Teufel: Sense User's Musical Mood

Group 11
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“Loud, Different, Emotional”

	KAPPALE	ARTISTI
+	Never Gonna	Jonathan Jeremiah
+	Give You Up	Ron Pope
+	Never Gonna Let You Down	Colbie Caillat
+	Never Gonna Run - Radio Edit	Katy Lied
+	Around	Julia
+	I Won't Desert You	Ricky Martin
+	Never Gonna Make You Cry	David DiMuzio
+	Never Gonna Say Goodbye	Cara Aley
+	Never Gonna	Jonathan Jeremiah
+	Tell A Lie	Farao
+	Hurt You	Toni Braxton Babyface

Source: Cheezburger

“How can we enjoy music even more, without the difficulty of choosing songs?”

Mission

Improve the music listening experience using a human-centric mood solution

Choosing Songs

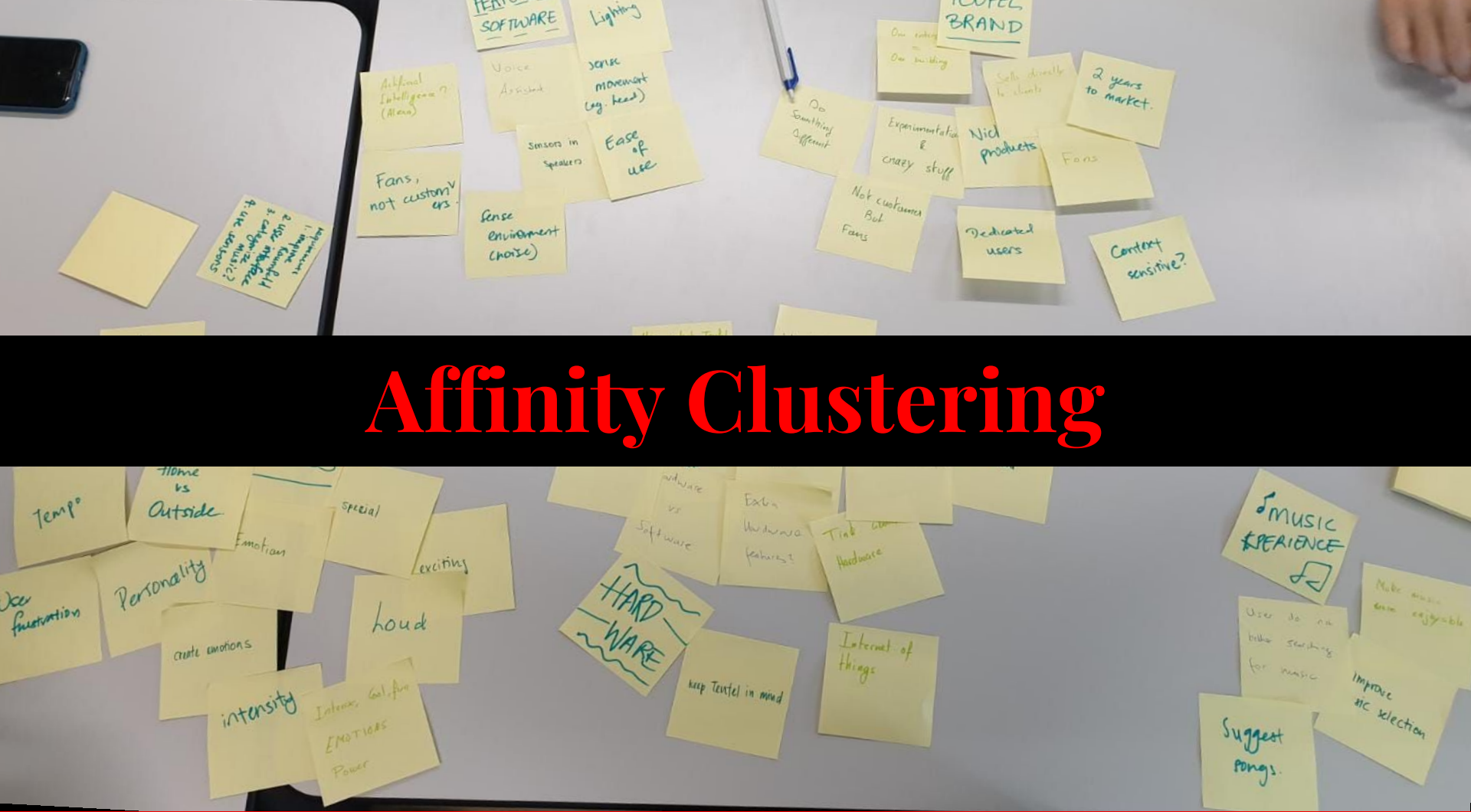
- Everybody listens to music!
- Sometimes we don’t know what to listen to
- *We want the right music at the right time*

Right music...

What can Teufel do to predict user’s music tastes?

...Right time

What can Teufel do to predict when a user wants to hear certain music?



Affinity Clustering

Affinity Clustering

Software features

- Artificial intelligence
- Voice Control

Teufel Brand

- Doing it different
- Intensity

Music Experience

- Boost emotions
- Suggest songs

Hardware features

- Use sensors
- Mood selector

Moods, Emotions

- Intense
- Fun
- Loud
- Cool

Requirements

01	**Music Discovery**	• Help user find or discover next song easily • Sense mood of user • Suggest appropriate new music
02	**Seamlessness**	• Solution that works across all Teufel devices • Start playlist without need for user input • Customized for each user
03	**Ease of use**	• Get straight to listening music • Minimize repetitive interactions and tedious configurations
04	**No extra hardware**	• No need for additional hardware to achieve these goals • Make use of existing infrastructure (eg. Phone, Raumfeld technology, microphones)

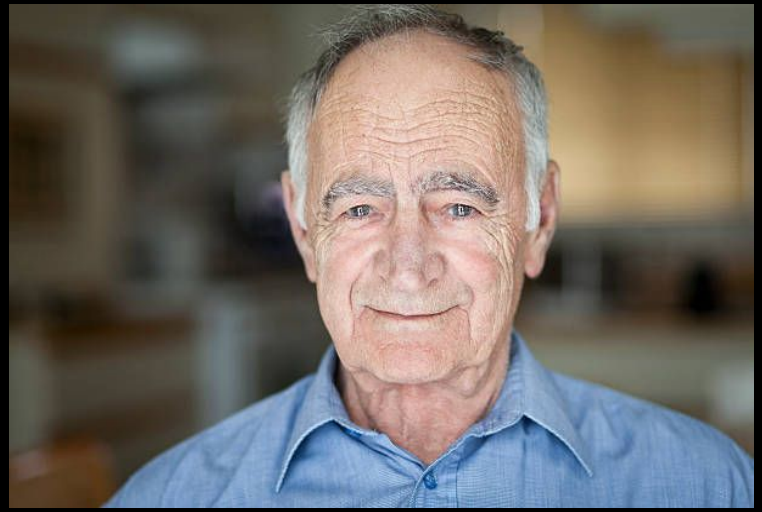
Personas

Who are the users who would possibly benefit from these requirements?

Peter, 62

Senior System Administrator

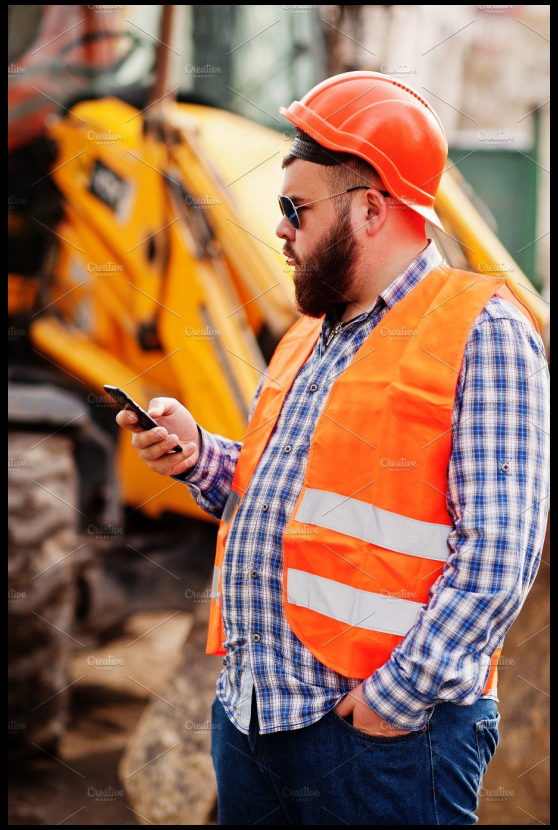
- Misses the good old days of radio
- Listens to a lot of music but he always gets interrupted by colleagues
- Stressful job, wants to put on headphones and then just have some music going
- Doesn’t want to be bothered getting out the phone all the time just to adjust the music



John, 28

Construction worker

- Casually listens to music
- But if he feels like he needs some music, he just wants to put on headphones and have some good music started
- Doesn’t want to search ages for some track
- He doesn’t have any speakers other than his headphones that came with the phone



Courtney, 21

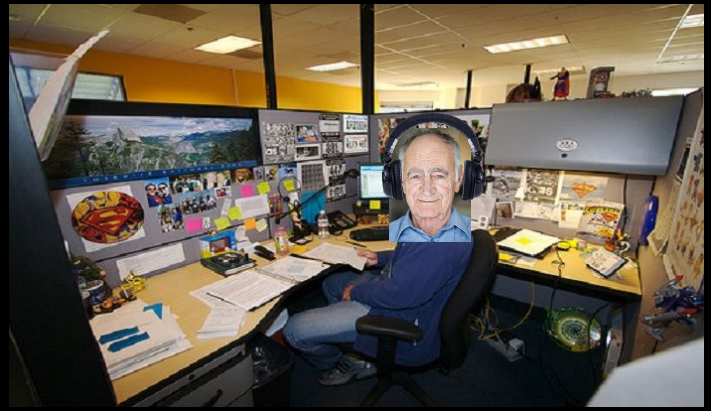
Instagram Influencer

- Plans out all details of her life
- Listens to music while public transportation
- Has different playlists for doing yoga, running, studying
- … but also for when she feels sad, lonely or when she is happy and excited

2 key areas

from over 50 ideas generated

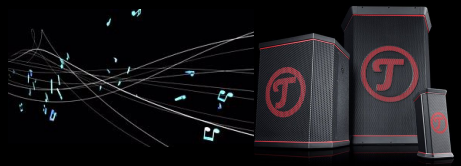
Peter



at work

on the way home

at home



Seamless hardware-software integration

01

Fuss free transitions between devices

- Leave the house with minimal button presses
- “Hands-free” transitions
- Take advantage of Smart Home integration

02

Continuity

- Music plays automatically when user enters room or car, puts on headphones
- Remembers where you left off

03

Radio effect

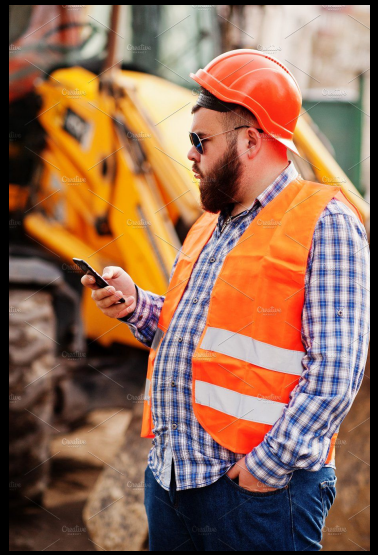
- Many people listening to the same music together
- Across large distances
- Based on common music preferences
- Community of listeners

04

Automation

- Music plays when you approach your home speaker
- Open your door to your favorite playlist every evening

John



At work, on a break.
Needs some distraction!

After work, with friends.
Party time!

Can’t fall asleep.
Needs some music!

Data-driven music

01

Understanding user through phone data

- Location information (GPS)
- Date/time information
- Seasons and holidays
- Local weather
- Calendar activities
- Activity and health data

02

Understanding user through social media

- Reveal information about user tastes
- Including listening patterns on streaming services

03

Understanding user through audio

- Audio data from microphone
- Background audio reveals user context
- Analyze user voice to predict mood

04

Understanding user through listening habits

- How often music is played and what type
- Understand user's preferences based on context

Our Ideas

The area of data-driven music sounded the most promising

We explored 3 ideas that can harness data to improve the listening experience

Idea 1: The Big Teufel Button

Scenario Peter:

- Peter is at work and has some music going on his headphone but wants to discover new songs without getting his phone out
- He thus presses the Teufel “Surprise me”- button and enjoys

Idea 1: The Big Teufel Button

When it's been 5 minutes and you still don't know what to play

Idea 1: The Big Teufel Button

- Pressing Teufel “Surprise me”- button shortens hassle to choose a song, what comes next or discover new songs
- Its actions could be programmed from Raumfeld app
- Can individually program each Teufel button on each Teufel device
- Teufel button can provide light feedback given chosen preset

Idea 1: The Big Teufel Button

- *Teufel Surprise me! - Button*
  - Choose a song to play via streaming service
  - It could from a pre-set playlist or a specific song
  - Switch between a few settings
- Easily recognisable - Teufel branding
- Easy to use
- Problem- need algorithm to decide on song/playlist

Idea 2: Theme/Mood selection

Scenario John:

- John is back home from a hard day at work and doesn't want to waste time looking for good songs to listen to
- He is tired and feels quite sad from a stressful day
- He reaches to his Teufel speaker and presses his "sad" mood selector button
    - A playlist corresponding to his mood, *"relax and unwind"* starts to play immediately.

Idea 2: Theme/Mood selection

- Having a tangible interface on the hardware (speaker/headphones) composed of differents buttons or a wheel
- Would allow the user to manually and quickly inform the system about its mood or the theme he is interested in
- In return the system would respond instantly with a playlist corresponding to this theme/mood
    - No need to waste time manipulating any apps on the phone

Idea 2: Theme/Mood selection

Theme/Mood Selector

Random selection of songs played based on mood

Examples: upbeat, romantic, party, de-stress, picnic, sleepy, studying outside

Blast to the Past

Reminder of music you liked to play to boost your mood

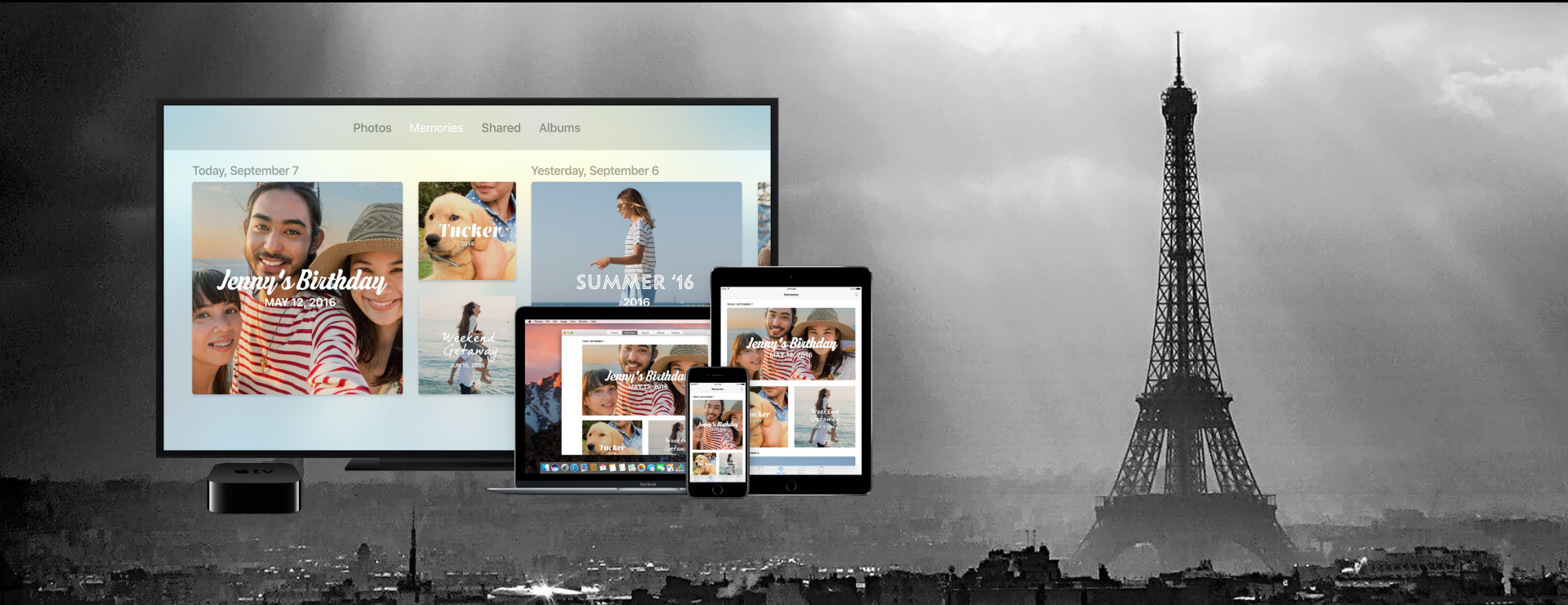
"One year ago you were in France and listened to these songs"

Idea 2: Blast to the Past

Scenario Peter

Idea 2: Blast to the Past

Scenario Peter



Idea 2: Blast to the Past

Scenario Peter

- Comes home after a hard day at work
- Wants to relax on the couch and leave work behind
- Uses voice-assistant Alexa to select Teufels “Blast to the Past”
- By associating music with memories, Teufels “Blast to the Past” boosts Peters mood

Idea 2: Blast to the Past

Functionality

Task

Boost users mood by linking music with memories

Inputs

Music App
Photo App
Calendar entries
GPS Location

Outputs

Personalized playlists based on users adventures

Idea 3: Social music

- Courtney is planning a party but does not have time to manage her Teufel home system
- Wants type of music played to change to suit activities (snacks, dinner, dancing, after party)
- Wants to include song requests submitted by guests

Source: The Economic Times

Idea 3: Social music

6 — 7 — 10 — 11

Background music

Easy listening to get everyone in the mood

Playlist A

Cocktail

Jazzy or soulful music to spice up that meal

Playlist B

Party's started

After dinner, loud dance tracks get everyone moving

Playlist C

Cleanup

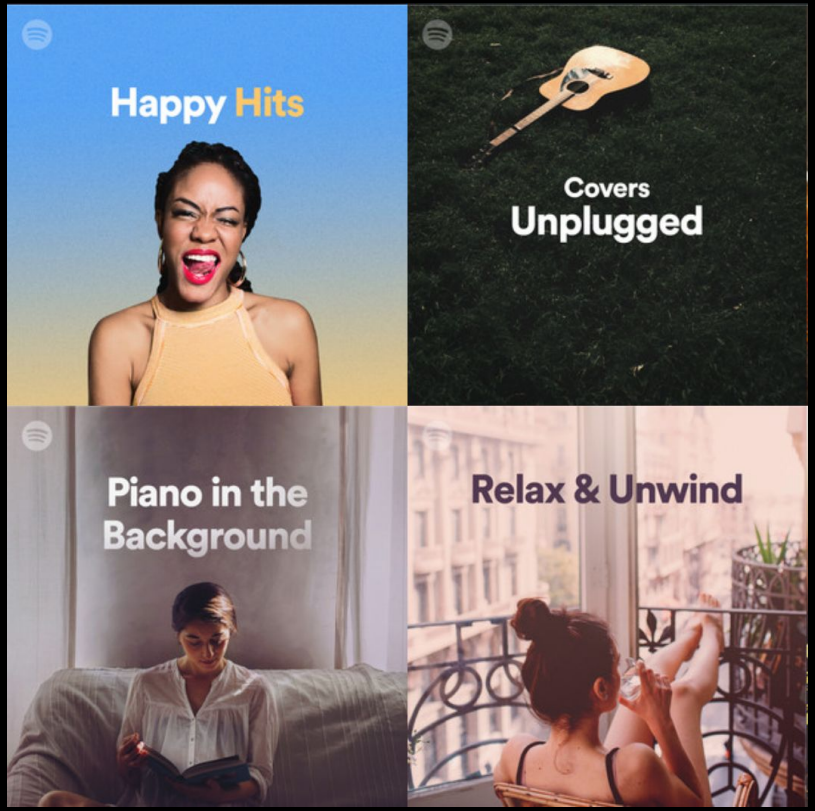
Remaining guests relaxing, time to tidy the house

Playlist A

Idea 3: Social music

Which moods?

- Streaming services already have defined playlists (eg. *Spotify All Out 90s*)
- Can provide several default moods that map to playlists
  - Spotify has over 973 mood playlists on its streaming service
- Teufel Button button can change moods on demand: *Surprise Me!*



Idea 3: Social music

Method	Manual	Timed	Mood Sensing
Description	Classic; all adjustments made manually by host	Raumfeld switches between preset playlists/songs according to the time	Volume and playlist choice changes to match energy level of the room
Mood switching	Switch between playlists as and when necessary	Set a timer to switch playlists	Playlists switch according to mood sensed
Song requests?	Manual	Automatic	Automatic; influences mood sensed
Volume/EQ adjustment	Manual	Programmable	Adjusts according to crowd mood sensed

Idea 3: Social music

Task

Determine the mood of the room
Play appropriate music

Inputs

User-defined playlists
Ambient room volume
List of song requests

Outputs

Choice of song
Choice of playlist
Music volume/EQ

Simplified potential mood-sensing algorithm

“*Raumfeld by Teufel* **makes organizing parties at home fun and hassle-free!”**