



Behaviour Based Safety

A full data management system to support a process for reducing the number of lost time accidents at sea using e-pen technology to automate the capture of data.

Outline

Datatrac have developed an automatic data capture system to be used with our BBS data management system using the digital pen and paper.

Digital BBS was particularly developed for the reduction accidents at sea.

The Process

Behaviours, which are key to safe operations, are identified. These are then made the subject of Observation Cards. These are completed by all crew members using Digital Pen technology. The observations are collected into the database without keying.

The Result

The data provides the ship Safety Management Team with information upon which they can take action, or report for action where the cause of unsafe behaviour is out-with the ship. The result of the observation and any added comment that he may have made is entered into the database without any further action by the observer.

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Features and Benefits

- Collects data directly from the writing on the Observation Cards into the database.
- Achieves 100% accuracy
- Administrator's time is saved by not having to transcribe observations.
- Implementation requires no training.
- Handwriting only required.
- Carries no risk of disruption to procedures

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The Technology

Digital Pen and Smart Paper

Pen and Paper relationship

The digital pen used by Datatrac in their Pen solutions has a video camera under the nib and contains a battery, a mother board and a timer. The pen is used as an ordinary hand writing tool to write information onto "smart paper" which has been pre-printed with a unique pattern of dots and the camera in the pen locates the exact location of a pen stroke on the paper by a navigational fix in relation to the dots.

Storage Capacity of the Pen

Any information written on the pre-printed paper is stored on the pen, which is capable of storing up to 40 different documents. Once the data has been collected the pen is placed into its docking station that is attached to a computer and all the information is downloaded. The pen can remain in use for 6 hours.



Digital Pen & Cradle

Flexibility of the Paper

The paper is to be used as a 'data collecting tool' to be discarded. Where images only are required then there is no need to change any current documents. For digital data a form will be designed; there is no limit to what can be achieved.

Data storage

Data is captured in three different ways, as an image (JPG) format, as Boolean entries which enable multiple choice questions to be answered and sorted or as character recognition which allows for data to be manipulated.

Operational Use:

First Level

The first level of the Datatrac "digital pen" solution captures only an image as a JPG. This image may be stored at the point of data capture such as on board a vessel or if required it may also be sent ashore; pen strokes only are transmitted in very small files: only 2Kbytes instead of 50Kbytes for an equivalent JPG document.



Digital Pen

Second Level

The second level of the Datatrac solution uses Boolean programming to sort a series of check boxes and analyse responses. These responses may be filed and sorted in the Datatrac management database. The reporting forms and summary analysis may be transmitted to head office in much the same way as the image capture.

Third Level

The third level of pen technology adds character recognition to the application. Data is captured into the Datatrac management database and may then be exported into excel spreadsheets for analysis. The speed with which accurate data is captured into the computer, without the need for extra data entry, facilitates the flow of information from an operational unit to head office or a central server which in ordinary circumstances would have to wait until the operating personnel were free to key the data collected into the computer.

If you think you have an activity which could benefit from our data capture technologies we would like to discuss it with you.

Contact: jtobin@datatrac.co.uk

**Get to know more about Datatrac Solutions by ordering a Starter Pack now.
e-mail: [:sales@datatrac.co.uk](mailto:sales@datatrac.co.uk) or phone 020 7377 5773**