INVESTOR PITCH DECK

DECEMBER 2019

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1. CONTEXT AND PROBLEM

The problem

40 k songs uploaded on Spotify everyday

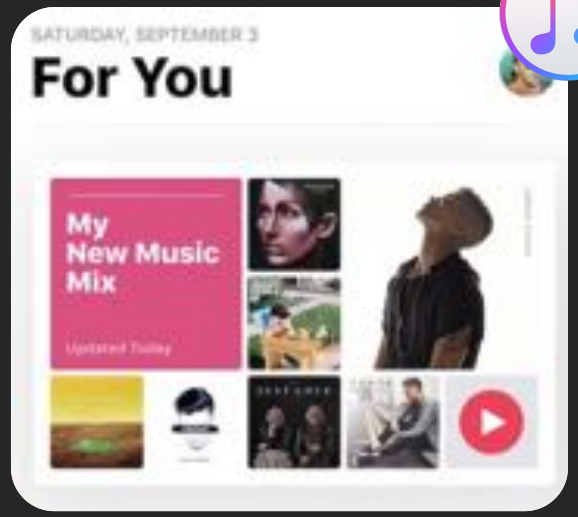
Stuck in a loop

Huge amount of songs available

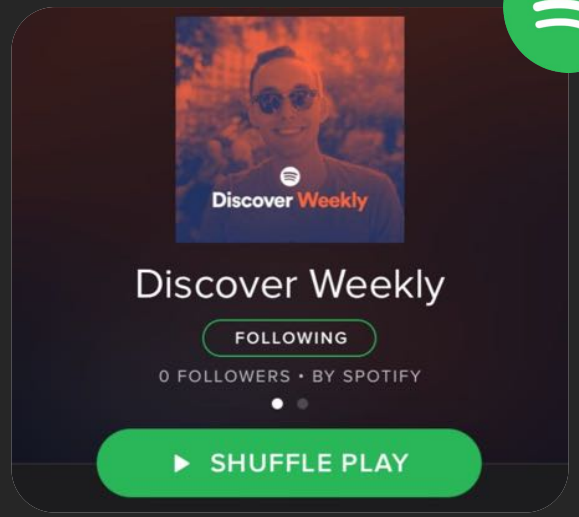
Unadapted listening and discovery features

Existing solutions

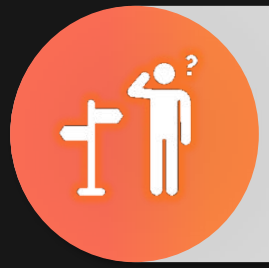
For You



Discover Weekly



SoundCloud Weekly



Ready-made playlists prevent the user from being in control of the listening experience

Now is the time for discovery

ERA OF ACCESS

The ability of the music streaming incumbents to grant instant access to internet music has sparked the **era of access** and unleashed the potential of the music industry

75% of US music revenues generated by streaming services in 2018

15 acquisitions by the platforms since 2014

40K songs uploaded everyday on Spotify

ERA OF DISCOVERY

However, the overwhelming amount of available songs undermines the user's capacity to easily discover new songs that match his tastes. Music tech is entering the **era of discovery**

63% of surveyed listeners find it hard to discover new music they like

88% of them would be interested in having more control on their discovery journey

MATURE INDUSTRY

+

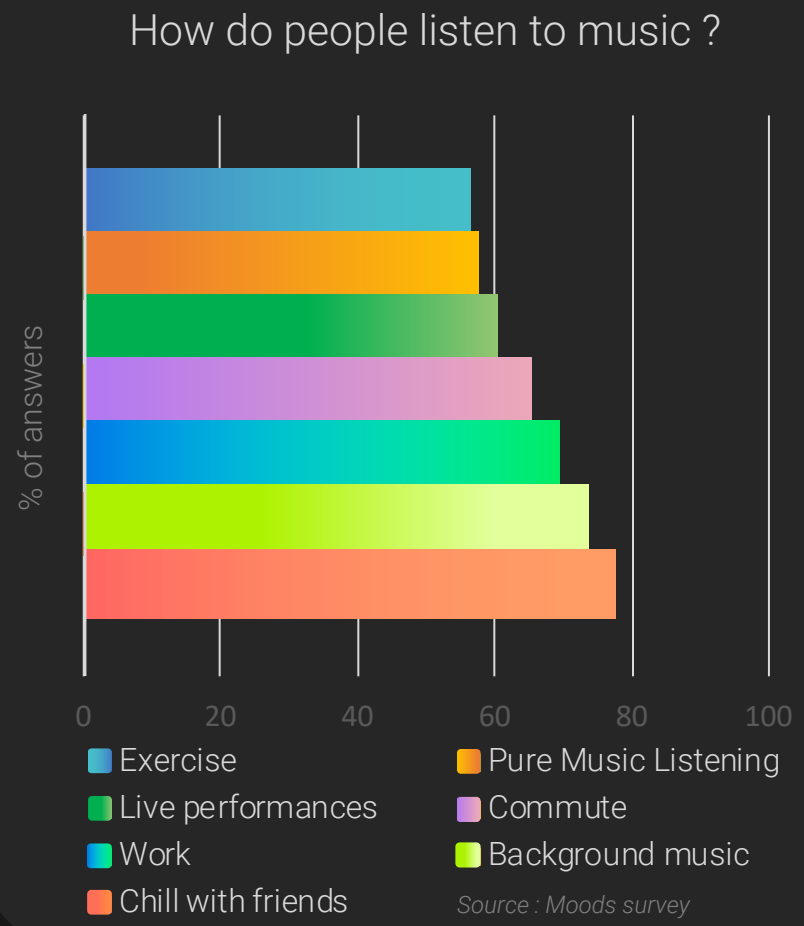
PAINKILLER SOLUTION

=

moods

2. OUR SOLUTION

Use cases and examples



MOODS FEATURE

Moods fit with every use case you can go through in a day. This feature is designed to match exactly with what you want to hear while, **exercising** or **working**.

EXPLORATION FEATURE

We want to enable the listener to have the smoothest discovery journey as possible. It perfectly suits journey times like **commuting**, **pure music listening** or **background music**.

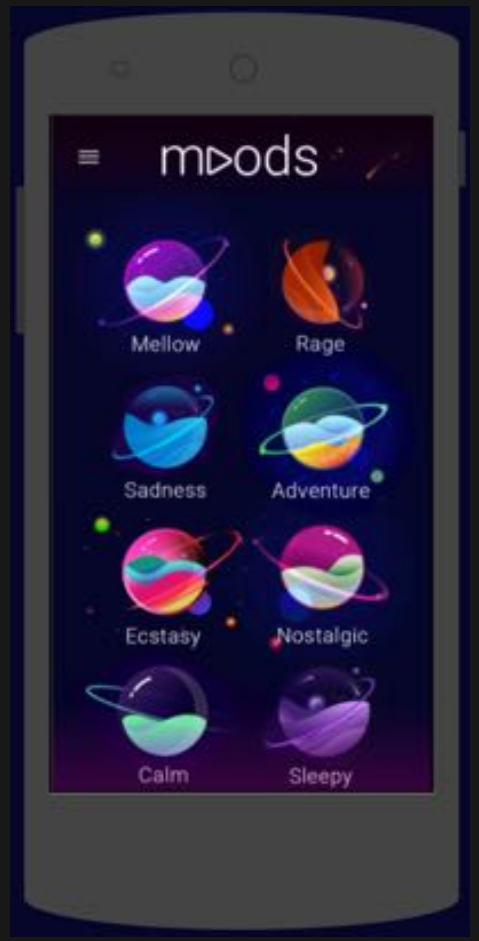
Moods, the soundtrack of your life

MOODS FEATURE

EXPLORATION FEATURE

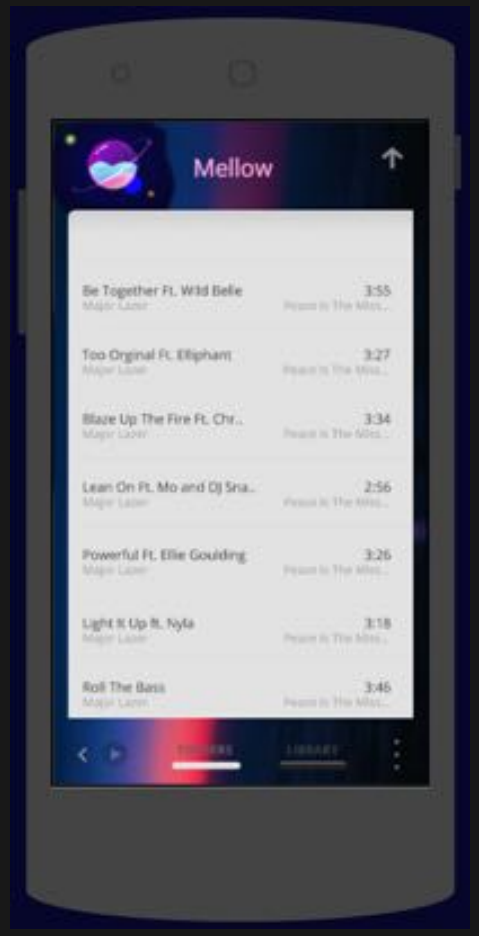
YOUR MUSIC FEATURE

Demo – Moods feature



Browse your library of moods and touch the one you're into...

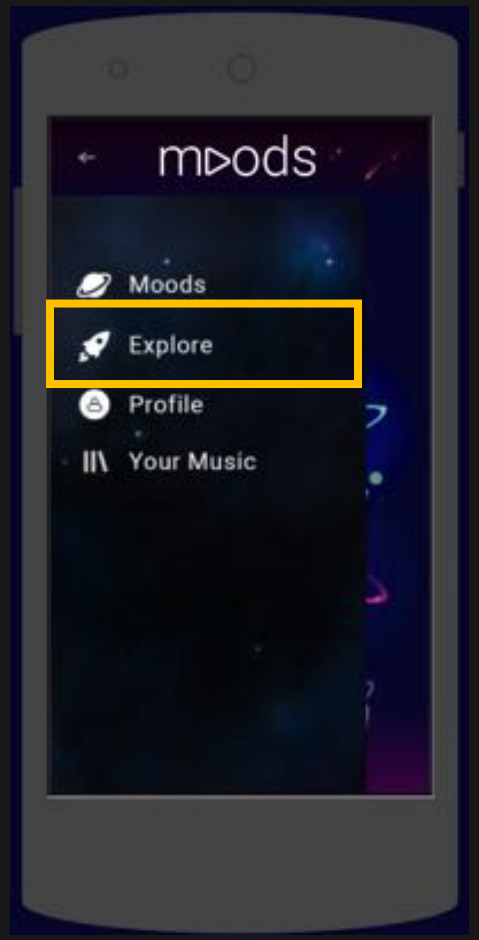
...to generate an ever-evolving playlist that genuinely connects with you emotionally



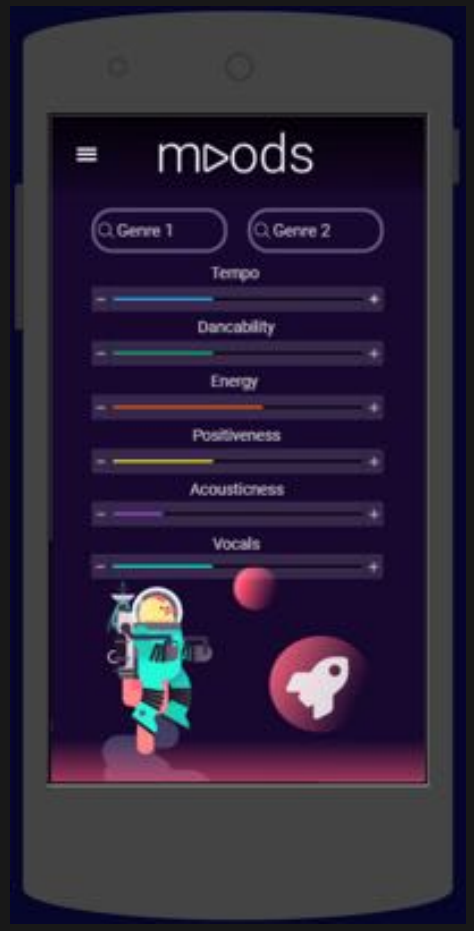
Discover new tracks that arouses the same feeling or browse through your saved ones

Access the parameters of a mood to adjust what kind of music it generates

Demo – Exploration feature

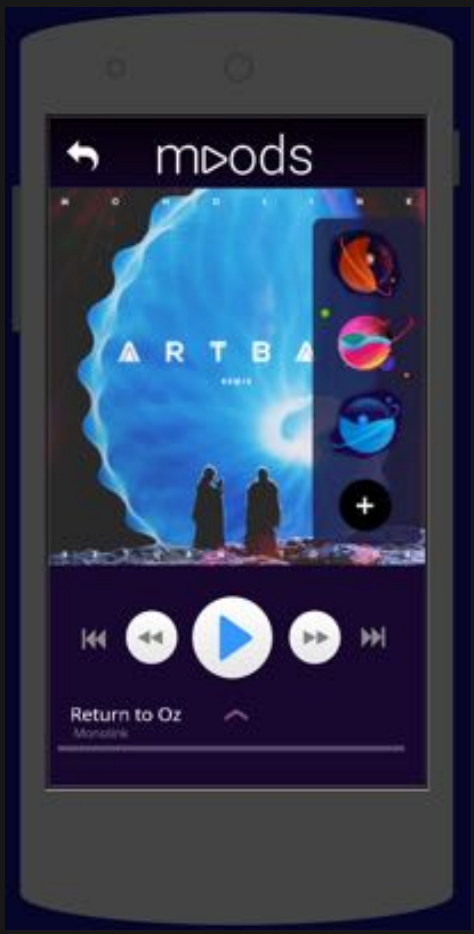


Change of feature through sliding menu



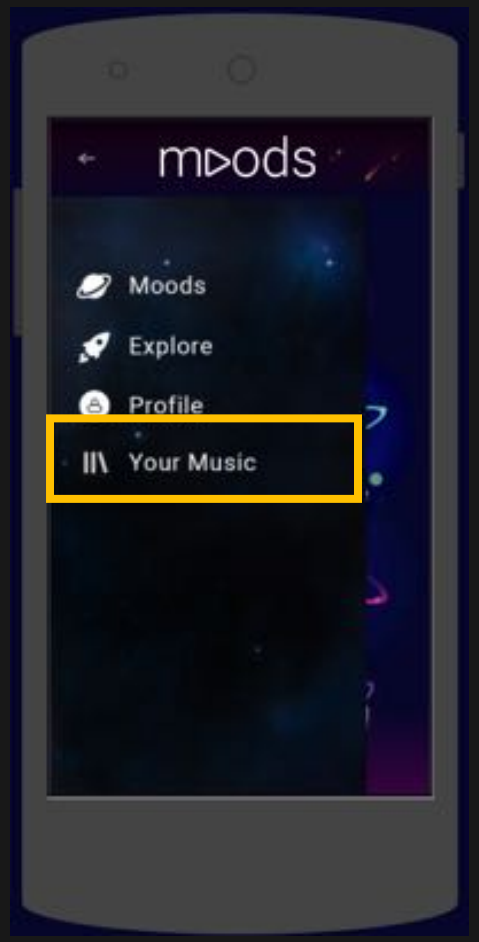
Play with the parameters to browse the music universe in a whole new way

Stumble upon music treasures

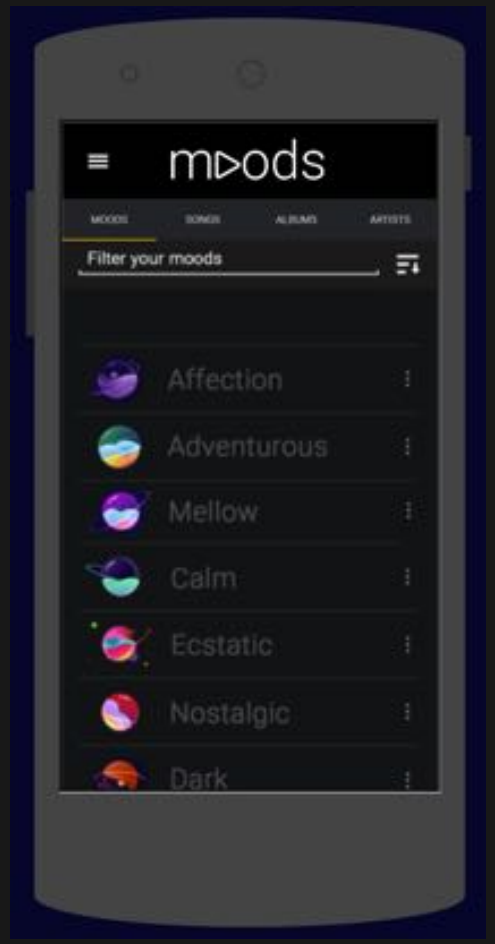


And associate them with your own moods

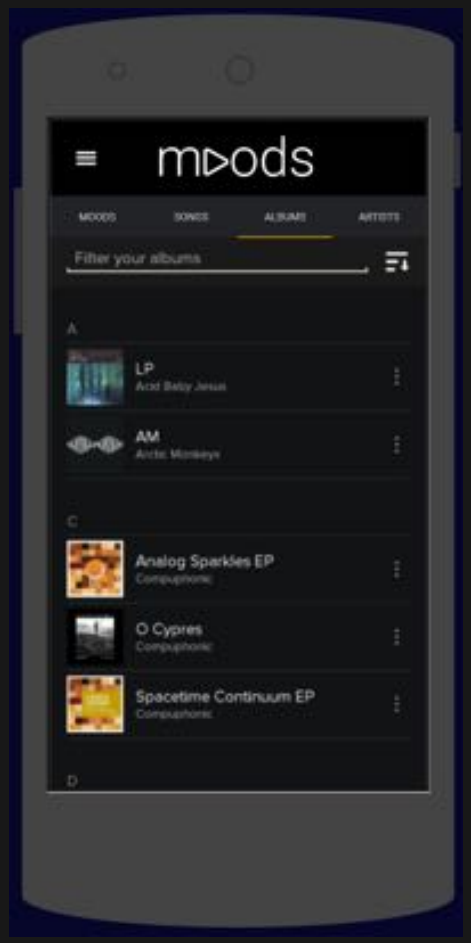
Demo – Your Music feature



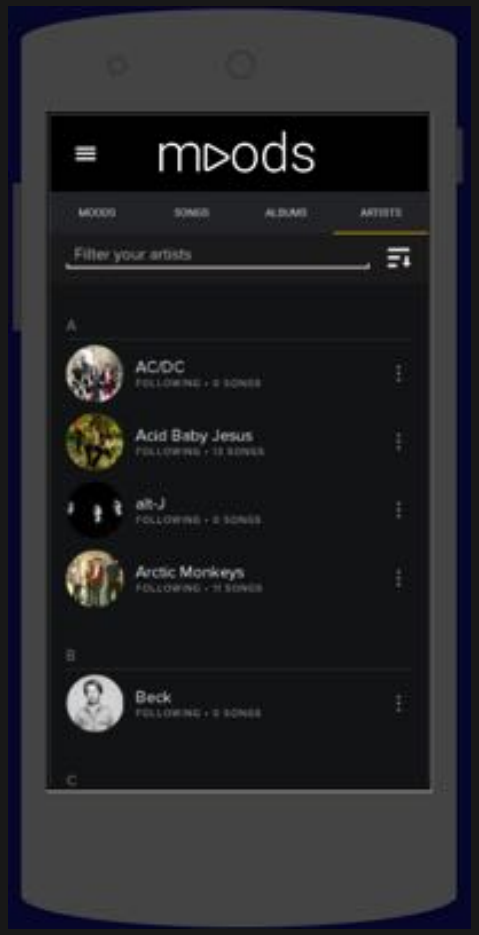
Change of feature through sliding menu



Access all your saved songs by mood…



… or by classic sorting such as albums…



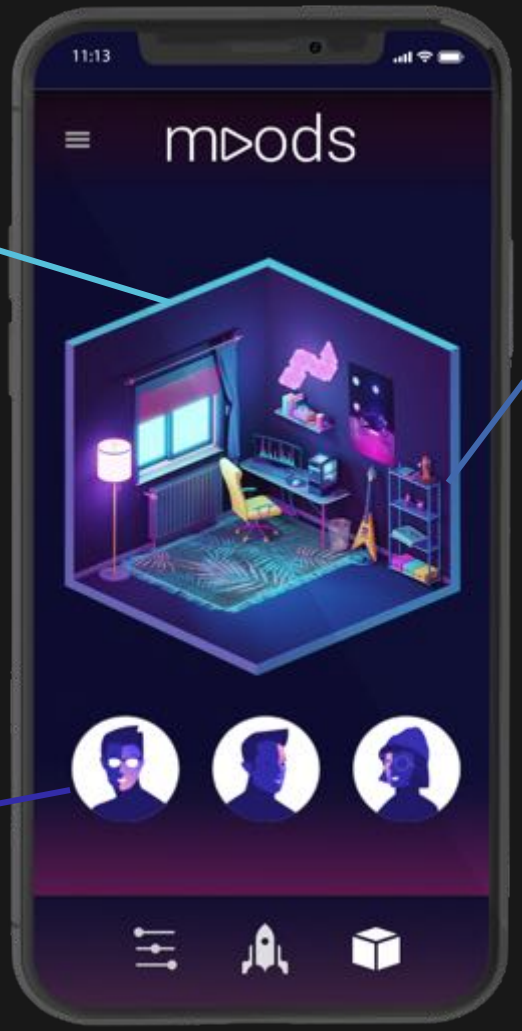
… or artists

Additional features: Rooms

Connect emotionally with your friends

Broadcast what you're listening to with your friends and let them enter your music universe by allowing them in your room

Access your friend's room to discover their new findings and get into their mood



Connect emotionally with them by listening simultaneously to the same music

3. MARKET AND COMPETITION

The market

$10.5bn

Cumulated revenues of streaming platforms in 2018*

+33%

Growth in paid streaming revenues in 2018**

255m

Users of paid subscription accounts in 2018**

37%

Revenues from paid subscriptions in the Music Market in 2018**

* Spotify and Digital Media Report 2019 – Digital Music – Statista
** IFPI Global Music Report 2019

Market Analysis

Available Market*

$7.9bn

217m	Spotify MAU
44%	Spotify MAU using the app on a daily basis
50%	Spotify MAU that are paying customers
4,99€	Subscription price to our solution
36%	Spotify market share

Context

- Rebirth of the music industry
- Mass production of songs
- Still 50% of Spotify MAU are non-paying customers
- Strategy of content diversification
- Other media are competing against streaming platforms in terms of user base

Opportunities

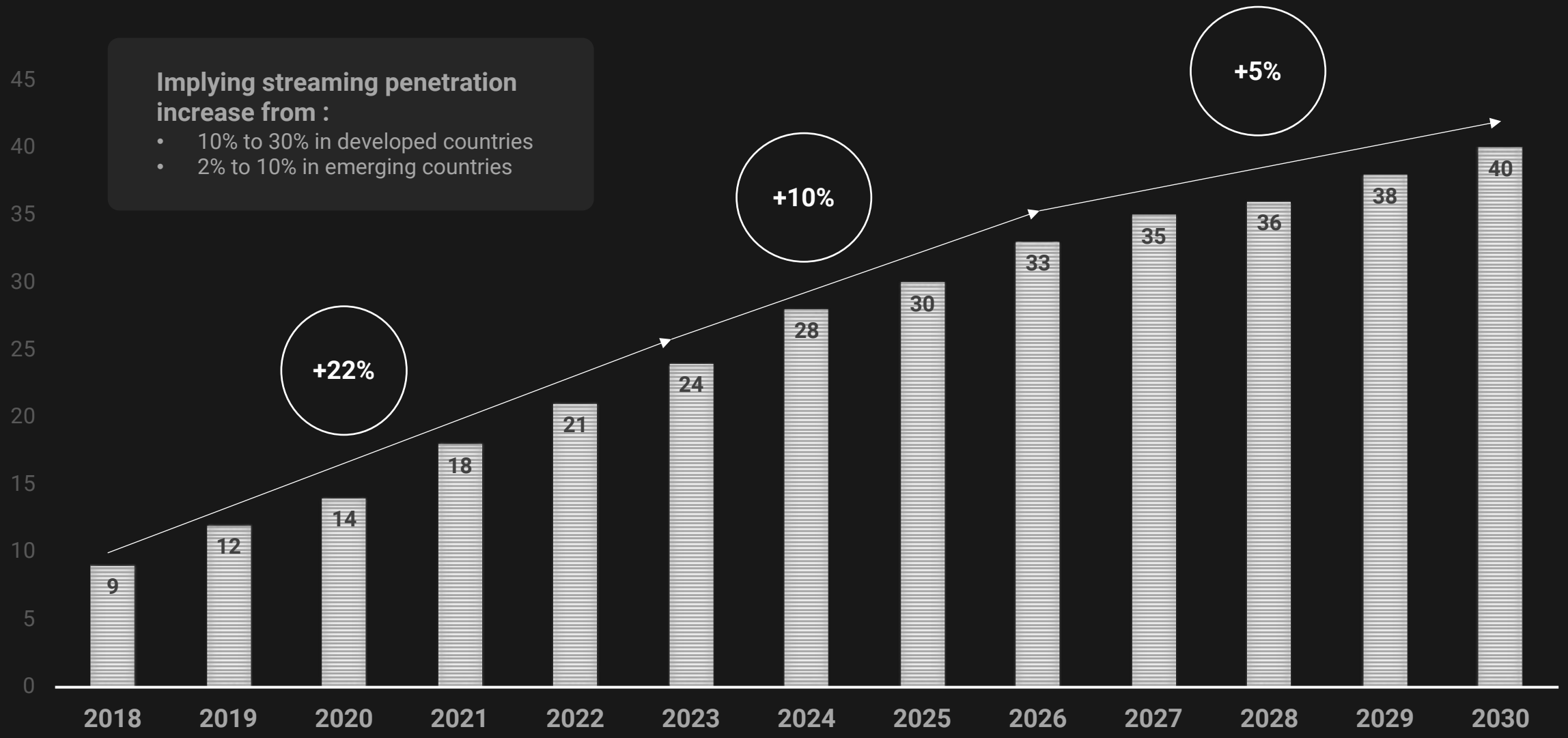
- Geographical: Europe, China, Japan and India
- Development of smart speakers and voice controllers

* Spotify website and Digital Media Report 2019 – Digital Music – Statista

Streaming market size evolution ($bn)

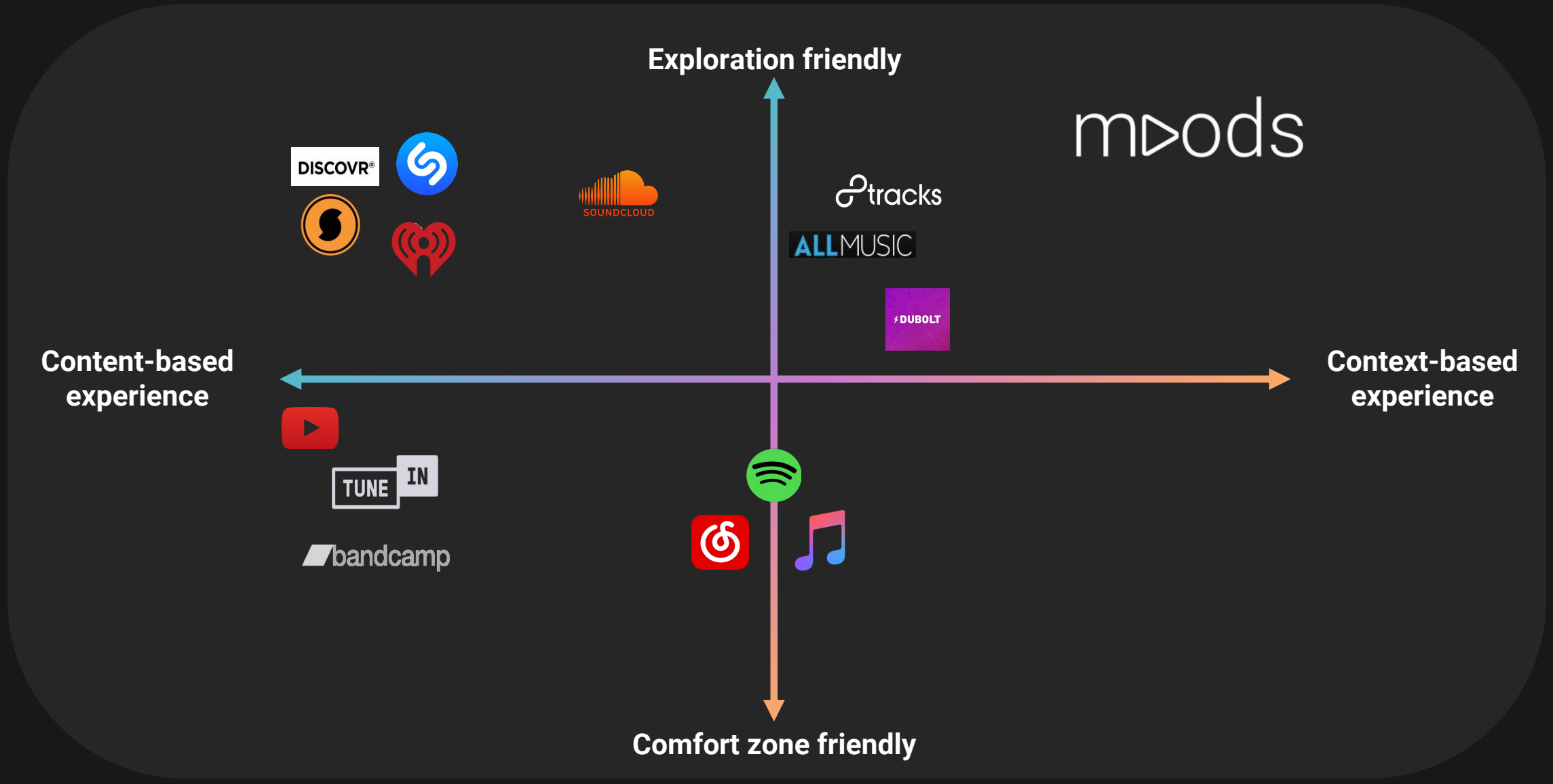
Implying streaming penetration increase from :

- 10% to 30% in developed countries
- 2% to 10% in emerging countries



Source : Global Music Report 2019, Midia Research

Competition matrix



Feature comparison

					m▷ods
DISCOUNT	7 days free then 8€/month	3 months free then 5€/month as a student or 10€/month	3 months free then 5€/month as a student or 10€/month	3 months free then 9,99€/month for Music & 11,99€/month for Premium	3 months free Then 4,99€/month
DISCOVERY MODE	Soundcloud weekly playlist	“For you” mixes & curated playlists	“Discover weekly/daily” mix & curated playlists	“Discover mix” mix & curated playlists	Dedicated discovery feature made with in partnership with the listener
EVER-EVOLVING PLAYLISTS	Weekly playlist evolutions	Weekly playlist evolutions	Weekly playlist evolutions	Weekly arbitrary playlist evolutions	Ever-evolving playlists in direct live
IN-APP MUSIC-SHARING	Repost feedline & in-app chat	See what your friends are listening to	See what your friends are listening to	No	Listening-rooms sharable with your friends
ACCESSIBLE CUSTOMIZATION FEATURE	Like & repost buttons	Like/Dislike button	No	Like button	Full range of accessible search criteria

Our target persona

Jay
French student
24-years old
Music lover

How do we reach Jay ?

Word of mouth
Leverage our network and spread the word

SEO
Creation of a music blog and a newsletter

Ads
FB Ads and articles in specialized media

Partnerships
With collectives and MusicTech events

Hypothesis validation

H1

Desirability (1)

We believe our product will be seen as a major gain by users. *Why ? Because listening to music by moods is a key issue today.*

How? : Online survey

Results : **Not Validated** (47% said they had no trouble matching music & moods)

H2

Desirability (2)

We believe that our UX/UI will be seen as a major gain by users.

How? : Mock-up presentation at the Entrepreneurship Festival

Result : **Validated**

H3

Feasibility

We believe that building a product and an algorithm to match mood with music is feasible.

How? : Qualitative interviews with Music Data Scientists

Result : **Validated**

H4

Pricing

We believe our product is worth being paid for (+how much?)

How? : Online survey

Result : **Validated** (64% would pay for our product)

Small Pivot

We keep our mood-based approach but will be **focusing on music exploration & discovery** since we identified it as the first pain for our customers: 40% have trouble finding new songs AND finding music that matches how they feel.

4. TEAM

Meet our team

Paul Heilweck

Past experience

- Startup Advisory @ La Financière des Entrepreneurs
- VC @ 50Partners

Musician

paul.heilweck@edu.escpeurope.eu

Lucas Tesson

Past experience

- BizDev @ Groover
- Financial Audit @ EY
- VC @ Supernova Invest

Worked in the music industry

lucas.tesson@edu.escpeurope.eu

Louis Lebouc

Past experience

- Analyst @ Capgemini
- Onboarding @ Payfit
- VC @ Orange

Musician

louis.lebouc@edu.escpeurope.eu

Federico Piciollini

Past experience

- Asset Management @ Marzotto Sim
- Financial Analyst @ Bloomberg

Music lover

federico.picollini@edu.escpeurope.eu

Stanislas de Planta

Past experience

- M&A @ Crédit Agricole CIB
- VC @ Omnes Capital

Music lover

stanislas.deplanta@edu.escpeurope.eu

5. TECHNOLOGY

Current recommendation algorithms have issues

Collaborative Filtering

Yesterday, you were listening to song A, while Fred, who you do not know, also listened to song A. Fred liked a song B that you have never heard of. Song B will be proposed to you based on the similarities between you and Fred.

Natural Language Processing

The algorithm crawls the web looking for music articles to understand what is being said about artists and songs with specific adjectives and which other artists or songs could be related to the same discussions.

Audio features

Each song spectrum is analysed and features are computed. They objectively describe the song and the algorithm would propose similar songs based on those features.

Songs from famous artists or already known artists have way more chances of being proposed by the recommendation algorithms of the streaming platforms. Indeed, 2/3 of the algorithm is looking for songs that people already listened to or that are famous on the internet.

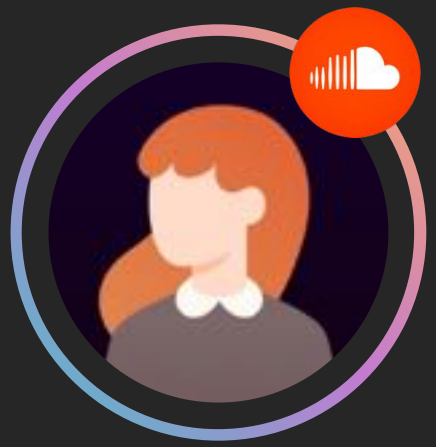
The raw analysis of songs represents only 1/3 of the algorithm.

With 40 000 songs uploaded everyday on Spotify, the user only has access to a small share of the existing library and unknown artists have almost no chance of breaking through.

* Medium – How does Spotify know you so well?

Qualitative Interview

How to build our algorithm ?



Louise Columelli
Data Scientist @ SoundCloud

We talked to Louise to know about the algorithms we could use and how to collect our first set of data :

Which data do we need ?

Our algorithm needs a good amount of labelled data in order to have useable outputs.

To get them we can :

- Use existing mood playlists from users (first set of data)
- Create incentives for users to label songs themselves (e.g: no ads for instance)
- Use transfer learning methods

What types of algorithms can we use ?

- Unsupervised Clustering Algorithms (like K-Means) are the best to start with raw data.
- Neuronal Networks (but their output can be difficult to interpret because we have no knowledge of how the algorithm processed the data)

How do we do it ? (1/2)

Spotify's API

With Spotify's API, we can have access to a whole list of audio features. Through these numbers, we believe that we could define the feelings returned by a song.

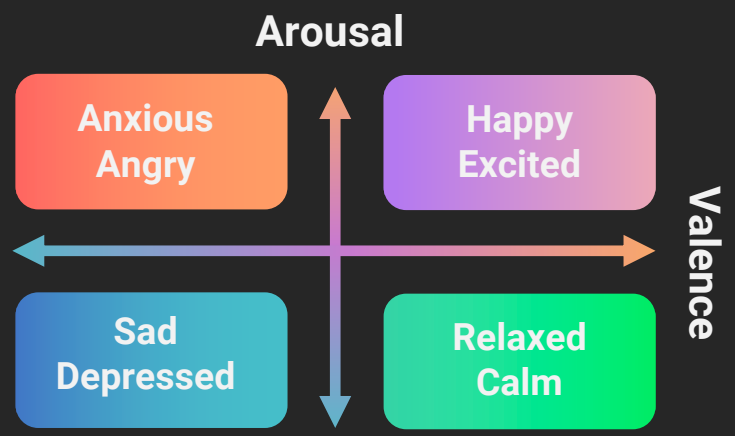
- **Energy**
- **Valence**
- **Danceability**
- **Acousticness**


```
{
  "duration_ms" : 255349,
  "key" : 5,
  "mode" : 0,
  "time_signature" : 4,
  "acousticness" : 0.514,
  "danceability" : 0.735,
  "energy" : 0.578,
  "instrumentalness" : 0.0902,
  "liveness" : 0.159,
  "loudness" : -11.840,
  "speechiness" : 0.0461,
  "valence" : 0.624,
  "tempo" : 98.002,
  "id" : "06AKEBrKUckW0KREUWRnvT",
  "uri" : "spotify:track:06AKEBrKUckW0KREUWRnvT",
  "track_href" :
 "https://api.spotify.com/v1/tracks/06AKEBrKUckW0KREUWRnvT",
  "analysis_url" : "https://api.spotify.com/v1/audio-
analysis/06AKEBrKUckW0KREUWRnvT",
  "type" : "audio_features"
}
```

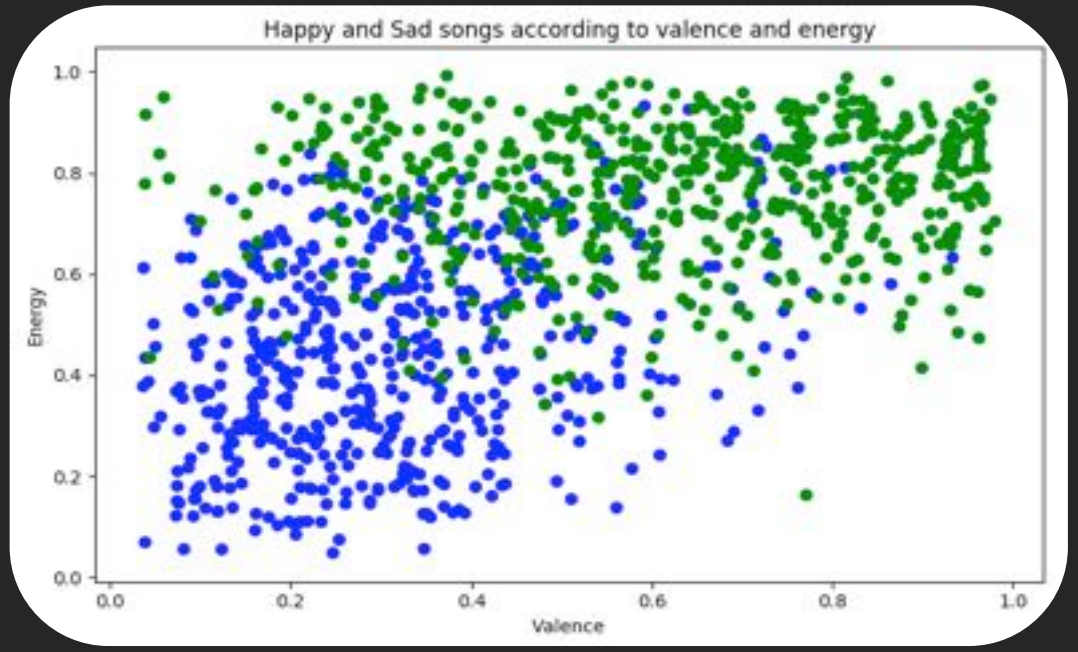

* Spotify for Developers

How do we do it ? (2/2)

The example of valence and arousal



Theories have been trying to define emotions through the use of various dimensions. For instance, Thayer's 2D model defines 4 emotion clusters for music according to valence and arousal values.



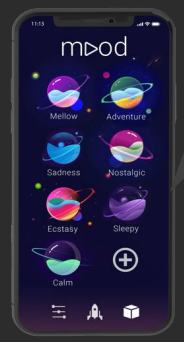
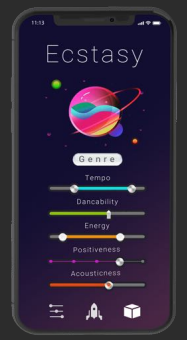
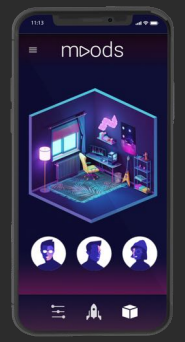
We decided to apply the following protocol :

- Connection to Spotify's API
- Extraction of the songs composing Happy and Sad playlists on Spotify
- Extraction of valence and arousal values
- Graph showing distinct clusters for two emotions

* Nitratine blog, ResearchGate.net

```
import spotipy
import spotipy.util as util
from spotipy.oauth2 import SpotifyClientCredentials
import pandas as pd
import matplotlib.pyplot as plt

#Your IDs

client_id = 'your_client_id'
client_secret = 'your_client_secret'
username = 'your_username'
redirect_uri = 'your_redirect_uri'
scope = 'your_scope'

    #Step 1 --> Authentification Spotify

client_credentials_manager = SpotifyClientCredentials(client_id=client_id,
                                                      client_secret=client_secret)

print("...connecting to Spotify")
sp = spotipy.Spotify(client_credentials_manager=client_credentials_manager)

if sp:

    #Step 2 --> Get a list of dict containing all the tracks of the two playlists
    # Happy and Sad with playlist name, track name and track Id

    playlists = sp.user_playlists(username)

    tracklist = []

    for playlist in playlists['items']:
        print (playlist['name'], 'nb of tracks: ', playlist['tracks']['total'])

        results = sp.user_playlist(username, playlist['id'],
                                   fields="tracks, next")

        tracks = results['tracks']

        for i, item in enumerate(tracks['items']):
            track = item['track']
            tracklist.append(dict(playlist=playlist['name'],
                                  name=track['name'], track_id=track['id']))

        while tracks['next']:
            tracks = sp.next(tracks)
            for i, item in enumerate(tracks['items']):
                track = item['track']
                tracklist.append(dict(playlist=playlist['name'],
                                      name=track['name'], track_id=track['id']))

    print("There are ", len(tracklist), " songs in the tracklist")

    #Step 3 --> Get audio features (valence and energy) for each track

    print("...Getting audio features for each track")

    tracks_features = []

    for track in tracklist:
        features = sp.audio_features([track['track_id']])
        if not features:
            print("passing track ", track['name'])
            pass
        else:
            f = features[0]
            tracks_features.append(dict(playlist=track['playlist'],
                                        name=track['name'],
                                        track_id=track['track_id'],
                                        valence=f['valence'],
                                        energy=f['energy']
                                        ))

    #Step 4 --> Create a csv file with all the track info and start
    # building our database to train the algorithm

    print("...Creating a csv file from the dataset")

    df = pd.DataFrame(tracks_features)
    print('Nb of tracks in dataset', len(df))
    df.to_csv(r'/Users/Stan/Google Drive/1-Data Analysis MOOC/Programmes Python/
              index=False)

    #Step 5 --> Print a Scatter plot showing relations between moods
    # (Happy, Sad) and the couple valence/energy

    fig, ax = plt.subplots()
    colors = {'Happy':'green', 'Sad':'blue'}
    ax.scatter(df['valence'], df['energy'],
               c=df['playlist'].apply(lambda x: colors[x]))
    plt.title('Happy and Sad songs according to valence and energy')
    plt.xlabel('Valence')
    plt.ylabel('Energy')
    plt.show()

else:
    print("Error connecting")
```

Product roadmap

	2019	2020			
	December	Q1	Q2	Q3	Q4
	MVP		Beta version		First Product
Front End	  Develop *"Moods"* playlists and *"Your music"* features based on Spotify's API		 Development of the *"Exploration"* feature that connects with the previous ones (Moods and Your Music)		 Development of the *"Room"* feature that allows users to listen to the same song simultaneously
Back End	Database construction from the extraction of Spotify's mood playlists made by users to the collection of data through the use of our MVP, beta and first product: • Start with "objective" definition of moods (using users' inputs on Spotify) • Building our own database throughout the use of the app with users defining their emotions				
	Clustering: • K-means method • Hierarchical clustering	Test of algorithms: • Deep Learning neural networks • Random Forest	Use of Librosa library to compute song features ourselves (valence, arousal, etc.)	Algorithm training to get more and more precise outputs using transfer learning	

6. DEVELOPMENT STRATEGY

Go-to-Market

3-phase strategy

MVP

Spotify's API

3 months

Beta Testing

6 months

Product Launch

First tests of our algorithm to assess if it works & sharing of the MVP within our network (our music network, ESCP students, friends & family)
Costs: hiring of a software engineer to develop the algorithm (possible remuneration: equity)

Development of our **first public app (Beta)** & independence from Spotify to start monetizing.
Costs: contracts (rights acquisition) / SEO
Revenues: monetization of our app + subventions & BA money

Launch of our final product
Costs: royalties, heavy marketing efforts and recruiting to scale our business (+ all previous costs)
Revenues: monetization of our app + VC money

Business Model

SaaS revenues
4,99€ monthly subscription

Royalty costs
65-70% of revenue (Spotify ref.)

R&D costs
10% of revenue (Spotify ref.)

Sales & Marketing costs
20% of revenue (12% for Spotify): B2C business

Profit margin (€)

Revenues	4,99€
Royalties	3,24€
R&D (10% expenditure)	0,49€
Sales & Marketing (20%)	1€
Profit margin per user	0,26€

Business Plan

Saas Revenue Model

Pricing

Price and free trial periods evolve along with our customer base

Target price of 4,99 € by Year 4

Our offer

Full access to our music library and customizable discovery tools

No advertisement

Y1

3 months free trial
Then **2,99 €**/month

Y2

3 months free trial
Then **2,99 €**/month

Y3

3 months free trial
Then **3,99 €**/month

Y4

3 months free trial
Then **4,99 €**/month

Business Plan

Cost structure

Royalties

We will start facing such costs during the development of our beta version. We expect such costs to represent 65 – 70% of our revenue (according to Spotify's FS). An alternative solution would be to allow artists to directly upload music on our platform cutting the record labels as intermediaries.

R&D

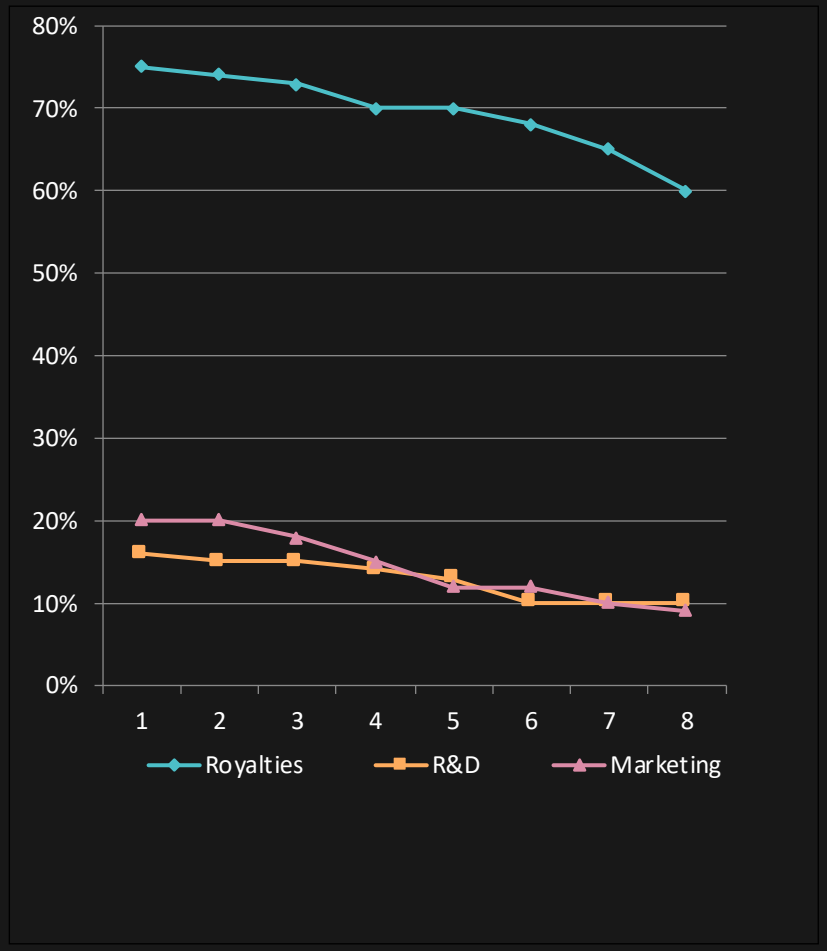
Refers to the costs associated with developing and maintaining our algorithm and platform. Some of these costs relate to the hiring of software engineers with the necessary know-how.
We expect R&D expenses to be very high during the first 5 years and to start decreasing once our algorithm reaches maturity, pushing up our profitability.

Sales & Marketing

Expenditure for advertising is going to be one of the main costs due to the need of reaching a very large pool of customers. We aim at keeping such costs under control taking full advantage of social media and our network. During the launch phase we plan on investing in influencers such as famous artists and bloggers/podcasters to increase brand awareness.

Cost & revenue forecasts

- We do not expect revenue to cover our costs during the first 3 years
- Financing will be used to invest in R&D as well as in Sales & Marketing
- We expect our costs to decrease gradually over time to reach profitablity by Year 4



OUTPUT		€
Revenues		0
COGS	-	27 126
Margin	-	**27 126**
Employees	-	87 586
Marketing	-	7 750
Rent	-	18 000
EBITDA	-	**140 462**
D&A	-	2 400
EBIT	-	**142 862**
Taxes		42 859
Net Profit	-	**100 004**

Fundraising needs

€150K

FUNDRAISING

The Soundtrack of your Life

Thank you