Celanese Pilot Plant Operations Department. It will replace a manual record keeping system for operators and the work activities with which they are associated, such as leave, overtime, and training. The system creates and maintains a database to provide the information needed to generate a weekly schedule, evaluations and reports. A menu-driven interface will allow the user to enter data with minimal computer training and technical support.
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INTRODUCTION

The recent growth of the Hoechst Celanese Pilot Plant Operations Department has increased management's awareness of the need for an automated system to monitor the potential growth of employees and their daily work schedules. The department consists of 45 employees classified as regular or temporary operators, with three skill levels (operator A, operator B, and operator's helper), four shift patterns, and nine operational units. Management needs an easy method to examine and track the status of an operator's work activities; therefore, the implementation and design of this database project provides a tool to assist in this process. The database system will solve many of the time-dependent reports required by management.

OSHA requires that each operator attend a minimal amount of safety training each year. In addition, Company policy states that an operator must attend weekly safety meetings. The database will be used to determine what training each operator needs to fulfill OSHA and Company requirements.

An operator earns vacation, holidays and sick leave at the beginning of each new year. The amount of vacation and sick leave an operator can earn depends on the length of service and classification type. Vacation and holidays must be taken within the year.

To help the operators plan their work, a schedule is generated for the next week showing a shift pattern assignment, unit assignment, individual vacation schedules, and individual overtime assignments.
The status of each employee in the manual record keeping system is kept in a confidential file; therefore, upon entry to the database system the user is required to enter a password.
PROJECT ENVIRONMENT

The database system was created for the Hoechst Celanese Pilot Plant Operations Department. The system was developed to run on a stand-alone AST 286, IBM compatible computer. The AST 286 is equipped with 640K conventional memory and 2MB extended memory, a math coprocessor, a 40MB hard drive, a 1.44MB 3-1/2 disk drive, 1.2MB 5-1/4 disk drive and a NEC IIA EGA color monitor. The AST 286 runs under the MS-DOS 3.3 operating system.

The entire application including procedures and scripts was written using Borland's Paradox version 3.5 relational database program. System requirements for Paradox to operate are 512K or more of internal memory (RAM), DOS 2.0 or higher, a CGA, EGA, or VGA color monitor, at least 20 buffers and 20 files and shell environment size of 1024 bytes. Memory management is provided by Paradox using a central memory pool as its resource. Pool capacity is determined by the amount of extended memory available. To install Paradox, at least 3MB of free space is required on the system hard drive.