

DEVELOPING A QUICK-TO-FILL SPORTS WATER BOTTLE

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The topic of this bachelor assignment was the development of a technical solution for a quick-to-fill sports water bottle for the company VIBE.

Studio VIBE is a Deventer based company mainly focused on brand identity and graphic design. They are a young, modern company run by a small team that strives to connect people and ideas in a way that positively impacts people. In their work they emphasize good communication and they fit their services to the identity of the brand they are working with. VIBE wishes to expand its business by developing and selling quick-filling water bottles. This idea was created two years ago when the founder of VIBE, inspired by the issues faced by team sporters, thought up the idea that would eventually become the quick-filling water bottles, which were developed in this assignment.

The reason for this assignment is that VIBE needed someone with more technical skills to develop a working filling system.

The scope of the project has been determined as: "Design a technical concept for a sports water bottle that allows it to be filled quickly and hygienically. Special attention will go to the connection between the bottle and the filling system, to making the bottle leak-proof, to hygiene, to ease of use and to material choice."

The first step in the process was developing a methodology based on literature. After this, the design process could properly begin. Stakeholders, business models, existing solutions and popular water bottles were analysed, which resulted in a number of requirements. Some of these requirements did not relate to the technical aspects of filling and ended up falling outside the scope of the project. The remaining requirements, divided by importance, would be used to check the concepts.

Using these requirements, a functional model, and the TRIZ-method, a number of possible design aspects was created. By combining these aspects, concepts were developed and the one fulfilling the most requirements was chosen and adapted to fit not just the most, but all of the requirements. A prototype was made to determine the effectiveness of the design. It proved that the goal at the start of the project was almost reached, as it allowed users to fill a water bottle in five seconds without performing many actions. The only problems were that the design somewhat leaked and that placing them was not always convenient. The design was adapted accordingly, and a final design was made for a quick-to-fill sports bottle that the user can fill in seconds, is very easy to use and saves water.

While all the factors of the design objective have been considered over the course of the project, I do have to say that the connection between the bottle and filling system and the ease of use have factored into the end design more than hygiene, material choice and making the bottle leak-proof. Though in the end, I do believe enough attention have gone to all these parts to make them satisfy the thesis objective.

In the end, the result of this project was a technical concept. To put it to market, some more aspects of the product have to be designed and target group feedback would be greatly advised, since it is not yet there. Doing a pilot, producing a first batch of products with a limited number after which feedback is gathered, could greatly help.