***Reduzierung von Quellen***

Paper1

Strategies of the efficient…..

**Giriş**

Models based on 1)Image Source Method 2)Ray tracing algorithm

The typical auralization process

1)Simulation of the propagation paths

2)A binaural filter synthesis

3)Convolution with an anechoic sounds source file.

For each source >>>> workload will increase

For same auditory impression for the listener >>> a clustering method similar to the Tsingos

APPROACH1: Closely spaced source sources by a single representative sources by taking advantage of spectral masking.

APPROACH2: ANALYSİS EFFECTS OF CLUSTERİNG AND REMOVİNG LESS SALİENT SOURCES

AIM >>>> reducing the number of propagation paths which have to be calculated during the update of process of virtual scene.

The represented algorithm creates sound sources clusters and culls inaudible(duyulamaz)

Sources based on geometrical and psychoacoustical properties.

Clustering intensity ayarlanabilir.

**CONCEPT**

5 taneden fazla source sound varsa bu deneyse complez scene oldugu farz edılıyor.

**Scene Simplification :** bu reducing sound source positions ya da propagation pathslerine verilen isim.

Bu işlemin structure lanmasında 5 tane alt işlem bulunmakta.

**1)Scene analysis** : The current scene is analyzied and relevant data for the following steps is processed. Includes positions and orientations of source and receiever abd the type of the scene and the types of the signals assigned to the sound sources.Burda aynı zamanda ana ses ve arkadan olan sesler de categorize ediliyor.

**2)Prioritization of sound resources :** a priority level calculated for each sound source, position of the sound source relative to the receiver which is used to calculate the expected localization accuracy for the relative positions. Using these values as well as the sound pressure level(?) based on distance sound apower level and source directivity.

Bunlaar yani importance of a sound source regarding the auditory perception of the scene belli oldugu an sonraki steplere gecebiliriz.

Bu ikisinin genel amacı rudicing the number of sound propagation oaths of the virtual scene.

Bunların clustiringine göre A NEW SET OF SOURCE POSİTİONS is genereated and composed of the cluster reprentatives.

**3)Sound source culling**

**4)Sound source clustering**

**5)Calculation of representative positions** bu ve geri kalan clustered ve culled olmayan sourcelar --------Simulation of sound paths------

Her seferinde scene değiştirince mesela bi soruce 20 cm oynarsa falan bu process tekrar yapılır.

COMPUTATİONAL OPERATİONS minimum levelda olmalı!!!!!!!!

**SOURCE CULLİNG , DİĞER KISIM**

Clusteringten önce, *a simple sound source culling* yapılır. Bu da 1)calculating the sound pressure levels at the reciver position based on their distance , the source directivity and their source powerına göre. .

For indoor scenarios >>>> an average **reverberation a** bakılır. Bu durumda a sound pressure level of the diffuse sound field normal field level a eklenebilir.

Threshold for culling can be absolute mesela current ve loudest arasındaki max. farka göre falan

**SOURCE CLUSTERİNG**

Tsingosr ***adaptive positional clustering.***

***Step 1 2 genel olarak processed data about the scene, geometrical information ve relative positions ve orientations as well as a prioritized list of sound sources for the cluster processsi veriyor.!!!!!!!***

***PAPER2 – Perceptual Audio Rendering of Complex Virtual Enviroments***

Auditory culling and spatial level of detail amacı : can handle more sources avaible on consumer of 3D audio hardware with minimal decrease in quality. For both indoor and outdoor enviroments.

***>>> Dynamically eliminating inaudibl(unverstandlich)e sources and group the remaining audible sources into a budget number of clusters.***

***Her cluster yalancı bir sound source olarak represented ediliyor . positioned using perceptuall criteria.***

***Böylece spatial audio processing bir tane yalancı imposter ın üzerine yapılır ve computationalcos düşülür.***

Başlangıc …

Spatialized audio >>> producing realistic virtual environment

Onceden yapılmıs high quality spatialized audio rendering te pre recorded sample lar heavy signal processing gerektiriyor. Rendering of source directivity patterns .

Bu algoritmanın özellikleri

A dynamic sorting and culling algoritm and spatial clustering technique for 3D sounds

1)reducing the number of sources tor ender

2)amortizing SÖNDÜRMEK)costly spatial audio processing over groups of sources

3)leveraging current commodity audio hardware for complex auditory simulations

Rendering i optimize edebilmek için bi a pripri knowledge varmış gibi hareket ediyoruz.

Bu bilgiden dolayı evriromentteki sourceların perceptual salacieny sini tahmin ediyoruz ve bu saliency(CIKINTI) metric CULLİNG VE CLUSTERİNG ALGORİTMALARINI BELİRLİYOR.

AUDİO CODİNG AND SOUND MASKİNG? ÖĞREN

Seslerin hepsi masking sebebi ile represente edilebmiyor .

DEFİNİTİON: Auditory masking occurs when the perception of one sound is affected by the presence of another sound.