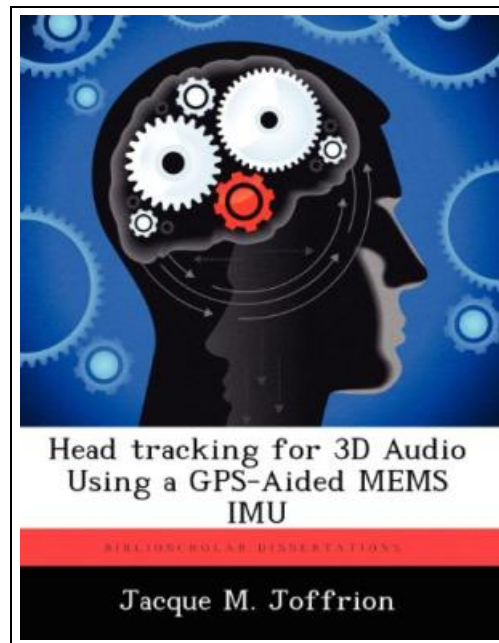


## Head Tracking for 3D Audio Using a GPS-Aided Mems Imu (Paperback)



Filesize: 8.38 MB

### **Reviews**

*I actually started off looking at this pdf. It is one of the most amazing pdf i have got read. Once you begin to read the book, it is extremely difficult to leave it before concluding.*

**(Milford Donnelly)**

**HEAD TRACKING FOR 3D AUDIO USING A GPS-AIDED MEMS IMU (PAPERBACK)****DOWNLOAD**

Biblioscholar, United States, 2012. Paperback. Condition: New. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. Audio systems have been developed which use stereo headphones to project sound in three dimensions. When using these 3D audio systems, audio cues sound like they are originating from a particular direction. There is a desire to apply 3D audio to general aviation applications, such as projecting control tower transmissions in the direction of the tower or providing an audio orientation cue for VFR pilots who find themselves in emergency zero-visibility conditions. 3D audio systems, however, require real-time knowledge of the pilot's head orientation in order to be effective. This research describes the development and testing of a low-cost head tracking system for 3D audio rendering applied in general aviation. The system uses a low-cost MEMS IMU combined with a low-cost, single frequency GPS receiver. Real-time data from both of these systems was sent to a laptop computer where a real-time Kalman filter was implemented in MATLAB to solve for position velocity, and attitude. The attitude information was then sent to a 3D audio system for sound direction rendering. The system was flight tested on board a Raytheon C-12C aircraft. The accuracy of the system was measured by comparing its output to truth data from a high-accuracy post-processed navigation-grade INS/DGPS solution. Results showed that roll and pitch error were accurate to within 1-2 degrees, but that heading error was dependent upon the flight trajectory. During straight-and-level flight, the heading error would drift up to 10-15 degrees because of heading unobservability. However, even with heading error, the ability of a pilot to determine the correct direction of a 3D audio cue was significantly improved when using the developed head tracking system over using the navigation-grade INS/GPS system fixed to the aircraft.

[Read Head Tracking for 3D Audio Using a GPS-Aided Mems Imu \(Paperback\) Online](#)[Download PDF Head Tracking for 3D Audio Using a GPS-Aided Mems Imu \(Paperback\)](#)

## Other Books



### A Parent s Guide to STEM

U.S. News World Report, United States, 2015. Paperback. Book Condition: New. 214 x 149 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.This lively, colorful guidebook provides everything you need to know...

[Download](#) [Book](#)

»



### Mother Stories

Bluewater Publications, United States, 2010. Paperback. Book Condition: New. Sarah Noble-Ives (illustrator). 235 x 191 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.I have endeavored to write, for mothers and dear...

[Download](#) [Book](#)

»



### Index to the Classified Subject Catalogue of the Buffalo Library; The Whole System Being Adopted from the Classification and Subject Index of Mr. Melvil Dewey, with Some Modifications .

Rarebooksclub.com, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.This historic book may have numerous typos and missing text. Purchasers can usually...

[Download](#) [Book](#)

»



### Children s Handwriting Book of Alphabets and Numbers: Over 4,000 Tracing Units for the Beginning Writer

Createspace, United States, 2015. Paperback. Book Condition: New. 254 x 203 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The Children s Handwriting Book of Alphabets and Numbers provides extensive focus on...

[Download](#) [Book](#)

»



### THE Key to My Children Series: Evan s Eyebrows Say Yes

AUTHORHOUSE, United States, 2006. Paperback. Book Condition: New. 274 x 216 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.THE KEY TO MY CHILDREN SERIES: EVAN S EYEBROWS SAY YES is about...

[Download](#) [Book](#)

»

**Nautical Coloring Book: An Advanced Adult Coloring Book of Nautical, Maritime and Seaside Scenes**

Createspace Independent Publishing Platform, United States, 2015. Paperback. Book Condition: New. 254 x 203 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Take your coloring to the next level with this Advanced

[Download](#) [eBook](#)

»

**Programming in D: Tutorial and Reference**

Ali Cehreli, 2015. Paperback. Book Condition: New. 254 x 178 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The main aim of this book is to teach D to readers who are

[Download](#) [eBook](#)

»

**Sea Pictures, Op. 37: Vocal Score**

Petrucchi Library Press, United States, 2013. Paperback. Book Condition: New. 276 x 214 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Composed for the Norfolk and Norwich Festival, Sea Pictures was heard

[Download](#) [eBook](#)

»

**How to Make a Free Website for Kids**

Createspace, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Table of Contents Preface Chapter # 1: Benefits of Having a Website Chapter

[Download](#) [eBook](#)

»

**Two Treatises: The Pearle of the Gospell, and the Pilgrims Profession to Which Is Added a Glasse for Gentlewomen to Dresse Themselves By. by Thomas Taylor Preacher of Gods Word to the Towne of Reding. (1625)**

Proquest, Eebo Editions, United States, 2010. Paperback. Book Condition: New. 246 x 189 mm. Language: English Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.EARLY HISTORY OF RELIGION. Imagine holding history in your hands. Now you

[Download](#) [eBook](#)

»