

Link & Twinrider: Love of sports as Design Inspiration



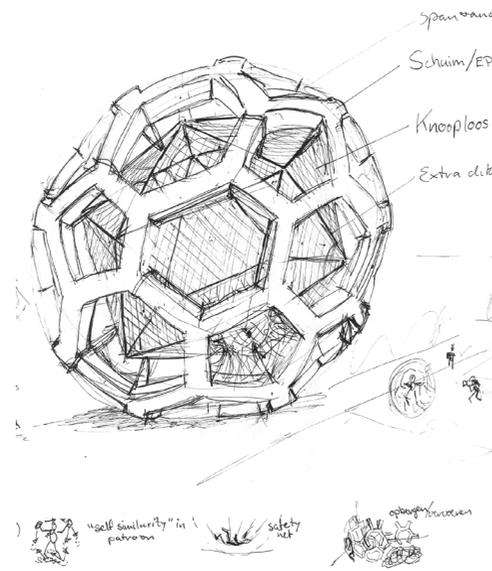
Design by Gina van der Werf

Text by Pieter Desmet

Develop sports equipment for blind children. And make sure to create an exciting athletic experience so to make children enthusiastic about sports. In short: Make exercise fun. Fifteen years ago, this was the starting point for designer Gina van der Werf's thesis project. This assignment suited her to a T. Besides being a designer, she's a passionate athlete - with a preference for adrenaline sports such as snowboarding and mountaineering. Exciting and challenging athletic experiences are her bread and butter. With her design, Link, she managed to convert her personal experiences into a form that optimally suits the capabilities and interests of blind children. Step into Link and explore your balance between challenge and control.

Challenge is Exciting

In order to understand the target group, Gina spent two months working as an assistant at a school for children with a visual impairment. She observed classes and spoke with the children and teachers. What she soon noticed was the vital importance of proprioception (self perception): activities with direct physical feedback, such as pushing, pulling and balancing, give blind children the confidence that they need to stay in the experience. They enjoy the sensations they experience on a trampoline, treadmill or swing. But the many safety limitations eliminate the excitement. This safety, no matter how important it is, hinders the challenge and therefore the fun and athletic development. Challenge is exciting! When snowboarding, Gina also experiences this intersection between challenge and control. And that's why she wanted to use her design to give blind children the chance to seek out a little bit of risk - to experience how you can play with letting go and taking back control.



Children test the Link prototype



Link sketch and prototype in construction

Walking, Falling, Bouncing and Rolling

Link is a ball with a two-meter diameter in which a child can stand, hang and walk. The ball has a hard exterior in the shape of a truncated icosahedron (football) and a flexible interior sphere. Because the interior sphere consists of a safety net, you can grab it, push against it, pull on it or hang from it. The double ball ensures a safe and soft landing. You can walk, fall, bounce and role to your heart's desire. By moving, you put the ball in motion, and the ball in turn puts you in motion, etc. In Link, you can explore the boundaries of your control in a safe way. You determine the challenge level. You can swing gently and carefully try out and experience the ball, but also run or even make somersaults. This allows blind children to explore what's exciting to them; letting go of control and subsequently regain it.

From Link to the Twinrider

Gina's passion for snowboarding inspired her to focus on the interaction between challenge and control. In her own words: "To develop as an athlete, it's important to learn what can go wrong and particularly how you can influence this. This means seeking out some risk, but within safe margins." She also experiences this in her role as a snowboarding teacher. This frequently gives her the opportunity to teach snowboarders with an impairment. Five years after graduating, she met a student with cerebral palsy, a developmental disorder that is characterised by motor disorders. Her student had



great trouble standing and walking, but was determined to snowboard – and not to sit-ski. Gina was impressed with his perseverance and enthusiasm about taking a single curve. At the same time, she was frustrated that she couldn't do more for him. This gave rise to her idea of developing a sit-snowboard: the Twinrider.

The first version was a makeshift model made with a few bars and an old snowboard. During a test, operating the snowboard with handles instead of your feet proved to be a good option, but the support certainly wasn't optimal yet. Many prototypes later, the Twinrider was born: The first snowboarding system for wheelchair users that truly feels like

snowboarding. The base is a support frame and two handles that are mounted on a regular snowboard. The board is operated by moving your weight; the seat moves with it. With the handles, you can tilt and twist the board to steer it more precisely. This also allows you to feel what the snow does to your board, something that standing snowboarders feel with their feet.

Safety and Risk

Gina told me about her vision of risk: "With Link, I took the position that it's good for blind children to take risks because I've seen how demotivating overprotectiveness can be. In Link, children can challenge themselves and yes, this sometimes in-

cludes losing control. But risk is only suitable if any possible consequences are clear and acceptable. In Link, you can fall softly, just like falling in fresh powder snow." She incorporated this vision into the design of the Twinrider: "Some risks make it fun. When going into a curve, you accelerate, with the chance of losing control and falling. You can feel that in your body. The adrenaline makes you more alert and that boosts the learning process." The essence is that the athlete determines how big the challenge is – by choice of terrain – the Twinrider itself is responsive yet sturdy: "That is the autonomy I strive for, with my lessons and my products."

Link and Twinrider offer the freedom to explore and test your own boundaries. For athletes without impairments, this freedom is a given, but that's not always true for all athletes with an impairment. Marc Francis, the proud owner of the first Twinrider, is a huge fan: "It gives me a sense of freedom and excitement. This snowboard has given me the opportunity to fulfill my dream of descending the slopes with my family and friends." Gina has only just begun to explore the tension between a safe versus a challenging sports experience. I can't wait to see what sport she will be working with next.



Gina builds her first version of the Twinrider



The Twinrider in action (Demi from Up adaptive sports in Kaprun, Austria)



Gina van der Werf (photo) designed Link 2005 as graduation project for the Design for Interaction master's degree at TU Delft for Stichting Bartimeus. Supervisors were Paul Hekkert, Marieke Sonneveld and Theo Rooden (TU Delft) and Babette Hamburger and Marten van Doorn (Stichting Bartimeus). With her company Prodaptive, she developed the sit-snowboard for which she received a Dutch Sports Innovation Award in 2016. <https://prodaptive.nl/>

Colophon

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2020

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This article was originally written for the Dutch Journal of Positive Psychology (www.tijdschriftpositiepsychologie.nl).

All articles from the series can be downloaded at www.diopd.org

Reference

Desmet, P.M.A. (2020). *Link & Twinrider: Love of sports as design inspiration*. Delft, Delft University of Technology.

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