



US 20230232177A1

(19) **United States**

(12) **Patent Application Publication**
Mindlin et al.

(10) **Pub. No.: US 2023/0232177 A1**

(43) **Pub. Date: Jul. 20, 2023**

(54) **METHODS AND SYSTEMS FOR SPATIAL
RENDERING OF MULTI-USER VOICE
COMMUNICATION**

(52) **U.S. Cl.**

CPC *H04S 7/303* (2013.01); *H04L 65/403*
(2013.01); *H04L 67/104* (2013.01); *H04L*
63/0853 (2013.01); *G06F 3/0482* (2013.01)

(71) Applicant: **Verizon Patent and Licensing Inc.**,
Basking Ridge, NJ (US)

(57)

ABSTRACT

(72) Inventors: **Samuel Charles Mindlin**, Pittsburgh,
PA (US); **Kunal Jathal**, North Hills,
CA (US); **William Robert Davey**,
Somerville, NJ (US); **Scott David**
Brown, Grayson, GA (US)

An illustrative application executing on a first device establishes a first network connection between the first device and a collaboration platform server managing a set of components for a collaboration platform providing voice communication services with respect to a virtual space. Using the first network connection, the application: 1) sets a first location within the virtual space at which a first voice component is positioned, and 2) determines a second location within the virtual space at which a second voice component is positioned. The application receives, by way of a second network connection between the first and second devices, audio data representing voice communication originating at the second device. Based on the first and second locations, the application generates a spatialized rendering of the audio data for presentation to a user. Corresponding methods and systems are also disclosed.

(21) Appl. No.: **17/576,731**

(22) Filed: **Jan. 14, 2022**

Publication Classification

(51) **Int. Cl.**

H04S 7/00 (2006.01)
H04L 65/403 (2006.01)
H04L 67/104 (2006.01)
H04L 9/40 (2006.01)

