



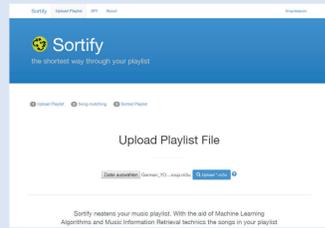
# Sortify

## The Shortest Way through Your Playlist

### User

At first we need a Playlist (m3u), this shall be uploaded to our service by the User

- Upload Playlist
- Initiate Process

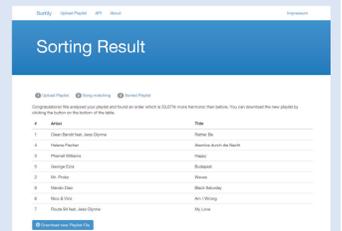


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### Results

Present the result and provide the user with the optimized version of his playlist

- Display the new playlist and graphs representing the initial and our optimized order.
- Output Path lengths
- User can now download the optimized Playlist

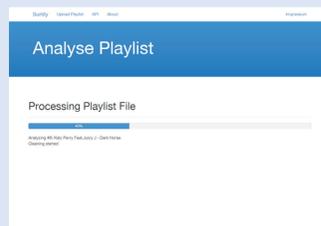


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### Song Identification

Find a unique ID for each Song in The Playlist. Variations and Typos in the Users Playlists shall be eliminated

- Query musicbrainz.com
- Search for a sample on amazon.com
- Calculate similarity (Levenshtein Distance) between song description from the playlist and the search result



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### Sort the Playlist

Find the ideal order of the songs in the playlist based on the features

- Interpret the problem as the „Traveling Salesman Problem” (TSP) and solve it
- Short Playlists: Ideal solution can be calculated
- Longer Playlists (>14 Songs): Genetic algorithm is used

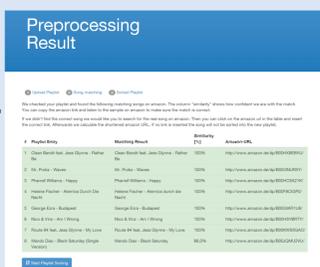


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### Verification

Let the user verify our interpretation of his playlist.

- Display our interpretation of the playlist
- User can change the Amazon.com URLs if necessary
- User than can initiate the sorting process

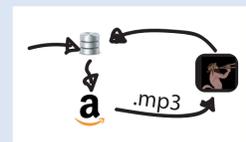


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### Find the features

Collect the features for each song in the playlist

- Lookup features in our database
- If not available yet:
  - Download sample from Amazon
  - Extract music features from the sample with marsyas
  - Store features in Database



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