Teufel: Sense User's Musical Mood

Group 11
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Teufel

"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
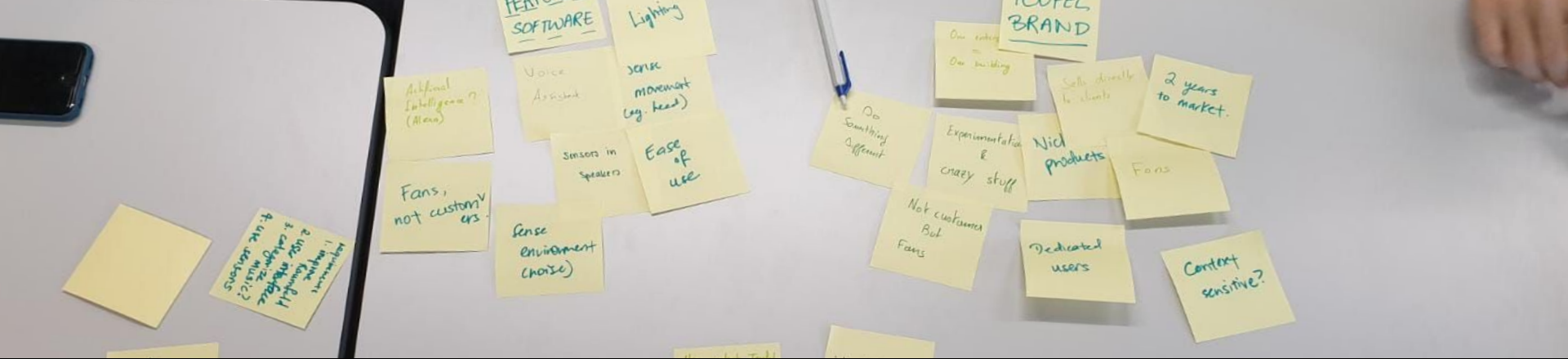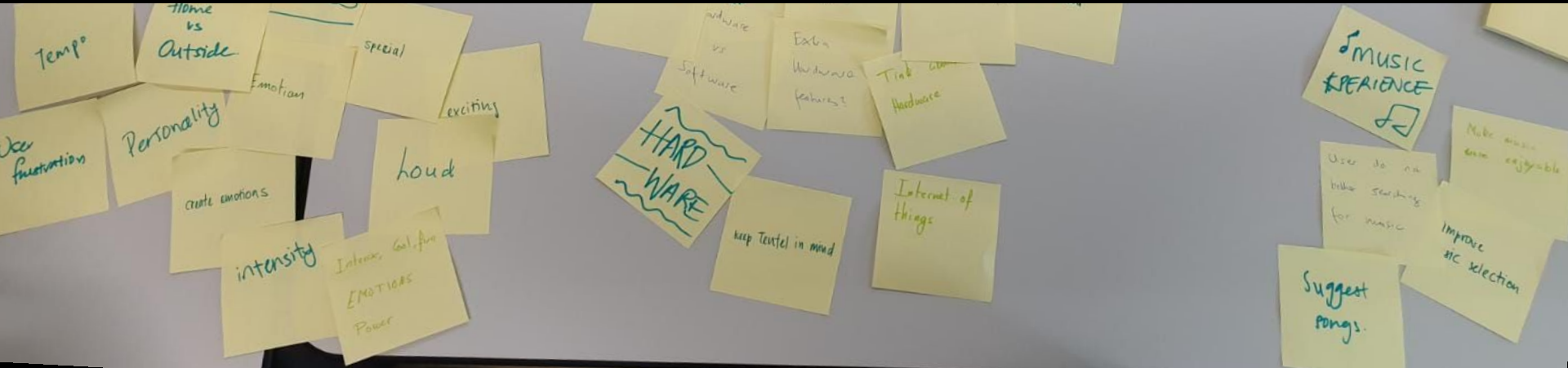- *We want the right music at the right time*

Right music...

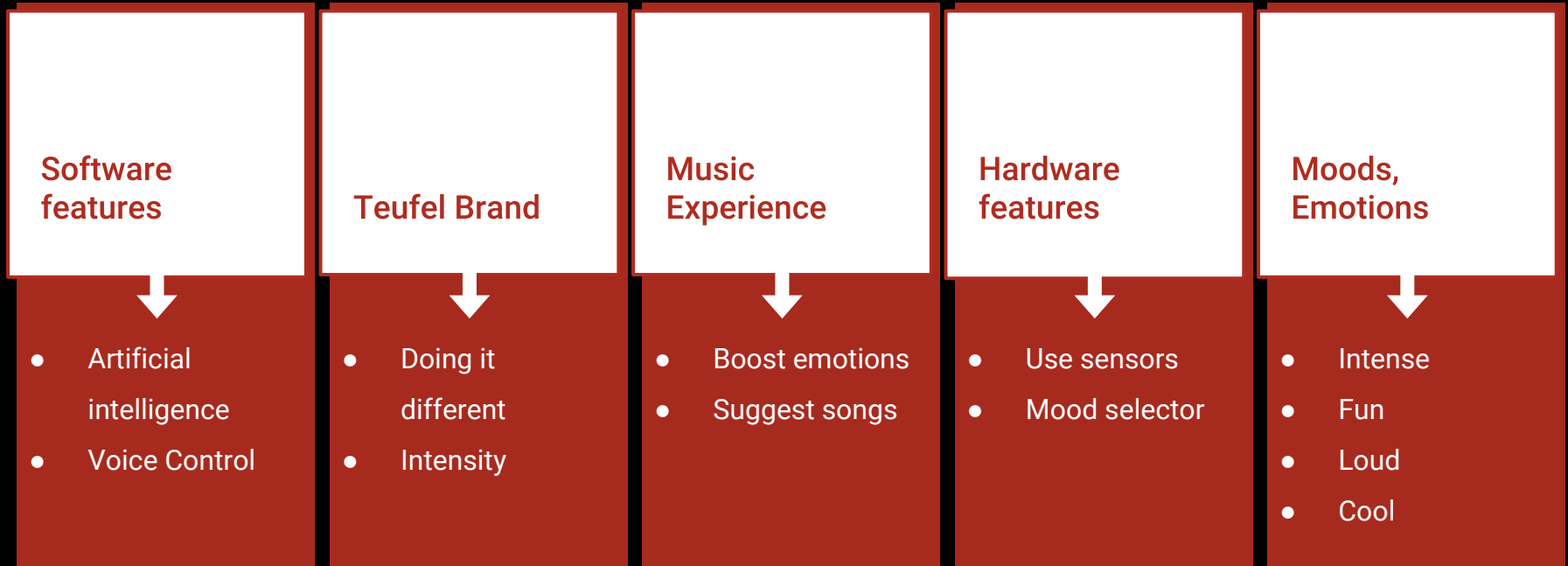What can Teufel do to predict user's music tastes?

...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

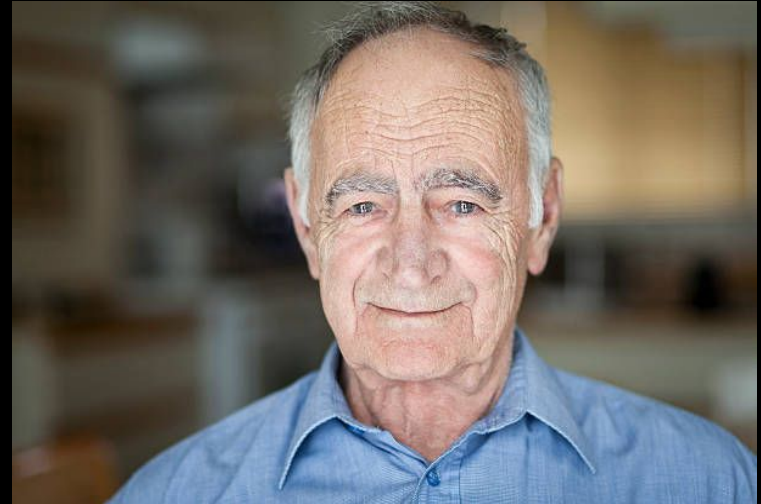| 01	**Music Discovery**	• Help user find or discover next song easily • Sense mood of user • Suggest appropriate new music
02	**Seamlessness**	• Solution that works across all Teufel devices • Start playlist without need for user input • Customized for each user
03	**Ease of use**	• Get straight to 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?
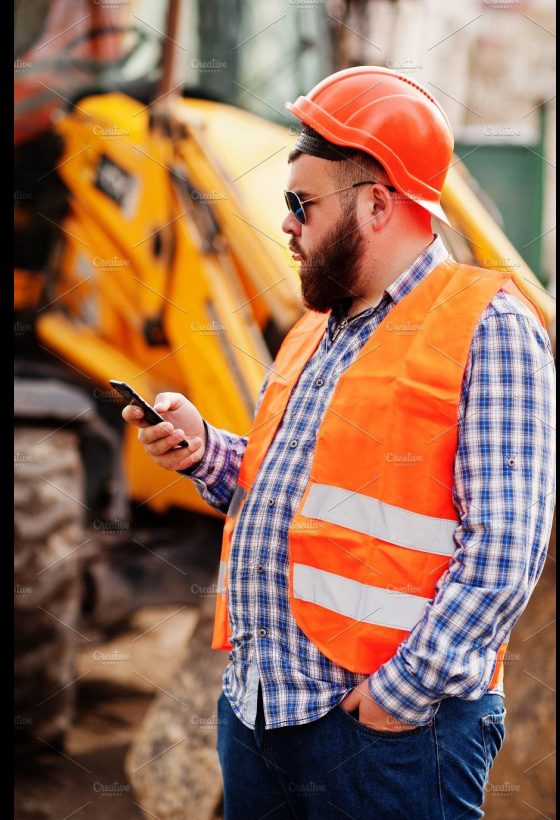
Peter, 62

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
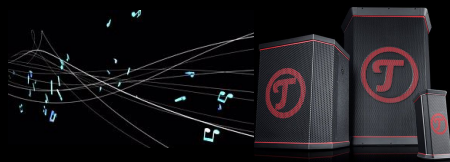
2 key areas

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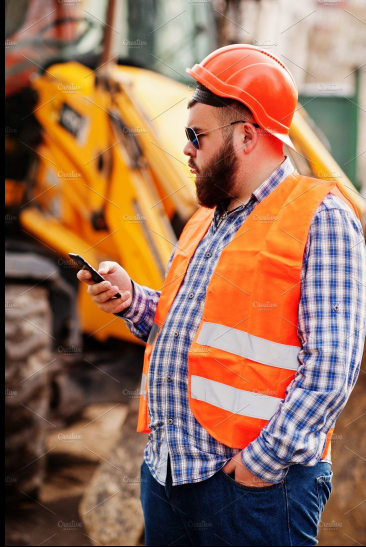
- Many people listening to the same music together
- Across large distances
- Based on common music preferences
- Community of listeners

04

Automation

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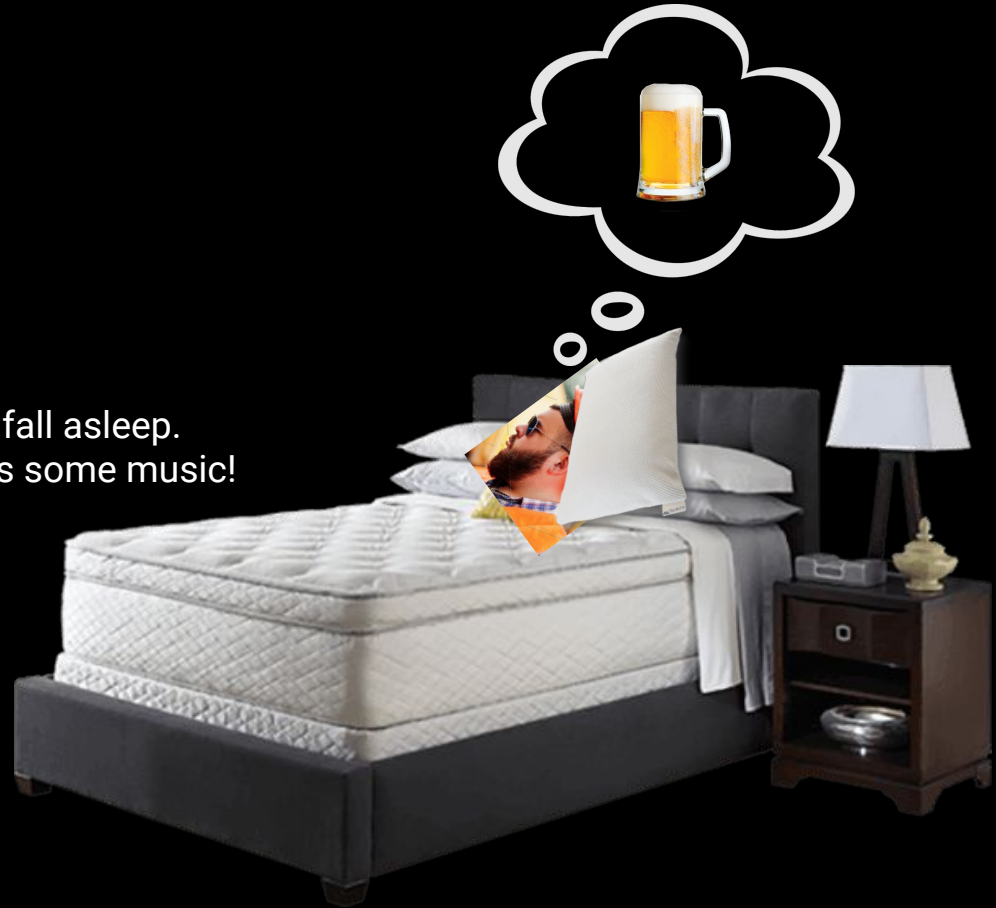- Open your door to your favorite playlist every evening

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

Understand 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 <u>based on mood</u>

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

Blast to the Past

Reminder of music you liked to play to <u>boost your mood</u>

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

Idea 2: Blast to the Past

Scenario Peter

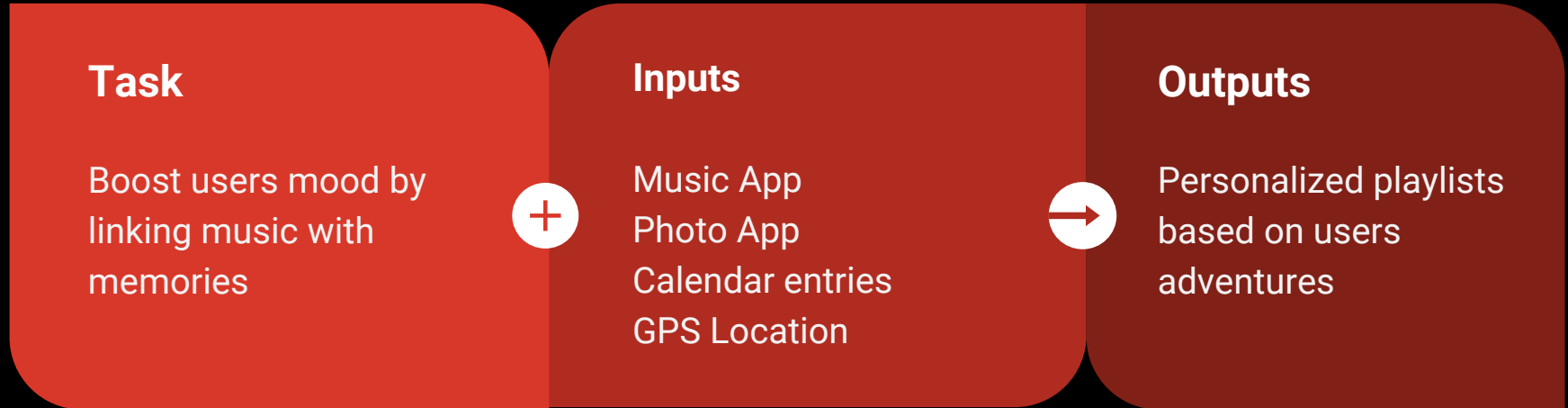# Idea 2: Blast to the Past

Scenario Peter

Idea 2: Blast to the Past (slide only for Viktor)

Scenario Peter

- Comes home after a hard day's 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
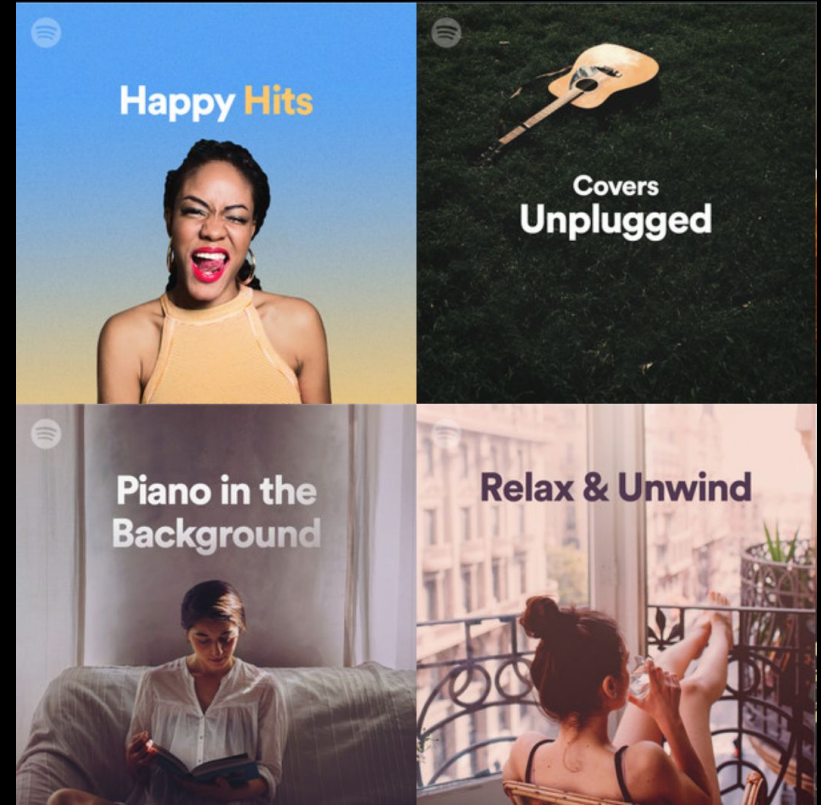
Playlist C

Cleanup

Remaining guests relaxing, time to tidy the house

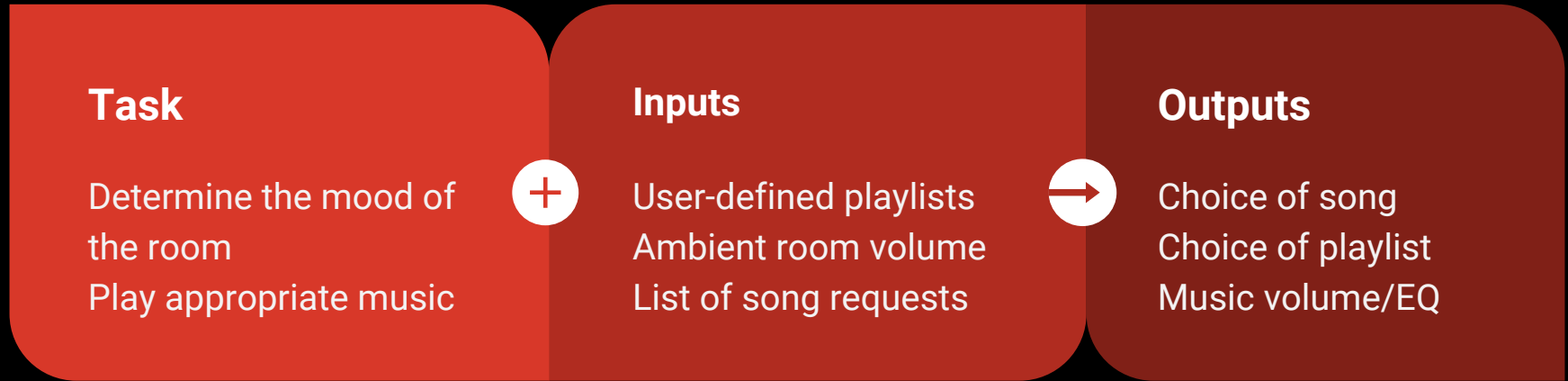*Playlist A*

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!"

Mood Selection

The Teufel Button

Raumfeld + Teufel

Social Music