

Read SMS -  
Text to Voice

Q3 develops a completely voice based application for BlackBerry that enables the user to create, send, and listen to SMS messages using voice commands.

# Case Study - Read SMS - Text to Voice

## Company Profile

The Client is based in Europe and provides software solutions for different mobile platforms including the Blackberry and iPhone. Mobile platforms including the Blackberry and iPhone.

The Client's main objective was to develop a native application that gets seamlessly integrated with the Blackberry email / SMS client and allows the user to create and send SMS messages using voice input. The Client also wanted the application to be able to convert incoming text messages to voice to be heard by the user.

## Business Situation

## Challenges

The challenges were to:

- » Come up with a voice recognition solution that could be used to take voice input for commands as well as SMS message text. Typically, mobile devices have limited resources such as RAM and processing power due to which running complex voice recognition algorithms is not feasible.
- » Come up with a text to voice conversion solution to be used by the mobile application.
- » Seamless integration with the BlackBerry native email / SMS client.

Q3 setup a dedicated team of architects, developers and QA resources to analyze the Clients' requirements, design the solution based on these requirements, and finally develop, test, and deliver the application.

For conversion of voice to text as well as text to voice, a backend solution was implemented which exposed Web Services that could be invoked by the BlackBerry client as needed for conversion. Sphinx, the leading opensource voice recognition engine, was used to implement the backend Web Services for conversion of voice to text. Free TTS, an opensource Java based speech synthesis system from SourceForge, was used for implementation of the text to speech conversion Web Service.

## Technical Solution

The benefit of this solution was that it required minimal processing on the BlackBerry device with the bulk of the CPU and memory intensive algorithms running on the backend. The Web Services methods were designed such that only the minimal required data was transferred from the server to the Client, which ensured that the network was not a bottleneck for the performance of the application. This solution provided the Client with an application that met all the functional as well as the non-functional requirements that were outlined at the beginning of the project.

## Technologies

- » Java/J2ME
- » BlackBerry API 4.7
- » SOAP Web Services
- » Sphinx
- » Free TTS
- » Eclipse IDE