



# *The Tovertafel* *Slide, tap, smack,* *and lots of laughs.*

*Design by Hester Le Riche*

*Text by Pieter Desmet*

“Slowly, the leaves rustle on the dining table. With a sweeping motion of her hand, Mrs Den Heeten brushes a pile of green leaves to her neighbour across the table. Mr Van Berkel laughs and pushes the leaves right back. He swats a ladybird that crawls across the table unexpectedly. Buzzing, the little beetle flies to the edge of the table.’ There is a lot of tapping, swiping, and most of all laughing going on at this table. That is because it’s no ordinary dining table. It’s a Tovertafel; a magic table. What started as research by designer Hester Le Riche, has grown into an international success. Her question was clear and challenging: How can you break through the apathy of older people living with dementia? The result of her project was the Tovertafel, which is now in use in almost two thousand care institutions in Europe.

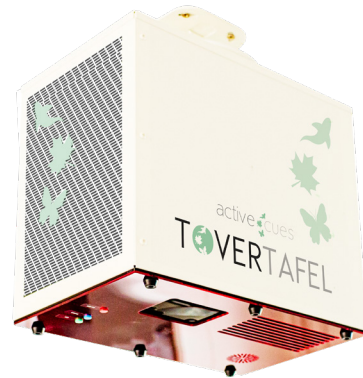
## **Break through the apathy**

About 90% of older people with dementia in care homes suffer from apathy. They withdraw into their own world, barely make contact and get little exercise. That is detrimental to their physical, emotional and cognitive health. How do you make them active again? That was the question that started Hester’s PhD project. After her preliminary research, she conducted a study in a care home in Hellevoetsluis. She focused on the time the residents were having coffee together at

the dining table. People have a cup, take a sip and then become distracted. The coffee cools and just sits there. With light projections, Hester tried to get their focus back to the cup. However, no matter what she did, none of it had an effect – the coffee would remain untouched. One observation led to the breakthrough: at one moment, one of the ladies picked up her cup. Did she take a sip? No, she set it aside and started to play with the light on the table. That's when the idea for the Tovertafel was born.

### Playing with light

The technology is in a little box that is mounted on the ceiling: a projector, sensors, speaker, and processor. The box projects colourful animations onto the table. The sensors register hand movements, allowing you to play with the images. Let floating stars make music by tapping them, push a beach ball to another player, stroke rotating flowers to



The Tovertafel box

make them grow, or whack balls of paint to watch the paint spread and slowly form a painting. It was a scientific challenge to determine which game elements are suitable for people with dementia. Because the disease is progressive, the patients lose ever more playing skills, but it was not known how and when that would happen. Together with researchers from the VU Amsterdam, a vision was



Hester tests games with residents of a care institution



developed for three suitable player experiences: (1) relaxation, (2) bringing back old memories, and (3) sensory stimulation. By now, fifteen light games have been developed using these ingredients. Each of them has been thought up and developed together with the end users and their families.

### Social physical activity

When, during the testing phase, one of the residents exclaimed, *'Het is een tovertafel!'* (It's a magic table), the name was born. The great thing is that the little box can be used with any table. The games themselves are somewhat reminiscent of certain iPad games. But there is a significant difference. When playing with an iPad, you make small ges-

tures and do so individually. At the Tovertafel, you make big motions with your arm and playing is very social. Even if you don't know the other people at the table, you interact with each other because you are looking at the same thing. Other people's responses also make you react. This 'being physically active together' is the recurring theme in all games. The Tovertafel is a success because it works for everyone involved. The residents have an activity that connects them, and the family members like to see the pleasant atmosphere and attention for the residents. But the Tovertafel also supports and unburdens the care workers. And management benefits from staff that can do their work well and feel good.



Six examples of Tovertafel games



Tovertafel UP for people with a learning disability

### Designing together

Hester has experienced how a solution can come from somewhere you wouldn't expect. She managed to get people moving, but not in the way she had initially planned: "I had visited the care home for three years without making any progress. I had experienced the total lack of social interaction and activity myself, but now people were laughing and talking about the flowers they used to have in their garden. No matter how much you know about a target audience, you can't predict how someone experiences the world and interacts with it." Against expectations, the residents had an active, creative role in further developing the design. This success shows the power of *co-design*, a way of designing in which designers and future users work together intensively.

### Happy moments in care work

Hester is not resting on her laurels. Together with Mathijs Konings and Sjoerd Wennekes, she started the company *Active Cues* with the clear motto: "Active Cues creates moments of happiness for people with a learning disability." By now, they have developed multiple additional products, such as a Tovertafel for people with a learning disability (Tovertafel UP). And their current games are still constantly being developed. Their dream is to get as many people physically active in a fun way as possible. As Hester puts it: "Our mission is to facilitate 10,000,000 moments of happiness in care institutions." That is very ambitious, but together with the Active Cues team, she is well on her way.



**Hester Le Riche** designs playful interventions for reinterpreting social themes. She designed the Tovertafel as part of her PhD thesis *Playful design for Activation: Co-designing serious games for people with moderate to severe dementia to reduce apathy* with Richard Goossens as supervisor and Marieke Sonneveld as co-supervisor. In 2017, she successfully defended the project that was financed by the OCW *Creative Industry Scientific Programme* (CRISP) and Woonzorgunie Veluwe. In 2015, her company Active Cues was named most innovative start-up of the year by New Venture. The Tovertafel won many prizes, such as the 2015 Dutch Game Award and the German Business Award. Currently, Active Cues operates in seven countries in Europe with a team of over 45 people. [www.tovertafel.com](http://www.tovertafel.com)



# Colophon

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2018

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### **Product concept & design by Hester Le Riche**

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Graphic design by Rozemarijn Klein Heerenbrink

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This article was originally written for the Dutch Journal of  
Positive Psychology ([www.tijdschriftpositievepsychologie.nl](http://www.tijdschriftpositievepsychologie.nl)).

All articles from the series can be downloaded at [www.diopd.org](http://www.diopd.org)

### **Reference**

In communication, please refer to this publication as follows

Desmet, P.M.A. (2018). *The Tovertafel: Slide, tap, smack  
and lots of laughs*. Delft, Delft University of Technology.

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