

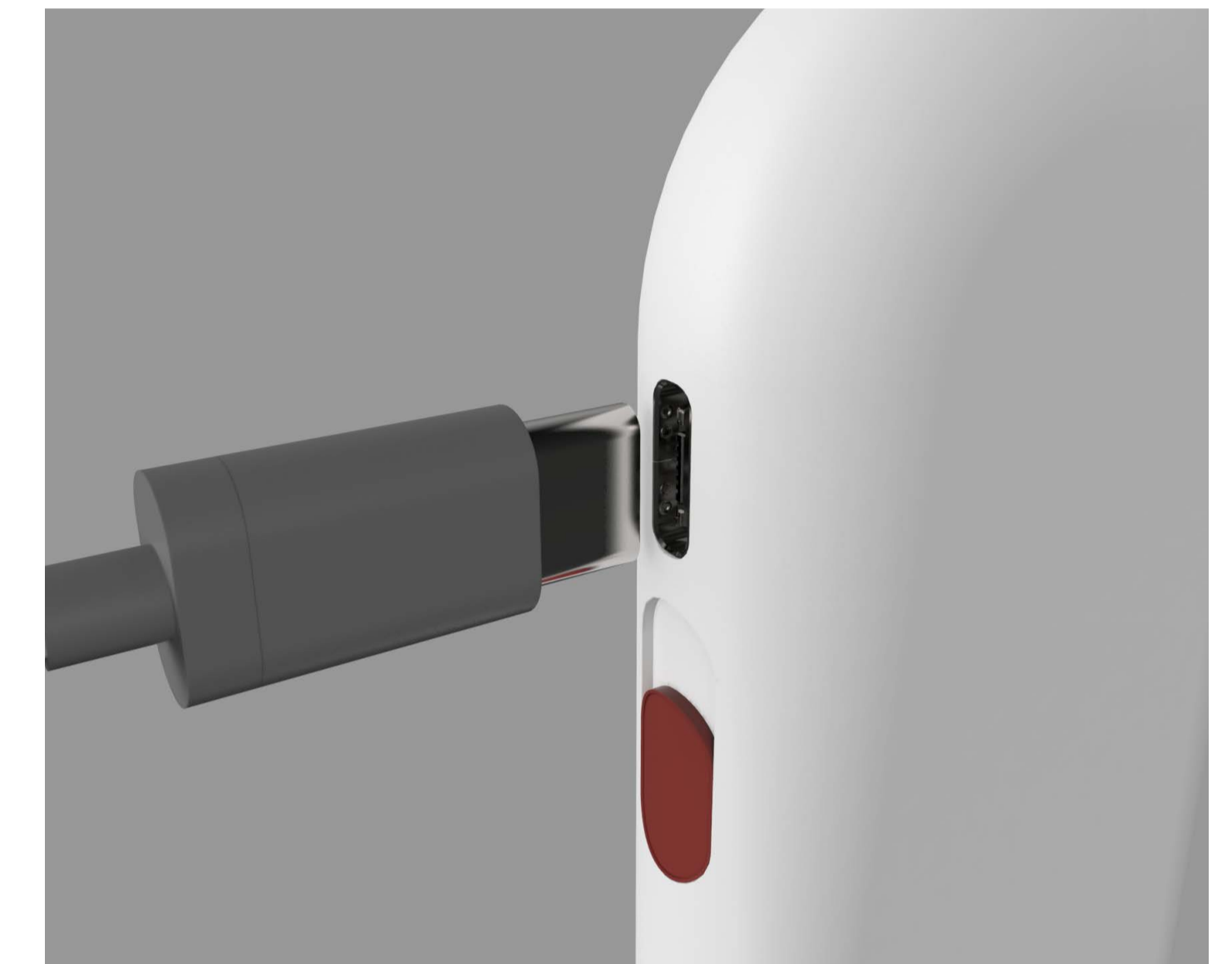
# DotBot

Searching for a positive white cane experience

*The Dot Bot is a navigation aid consisting of a network of location-specific navigational and environmental information nodes (Dots) accessible to a specific user group. The information is stored in the form of audio descriptions created by the userbase. This way virtual DotBot community facilitates the sharing of commuting know-how. The information Dots make use of existing VIP relevant infrastructural elements in the tactile paving. It is aimed to enhance the perks of being part of the VIP community, cultivating feelings of connectedness and belonging. The semantic qualities of the cane are preserved, to keep it recognisable and ensure user safety in commute.*

*However, there are moments where the effects of impairment are preferred to keep private. For this reason, I aimed to limit the need to ask for directions and aid VIPs in cultivating pride and the feeling of competence through exercising their ability to navigate autonomously. The way the information is stored and accessed supports this: for the outsider eye accessing information from a road stud on the tactile paving is invisible.*

*During the evaluation phase, several aspects of the DotBot concept were tested with VIP participants. In the first validation session, insights on information needs during navigation were collected. In the second validation session the envisioned interaction was evaluated by the help of functional prototypes, and feedback types were also investigated. Further studies would be needed to establish the optimal Dot density in vibrotactile feedback pattern and intensity.*



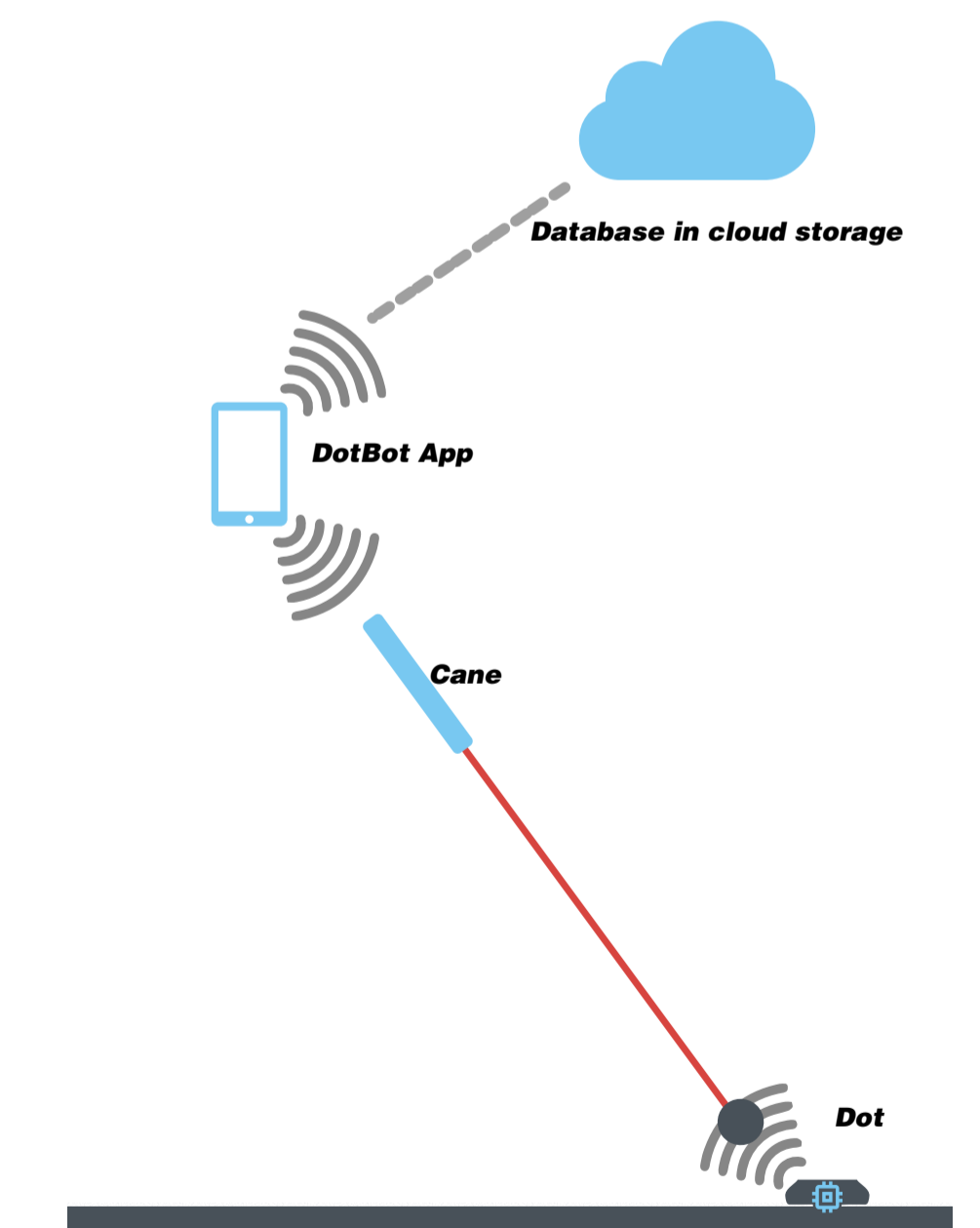
*The DotBot concept has four equally important components, the Dots, the Cane, the Dot Database and the DotBot app.*

*The Dots store the identification of each location point. They are specific road studs (tactile pavement elements) containing a passive RFID tag.*

*The cane is used to read the dot ID and connect it with the database of information.*

*The DotBot app is the connection point between the Dot database and the user. It also enables the user to set preferences, plan routes, and connect with other Dot Bot users.*


*The database of location-specific information contains the audio notes and descriptions for each location node.*



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