Philadelphia justice information system

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ABSTRACT

The Philadelphia Justice Information System (PJIS) concept was designed via a joint study with a major computer manufacturer. Functions—generally threefold: (1) Monitor and Control—to act in an active and directive nature to insure completion of all tasks, to automatically issue reminders for tasks not completed on schedule, and to make administrative contacts for corrective action until all tasks are completed, (2) Data Collection—merger of and improvement upon existing data processing systems and (3) Communication—to make information available upon request to all cooperating agencies. All agencies related to the criminal court system (e.g., Public Defender, Clerk of Court, District Attorney, Probation Department, Prison) will share PJIS Data Base with Courts and Police. PJIS Data Base will be result of merger of two extensive existing Criminal Justice Data Processing Systems—Police and Courts. Goals of single system—(1) eliminate redundancy, (2) reduce overall costs, (3) attempt to accomplish conflict-free scheduling, (4) assure back-up capability, and (5) more effective coordination of man and machine resources within the courts and agencies of the Philadelphia Justice Information System to increase fair and speedy case disposition. Guidelines are being drawn to build in protection of the individual's right to privacy.

The Philadelphia Justice Information System (PJIS) is a computer-based system designed to serve the information needs of all the agencies of the Justice System. These agencies include the Police, Courts, District Attorney, Public Defender, Prisons, and Probation Department. The PJIS concept was designed via a joint study conducted with a major computer manufacturer between 1971-1974. The system is being implemented by the PJIS Project which is currently funded through a LEAA Discretionary Grant. The focal point of this system will be a central computer with associated programs, centralized data base and communications network.

Currently, most of the planned functions of the system are operational. There are automated systems now serving the Courts, the Prisons (PRINS), the Police (On-Line Booking) and the District Attorney's Management Information System (DAMIS). The next step will be the incorporation of the existing applications into one single data base serving the various agencies with a minimum of data redundancy.

PJIS is oriented around a single Data Base, a central repository of Justice System information. The justice agencies share this common fund of information in performing their separate but related tasks. Each agency has responsibility for entering information into the Data Base, and personnel in each agency are permitted access to information for which they have a legitimate need. Data Base information is organized so that each user can refer to it and analyze it according to his own needs. Thus, each agency may—quite realistically—view the computer as being its own. The single Data Base allows ready access to accurate, current, comprehensive information. Persons in each functional area can feel confident that the information they are using is consistent with that being used in other functional areas.

Besides the specific information services it provides, the Data Base also has a more subtle, though important, value. The mere existence of this shared resource should have an integrative impact on the justice community, since it enhances the single-process idea and helps to create an atmosphere in which agency interdependencies become more apparent and increased cooperation is seen to be both possible and mutually profitable.

Each of the Justice agencies is directly linked to the shared Data Base by a network of computer terminals. These devices, equipped with a video display, a keyboard, and a printer are dispersed throughout each agency’s facilities. Each terminal is a window to the Data Base: each makes the Data Base continuously present to authorized persons.

It is through these terminals that each agency enters its information into the Data Base. It is also through these terminals that information is retrieved, in one of several ways:

(a) INQUIRIES: The computer system will provide immediate response to requests for infor-
tion; responses are in the form of printed copy or video display or both.

(b) NOTIFICATIONS: The computer system will issue unsolicited printed messages whenever it needs to inform someone of a new responsibility (Task) assigned to them or when it is necessary to quickly distribute newly received information about a particular incident, person, or case.

c) DOCUMENTS: Whenever practicable, the computer system will create file folder documents on printers located within each agency. This method of document distribution, when used, replaces the exchanging of carbon copies.

(d) REPORTS: Statistical analyses, trial listings, and other reports of that type will be created on printers located within each agency rather than being printed at a central location and distributed manually.

The system provides a common statistical base which is used to prepare analyses for management use. While individuals with different viewpoints may question the significance of certain statistics or may interpret them differently, everyone in the justice community will be using figures derived from a single source—the PJIS Data Base.

Because each agency is an active participant in PJIS, the computer system has the necessary information to assist in scheduling judicial proceedings. It knows scheduling rules and case data, and it maintains availability schedules of courtrooms and of Justice System professionals. The system uses this information to recommend conflict-free dates and locations each time someone indicates a need to schedule a courtroom event.

Thus, the system “closes the loop” in its ability to assist in controlling Justice System activities. It actively participates in scheduling the majority of events, and then, as outlined earlier, the system actively monitors the accomplishment of tasks necessary to make those events occur as scheduled.

File folders will continue to be used in PJIS, but the method of creating and distributing many of the documents for those folders will change. For example, a single document showing the known facts about each new case will be printed onto a single document at the time a case enters the Justice System. In addition, a follow-up document, showing data accumulated since the case entered the system, will be printed each time a case is due for a court hearing. Interested agencies receive these documents on printers located on their own premises. These consolidated information sheets serve a dual purpose: they keep case folder information current while using a minimum number of pieces of paper.

In summary, PJIS interacts with operational and administrative personnel in the performance of their daily activities. Through terminals, it prompts them, and responds to their requests for immediate information. As a result of the system’s active participation in events as they occur, the Data Base always reflects a current and comprehensive picture of the Justice System and the status of every incident, person and case. Thus, the system is able to respond to requests from management and professional staff for information on demand.

The Data Base integrates Justice System information into a cohesive collection of related data. It is the central repository for two general categories of information:

Operational Data—supplied by and used by Justice System personnel directly in the course of day-to-day operations. This “live” information represents the facts of the Justice System, such as statistics, historical records, and details concerning current cases, incidents, persons, and scheduled hearings.

Control Data—supplied by Justice System management and used by the computer in its decision-making processes. This relatively static (but easily changeable) information specifies available resources, system policy and operating guidelines. It includes such things as a description of courtroom facilities, availability schedules for police, judges, attorneys (for use in scheduling); rules for granting continuances; allowable intervals between successive stages of defendant processing; and who is permitted access to what data. This kind of information will be stored in Data Base tables rather than being embedded within numerous application programs, a scheme which permits easy modification by authorized persons and enables management to readily exercise control over system operation.

The communication network links remote locations with the computer and the data base. Online terminals equipped with video display and printing capabilities will be placed at strategic locations to allow information retrieval on demand, and in some cases, to also permit keyboard entry of data into the data base. In addition to the local communications network, the system also includes provisions for exchanging information directly with State and National Law Enforcement data bases (the CLEAN and NCIC Systems). The independent Justice agencies jointly use the system facilities. These users effectively share a common fund of information, the PJIS Data Base, in performing their separate but related tasks involved in processing defendants through the Justice System. In this cooperative effort, each has responsibility for entering data according to fixed rules, and personnel in each agency are permitted access to data on the basis of their need to know.

Data Base information is organized so that all users can refer to it and analyze it according to their own needs. The Data Base allows maximum accessibility
to accurate and current information by authorized Justice System personnel, so that each functional area can perform its tasks with the knowledge that the information being used is consistent with that used by other functional areas. While PJIS is intended to aid operating personnel, it also is the means by which management personnel can maintain a comprehensive awareness of overall system status—who is presently responsible for doing what, when, and where; what are the sources of recurring problems which disrupt the system; and in what departments information-handling operations need revision.

The ultimate goal of any information system is to make reliable data readily available when, where, and in the form it is needed. Accordingly, the design of modern automated systems, including PJIS, is directed away from paper movement and toward the use of data bases and online terminals for recording, retrieving, and exchanging information between system users.

PJIS collects, stores, and distributes data concerning three type of entities:

(a) Incidents: The matter for which a subject (person) has entered the Justice System. In most cases, it is a police incident, but incidents may also be originated by other means, principally by the District Attorney's Office which handles private criminal complaints and investigative grand juries.

(b) Persons: defendants processed through the Justice System. At various points in the processing cycle, an individual may be referred to as the subject, suspect, arrestee, defendant, offender, prisoner, parolee, juvenile, detainee, client.

(c) Cases: court units of scheduling.

PJIS could be referred to as an incident-tracking system, or a defendant-tracking system, or a case-tracking system—and all such descriptions would be partly correct, because the system does track all of these entity types rather comprehensively.

PJIS plays an active role in the justice process; it is far more than a passive record-keeping and reporting system.

The control capabilities incorporated in the computer system design give it the ability to:

- Assist in scheduling judicial proceedings
- Coordinate tasks and events
- Monitor the accomplishment of tasks
- Manage the distribution of information
- Assist data entry operations
- Provide for data security
- Assist with enforcement of Justice System rules

Each of these capabilities operates together in a systematic manner. Numbered steps in the following narrative refer to correspondingly numbered items in Figure 1.

(1) Major events are scheduled by persons, not by the computer system. However, where the event is a judicial proceeding, the computer system assists in establishing a conflict-free date and location for the hearing. It is able to assist in this way since it maintains availability schedules for courtrooms and for key participants in the system (Judges, Attorneys, Police witnesses).

(2) Each time a major event is scheduled, the Coordinate function is informed. The Coordinate function knows what standard tasks must be performed before, during, and immediately after each type of major event. Since it has been told when a particular event is to occur, and since it also knows how many days before or after an event that each task must be performed, the Coordinate function can easily calculate the date by which each routinely-performed task must be completed.

(3) The Coordinate function passes to the Monitor function information about each task which must be performed. This information specifies (a) the identification of the entity (incident, person, case) for which the task is to be performed; (b) a description of the task; (c) who is responsible for performing it; (d) the time by which it must be accomplished; (e) the time when the Monitor function should first check to see whether the task has been completed. The task is placed into a Pending Tasks List which is continuously reviewed by the Monitor function.

(4) Persons may inform the system at any time that special tasks, not routinely performed for every entity, must be performed for a particular one.

(5) Each time someone informs the system that a special task is needed, the Coordinate function handles it essentially as if it were a normally required task and places it into the Pending Tasks List. In addition, the Coordinate function usually issues an immediate notification to inform the responsible Justice Unit of the non-routine task to be performed.

(6) Persons spread throughout the Justice System are continually entering information into the Data Base through remote terminals equipped with keyboards and video displays. In doing so, they operate in a conversational mode with the computer system which: (a) performs a security check to uniquely identify each operator and to ensure that persons entering particular kinds of data are authorized to do so; and (b) guides the operator through successive steps of data entry to ensure, to the maximum extent possible, that information being entered is both complete and logically con-
sistent. Most input transactions fulfill a requirement specified in the Pending Tasks List. That is so because, ideally, the system (via the Pending Tasks List) anticipates all input transactions so that it may remind responsible persons when input has not been received when due. It should be noted all input transactions are automatically logged and time-stamped within the computer system. This information is a useful aid in constructing audit trails.

(7) The Monitor function continuously selects items from the Pending Tasks List which have become due (each item carries with it the date and time at which it should be reviewed by the Monitor function). The Monitor function then looks at the Data Base to see whether a task due for completion actually has been accomplished. Where it has been, no further action is required. But where it has not, the Monitor function issues a notification to the appropriate Justice Unit reminding them that a task for which they are responsible has become due. The item is placed back into the Pending Tasks List for another review a short time later. If the task is not performed after some period of time, a notification will be issued to a responsible administrator to inform him of the exceptional situation.

Of course, the Monitor function also keeps statistics on the types of tasks it is monitoring and the number of times those tasks are or are not completed satisfactorily. These statistics will be used by administrative personnel to evaluate procedures and to determine the root causes of Justice System problems.

(8) The Distribute function manages the distribution of all information produced by the com-
(9) For the present discussion, attention is focused on notifications, specifically those created by the Coordinate and Monitor functions. The Coordinate function creates notifications to inform Justice Units that special tasks, which are not routinely performed for every entity, must be performed for a particular one. Every task requires entry of information into the Data Base, even if it is only an affirmative report that some task, known to the computer system, has been performed.

The Monitor function creates notifications to remind Justice Units that tasks for which they are responsible are due but have not yet been reported as accomplished. Before requesting corrective action by administrative personnel, the Monitor function usually checks again a short while later to see whether, as a result of the prompting, overdue tasks have been accomplished.

(10) The Monitor function also creates notifications to inform administrative personnel that the deadline for accomplishing a certain task has passed, and some action on their part is required. For example, if a psychiatric report will not be available as ordered, a request for continuance of a sentencing hearing may be necessary; or, if no outcome has been reported for a particular hearing, even after the responsible unit has been reminded of its absence, an administrative manager is informed so that he may research the problem.

An illustration of the operational services is provided in Figure 2. This example illustrates the flow of information that is contained in Agency file folders and that is also entered into or retrieved from the computer system data base. The operations shown occur in stages or over many stages but are consolidated for the purposes of this example.

The first entry into the system occurs at the Justice System Entry stage with a good deal of the information recorded at booking. The Static Information Sheets are printed on the agencies' administrative terminals from which they create their file folders. The agencies' File Folder Control Unit records the location and party responsible for file folders checked in or out.

Updates to the file folders are accomplished with the Volatile Information Sheets which are produced some time prior to each hearing. The information that changes or adds to the Volatile Information Sheets is stored on the Data Base. The Data Base is constantly being updated by all agencies over remote terminals which are also used to retrieve required system information.

The Data Base is updated at the hearings by the Court Clerk with case proceedings such as judicial orders, case disposition, next hearing schedule, and attorney appearances. Each agency's audit unit then compares the system information recorded in the file folder at the hearings.

The flow is then repeated for each additional hearing until the case is completely disposed. The data base information and the file folder for that case are then purged from active storage but retained in high density storage for historical purposes.

The above description applies to each agency concerned with file folders in the process of the hearing stages. Although only one agency illustrates the complete flow, it actually occurs in parallel with multiple agencies.

OVERALL SYSTEM BENEFITS

Effective data recording

By requiring information to be recorded only once and at its source, the system provides the following benefits:
1. Complete entry of all data related to each transaction
2. Accuracy of data entered
3. Reduction of redundant effort
4. Improved auditing and accountability
5. Reduced paper volume
6. Improved consistency of data

**Improved security**

PJIS exercises positive control over attempts to access information thus providing greater security than is possible with the existing information systems in Philadelphia.

**Improved resource management**

1. Flexible resource allocation
2. Increased personnel productivity
3. Better performance evaluation
4. Improved program planning and control
5. Management by exception
6. Concise management reports

**Improved communications**

1. Intra-agency communications
2. Inter-agency communications
3. Distribution of pertinent notices

**REDUCED FILE MAINTENANCE**

**Reduction of continuances**

1. Assistance with conflict-free scheduling
2. Optimum courtroom loading
3. Monitoring preparatory tasks

**IMPROVED FEEDBACK AND FOLLOW-THROUGH ON ALL ACTIONS**

**Improved public image**

**Responsiveness to change**

1. New applications
2. Changes in law
3. Policy and procedure revisions
4. Data Base content changes