

Resonant Landscapes creates a hybrid place, merging natural soundscapes with urban spaces through ambisonic audio and GPS technology.

Resonant Landscapes

Tate Carson and Carter Gordon, Dakota State University, USA

1 Introduction

- Web-based app overlaying South Dakota state park soundscapes onto Dakota State University's campus
- Uses frugal innovation: existing smartphone sensors and open-source software
- 2nd-order ambisonic audio with GPS integration (Figure 1)
- Body-oriented tracking and dynamic soundscapes based on user proximity

2 Significance

- Creates "hybrid place" of natural and urban soundscapes
- Promotes ecological awareness and attentive listening

3 User Experience

- Interactive campus map with listening spots (Figure 1)
- Audio playback within 15-meter radius; body-oriented tracking at epicenters (Figure 2)

4 Technical Details

- Core Audio OctoMic
- Web tech: React, Tailwind CSS, Resonance Audio SDK
- Smartphone sensors: GPS, gyroscope, accelerometer (Figure 3)

5 Future Work

- Enhance user experience through iterative design
- Expand soundscape database for diverse ecosystems
- Implement longer, uninterrupted audio playback

Figures

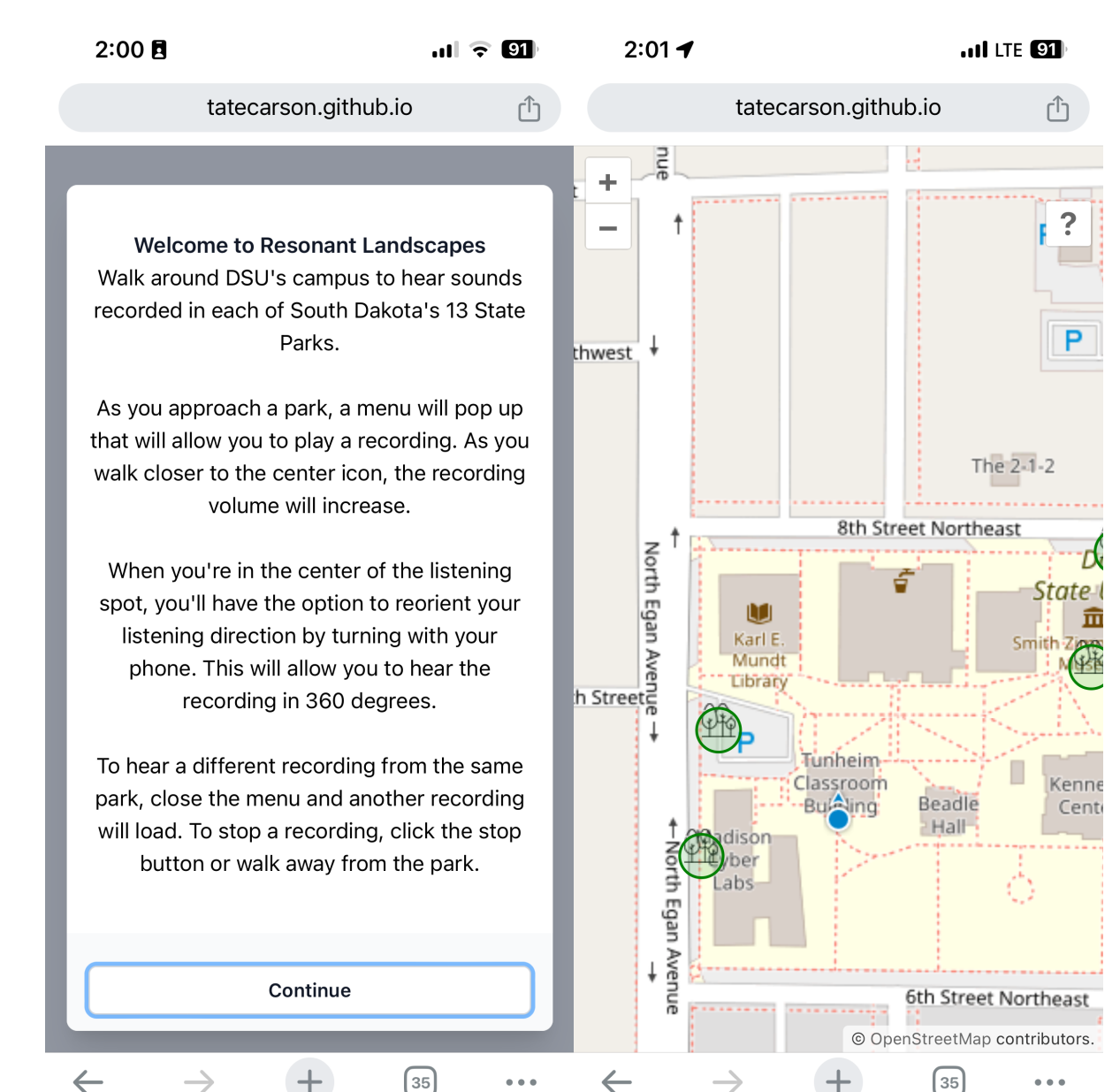


Figure 1: Introduction Screen

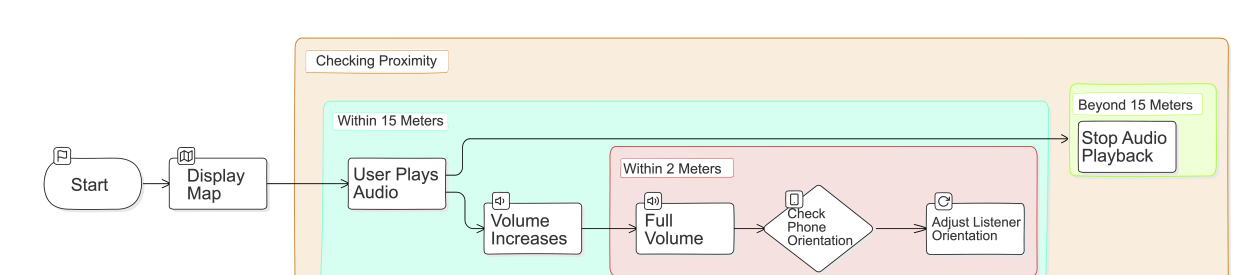


Figure 2: User Flow

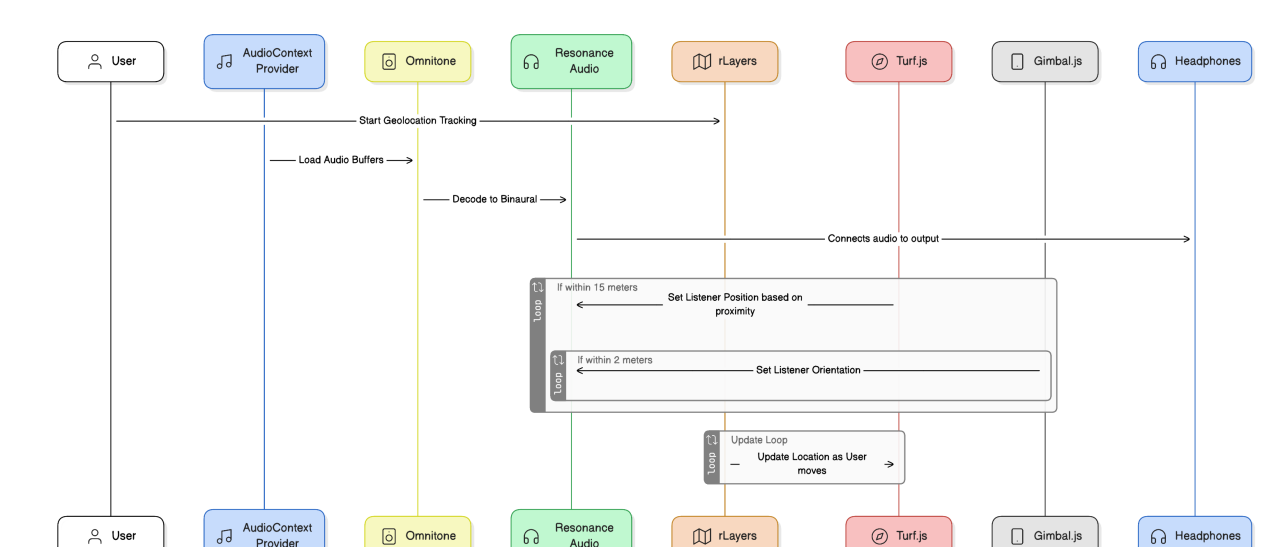


Figure 3: System Components



DAKOTA STATE
UNIVERSITY

Try Resonant Landscapes @ UNIMI →

