
Goals

- To use Digital Pen technology to deliver a mobile working pilot for front line staff to collect information during visits to clients
- To evaluate how effective using Digital Pen technology for mobile health and social care staff is in practice
- To evaluate the effectiveness of the technology; and to compare with other mobile solutions, such as laptops communicating via GPRS / 3G

Solution

Torbay Care Trust chose to implement the PC Pen application developed by Accelero Digital Solutions Ltd – supplied by ACL. This application incorporates Anoto technology for the digital pen and paper along with handwriting recognition from Vision Objects. The application allows the user to gather information using the pen, to transfer the data to the PC, to validate the recognition and with a mechanism for publishing the data in multiple formats.

Approach

The pilot was to last for three months and was delivered in a number of phases:

- The first phase was quite basic, there was little handwriting recognition and the prime goal was to establish if the health and social care staff could use the pens easily. Once the pen was docked, the requirement was to produce a simple pdf output and publish this to a shared area. For this phase a copy pattern was used, i.e. the pen user needed to complete the whole form before moving to the next one. It quickly became apparent that a unique pattern was more suited to the way that data was gathered, i.e. the pen user was able to return to previously started forms to complete at a later date. The forms were converted which proved much more useful and usable. Form design was limited and existing forms were used, no changes were introduced as the goal was to prove the usability.
- The second phase introduced more functionality, one of the forms was totally redesigned to include handwriting recognition and output to an Excel spreadsheet. The goals of this phase were very different from phase one; primarily, to evaluate the handwriting recognition technology and establish the ease of extracting data for potential integration. The users were able to validate the information once the data had been processed and were provided with the ability to make amendments where necessary.

Use of the original forms created in phase one continued alongside the new form to allow the users to compare the enhanced functionality provided with the handwriting recognition.

Outcome

The pilot proved successful and the original goals were achieved. The Trust was able to establish that the technology worked for their mobile staff, and offered a more favourable option when compared to the other mobile technologies for some staff groups.

A key benefit for the end users was the minimal disruption to the method of working. As they were currently using pen and paper very little changed; the key difference being the need to dock the pen to upload the data.

Implementing the handwriting recognition functionality was a pivotal point in the project. The benefits with regard to efficiency gains were far more apparent. It then became clear how the data could easily be integrated with the back-end systems. A considerable amount of time would be saved on re-entry of data if the integration with the back-end system had been part of the pilot. This was proven with the output to Excel for the statistics. Whilst there was some element of manual intervention required to correct the data the time spent was considerably less than retyping the whole form.

Some of the users decided that the pen technology was not of real benefit to them, some of which was due to the way in which the pilot was run as it allowed limited service redesign. . However, from the perspective of the pilot itself this was judged successful, as it gave valuable feedback which will be employed in the wider rollout.

Some of the team members involved in the pilot had a dedicated admin resource for performing the validation and publishing tasks. This proved to be the optimal situation, where the health workers could focus on providing health care; leaving their admin staff to perform their duties.

The Project Manager for the Digital Pen Pilot, and the IT Manager at the Care Trust both felt that the pilot was useful and successful, in terms of the goals of the project.

The Future

Due to the success of the pilot, Torbay Care Trust decided to convert more of the forms to include Handwriting Recognition and to extend use of the software and forms for a further six months, to both build on the investment made and to continue to provide feedback to the wider rollout of mobile technology. .