Investigating information technology and related processes in the civil and criminal justice systems

S Marita Turpin & Antony K Cooper
MIKOMTEK, CSIR, PO Box 395, Pretoria, 0001

Abstract

Recently, the CSIR has been involved in two projects investigating information technology (IT) and related processes in the civil and criminal justice systems, one with the Department of Justice focusing on civil justice, and the other as part of a consortium addressing the Integrated Criminal Justice System (ICJS), which also includes the Departments of Welfare and Correctional Services, and the South African Police Service (SAPS).

The first was funded by the Innovation Fund of the Department of Arts, Culture, Science and Technology (DACST), and had the Department of Justice as a client. This project investigated the current and potential use of IT in court management, specifically regarding the Civil Courts and Special Courts (eg the Labour Court and Land Claims Court). Processes were identified for each different kind of Court, and the current use of IT established. Problems and needs were identified, with special emphasis on IT, but also considering the bigger environment where IT needed to fit in.

On the second project, the CSIR was a part of the Mulweli consortium, consisting of domestic and international experts, which investigated the Integrated Criminal Justice System. The emphasis of the project was on the interactions between the four departments, and the required communication channels to support these, rather than on the processes within the departments themselves. The many business processes in these interactions were identified, and the existing and required IT architectures and infrastructures were identified. Migration projects to achieve the desired ICJS were identified at different levels (both within the Departments and between them), depending on their sizes, time frames and required resources.

This paper sketches an overview of the IT and related processes in the civil and criminal justice systems.

1. Court Management Needs Analysis

1.1. Scope of the Project

This project started off with the general title of "Court Management", but as we progressed with discussions with the client, Information Technology of the Department of Justice, we realised that the Civil and Special Courts warranted special attention, and continued to focus

on these. Our investigation entailed:

● Determining the main function(s) of each court;
● Describing the processes underlying these functions, focussing on the operational or line processes;
● In describing a process, focusing on the flow of information within the court as well as the external interfaces in terms of information exchange;
● Listing the current equipment and software used to process information;
● Identifying obvious blockages or bottlenecks in the system; and
● Identifying other needs or requirements, not necessarily IT-related, in terms of facilities, training or "soft" issues, that impact on the efficiency and effectiveness of the courts.

This information was processed to give:

● Flow diagrams and annotated descriptions of processes common to various courts, for example, the way in which civil case files are handled in high courts;
● Flow diagrams and annotated descriptions of processes followed at unique special courts or offices;
● A first-order prioritisation of information technology needs at the various kinds of courts;
● A first-order prioritisation of general problems/needs within the courts;
● A first-order prioritisation of problems specific to clients of the system; and
● A list of best practices observed, where one court could learn from another.

1.2. Methodology

A questionnaire was drawn up to address the issues mentioned above. It contained general questions to help the investigation team familiarise themselves with each court (in terms of the size and scope of the court, the people involved, the kind of work they do, etc), and where a court fitted into the bigger justice picture. The questionnaire continued to address specific issues, such as the flow of information, information technology utilised and problems experienced.

Rather than sending out a large number of questionnaires to the various courts, and hoping for an adequate response, it was decided to select a representative sample of courts and visit them in person. In this way, we believed we could significantly increase the quality of information received from the respondents. The project team also had the opportunity to see for themselves what the working environment of the courts was like, how the staff filed documents, etc. We could pick up many things that would have been lost with a non-interactive questionnaire process.

A total of eighteen courts and offices were visited. Head Offices or representatives of all the Special Courts were visited, as well as a number of High Courts and Magistrates Courts. We tried to be exposed to a variety of High Courts and Magistrates Courts, being representative

by geographic distribution, rural vs urban courts, and kinds of problems experienced. Our main interviews were with the senior administrative official in the courts, such as the Chief Magistrate (for Magistrates Courts) or Chief Registrar (for High Courts). We also spoke to various other individuals in charge of specialised sections in the courts. Everyone interviewed was happy to share their knowledge and concerns, in the hope of it resulting in their problems being solved later on.

Field trips were undertaken in groups of two or three people, with overlaps between the membership of the groups. Each team gleaned a large amount of information from the various interviews, which was grouped and processed into flow diagrams and the other outputs listed above under Section 1.1. When prioritising needs, we had to use our own judgement, as there was no simple quantitative method of doing it with the serial fashion of interviews. We attempted to highlight common issues without losing the details of specific problems at particular courts.

1.3. Results

An example of the findings, namely the results for our assessment of the IT needs in Magistrates Courts [Holloway *et al* 1998], will be discussed. Civil case loads at the four Magistrates Courts visited, ranged between just over 1000 to close to 200 000 new cases per annum.

At the largest court visited, the following problems were experienced:

- Loss or misfiling of files and documents (maybe up to 20 case files a day are lost);
- Time wasted trying to track files;
- Lack of storage space for all the files (exacerbated by the moratorium on destroying old State documents);
- Difficulty involved in providing efficient assignment of magistrates to cases;
- Unreliable, old system for maintenance and support payments that is not 'Year 2000' compliant;
- Lack of computer literacy;
- Expensive and inefficient tape recording system for recording court proceedings;
- Lack of anti-virus software for the few computers available;
- Time wasted in manual compilation of daily, monthly and annual reports; and
- Lack of computers for word processing - old typewriters still being used.

The first three problems are related because with the increasing number of files, the complexity of locating a file is increasing exponentially. The result being that if something is not done soon to fix this problem there could be serious implications for the legal system. The IT needs encountered at the other Magistrates Courts were similar in nature but on different scales.

Various IT solutions could be found to address each individual problem or need but the

ultimate solution would be a computerised system that would integrate all sectors within the Magistrates Court and provide a facility for court management and related functions, and digital recording of oral evidence. It should also integrate the courts with the rest of the Department of Justice to allow sharing of information and to provide timely management information.

The benefits of such a system would be enormous in terms of the accessibility of files for magistrates, clerks, and attorneys; the amount of time saved in checking documents and searching for files; and the fact that files would not go missing (be it deliberately or accidentally). There are also the credit-worthiness firms, who use the case files to draw up black lists, who would benefit from an electronic system. Certain obstacles would have to be overcome, however, in terms of the legal requirements with regards to digitising of legal documents and a control on the information flow would need to be applied so that members of the public would not have access to confidential information.

The Head Office of the Legal Aid Board, in Pretoria, is currently running a beta version of an electronic filing system. All documents and correspondence are scanned into the system, documents are indexed and checked, faxes are received and sent electronically, account information is transferred automatically to a financial system, strict access control is provided and electronic signatures are used. Several people are able to access a specific case file simultaneously and all the original hard copy files are archived. There are also other initiatives within the Department of Justice to address the problems highlighted above.

2. Integrated Criminal Justice System

2.1. Scope of the Project

This project was the result of a tender awarded to the Mulweli consortium (led by IBM and TRW, and including the CSIR), to investigate what would be needed for an Integrated Criminal Justice System (ICJS) in South Africa. The ICJS will integrate the four core Departments within the South African criminal justice system, namely Welfare, South African Police Service, Justice and Correctional Services, as well as provide linkages to the public (especially victims) and other organisations. Hence, the focus was on the linkages between the Departments, rather than on the internal workings of the Departments, though these had to be considered to some extent. Unusually, this was the first attempt in the world to address an ICJS that also included the welfare component.

The project ran for about six months, and had three components:

- **"As is"** - this was to determine the existing situation;
- **"To be"** - this was to determine the desired situation, which consisted of a number of scenarios; and
- **Gap analysis** - this was to determine what was required to reach the desired situation, and involved identifying the required projects and resources needed.

This project followed on from the Court Management Needs Analysis project described above, and drew on its learning.

2.2. "As is" analysis

The criminal justice system consists of six key processes (after a crime has been committed):

1. **Investigation:** this is performed largely by SAPS, though they do receive assistance from outside organisations (eg: the CSIR [Stylianides *et al* 1998]), and the Department of Justice, especially the Office for Serious Economic Offences (OSEO). Evidence and statements are gathered and analysed to determine the guilty parties.

2. **Arrest:** once the guilty parties have been identified, SAPS takes measures to arrest them (issue warrants, etc). This process includes the positive identification of arrestees and determining whether or not bail should be opposed.

3. **Prosecution:** the prosecution is performed by the Attorney General (in the High Court) or State Prosecutor (in the Magistrates Court), with assistance from the police.

4. **Adjudication:** the adjudication of whether or not the accused is guilty, and sentencing are done by judges and magistrates, normally with assessors for serious cases.

5. **Punishment:** there are a wide range of punishments that can be meted out, including fines, incarceration, community service and correctional supervision.

6. **Rehabilitation:** ultimately, one would hope that when a criminal has finished serving their punishment, they can return to society as a law-abiding citizen. Responsibility for rehabilitation lies with Correctional Services and Welfare. Unfortunately, there is a high rate of recidivism in South Africa.

The "as is" analysis followed these six processes and involved many workshops with representatives from the four Departments, as well as visits to their offices and facilities to understand how the processes in the criminal justice system work. These field visits were essential for understanding how the criminal justice system actually worked, and where the problems were. Generally, the processes were designed before computerisation and have changed very little in the interim, though the number of people and cases that need to be dealt with have increased dramatically, placing serious strains on all parts of the system.

SAPS and Correctional Services have large and comprehensive computer systems driving some of their internal processes, but Justice and Welfare have very little information technology installed, and what is available is largely office automation, rather than operational systems that could interface with the other Departments. The result is that all interactions between Departments are manual and paper based, which leads to enormous problems with work-load and verification of people and documentation, which facilitates errors and corruption.

2.3. "To be" analysis

The danger with a "to be" analysis for something such as the criminal justice system is that one could quite easily design a "perfect" integrated computer system, which will simply fail because it fails to take into account the blockages in the system, such as illiteracy, lack of training and lack of resources (especially skilled staff). There are also more basic measures that need to be taken first, such as ensuring that buildings and offices have furniture, adequate security, reliable power supplies and reliable telecommunications.

Clearly, a phased approach is required, starting with the most pressing problems that can be addressed quickly, and then gradually building a comprehensive, integrated criminal justice system. In addition, one should not expect to roll out a new system countrywide (in some areas it would actually be unnecessary), but rather, one should implement it in those areas where there is the greatest need. It also means existing processes have to be changed, which could create resistance amongst some staff, as well as require changes to legislation. An example of where such a start could be made is with reducing the number of times cases are remanded (postponed), especially during bail hearings. Many of these remands are due to poor communication between the Departments or the unavailability of documentation, which can be addressed readily by computerisation.

2.4. Gap analysis

The gap analysis identified those projects that were necessary for developing an integrated criminal justice system. These projects fall into three categories:

1. **Departmental quick fixes:** these are smallish projects that fit into existing budgets that address specific bottlenecks within individual Departments.
2. **Fast-track projects:** these are longer-term projects within Departments that will need to be budgeted for and that will be awarded on tender.
3. **Enterprise-wide projects:** these are massive projects integrating the Departments together.

These projects were costed and prioritised, and potential sources of funding for them were identified. At this stage, some of the projects have already started, especially departmental quick fixes. One example is the pre-trial services system of the Department of Justice, which was piloted in Mitchell's Plain (where it has been very successful), and is now being rolled out to other Magistrates Courts. It seeks to streamline the bail application process, by gathering and verifying information about the accused and their ability to pay bail before their first appearance in court.

3. Conclusions

This paper discusses two recent projects in which the CSIR was involved, which investigated information technology and related processes in the civil and criminal justice systems. These are largely manual systems that are becoming overloaded, and that could benefit significantly from computerisation. It will be a long road that will have to be followed before South Africa has an integrated justice system (civil and criminal), but at least the start has been made.

4. Acknowledgements

We would like to acknowledge the assistance we received from the many people in the civil and criminal justice systems who so willingly provided us with information during the two projects described above.

5. References

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