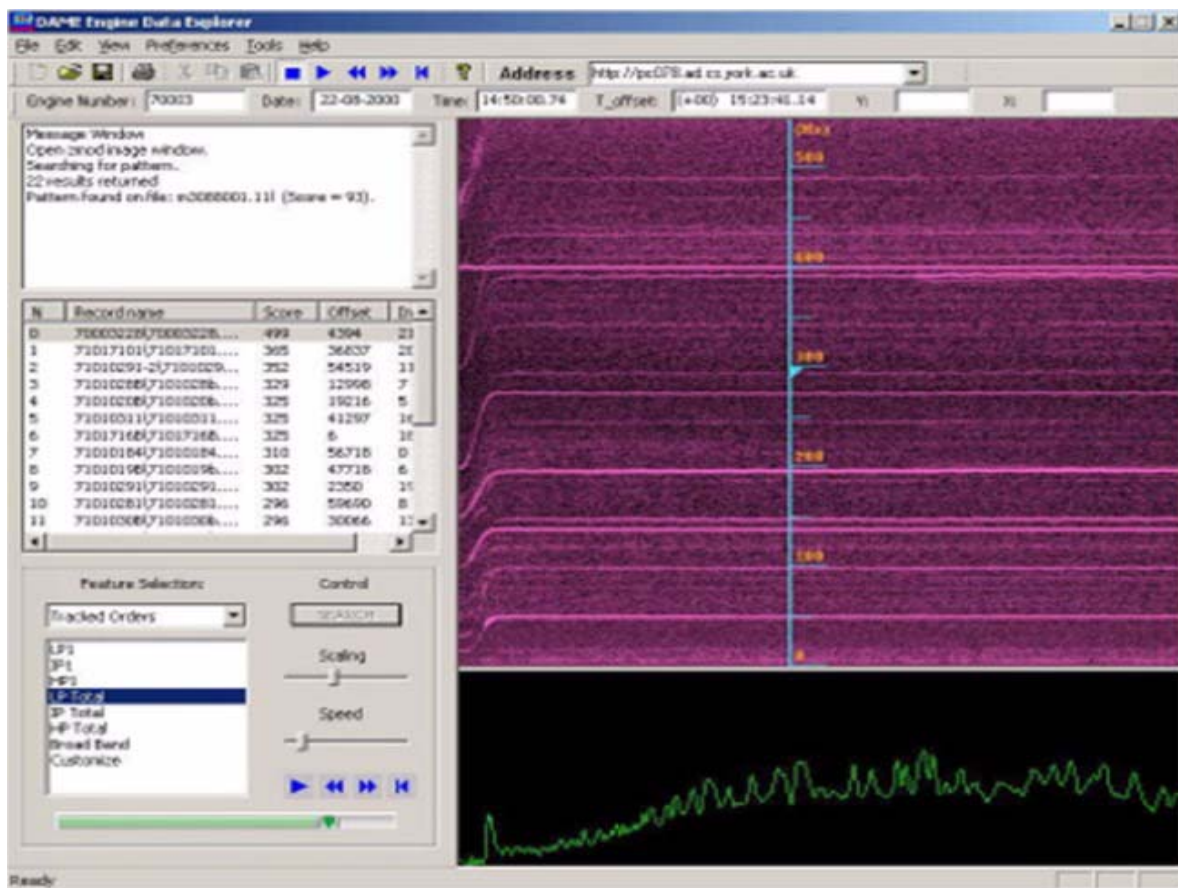


## Signal Data Explorer

### Introduction

The AURA based Signal Data Explorer (SDE) allows a user to search and browse very large amounts of signal data (time series) in the same way as text is browsed in a conventional search engine. The tool has been developed as a part of the DAME project at the University of York, UK where it has been applied to Engine Vibration data, allowing a user browse frequency power spectra (ZMOD) plots from a powerful interface. The system currently searches data stored in a single remote or local repository. Future release will allow access to multiple data stores.



The Image above shows a typical screen shot of the system. The large window shows the time series (ZMOD) plot. The window below this shows a sample of a signal for searching.

The system stores time series in a special memory system based on the AURA technology (information available separately). The samples are searched using advanced high performance methods that are scalable to Tb sized data sets.

## **Principal features of the technology are:**

- Fast browsing of stored time series signal data.
- Fast searching for samples of time series within a sample and between samples.
- Searches for examples that are similar as well as identical.
- Scales from small data sets to Terra bytes of data.
- Data may stored locally or remotely.
- Data accessed as a web service.
- Flexible searching that can be adapted for particular applications.
- Data is loaded quickly using a data specific conversion system.

The technology consists of a set of C++ functions built on top of the AURA CMM library used in many of our systems. It is supported on most platforms and OS.

## **Potential applications**

### *Engine vibration data.*

The system can be used to search for events in vibration data collected from engine data. This allows an engineer select data of interest and browse results.

### *Structural data.*

Data from structures, such as vibration and other samples may be searched to find if known events have taken place.

### *Medical Data.*

A great deal of medical data is expressed as time series and requires search and analysis. SDE allows a user find events in ECG, EEG flow and pressure data etc.

The applications for the signal data explorer are endless. Its ability to scale to large datasets with very short search times make it applicable to the most demanding tasks. The tool can be adapted to take most signal data, please contact Cybula for details of this service.

## **Further Information**

For more information, please contact Kane Computing Ltd at the address below.

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