Automating Drink/Drive Procedures to Reduce Police Time and Eliminate Errors

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ABSTRACT

The drink/drive procedures, introduced to Great Britain in 1967, consist of a series of options selected by either the subject or the administering police officer. The intricacies of the procedure proved, in many cases, to be an obstacle course for some inexperienced Police officers, with the result that, on occasions, offenders have gone free on non-analytical technicalities, even though their alcohol levels were well above the legal limit for driving. To help solve this problem, in early 1990 Sound Techniques Limited (STL), with the assistance of the Wiltshire Police, designed a computerised system which was introduced to Swindon Police Station. The system proved to be successful, both in legal and practical terms.

Between July 07, 1990 and January 20, 1995, 3726 drink/drive procedures were carried out at Swindon Police station, none of which have been contested in Court due to the computerisation of the manual pro-forma.

The new system now written to the English national drink/drive forms, and known as LIBIS™ - Lion Intoxilyzer 6000 Breath-testing Input System, has been designed to deal with any circumstances, however, complex, and produce a set of appropriate documents ready for signature. LIBIS™ links to the new Lion Intoxilyzer 6000 Evidential breath-testing machine and exchanges all relevant information required by both systems, thus minimising data input, speeding up the procedure, and eliminating errors in procedure.

INTRODUCTION

The United Kingdom (UK) per se drink/drive procedures, introduced in 1967, consist of a series of options selected by either the subject or the administering police officer. The intricacies of the procedures proved, in many cases, to be an obstacle course for some inexperienced Police officers, with the result that, on occasions, offenders have gone free on non-analytical technicalities, even though their alcohol levels were well above the legal limit for driving (UK Legal Limit - 35µg/100ml of alcohol per 100ml of breath i.e. 35µg/100ml, 80µg/100ml in blood and 107µg/100ml in urine). Examples of this situation appear in the following two UK High Court judgements (Table 1).

In each of these two cases, errors in Police officer procedure caused a lengthy and costly Court case which could have been avoided had the Police officer selected the correct route from their respective police forces drink/drive forms.
Table 1
UK High Court Judgements

<table>
<thead>
<tr>
<th>Case Name</th>
<th>Date</th>
<th>Reference</th>
<th>High Court Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDERTON v LYTTHGOE</td>
<td>29/10/84</td>
<td>(1985) RTR 395, (1985) CrimLR 158</td>
<td>If the lower breath reading is no more than 50µg then the subject must be given the blood/urine option, or breath readings are inadmissible.</td>
</tr>
<tr>
<td>MORGAN v LEE</td>
<td>03/05/85</td>
<td>(1985) RTR 330, Times 17/04/85, (1985) CrimLR 515</td>
<td>Machine operator required blood after the printout became entangled inside the machine. Court held the machine was still ‘reliable’ and so blood requirement was unlawful.</td>
</tr>
</tbody>
</table>

However, in certain situations in the heat of the moment and with sometimes unruly subjects, it is not always an easy job to administer the correct procedures. In certain cases, with the UK drink/drive law so complex, ignorance of the law can be a determining factor which causes the procedure to be completed, albeit unwittingly, unlawfully. In fact, this statement can best be summarised in the sentiments expressed by Ralph Gibson L.J., a member of the Court of Appeal in the case of Simpson v. Spalding [1987] R.T.R. 221, 228 where he was prompted to say:

“I am, however, also confident that many police officers are not conversant, with these procedures [i.e. the drinking and driving sections of the Road Traffic Act]. . . For the avoidance of doubt I would say the same thing of lawyers and judges”

Another shortfall of the manual procedures is the large amount of paper work which the officer has to toil through. Some UK drink/drive forms contain thirty one pages of information with, in straightforward cases, only about six pages being used, and the other twenty five pages crossed out by hand, making the route difficult to read and follow once the procedure is complete.

COMPUTERISATION OF WILTSHIRE CONSTABULARY DRINK/DRIVE FORMS

To help solve this problem, in early 1990 Sound Techniques Limited (STL) a computer software house specialising in Police and Magistrates’ Courts computer systems, designed, with the assistance of the Wiltshire Constabulary, a computerised system based on their current force drink/drive forms. The system was written to operate on a mini computer and was introduced to Swindon Police Station, England in July 1990.

The system guided the officer through the drink/drive procedures automatically with minimal officer input to the actual flow of the procedure. The system ran alongside a Lion Intoximeter 3000 evidential breath-testing device. At the required moment, the officer typed in the two breath test results, and the computer software then guided the officer through the correct procedure, dependant on the results of the test. At the end of the procedure, a set of laser printed documents were produced with only the route that the breath-test procedure had gone through printed out. The system proved to be successful, both in legal and practical terms.
Between 7 July 1990 and 20 January 1995, 3726 drink/drive procedures were carried out at Swindon Police station, none of which have been contested in Court due to the computerisation of the previously used manual pro-forma.

In approving the use of the system, the Crown Prosecution Service (CPS) in London stated in a letter dated 21 June 21 1990 to the Wiltshire Police Constabulary:-

"I write to confirm Crown Prosecution Service approval for the introduction of the computerised processing system for drink/drive offences. It is felt that the particular benefits of the system from the prosecution point of view are; the reduced scope for errors, the very clear printout and the deletion of irrelevant material, making the evidence easier to assimilate.

The project therefore has the full support of the CPS."

LIBIS™ - A NEW CONCEPT IN DRINK/DRIVE PROCEDURE AUTOMATION

In early May 1992, with the Lion Intoximeter 3000 almost 10 years old, the UK Home Office Forensic Science Service announced that a new range of evidential breath-testing devices would be required to suit the current advances in breath alcohol detection. After viewing the drink/drive procedures running alongside the Lion Intoximeter 3000 in Swindon, Lion Laboratories plc decided to link their new machine - the Lion Intoxilyzer 6000, to the STL drink/drive procedures, to form a fully integrated system.

The drink/drive procedures were re-written to the UK Police National drink/drive forms, and the system was named LIBIS™ - Lion Intoxilyzer 6000 Breath-testing Input System. LIBIS™ has been designed to run on industry standard personal computers (PC). The system has been written in the fourth generation database language (4GL) Microsoft FoxPro, operating under Microsoft Windows, and will deal with any circumstance, however complex, producing at the end of the procedure, a set of documents ready for signature.

LIBIS™ links directly to the new Lion Intoxilyzer 6000 Evidential breath-testing machine via a standard RS232 cable. The drink/drive procedures are followed in a logical and self-explanatory order on screen. At various points in the procedure, all relevant data is exchanged between LIBIS™ and the Intoxilyzer, thus minimising data entry on the Intoxilyzer. In fact, the only time anyone has to touch the Intoxilyzer, is to give two samples of breath for analysis. Due to the nature of the communications link, if there are any reasons why the Intoxilyzer should fail i.e. Ambient temperature fail, Simulator check fail, Breath discrepancy (Readings from the two breath samples must only be accepted if separated by no more than 15% of the lower reading, or 5µg/100ml whichever is the greater up to a maximum indication of 200µg/100ml), then LIBIS™ will automatically guide the officer through the correct route, as opposed to the officer deciding the route. On completion of the procedure, a set of laser printed documents are produced, with an exact duplicate of the Intoxilyzer 6000 print-out as part of the statement.

LIBIS™ - STATUTORY REQUIREMENTS - LANGUAGE OPTIONS

Another pitfall in the drink/drive procedures, is the inability of the Police officer conducting the procedure to converse with the subject in his/her native tongue. At relevant
points throughout a drink/drive procedure, a police officer must ask the subject various statutory requirements e.g. “Have you drunk anything containing alcohol since you last drove the vehicle?”. If the subject decides that he/she does not understand the question because he/she does not speak English, the officer can call an interpreter to translate the text. But in translating this text, one must ensure that the translation is legally correct. With current verbal translations, it is almost impossible for the Police officer to know if the words used by the interpreter, are the same as the English wordings on the drink/drive forms.

**LIBIS™** has overcome this problem by allowing the Police Officer to select various languages, such as Dutch, French, Spanish, Italian, German, English, Welsh, Urdu, Punjabi, Cantonese, Japanese and Portuguese, simply by pressing a “Function key” on the PC. So the above text in Welsh would be displayed as “A ydych wedi yfed rhywbeth yn cynnwys alcohol er y tro diweddf i chwi yrru y cerbyd?” The translated text will be read by the translator or the subject directly, and then printed out on the documents beneath the English text to which it relates.

**LIBIS™ - CONNECTIVITY TO OTHER SYSTEMS**

An important concept in the design of **LIBIS™** is it’s ability to link to other computer systems.

The following route dealing with a subject over the legal limit shows the current procedure performed if the Police and Magistrates’ Courts are using Manual Methods. (Table 2).

<table>
<thead>
<tr>
<th>Item</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enter subject details on a Custody Record form and allocate a Custody Reference Number.</td>
</tr>
<tr>
<td>2</td>
<td>Enter subject details on a drink/drive pro-forma and Lion Intoxilyzer 6000; perform breath-test procedure and sign documents.</td>
</tr>
<tr>
<td>3</td>
<td>Charge the subject by typing out the charge sheet.</td>
</tr>
<tr>
<td>4</td>
<td>Type the information onto a Court Register at the Magistrates’ Court.</td>
</tr>
<tr>
<td>5</td>
<td>The subject appears in Court. The results are typed onto the Court Register.</td>
</tr>
<tr>
<td>6</td>
<td>Copy of the Register is sent back to the Police with results included.</td>
</tr>
</tbody>
</table>

As can be seen from this example there is an abundance of typing and duplication of Subject details on various documents both by the Police and by the Magistrates’ Court. The **LIBIS™** system has been developed to integrate fully with all Police Custody systems written to the Microsoft Open Database Connectivity standard (ODBC) and, in particular, the STL/Bull Information systems Oracle based Administration and Support Unit (ASU)/Custody System. This system has a direct link to the STL **EQUIS** Magistrates’ Court System using the “**EQUIS - ASU Interface System**” So now, using these systems, the procedure is automated as follows (Table 3).
Table 3
Current Procedures Performed Using Automated Methods

<table>
<thead>
<tr>
<th>Item</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enter subject details on Custody system and automatically generate a Custody Reference Number.</td>
</tr>
<tr>
<td>2</td>
<td>Retrieve subject details on LIBIS™ by simply entering the Custody Reference Number.</td>
</tr>
<tr>
<td>3</td>
<td>Perform breath-test procedure. Lion Intoxilyzer 6000 automatically updated with subject details. Sign documents.</td>
</tr>
<tr>
<td>4</td>
<td>Charge using charge module of Custody System.</td>
</tr>
<tr>
<td>5</td>
<td>Send data to Magistrates’ Court automatically using EQUIS - ASU Interface system.</td>
</tr>
<tr>
<td>6</td>
<td>Automatically produce Court Register</td>
</tr>
<tr>
<td>7</td>
<td>Send results back to Police automatically using EQUIS - ASU Interface system.</td>
</tr>
</tbody>
</table>

The subject information is entered only once at the beginning of the procedure, and is then automatically transferred to other systems. This minimises the data input to one entry: not one item has to be manually written or typed.

However, the real saving from the drink/driving point of view is that when LIBIS™ is connected to a custody system, the subject details and arrest details are automatically transferred from the custody system, so speeding up the time taken actually to get the subject to the point of giving a breath specimen.

NOTE - ODBC - Microsoft’s strategic interface for accessing data in a heterogeneous environment of relational and non relational database management systems.

CONCLUSIONS

LIBIS™ has been designed to give Police forces an almost fool-proof method of administering drink/drive law. This should help reduce Police time, eliminate errors in procedure, and perhaps reduce significantly the legal and time costs of unwanted Court cases due to these currently experienced procedural errors. It is intended, by means of this system, the possibility of subject acquittal on a procedural technicality will be very significantly reduced; if not eliminated altogether.

REFERENCES

Ley, Nigel Joseph Drink-driving law and practice published by Sweet and Maxwell, London.

Lion Laboratories plc, Barry, Wales, United Kingdom UK Drink-Drive Law and High Court Judgements - A Review.

TRADEMARKS

**LIBIS** is a trademark of Sound Techniques Ltd.

**Lion Intoxilyzer 6000** is a trademark of Lion Laboratories plc.

**Microsoft** and **FoxPro** are registered trademarks and **Windows** is a trademark of the Microsoft Corporation.

**Oracle** is a registered trademark of Oracle Corporation.

FOOTNOTE

**LIBIS**™ is planned to be launched onto the UK market in the first quarter of 1996, and the rest of the world later that year.