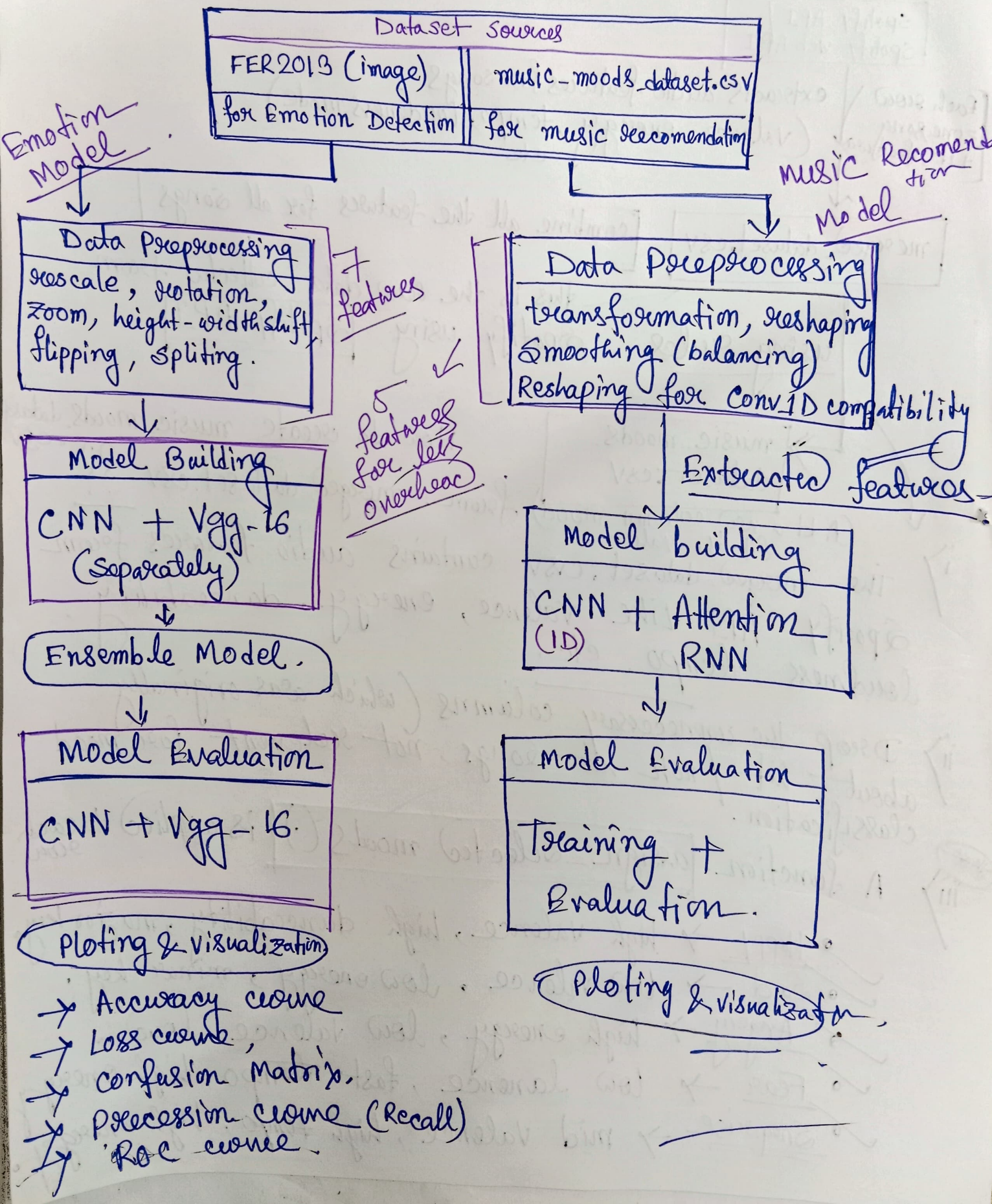


## 2 Emotion Detection

for emotion Detection I used the FER-2013 Dataset.





Spotify App  
Hugging Face

# ① Creating the Music Recommendation Dataset (.csv)

Spotify API /  
Spotify Web API

Each row  
= one song  
+ its features  
extracts audio features for songs  
(valence, energy, tempo, loudness, mode)  
etc

merged\_dataset.csv

[combine all the features for all songs]

using rules

this is the raw data collected from  
Spotify using Spotify API

music\_moods\_dataset.csv

How to create music\_moods\_dataset.csv  
from merged\_dataset.csv ??

(Add a new column mood)  
fill the values.

i> The merged\_dataset.csv contains audio features from  
Spotify API like valence, energy, danceability,  
loudness, tempo, etc.

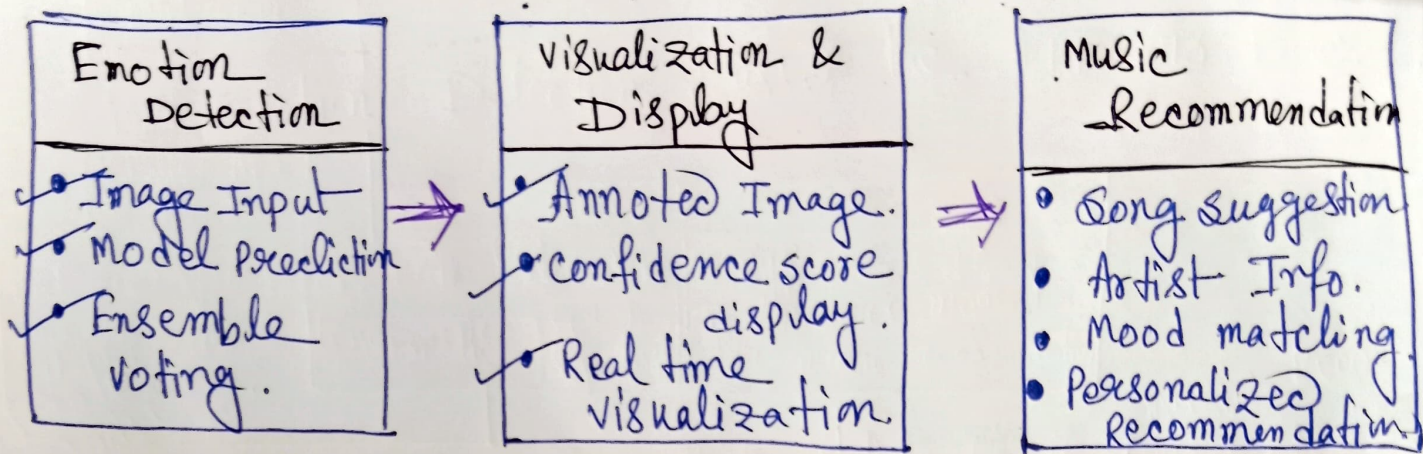
ii> Drop the unnecessary columns (which was originally  
about hit / not hit songs, not relevant for mood  
classification).

iii> A function assign\_selected\_moods(.) is applied to each row.

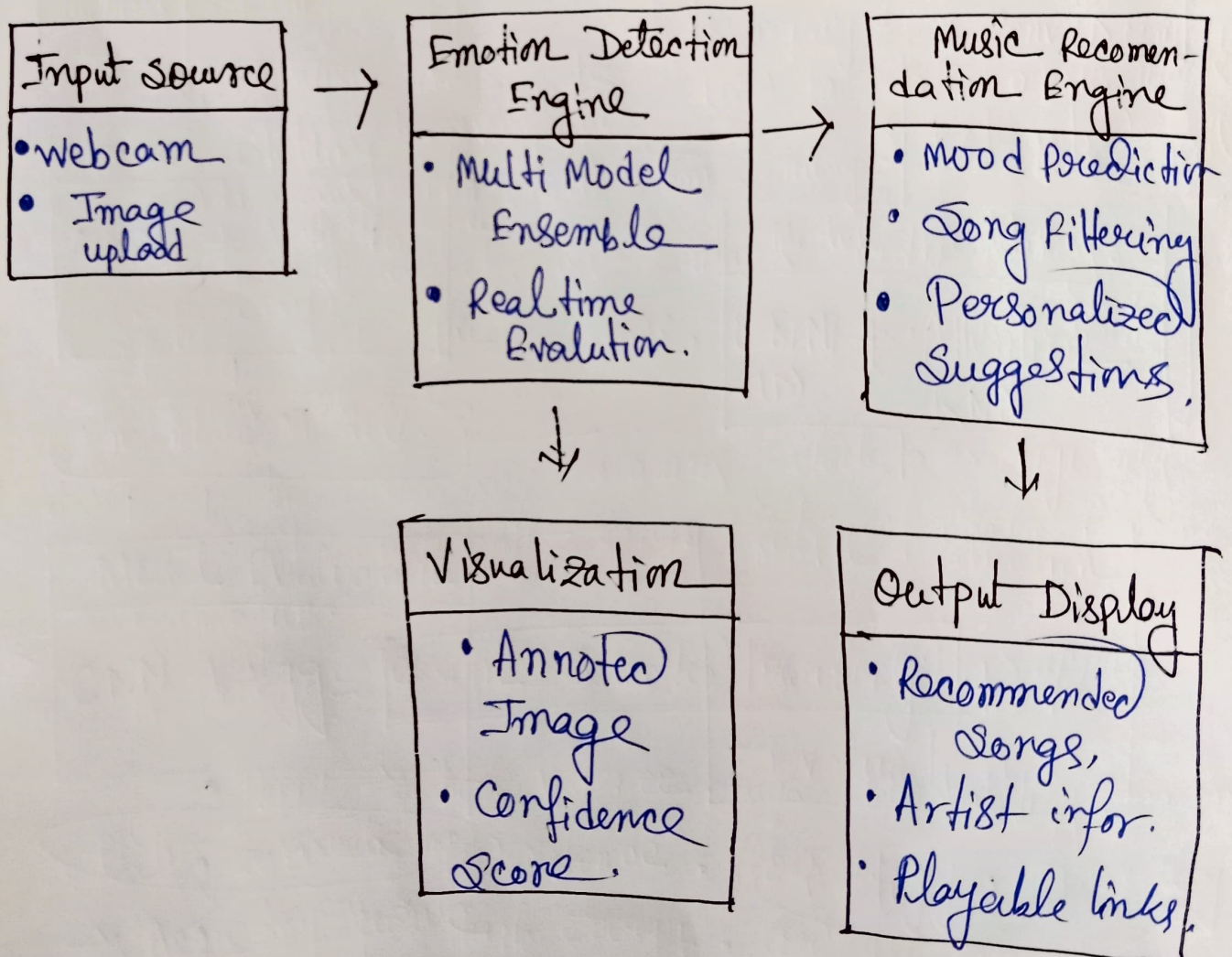
- ✓ Happy → high valence, high danceability, major key.
- ✓ Sad → low valence, low energy, minor key.
- ✓ Angry → high energy, low valence, loud.
- ✓ Fear → low valence, fast tempo, high energy.
- ✓ Surprise → mid valence, high tempo, high energy.



## Model Architecture



## Process Workflow



Working on

'angry',  
'fear'.

'happy',

'Surprise', 'Sad'