

Kurzweil - National Federation of the Blind

Novel packaging for an
assistive technology device

SAGENTIA



Kurzweil Technologies and the National Federation of the Blind joined forces as K-NFB Reading Technology (K-NFB) to develop a portable device capable of allowing its users to hear pages of written text. Sagentia was requested to develop a novel package for commercial sale.

K-NFB's prototype device consisted of an off-the-shelf PDA and digital camera connected by a modified USB cable. The joint venture company developed software that enables the PDA to control the camera, process the image taken to eliminate print distortions (uneven illumination, tilt, rotation, curved text lines etc) and then verbalise the text.

However, K-NFB needed assistance to turn the prototype into a commercially viable breakthrough product that could be easily used by its target market. To control costs, K-NFB specified the use of off-the-shelf components and commissioned Sagentia to develop a custom cabled casework to interconnect the components physically and electrically.

Sagentia explored a variety of configurations, investigating a number of orientations for the camera and PDA. Key to this discovery work was the need to develop an empathic design that took into consideration individuals that were blind or had limited sight. This work led to a number of early design concepts. These were swiftly fabricated into demonstration prototype cases. The cases showed a variety

of potential form factors of the end product, and gave K-NFB the opportunity to test the various configurations with key stakeholders before committing to a full development.

Detailed design elements were then incorporated into the chosen configuration, including a method to easily insert and remove the PDA and camera, access to batteries and other controls on and around the unit and easy access to the PDA's soft reset button. The configuration also included an injection-moulded spine that both physically supported the overall device and carried the cabling, circuit boards and specialised electrical connectors between the camera and PDA. Our involvement resulted in a customised cabled casework for the K-NFB Reader that was ready for manufacture.

Following sign-off by K-NFB, Sagentia manufactured units under our ISO 9001 approved processes for sale into North American and European (requiring CE and ROHS compliance) markets.

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