

## Broca Secure Advanced Messaging Service Client

**Project Type:** Agile Development  
**Customer:** Broca PLC

**Product Overview:** Broca's Secure Advanced Messaging Service (SAMS) enables the secure communication of information via text messages. It not only encrypts the data, but also enables the user to prove their identity conclusively in every transaction. This is all achieved using the standard SMS protocols. The application is ideal for banking and credit card applications, shopping, and ticketing.

**Problem:** The creator of SAMS is Mike Hawkes, an expert in mobile security systems and Director of M-Commerce for the Mobile Data Association. Having created the concept of the SAMS system, he approached Penrillian to develop the Java handset client that forms an integral part of the solution.

**Objectives:**

- Create a secure Java client that operates across multiple handsets
- Ensure the security and robustness of the client application

**Method Deployed:** Broca contracted two members of the Penrillian team for one year to develop the user interface. During this time, Penrillian's consultants effectively became part of Broca's in-house development team.

"It really makes a difference working with an experienced team of developers," said Mike Hawkes. "When we sent the initial specifications over, they didn't just accept them and get on with it. Instead they came back to us to suggest changes, and better ways that certain aspects of the project could be approached."

The challenge was to build a simple user interface for the complex protocol behind the product, and then to tailor this interface for the huge range of handsets available.

Although Java is universal in theory, in practice there are many implementations,

even within a single handset manufacturer's range. Penrillian's experienced Java developers ensured that SAMS would operate on every known handset with the features to support Broca's product.

Broca was constantly testing the product with potential customers, bringing back suggestions for changes to the system. Through the constant interaction between Broca and Penrillian, many of these changes were made to the application.



"The whole development process has been a conversation, with ideas bouncing back and forth and a good rapport developed between the teams," added Hawkes. "Much as I hate to mess external suppliers around, during the project there were new demands from our clients that needed to be fulfilled. There was no complaint from the Penrillian team when they had to drop everything and focus on something different, and it didn't mean weeks of renegotiating contracts."

Constant changes can lead to poor reliability, so Penrillian implemented unit testing from day one of the project. These automated tests could be run each time the code changed, to check that whatever new feature or fix had been added it hadn't inadvertently knocked out something else. This structured approach has made the SAMS application highly reliable.

**Results:** Broca has taken its product to market and is now a public company, listed on the Alternative Investment Market. "I have absolutely no doubt that we chose the right company for the job," said Hawkes. "Penrillian's experience in producing mobile software has dramatically reduced the time it would have taken to get the product to market."