Software

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We created a customised web server that allows the sharing of the data produced by the tree talkers. A frontend web app explores differing complexities of data mappings from climate data to sound and visuals.

DIY Tree Talker

Hear Nature Speak through Sonifications and Visualisations from Home

sensing the forest

Let the Forest Speak using the Internet of Things, Acoustic Ecology and Creative AI

Sensing the Forest at the Northern Research Station

Sensing the Forest is a project funded by the UKRI Arts and Humanities Research Council that aims to raise awareness about the connection between forests and climate change using complex scientific data in creative and artistic ways.

Tree stress data is commonly obtainable only through costly hardware devices, often requiring interpretation by scientists with existing background knowledge.

A custom tree-talker prototype is being iteratively developed using a participatory design methodology to ensure affordability, modularity, and ease of use.

Hardware

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The system integrates a suite of sensors including a capacitive soil moisture sensor, a combined temperature and humidity sensor, and a bespoke dendrometer, connected to a Raspberry Pi Zero 2W for data acquisition and processing.

DIY Tree Talker Sensors

Soil moisture: measures the water content in the soil.

Temperature: measures the temperature of the air.

Humidity: measures the amount of water vapour in the air.

Dendrometer: measures the growth of a tree in stem diameter related to plant growth, water status and health.

Learn more about the Dendrometer sensor online: