

Dying Dutchman's last wish: to build brain cancer app

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Dying of a brain tumour, Frederik van den Broek had one last wish on his "bucket list": serving as his own guinea pig to build a smartphone app for fellow cancer patients.

Now Dutch neurologists say the input from Van den Broek, who died late last month aged 41, has been invaluable in creating what is believed will be the world's most advanced mobile-based app for cancer <u>patients</u>.

MindApp for Android and iPhone mobiles will allow users with a few simple clicks to track and update appointments such as for radio and chemo therapy, to help remember who their doctors are and even to manage the myriad pills they must take.

It will also allow patients to input data—such as when they have had an epileptic seizure—and "talk" to doctors about their condition without having to come into hospital.

Van den Broek told AFP a few days before his death that his idea for a specialised "brain cancer app" was "born out of pure frustration".

"The hospital gave me a printout of appointments, which medicines to take, and when, as well as a diagnosis of how long I had to live," Van den Broek said in an emailed interview, his last.

"I lost the printout within an hour. These things happen when you've lost a large part of your brain and your short-term memory has gone to



pieces," he said.

Memory loss

Van den Broek was intensively involved in the app's development, with himself as the <u>guinea pig</u>: deciding the features it should have and even the colours to be used to give patients maximum ease of use.

"Brain tumour patients often suffer from loss of cognitive abilities, for instance memory loss and changes in behaviour," said Jaap Reijneveld, a neurologist at Amsterdam's Free University Medical Centre (VUMC), who is helping with the app's development.

"This app will be of huge support to patients, particularly those suffering from glioblastoma, a type of brain cancer that's often highly malignant," Reijneveld of the VUMC's Brain Tumour Centre told AFP.

"Patients have a massively complicated treatment schedule, and the app, the most advanced to date, will help them remember things, but more importantly give constant feedback to us as doctors on the patient's condition," he said.

The app complements a growing worldwide trend in which new digital technology allows patients to manage their diseases from home, easing the burden on overstretched healthcare facilities.

Simple setup

Easy to set up, MindApp has four sections that can be accessed by a simple touch on a smartphone screen.

An appointment calendar is updated automatically once confirmed with



the hospital; secondly, an alarm reminds the patient to take his or her medicines and is turned off once a pill has been taken.

Thirdly, the app features a daily logbook in which patients can make notes of their condition and record episodes such as epileptic seizures. The information is updated in the patient's file which doctors are able to access.

The fourth section provides feedback from doctors based on logbook input, for instance instructions to increase or lower the dosage of medications.

'Bucket list'

Vincent van Dijk, who collaborated with the terminally ill Van den Broek on MindApp's design until the day he died, said he hoped the first version would be available from so-called "app stores" within the next three months.

Van Dijk told AFP the project is financed through crowd funding and that some 70,000 euros (\$80,000) was needed to finalise MindApp's development.

Donations so far have totalled some 60,000 euros, and IT giant Microsoft has also offered to help with development, Van Dijk said.

Sadly for Van den Broek, it is too late to benefit from the fruit of his labours.

"It's a pity I won't be able to use the <u>app</u>. But it gives me the feeling that at least my illness wasn't for nothing," he told AFP.

"Some people go on a world cruise or make a 'bucket list' when they hear



they're going to die," he said.

"The MindApp is my bucket list."

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