



www.ultrasis.com CALM Corporation Ltd

CALM Corporation (UK) Limited is a software development company which specialises in the production of preventive healthcare software. Established in June 1992, after a decade of product development, CALM has created diagnostic software systems which assist healthcare professionals in fulfilling their work with groups and individuals more effectively. Their products are widely used by many of the world's most successful companies, some of the UK's largest local authorities, hospitals, prisons and police force.

"PDMS have delivered a solution which meets all of our requirements and we firmly believe that Calm Heart will rapidly become the backbone of coronary prevention and rehabilitation clinics in the UK and further afield." Mark Allardyce Managing Director, Calm Corporation Ltd



CALM Corporation Ltd

challenge

CALM were looking for a technology partner who could assist in upsizing their stand alone Calm Heart system, a coronary assessment tool to tackle the growing problem with coronary heart disease, to a full enterprise edition with an internet presence.

The aim of Calm Heart is not only to monitor, review and improve the care of patients with heart disease but importantly, to reduce the risk of patients developing the disease in the first instance through assessment and education. Using an on-line questionnaire, backed by sophisticated risk calculations, the system profiles each patient's risk of heart disease and shows how, by modifying certain areas such as increasing exercise or reducing smoking etc., the risk can be reduced.

solution

PDMS were selected by CALM on the basis of their established track record in providing bespoke software solutions and their project based approach.



Because of the very nature of Calm Heart, which involves an on-line questionnaire, risk assessment and graphical interpretation, sophisticated software systems were required. Complex risk analysis and interactive target setting together with features such as an instant audit facility meant that on a technical level, the project was a real challenge for PDMS' development team. The solution also needed to comply with the National Service Framework for coronary care and was required to run on the NHS network over a wide geographical area.

The system needed to be quick and reliable so as to build the confidence of the user (practice nurses, GPs etc.) while working in a patient driven environment. The database behind the system needed to be set up to maximise the speed and integrity of the data access. Security was also an important issue, the application contains confidential patient information and it is therefore critical that the systems are highly secure.

PDMS implemented an n-tier system that was designed with scalability, reliability and compatibility in mind.

In the specification phase of the project, PDMS recognised the need for a comprehensive patient-handling module, which now forms the backbone of the system, and allows for future assessment modules to be implemented with ease. The patient module records standard demographic and personal details e.g. NHS number, hospital number, address, telephone numbers, date of birth etc. Not only does the system store current information, but it also caters for historical information, for instance, keeping a record of all the patient's previous addresses.



The web interface allows the system to be used without having to install or configure software on any client workstations. The website employs technologies such as ASP, XML/XSL, DHTML and JavaScript to provide a flexible easy to use interface. The business object tier has been implemented using Microsoft Visual Basic and Microsoft Transaction Server (MTS). MTS manages both the business components, which form the kernel of the system, and data access components, which manage the storage and retrieval of data. The data exchange technology

used is XML (Extensible Mark-up Language), which provides a flexible means of transferring data between the tiers and perhaps in the future, other medical/patient oriented systems. The database is implemented using Microsoft SQL Server, an industry standard database management system.

The solution has been installed within the NHS intranet and on a daily basis more and more cardio-vascular staff are being trained to use this sophisticated software.

benefits

With technical support from PDMS, Calm have developed a software system that will help improve the care of heart patients and importantly educate patients to help prevent the disease in the first instance.



In addition to the main feature of assessing each patient' risk of health disease by analysing non-modifiable factors such as existing medical conditions and family history and importantly, modifiable factors such as smoking, exercise and dietary information; the application also provides health care professionals with many other important features. The system provides medical practitioners with all of their patient's details, a complete history of each patient's consultations and allows them to produce reports and referral letters quickly and easily. They can also set targets for individuals, print off educational fact sheets and actively demonstrate to their patients that by changing some of their habits patients they can reduce the risk of coronary heart disease.