AALBORG UNIVERSITY COPENHAGEN

Programme: Sound and Music Computing

Semester: 7th

Title: An efficient 3-D sound experience for mobile application

Project Period: 4 months (September 2015 – December 2015)

Year: 2015

Semester Theme: Foundations of Sound and Music Computing

Supervisor(s): Stefania Serafin

Project group no.: 3
Members:
Lars Frederic Johannes Schalkwijk
Andrea Corcuera Marruffo
Mattia Paterna
Jose Luis Diez Antich
Nikolaj Røssell Kynde
Matteo Girardi

Copies: 3
Pages: 14
Finished:

Aalborg University Copenhagen
A.C. Meyers Vænge
2450 København SV, Denmark

Semester Coordinator: Stefania Serafin

Secretary: Judi Stærk Polsen

Abstract:

The computational power of mobile devices has highly increased in the last few years and nowadays almost every device is equipped with a Global Positioning System (GPS) and compass sensor. These facilities opens up possibilities to enhance the user experience in daily life. In this paper an application for mobile devices that uses an efficient head related transfer function (HRTF) model to create 3-D soundscapes is presented. In a small experiment the developed 3-D audio engine is compared with a cosine panner model [1] in terms of quality and efficiency of the navigational cues. Although the experiment did not reveal significant differences between the two models a critical observation of this study supports that a more sophisticated 3-D audio engine can increase the user experience in audio navigation.