dot

THE ONLY NAVIGATION SYSTEM FOR BLIND AND VISUALLY IMPAIRED ATHLETES

OBSERVATIONS
CURRENT IMPLEMENTS

Currently, there are few implements for blind athletes in terms of navigation. Personal guide systems like guide dogs and canes cannot be used for personal fitness. Professional guides are expensive and lining up schedules with a sighted friend for a run can be difficult for consistent practice.

OBJECTIVE ONE:
ENVIRONMENTAL FEEDBACK

The first objective of the project was to create a way for user's to receive feedback based on obstacles in the environment. Here it was decided that a sensor would be used to read the environment and provide haptic feedback through vibrations on the shoulders.

OBJECTIVE TWO:
HOLISTIC NAVIGATION

The second objective of the project was to provide location based information. Turn signals are provided to the user, as well as pace, distance, and the time elapsed on command via audio. When navigating a route the user can program notifications as reminders for their next outing.

DESIGN DIRECTION
INTRODUCING DOT

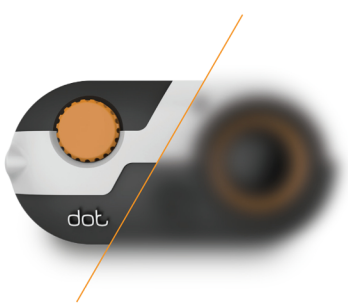
Dot combines haptic, environmental feedback with spoken updates in a highly mobile package. The harness was developed for both genders and provides a structure for the sensor and feedback points located on the shoulders.

THE FAT FREE APPROACH
DOT IS A GUIDE

Dot's shape was kept simple to allow for a non-confusing form that was an honest interpretation of its internal components. However, a ridge detail was added to guide the user's finger to the interface, headphone jack and top buttons.

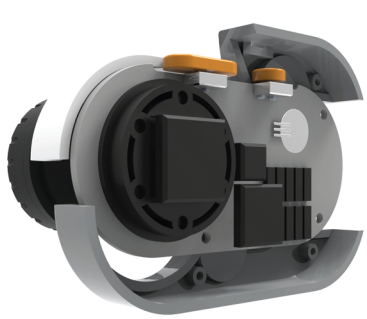
FOR LOW-VISION USERS
HIGH CONTRAST

People with visual afflictions often retain a portion of their sight. This is where Dot's colouration comes into play. Highly contrasting colours were used to articulate various elements and touch points.



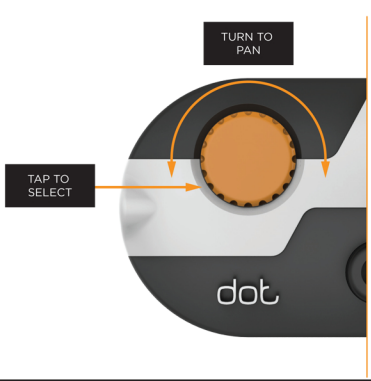
READY FOR ACTION
MECHANICAL DESIGN

Dot is built tough from polycarbonate. Each external part works to increase its durability and strength. The infrared sensor is built from the ground up to stabilize even the most rigorous movement.



SIMPLE AND STEP-BY-STEP
INTERFACE

Dot's interface works much like a mechanical dial on a camera. Use the dial to pan through menus and tap the dial to select options. This charming movement also provides mechanical feedback to the user.



A TASTE OF WHAT MAKES DOT TICK.
THE BLACK BOX

Red A straight line (e.g. a curb) is traced by the sensor

Blue A 2' 6" run path is generated for the user to follow.

Yellow The sensor captures images at the yellow distance. The wall moves further as the user's pace increases.