

UrbanSync

Stephan Baumann

Competence Center Computational Culture (C4)

German Research Center for AI (DFKI)



UrbanSync

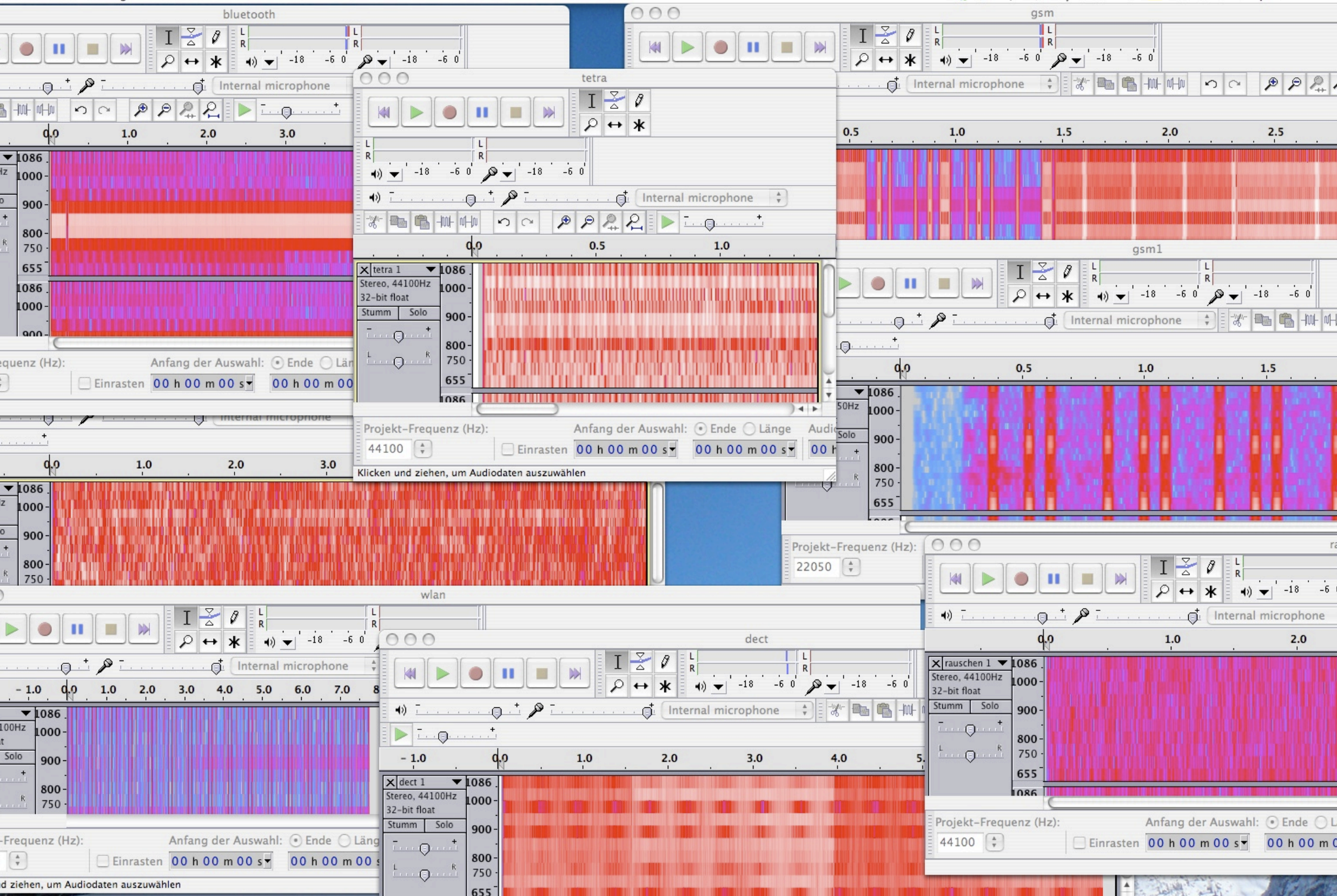
Short Term Scientific Mission: 6th - 26th, October 2008

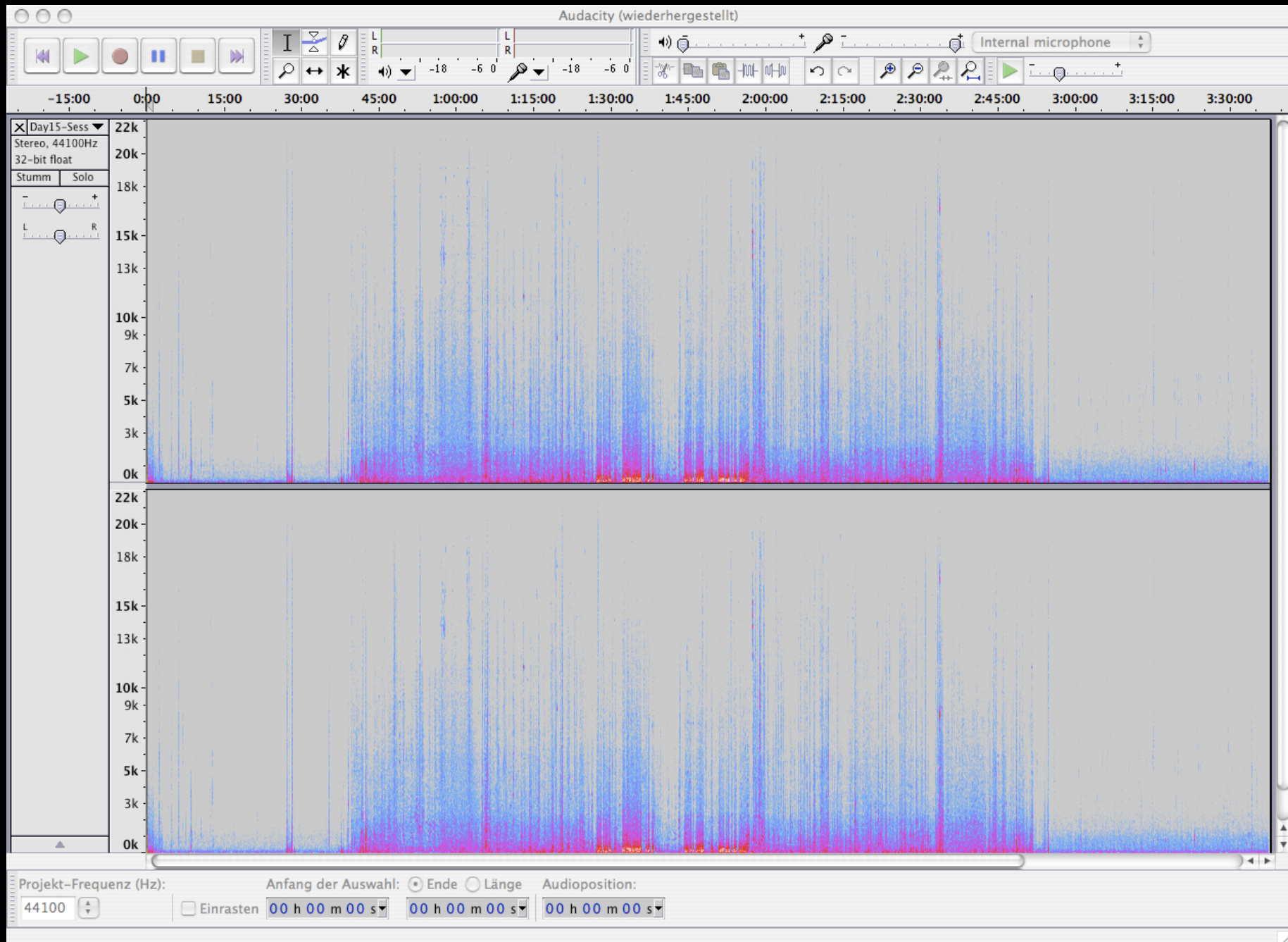
Supported by: EU COST Action SID

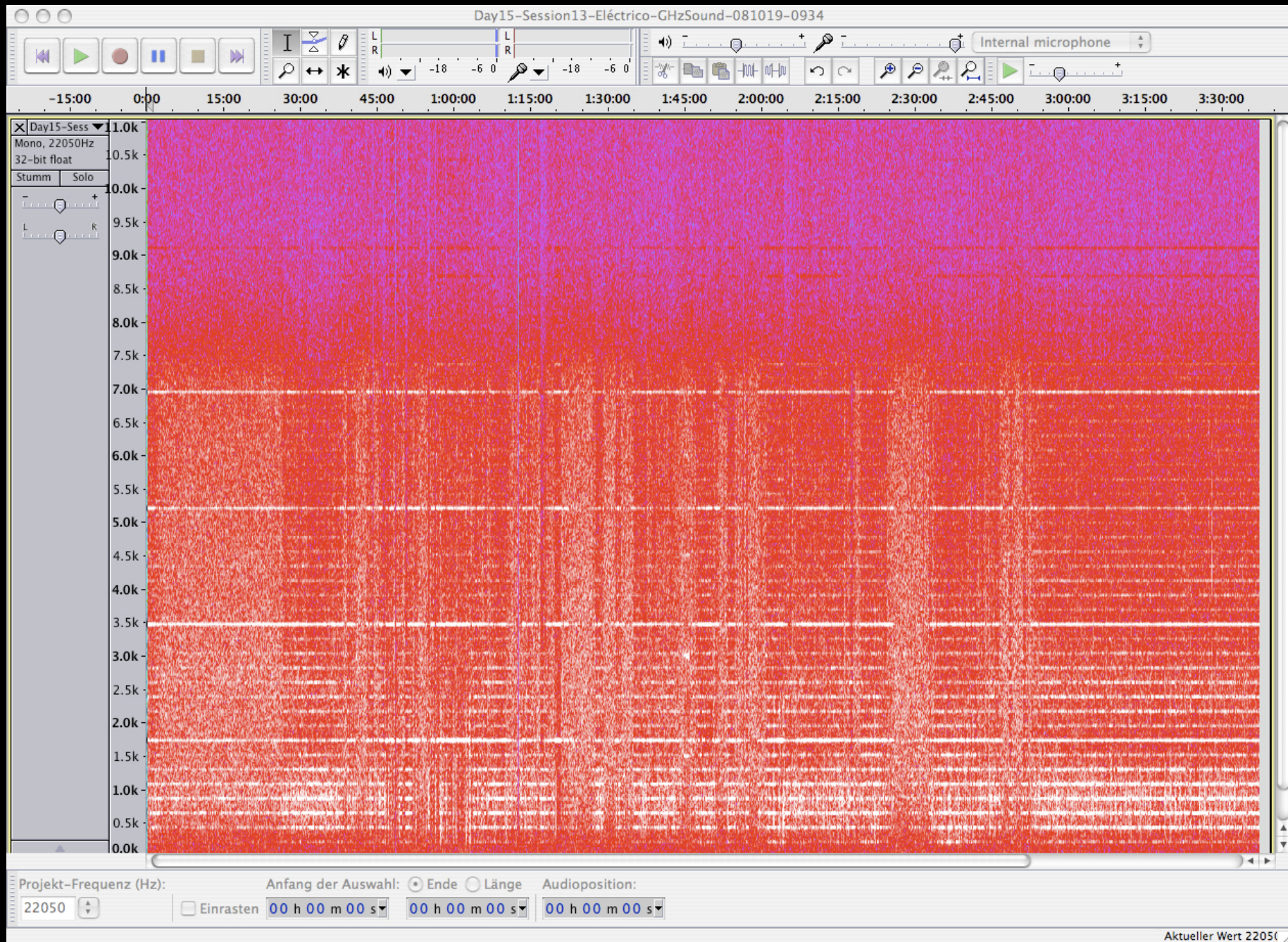
Host institution: INESC Porto / F.Gouyon

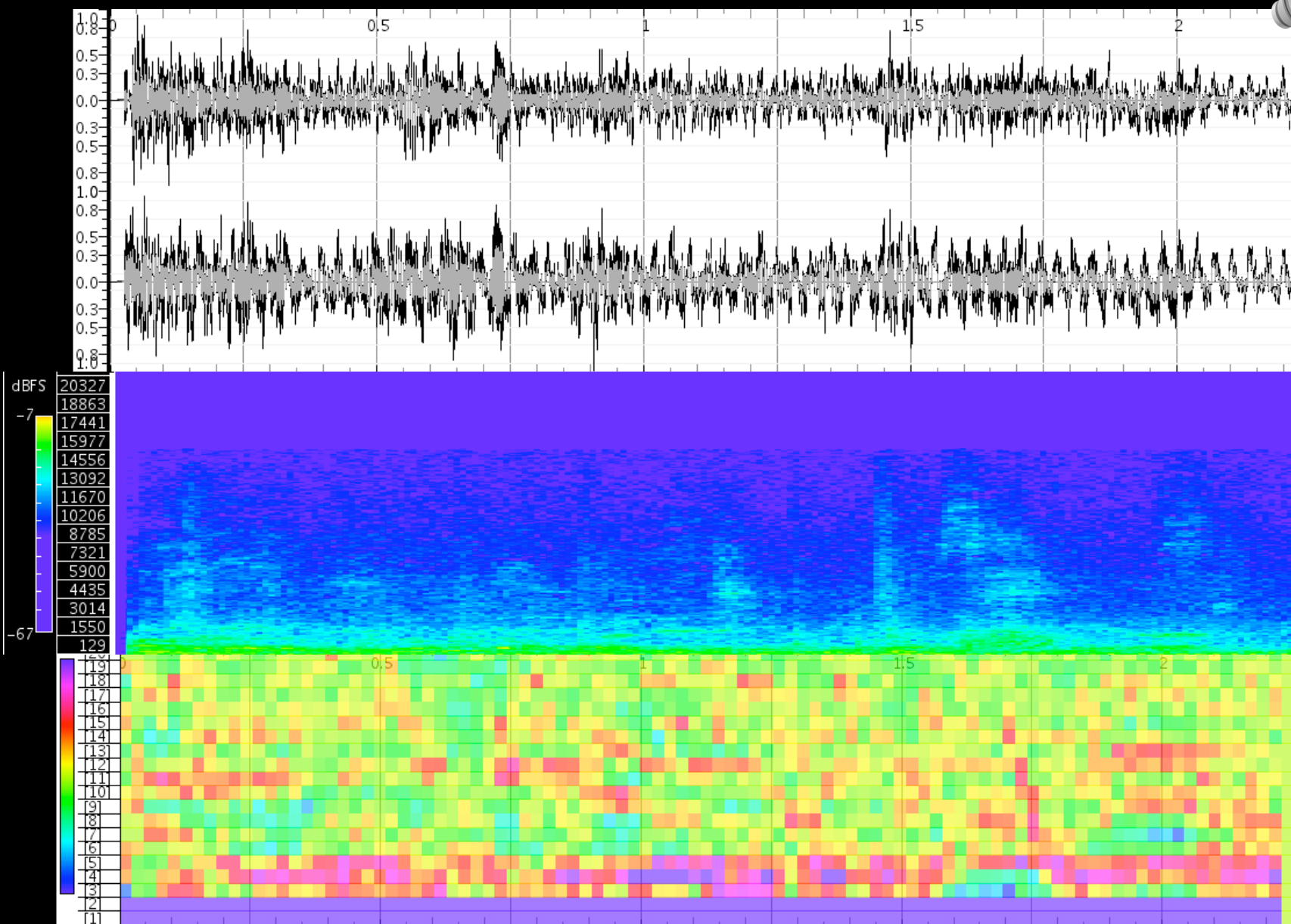






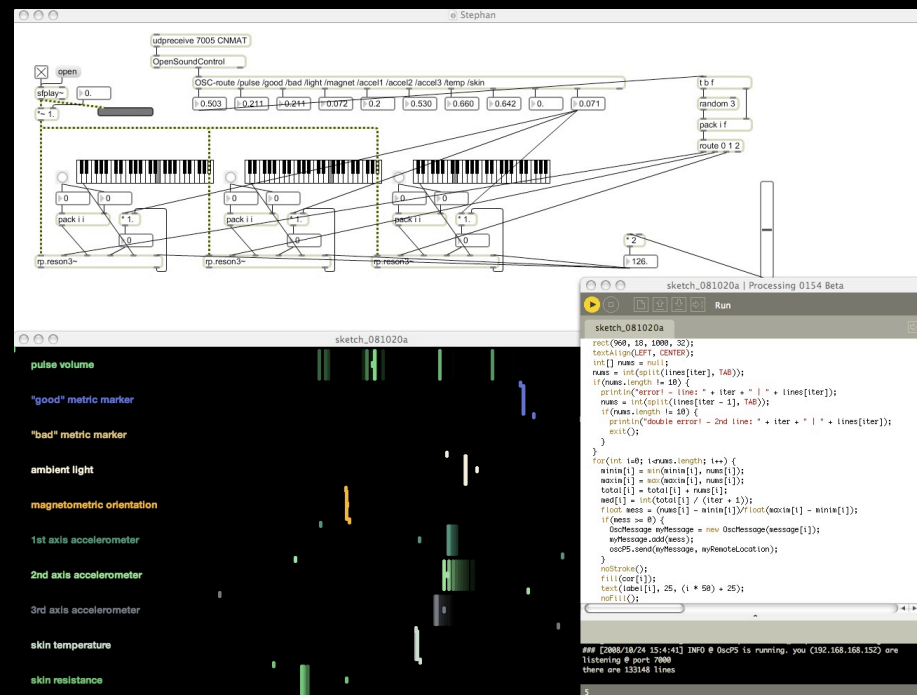






932	731	815	665	477	605	663	552	578	979
483	731	816	682	477	606	658	553	578	978
613	731	815	682	475	604	658	557	577	979
552	731	816	682	477	605	656	562	578	978
553	731	816	683	477	607	648	559	578	978
594	731	815	683	476	610	650	554	577	978
522	732	816	683	475	608	651	550	578	978
514	731	815	683	477	609	659	550	577	978
494	732	815	683	477	606	660	551	577	978
511	731	816	683	476	605	657	548	578	978
450	731	815	683	477					
539	731	815	682	476					
552	731	816	682	476					
544	730	815	684	476					
573	731	815	684	476					
594	732	815	686	476					
535	731	816	684	477					
464	731	815	684	477					
482	731	815	684	477					
481	731	816	684	477	604	652	524	578	978

Biosound





Buildings © 2008 3D Cities SA
Image © 2008 DigitalGlobe

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„First Place“



„Second Place“



„Third Place“



BARCELONA

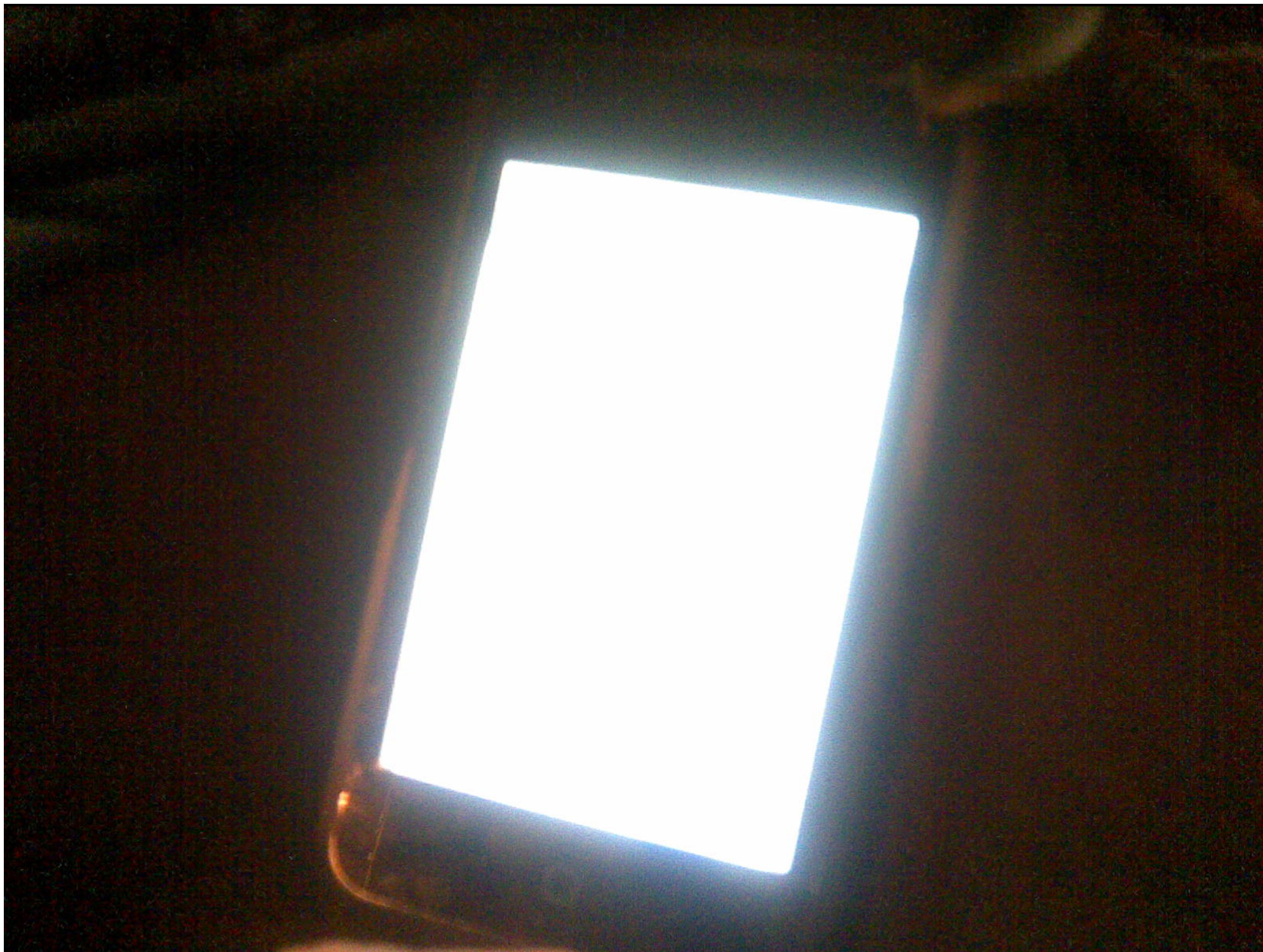
SORTIDA D'EMERGENCIA

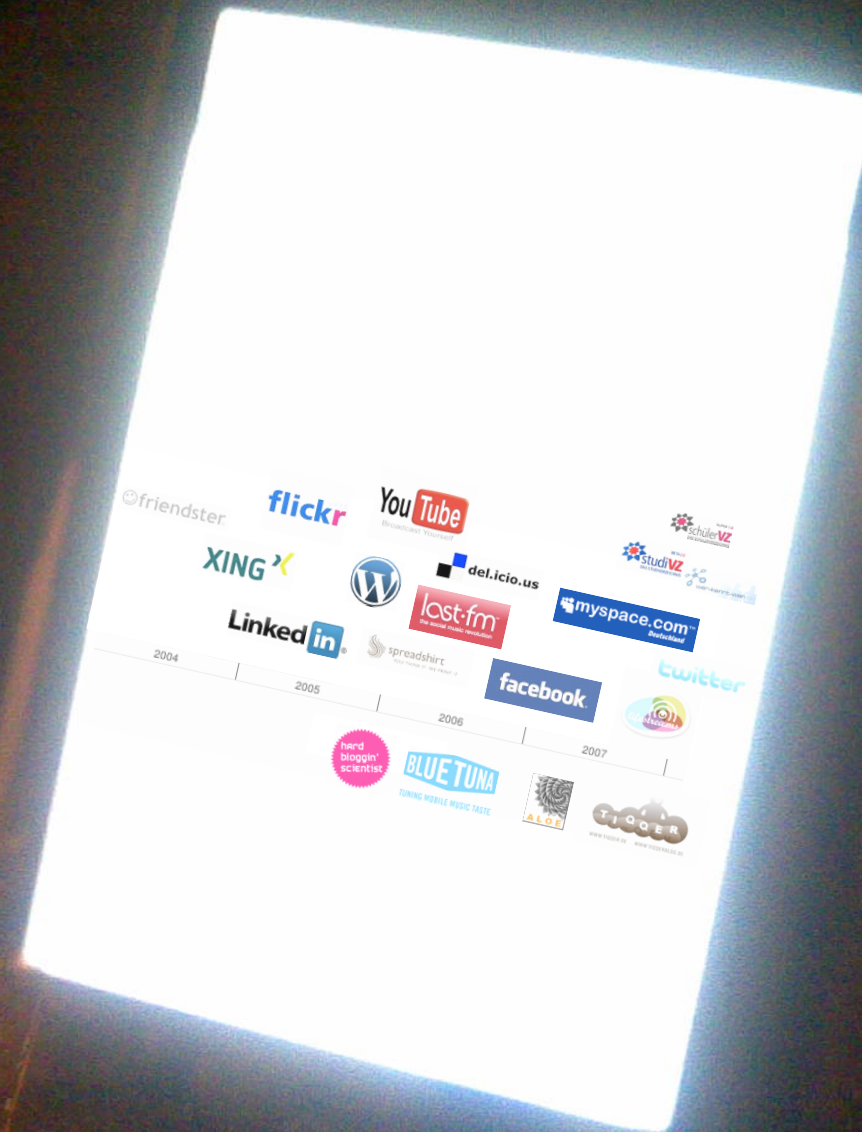






Digitale Medien & „Third Place“





„Augmented Third Place“



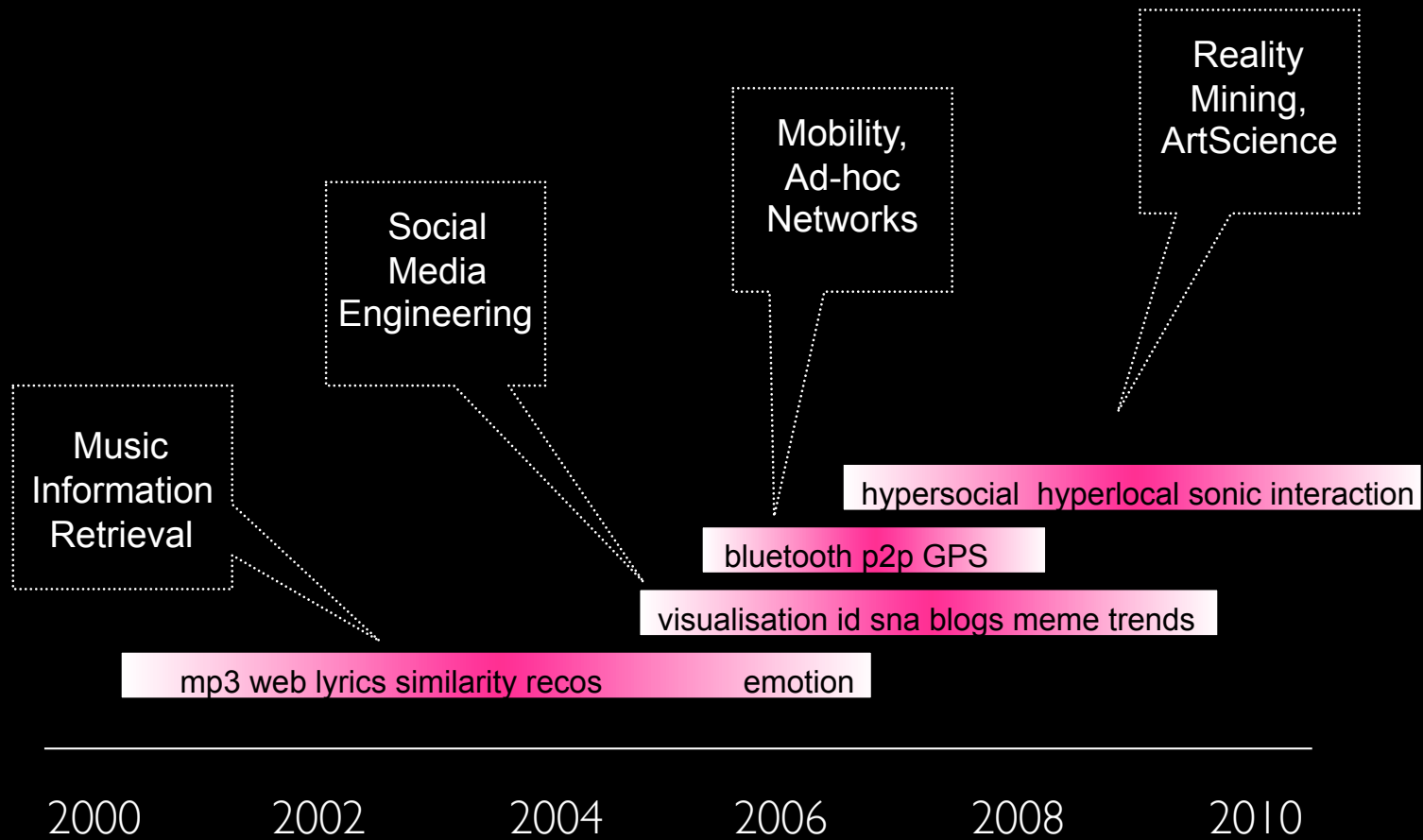


Fragestellung
Korreliert die
subjektiv empfundene
emotionale Qualität
des „Augmented Third place“
mit Urbanen Signalen?

Antwort

Wir arbeiten daran...

Interdisziplinärer wissenschaftlicher Ansatz



PROJECTS MPeer, Smartweb, Amplog, Mace, Umir, iGreen, XING-consult, UrbanSync, SMM

PROTOTYPEs Mymo, BluetunA, CatchMelfYouCan, WhoAml, Aloe, C-Link, jGooseMe, Openeer, Captchr

GHz scanner

5,15 GHz - 5,725 GHz(WiFi)

2,4 GHz - 2,4835 GHz(WiFi)

2,402 GHz and 2,480 GHz (BT)

1.920,3 - 2.169,7MHz(UMTS)

860-960 MHz (GSM)

puls volume sensor

metric marker button 1

metric marker button 2

ambient light intensity sensor

magnetometric orientation

tri-axial accelerometer

skin temperature

skin resistance

custom voice recorder

sonified GHz activities

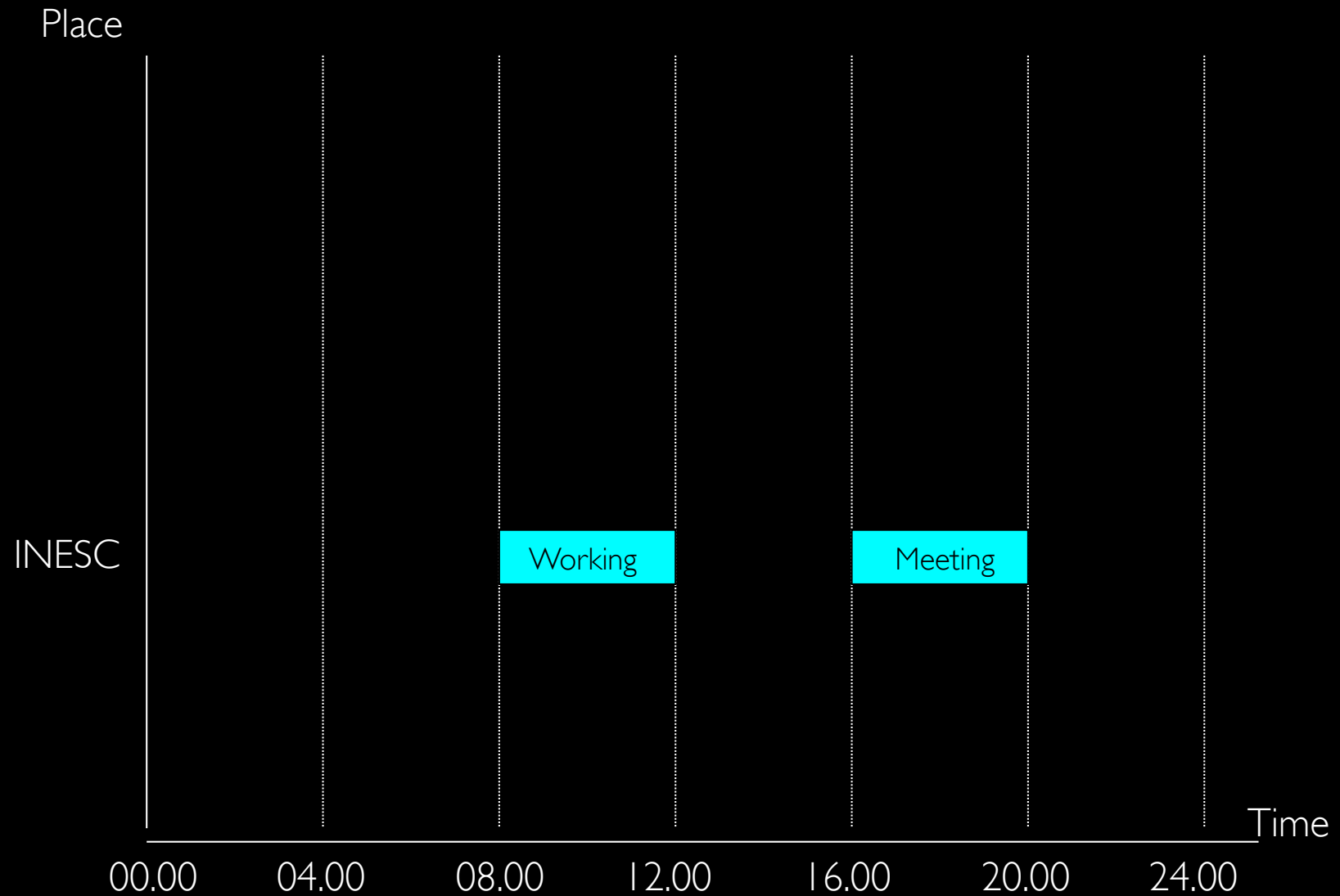
urban sound / CD quality

locative data

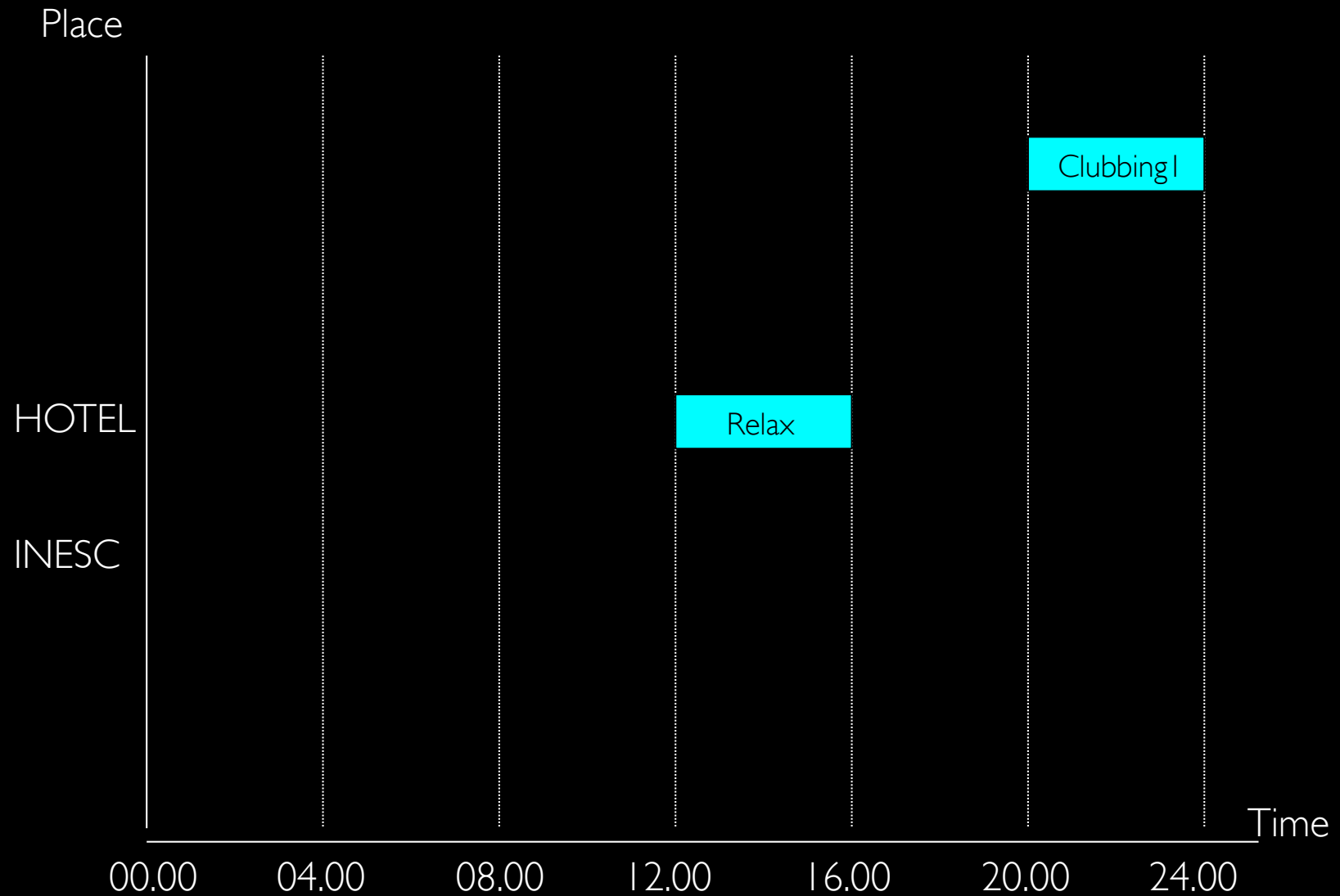




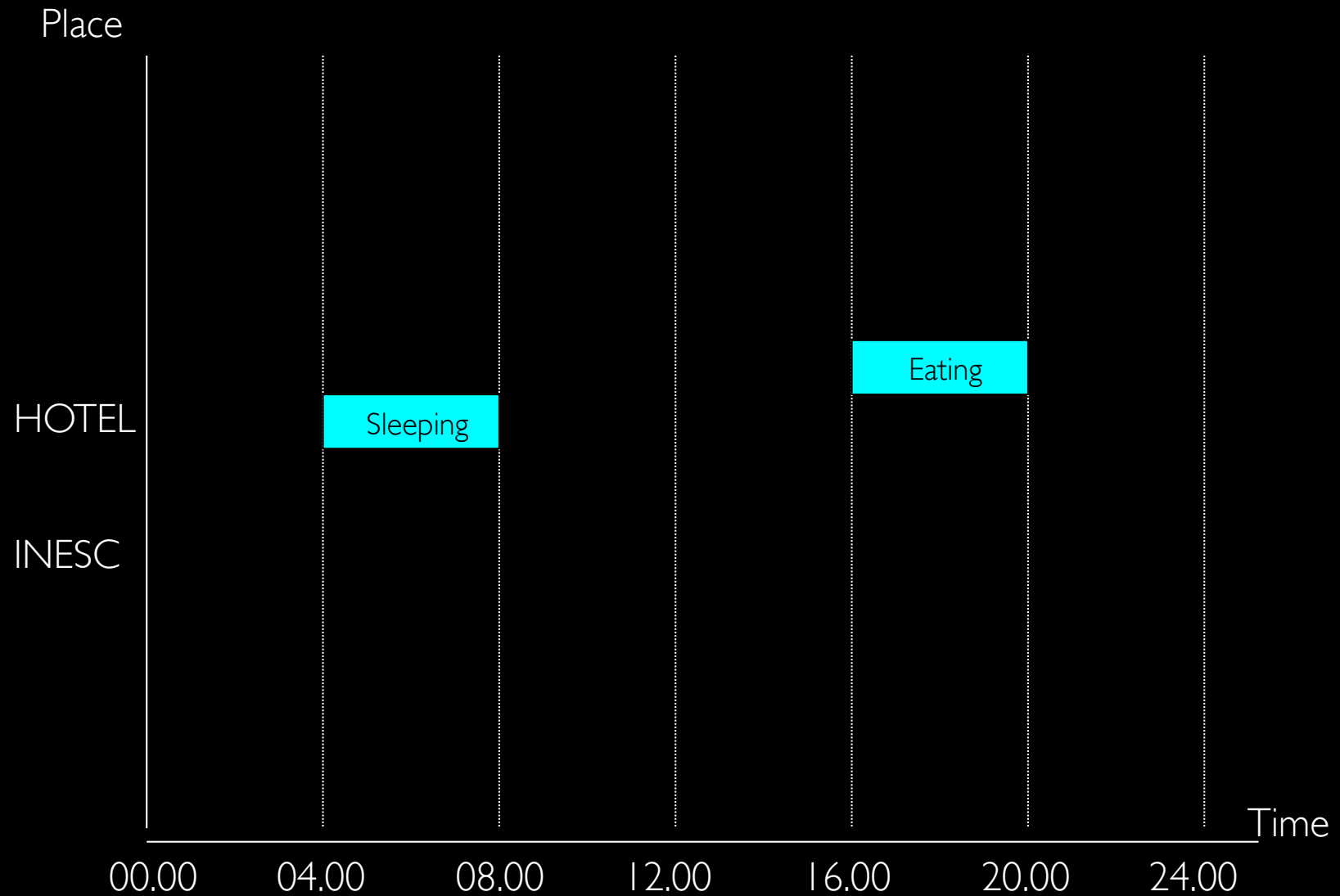
Porto Stories: „Mein Leben in Zeitscheiben“



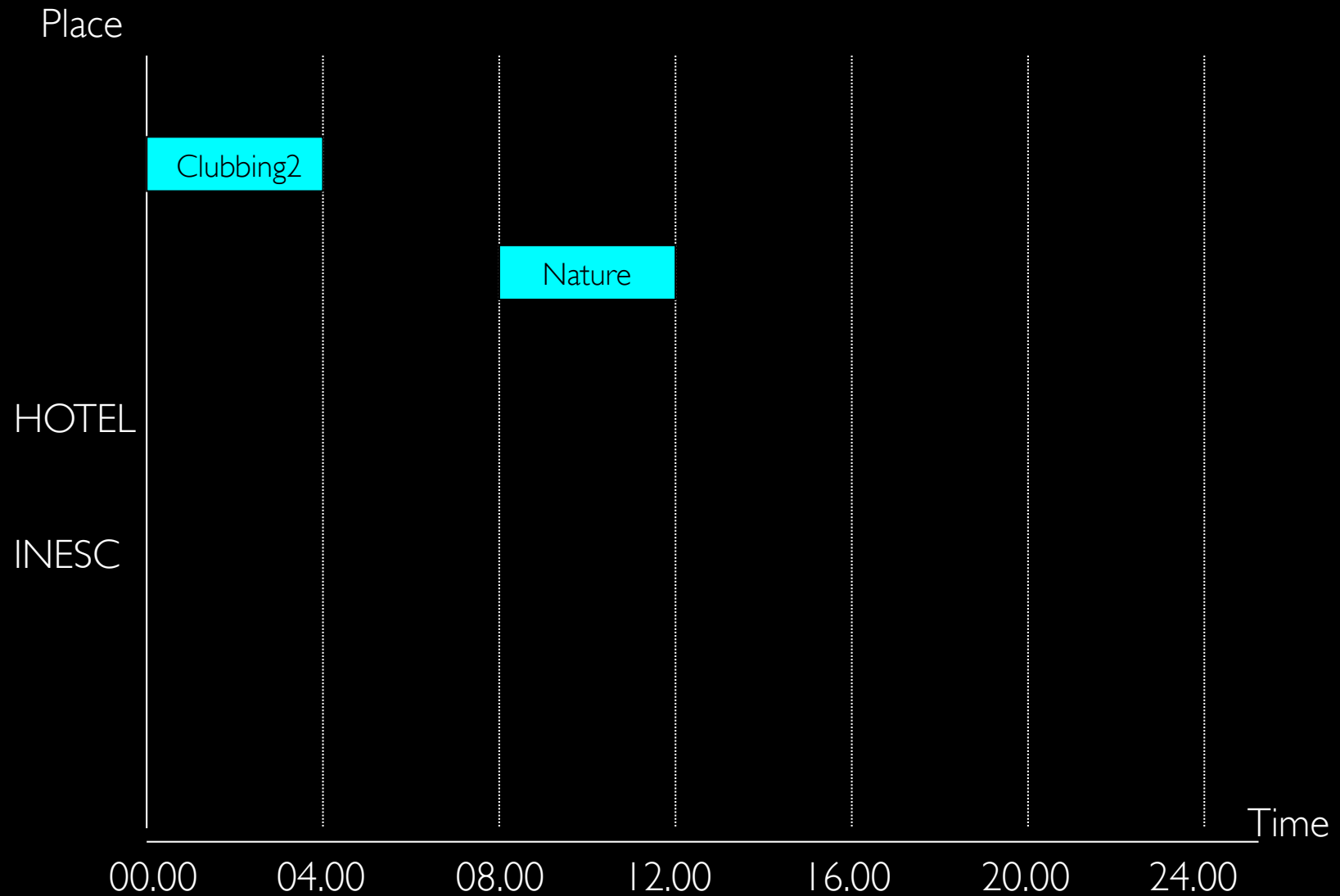
Porto Stories: „Mein Leben in Zeitscheiben“



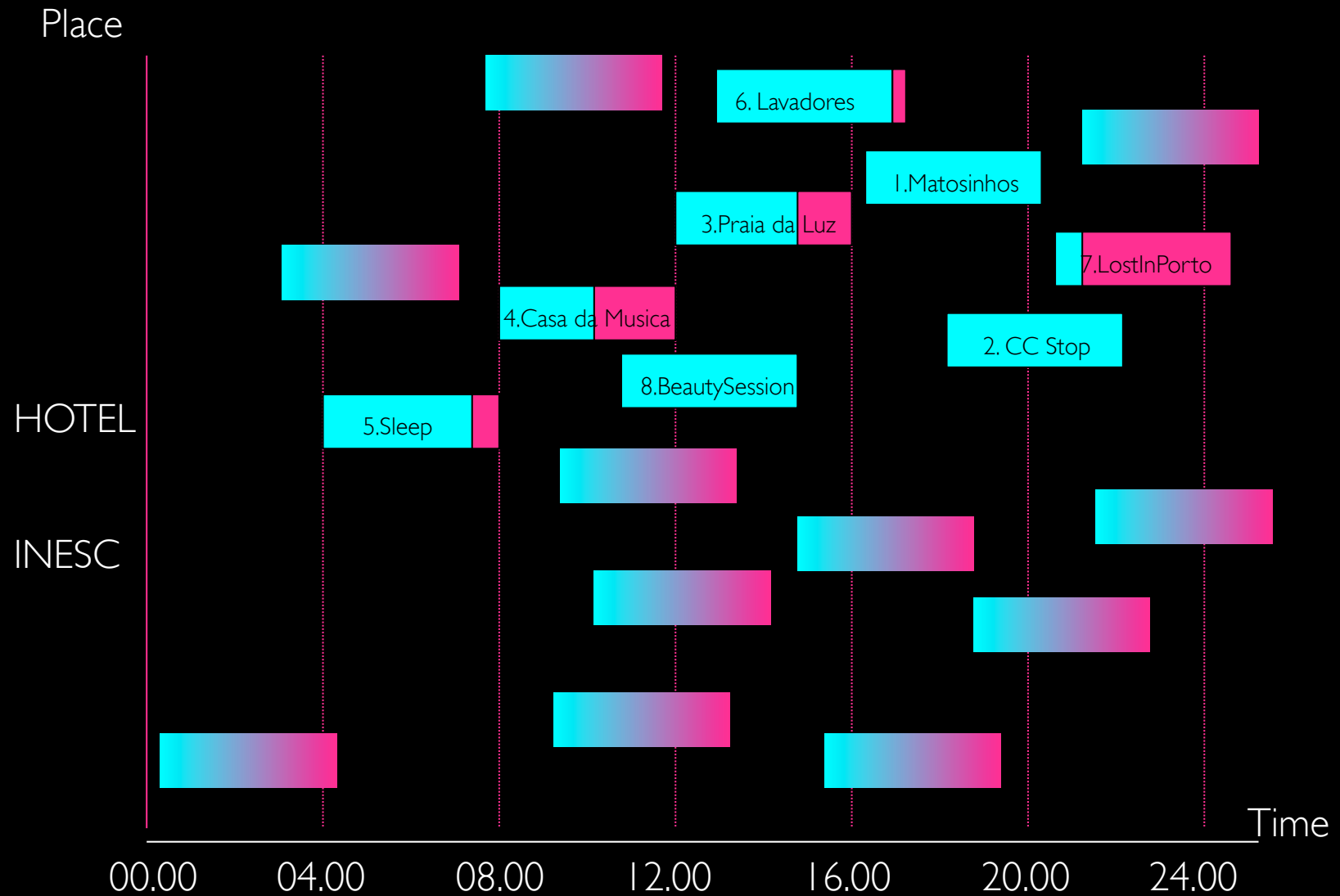
Porto Stories: „Mein Leben in Zeitscheiben“



Porto Stories: „Mein Leben in Zeitscheiben“



Porto Stories: 19 Sessions, ca. 45 Stunden

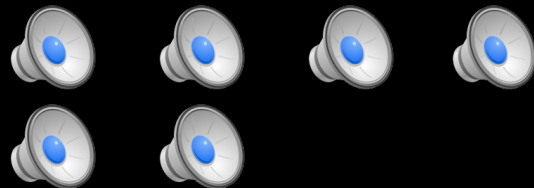




I. Klangraum Stadt

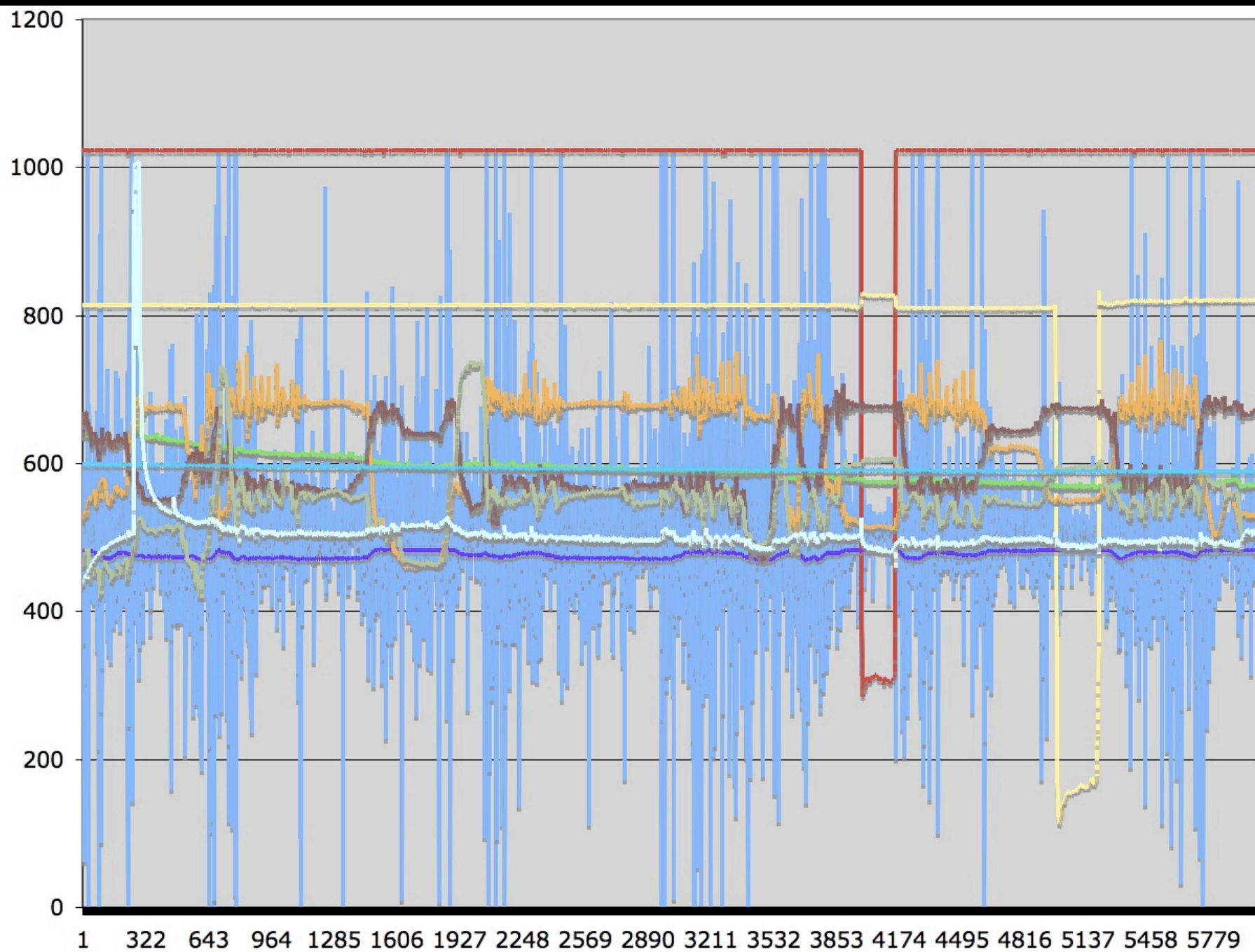


2. GHz Klangraum

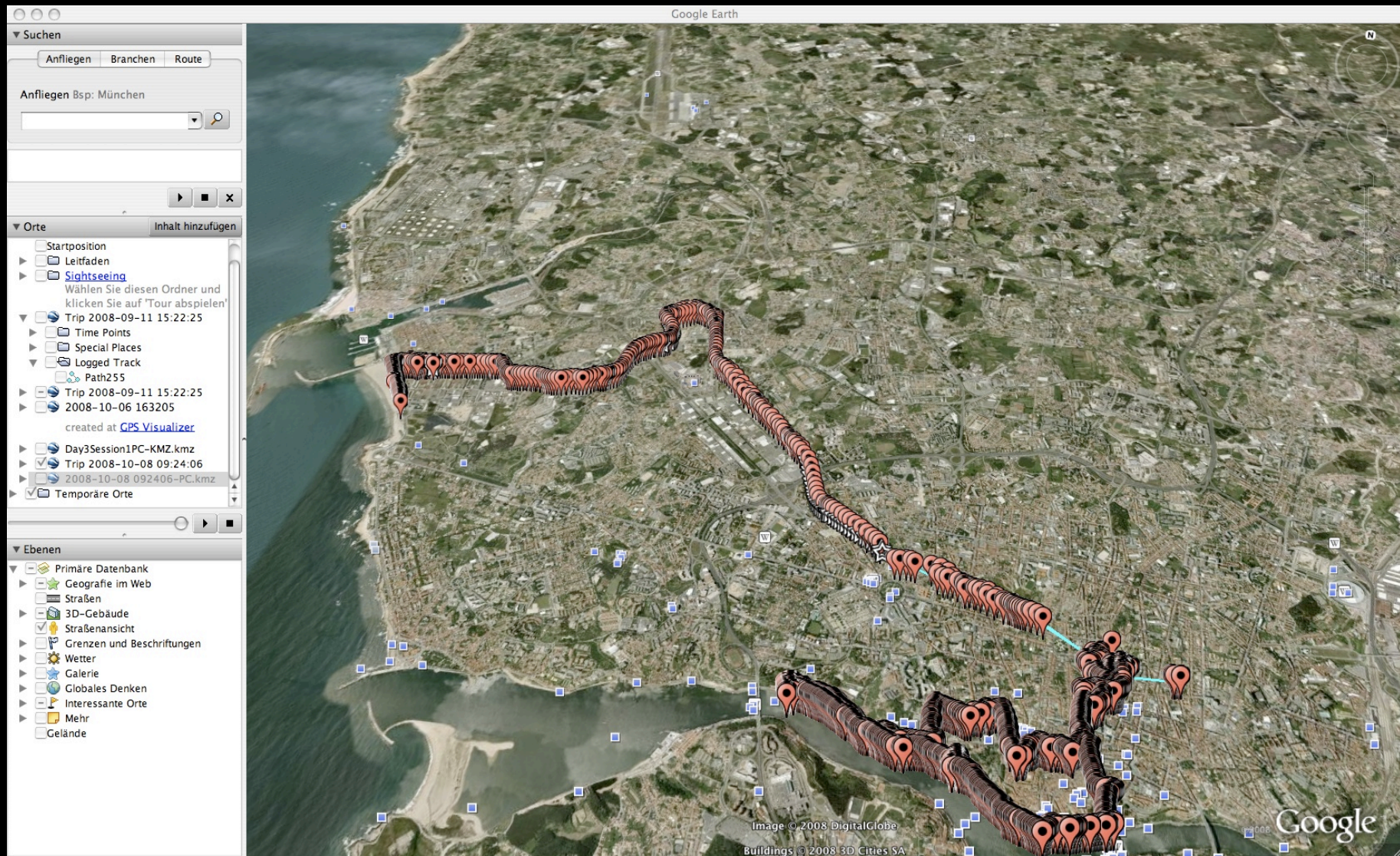




3. Physiologische Daten



4. Ortsdaten / GPS

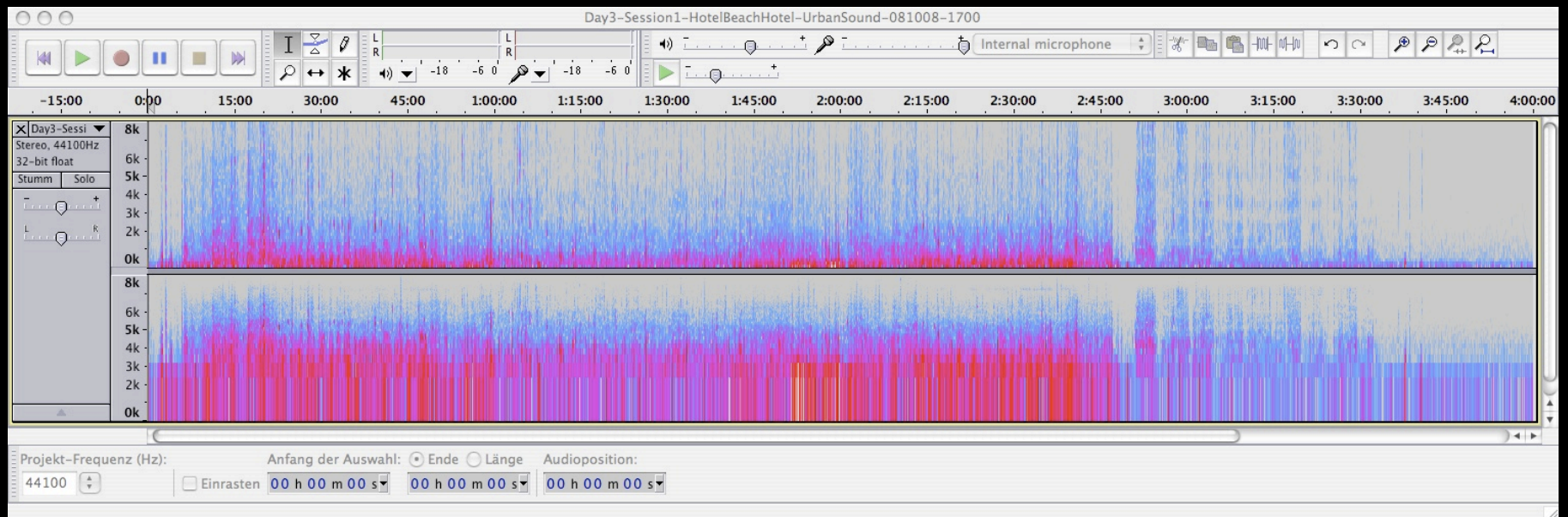
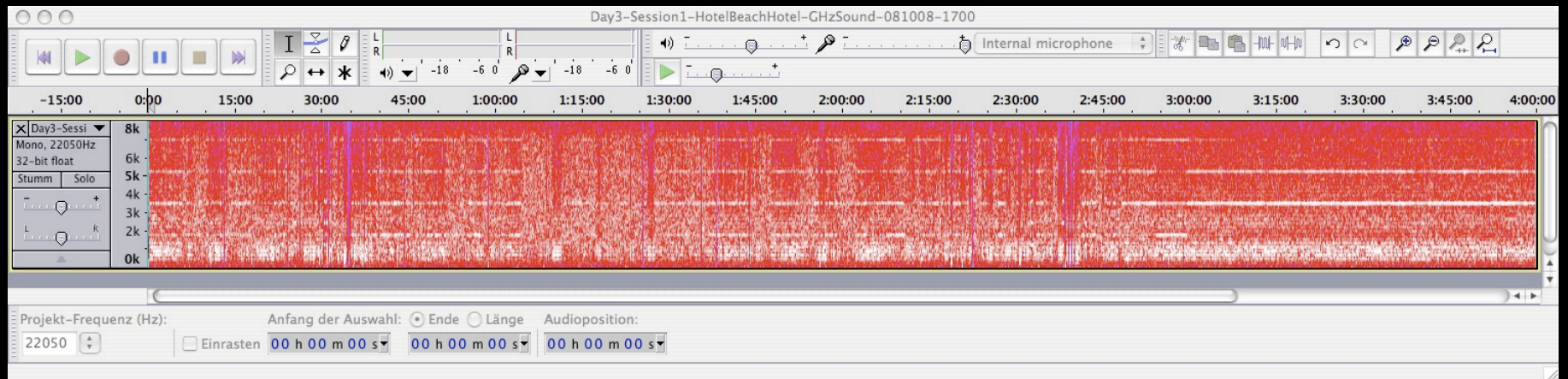


Open Source Software

Sonifikation

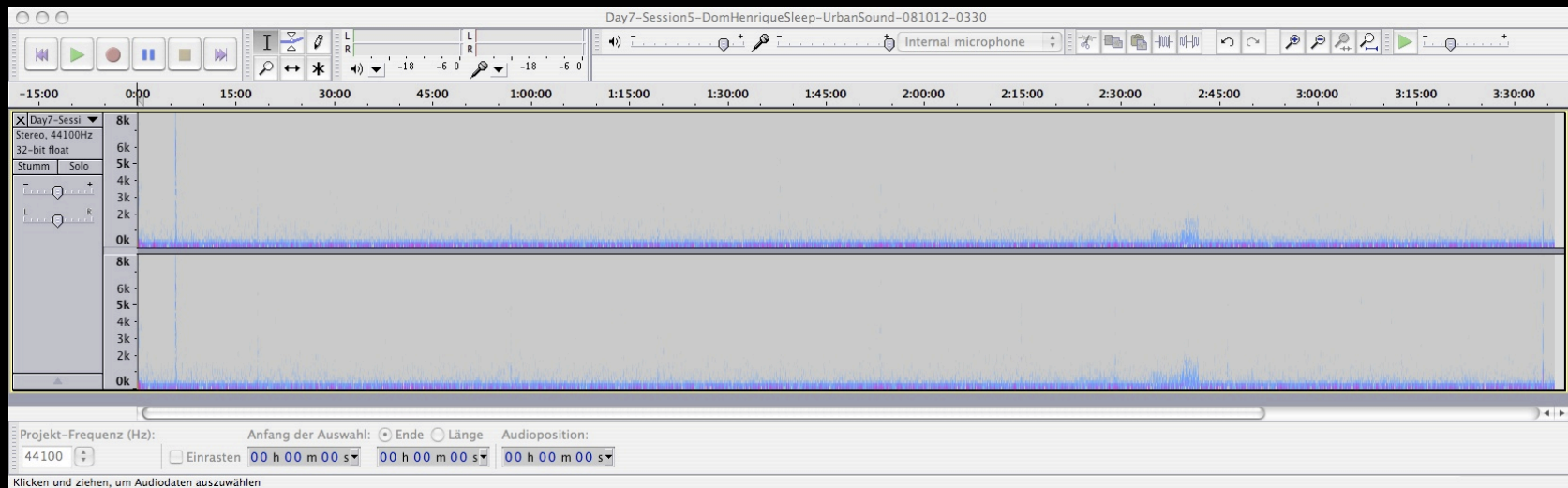
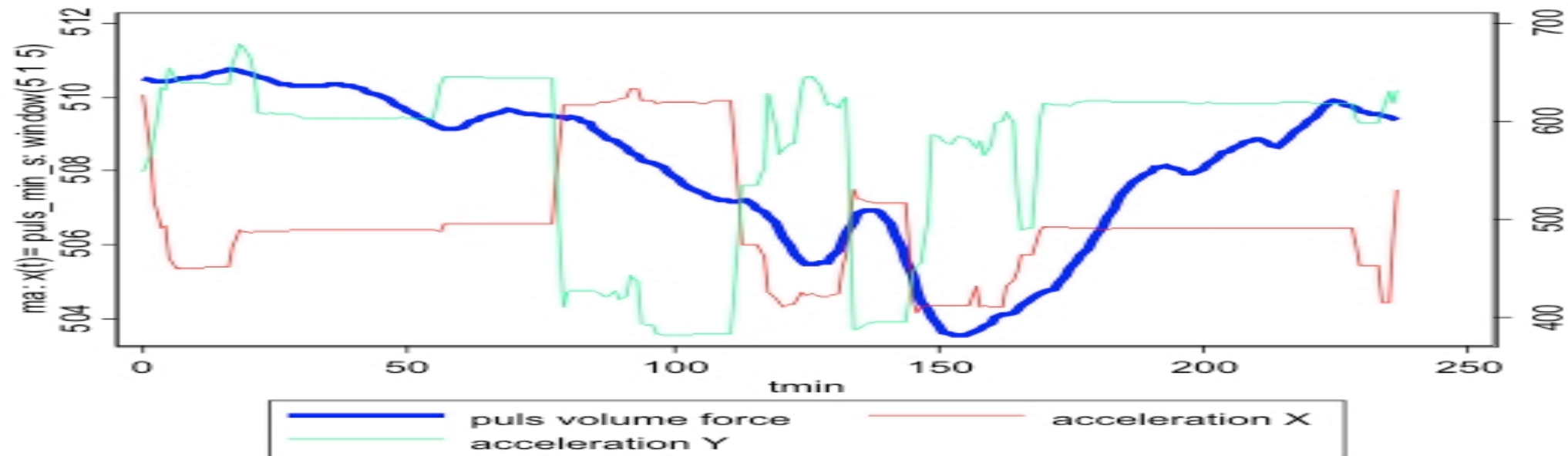
Visualisierung

Data Mining



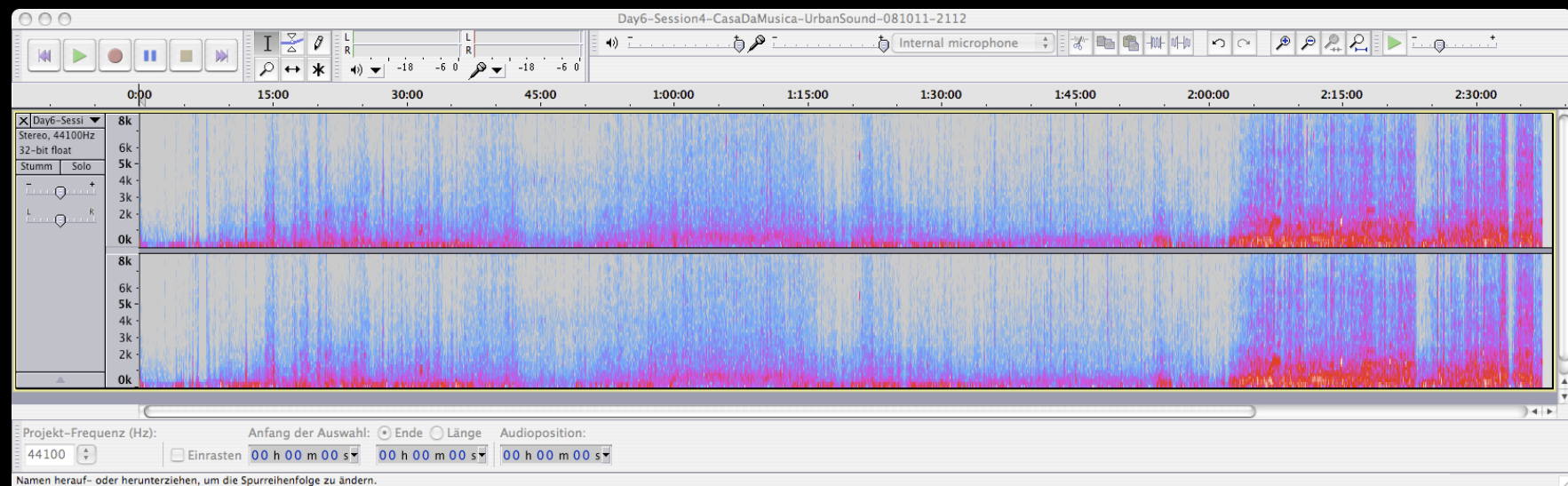
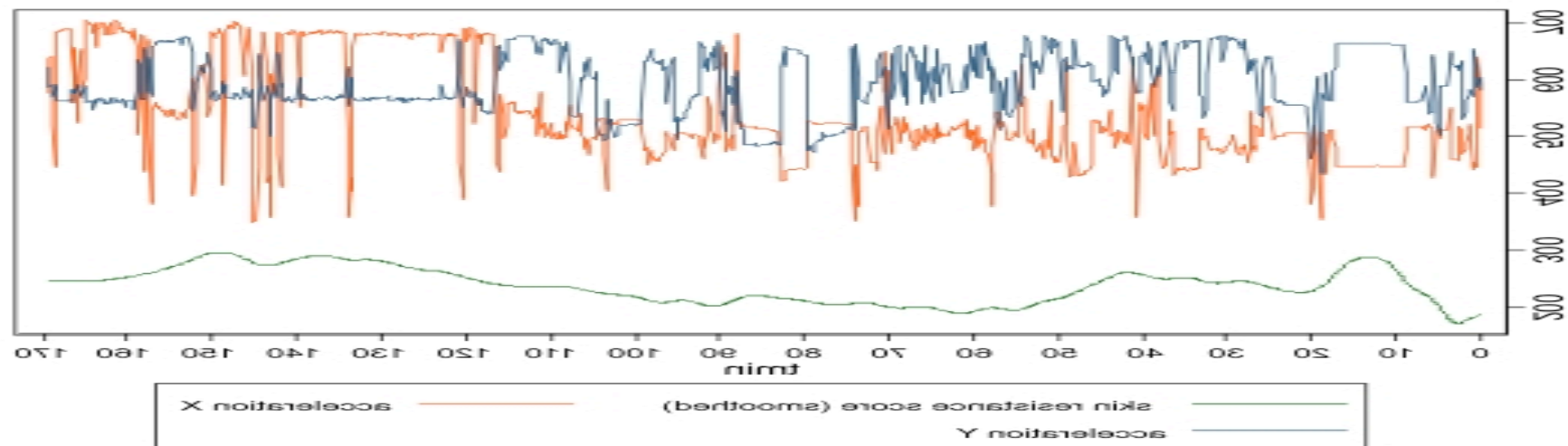
Porto Stories: Session#5

SLEEP



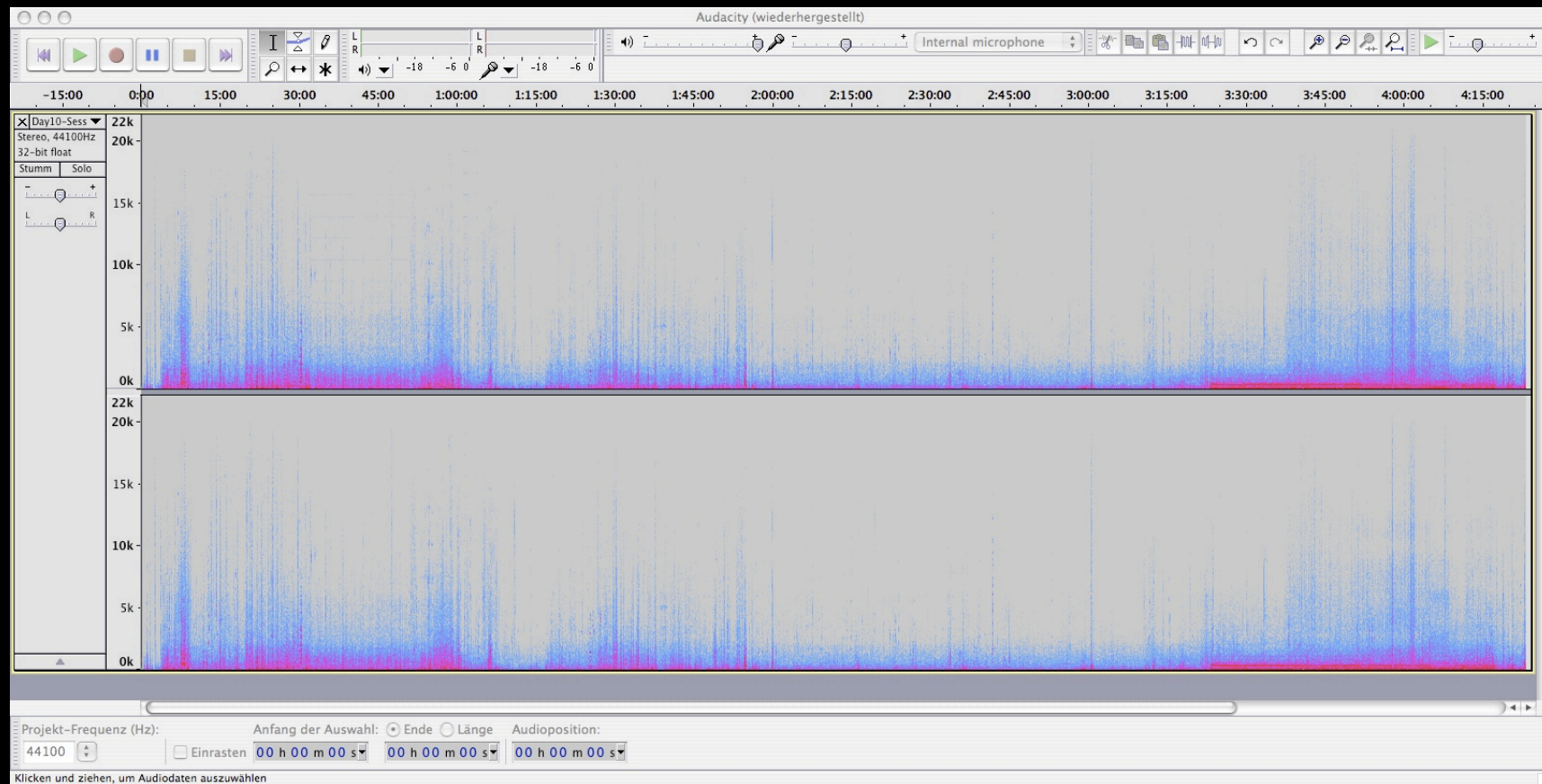
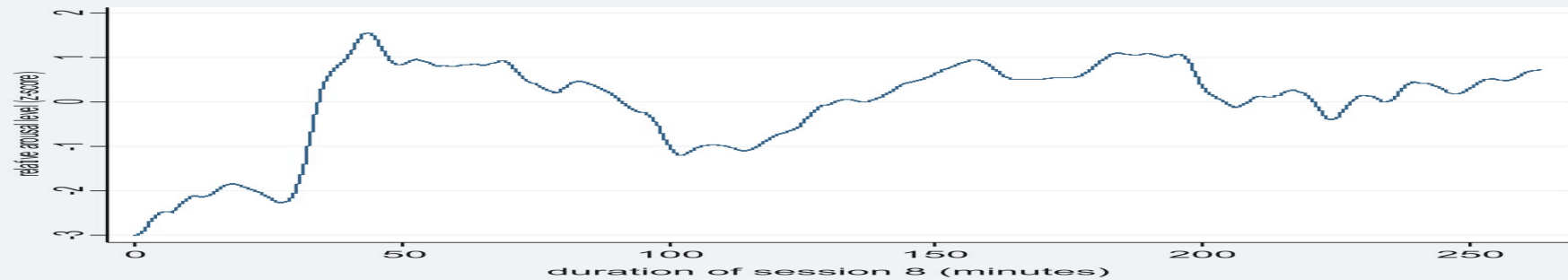
Porto Stories: Session#6

CASA DA MÚSICA



Porto Stories: Session#8

BEAUTY SESSION



Probleme

- Kapazität der Batterien <<< Zoom H2
- Formatierungen von SD Cards <<< Zoom H2
- Allergische Reaktionen <<< Sensor Armband
- Hochvolumiger Datentransfer <<< iBlue747 GPS Datalogger
- Validitätsüberprüfung + Backups (externe Festplatte + DVDs)
 - >>> Zeitbedarf = 0.5 x Zeitbedarf zur Datenerfassung
- Soziale Faktoren
 - >>> „I feel sometimes like an (unwanted) intruder/alien“

Science 2.0 !

People

Crowdsourcing

Blog als Publikationsmedium

Open Content

Open Access / Download

Urbansync's Weblog

Reality Tagging / Found Sounds / Artscience

Download

without comments

This page contains the description about the usage of the data gathered on my different trips to Europe.

License: The data is licensed under Creative Commons license: Attribution-Non Commercial-ShareAlike.



Open Reality Data Stream: You find 4 different data streams for each of the individual sessions belonging to different cities:

- GPS in (kmz, gpx, CSV)
- Urban Sound as digital audio (mp3)
- Physiological data and context (CSV)
- Sonified Esmog data as digital audio (mp3)

Technical details and synchronization: The session pages contain GPS data in kmz, the Urban Sound was recorded in CD quality but is offered for practical reasons in 128kbps MP3. The GHz sound is offered in 64kbps. The physiological data was captured at 50Hz rate, please remind this when aligning the 4 data streams. Synchronization was achieved by starting the recording of GPS and Urban Sound simultaneously. If you check the audio file you hear me counting in the start of the recording of the physiological data ("3 2 1 bio") and the GHz recording ("3 2 1 Giga"). For precise data mining about correlations between the different data streams you have to take according offsets into account.

The physiological and context data: It contains 10 different sensor values, organized as:

"pulse volume", "good metric marker", "bad metric marker", "ambient light", "magnetometric orientation", "1st axis accelerometer", "2nd axis accelerometer", "3rd axis accelerometer", "skin temperature", "skin resistance".

Blog Stats

4,568 hits

Pages

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Beauty Session – Mercado do Bolhão/Ribeira/Douro

Casa da Música

CC Stop

Eléctrico

Estadio Dragao

Final walk at the beach

Long Sleep – Dom Henrique

Lost in Porto

Matosinhos

[Norte Shopping](#)

Portugués

Praia da Luz

Praia dos Lavadores

Professional

Rehearsal CC Stop

Saudade

Serravalles

Short Sleep – Dom Henrique

Taxi

Urbansync's Weblog

http://urbansync.wordpress.com/

RSS

Google

the selby - ... FeedBurner WebUrbanist (1) tiqqr The Echo Nest Our (and Your) RISD (1) beamtenherrschaft (8) Tokyotronic my understanding Read/WriteWeb (30)

Urbansync's Weblog

Reality Tagging / Found Sounds / Artscience

Exciting! Late-breaking results

leave a comment »



Matthias did a great job. Marsyas is used for MFCC extraction. Rapidminer does a good job on k-means clustering. The results go as colored labels into .kml. GoogleEarth. That's it!

Interesting to see that the clusters represent certain segments and places of the route being not disturbed by outliers. We have to look into it furthermore ... but we are a little bit excited.

Written by urbansync
May 28, 2009 at 5:31 pm

Posted in [Uncategorized](#)

Student worker! Rapidminer ...

leave a comment »

I am happy. I found a very good student who will be using Rapidminer to perform an unsupervised clustering of the audio streams. Hopefully we will find the perfect combination of features and settings. At least the visualization within the GoogleEarth package should be nice to navigate. 10 weeks to go ...

Search

Blog Stats

4,571 hits

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- [Professional](#)
- [Rehearsal CC Stop](#)
- [Saudade](#)
- [Serralves](#)
- [Short Sleep – Dom Henrique](#)
- [Taxi](#)

Wissenschaftl. Herausforderungen

„Auditory Scene Detection“

„Audio Segmentation“ „Unsupervised Clustering“

„Semantic Audio“

„Reality Mining of Context“ „Urban Planning“

in Kooperationen mit

INESC (Porto)

DFKI-IUI (Saarbrücken)

GESIS / Bodymonitor.de (Mannheim),

Data & Knowledge Engineering Group (Magdeburg)

SONY CSL (Paris)

Wissenschaft und Kunst?!



Interessante Dimensionen

Organisch ---- Artifizuell

Emergent ---- Statisch

Menschen ---- Maschinen

Masse ---- Eremiten

Makro ---- Mikro

Intim ---- Öffentlich

Schmutz ---- Hochglanz

Tiefenstruktur ---- Oberfläche

Gewöhnliches ---- Aussergewöhnliches

Einmalig ---- Wiederholbar

„In search of urban meaning“

Ist der GHz Klangraum ein Objet trouvé?

Das Leben als Leinwand („GPS Graffiti“)?

Sind wissenschaftl. Tools
die neuen „Pinzel+Farben“?

Möglichkeiten im Bereich der Medienkunst, Musikanwendungen

„Sonification of Emotion“

„Visualization and Interaction for Locative sound“

„Immersive 3D caves“ „GPS-aware Headphones“

„Edutainment Apps for iPhone, Android“

„Public Installations “

in Kooperationen mit

Faculty Bella Artes University of Porto (Porto)

CUP Artes Digitais (Porto)

SONY CSL (Paris)

Popakademie (Mannheim)

Nächste Schritte

Weitere Interventionen: Berlin vs. Paris

Summer School
Sound&Music Computing 2009

<http://urbansync.wordpress.com>



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Addendum

Media, Data, Tools, Open Source, Open Access

OPEN REALITY DATA STREAM Copy External HD

AUDACITY 19 sessions of urban sound

SONIC VISUALISER 19 sessions crash, but small examples

RAPID MINER not on Mac, but 2 screendumps

GPS-VISUALISER GPX possibilities for CSV-merge

GOOGLE EARTH 19 sessions of .kmz trails

PROCESSING Wiiscrub patch for audio scrubs, Wiicontroller class

PROCESSING Rui Patch for visualisation and OSC messages

MaxMSP Rui Patch for receiving OSC messages

DarwiinRemote OSC Wiimote receives over bluetooth