

Design of a nature-based air purifier

The assignment of this graduation project is to design an air purifier based on the 'active botanical biofiltration' technology.

Together with the implementation of this technology, the product should be designed by the hand with constant user research, to understand the needs and values from the

target group and implement them in the design.

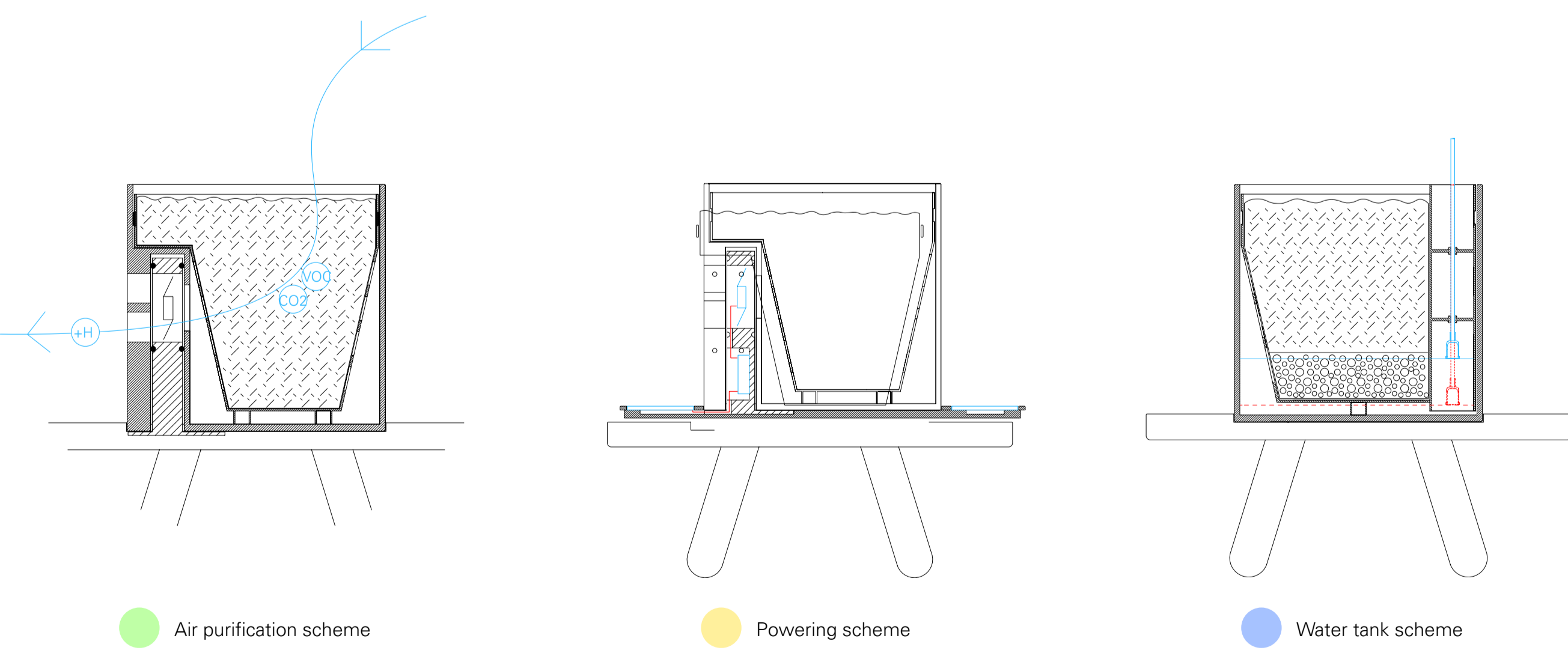
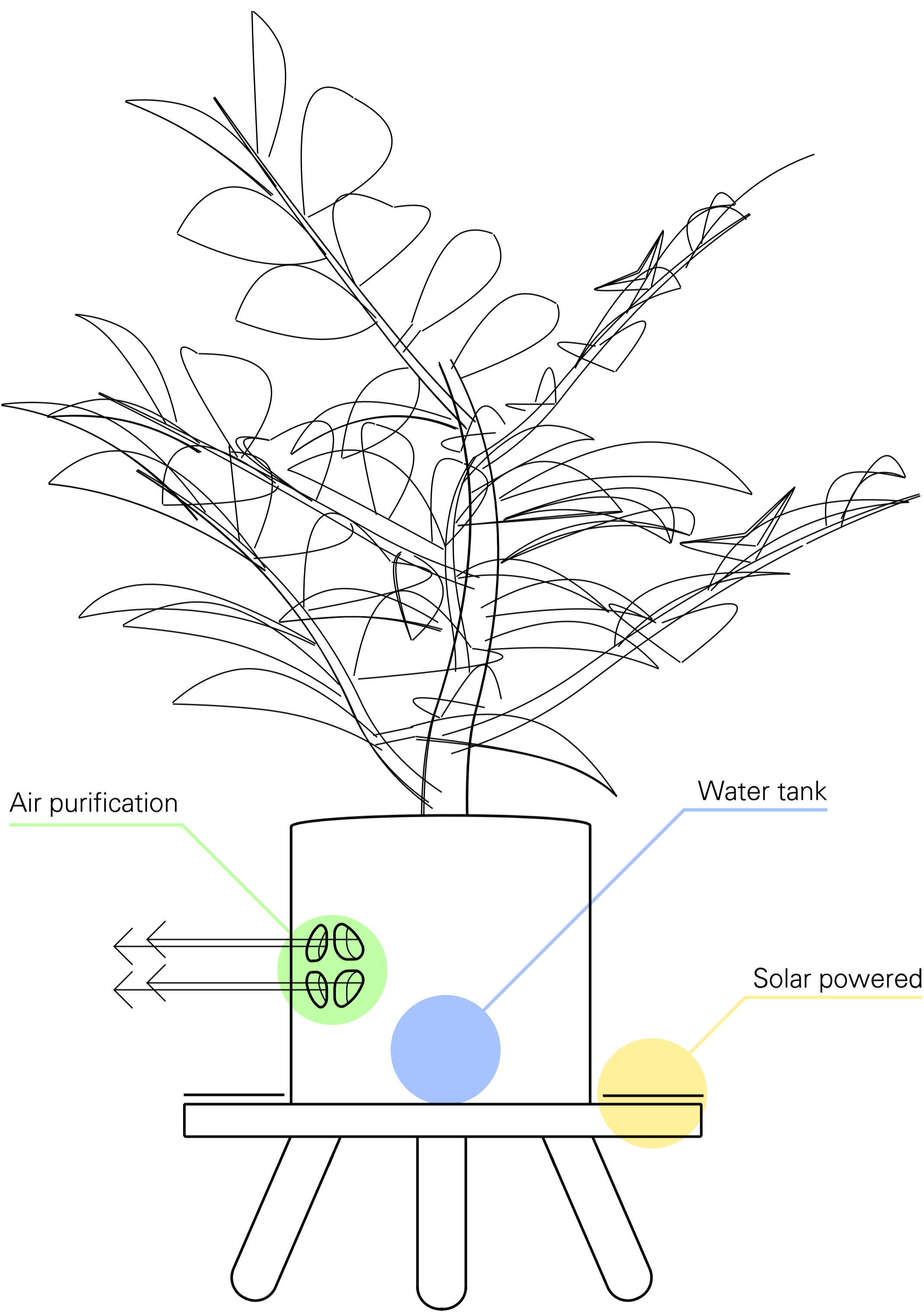
At last, the possibility of powering such a product with solar energy is explored and successfully implemented.

The resulting solution consists of a pot that is equipped with an airflow system. When placing a plant in the pot, the system forces air through the soil and roots, eliminating contaminants such as VOCs, CO₂ and particulate matter and increasing the relative humidity of the indoor space.

The needed electronic components are powered by solar panels, combined with an energy buffer composed by a capacitor and a transistors circuit.

Besides, it has a water tank and a level indicator that enables the user to water the plant less frequently and be aware of the correct watering times.

The aesthetics of the device is the result of a thorough user research which suggested that the design should look neutral, natural, timeless, minimalistic, functional and subtle.



Antonio Chozas Plasencia
Design of a nature-based air purifier
14-12-2020
IPD

Committee Prof. dr. David Keyson
Dicky Brand

