

# LastHistory

Visualizing Last.fm Listening Histories and Personal Streams

<http://www.frederikseiffert.de/lasthistory>

LastHistory allows you to analyze music listening histories from Last.fm through an interactive visualization and to explore your own past by combining the music you listened to with your own photos and calendar entries. It is written as a desktop application for Mac OS X 10.5 or higher.

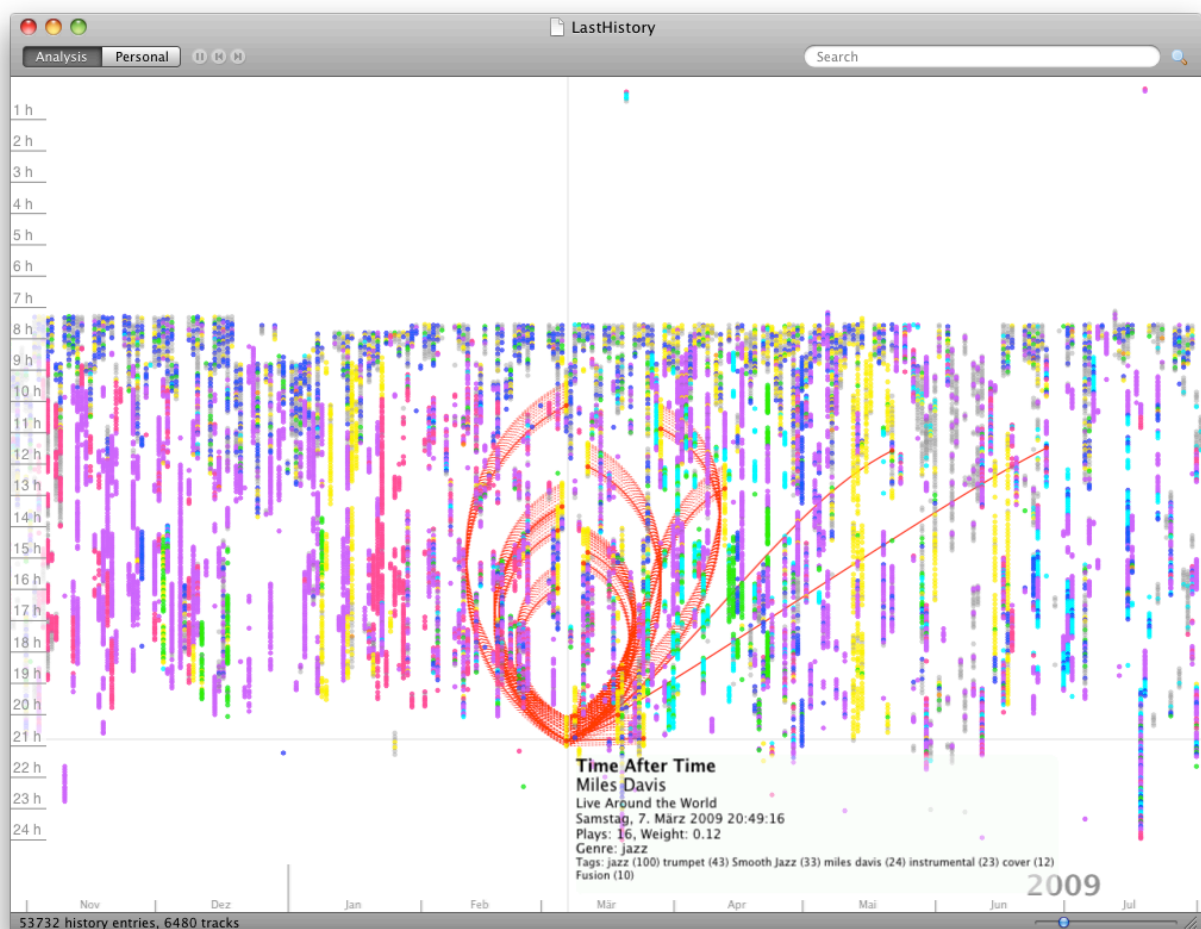
LastHistory can be used in one of two modes, each of which is optimized for a different use case:

- **Analysis Mode**

This mode can be used for interactively analyzing an arbitrary listening history (not necessarily your own) in three basic dimensions: time, tracks and genre. Integrated tools like searching, playlist highlighting, mouse-over information, and zooming allow to generate insight for the visualized music listening history in each of those dimensions.

- **Personal Mode**

This mode adapts the visualization shown in Analysis mode for exploring your own past: by adding photos from your iPhoto library and calendar entries from iCal to the visualization, you can reminisce about your past by listening to the top tracks from your last vacation while watching a slide show of the corresponding photos. Or you can find the most influential tracks that you listened to most during a specific timeframe by inspecting the highlighted tracks in the visualization.



Screenshot of LastHistory in Analysis Mode, with the mouse pointing at a specific history entry

# Application Description and Usage

LastHistory visualizes the individual entries of a listening history from Last.fm as nodes on a timeline. Along the x-axis are the days of the listening history in ascending order (with the past on the left and the present on the right), while the hours of each day are shown along the y-axis (in UTC/GMT, with midnight at the top and midnight of the next day on the bottom). Thus, all history entries from a single day are shown along a vertical line.

## Genre Visualization

Each entry in the listening history (i.e. each registered instance of the user listening to a song) is shown as a round node in the visualization. The color of each node corresponds to the genre of the song, which is based on the song's Last.fm tags. Following are the different node colors with their respective genre:

- orange: classical
- yellow: jazz
- green: funk
- turquoise: hip-hop
- blue: electronic
- purple: rock
- pink: metal
- grey: unknown

## Interactive Exploration

The listening history can be interactively explored with the mouse as follows:

### • Showing information about history entries

Pointing at a node with the mouse shows additional information about the history entry:

- name of the song, artist, and album (if available)
- weekday, date, and time of the listening history entry (in GMT)
- total number of times this song was played in the listening history
- calculated weight of the node in the history (see below)
- genre and tags

### • Highlighting of similar tracks and playlists

Hovering over a node without moving the mouse shows other instances of the same track in the listening history connected through red lines. Additionally, other instances of the same playlist this song might be part of are connected through dashed red lines. Highlighting can be temporarily disabled by holding the shift key while moving the mouse.

### • Navigating the timeline

Clicking and dragging allows to move the timeline.

### • Scaling the timeline

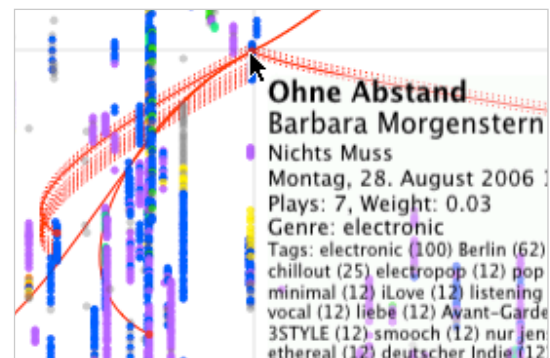
Using the slider in the lower-right corner of the window, the timeline can be expanded or contracted.

### • Song playback

Clicking a node plays the song from the user's iTunes library (if available). Using the available control buttons, it is possible to pause the playback or select the next or previous track in the listening history. Clicking outside a node stops playback.

### • Event playback

Clicking and dragging the mouse within one of the axis' labeling selects the time period or time of day and plays the songs from this timeframe in chronological order. Right-clicking and dragging in the listening history allows selecting an arbitrary timeframe. While playing an individual song or the songs from an event, the corresponding playlist can be added to iTunes by selecting „Create Playlist in iTunes“ from the Controls menu.



- **Multi-touch trackpad navigation**

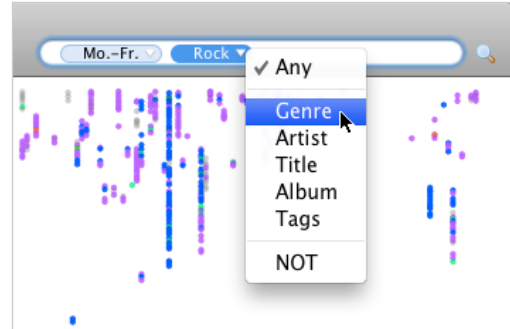
Using the trackpad, the following gestures are available to navigate the visualization:

- Two-finger left/right to move the timeline (scroll)
- Two-finger pinch to expand or contract the timeline

## Searching

The search field in the upper-right corner of the window allows searching the listening history by time, tracks and genre. After entering a search term, click the loupe icon or press enter twice to perform the search. Following are some examples of possible search terms:

- 13: All history entries between 13:00 and 13:59 GMT.
- 1–6: All history entries between 01:00 and 06:50 GMT.
- Sa or Saturday: All history entries on Saturdays.
- Mo–Fr: All history entries between Monday and Friday.
- Apr or April: All history entries in April.
- Jul–Aug: All history entries between July and August.
- 2009: All history entries in 2010.
- 2009–2010: All history entries between 2009 and 2010.
- Rock: All history entries with the genre or tag „Rock“ or the name of the artist or album containing „Rock“.
- Beatles: All history entries with the genre or tag „Beatles“ or the name of the artist or album containing „Beatles“.



Click the triangle next to the search token to select a category to search in (genre/artist/title/album/tags) or to invert the search by selecting „NOT“. Multiple search tokens can be entered by pressing enter or comma after each term. Multiple date or time search tokens are combined with disjunctions („or“), while multiple text search tokens as well as time and text search tokens are combined with conjunctions („and“).

Weekday names have to be entered in the system language.

## Personal Mode

Switching to Personal Mode by clicking the „Personal“ button in the upper-left corner of the visualization window changes the visualization and interaction in the following ways:

- **Photo events and photo slideshows**

Photo events from the local iPhoto library (if available) are added below the listening history. The photos can be shown as a slideshow with the corresponding music from the listening history by clicking a photo event (only available if the music can be found in iTunes).

- **Calendar entries**

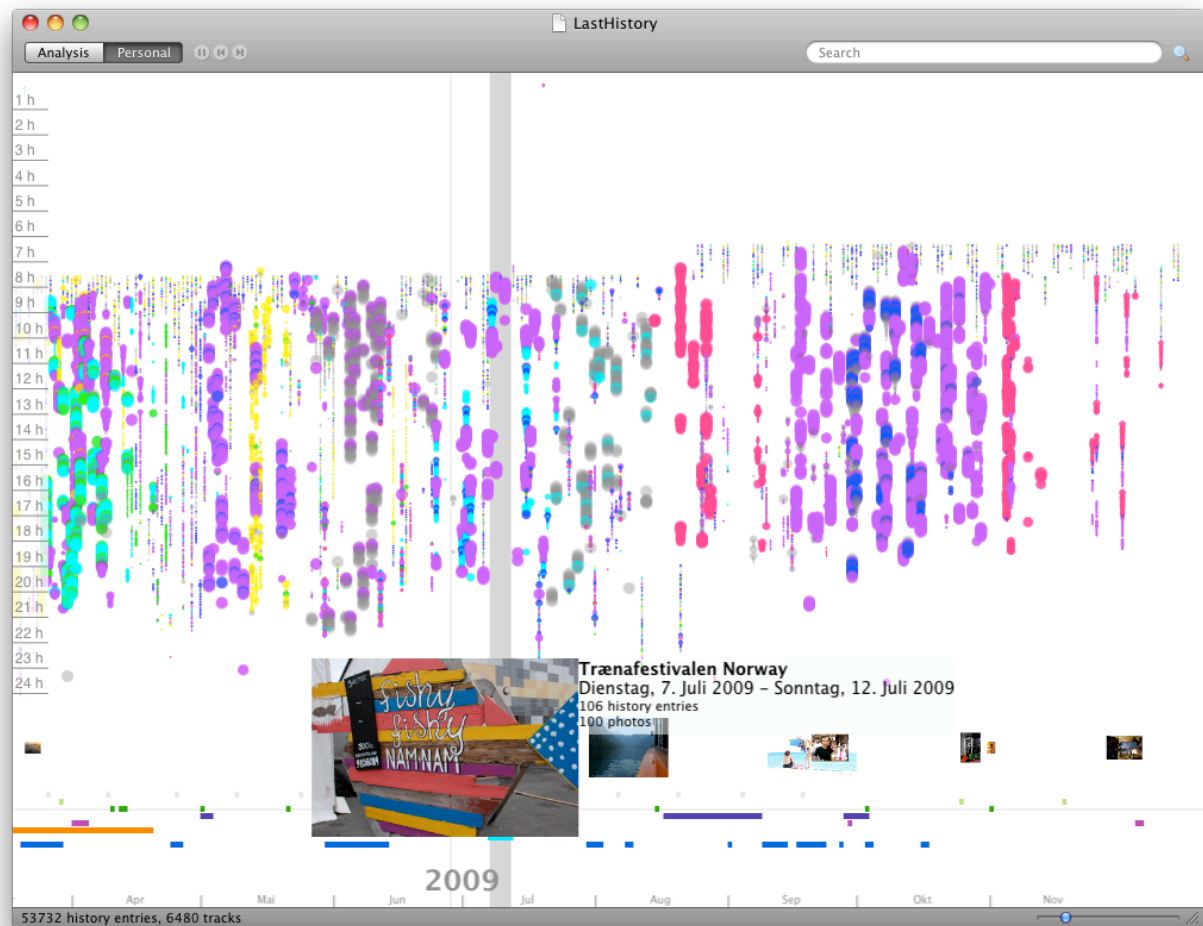
All-day events from the local iCal database (if available) are added as lines below the photos. Music corresponding to the time period of an event can be played by clicking the event line.

- **Weighted nodes**

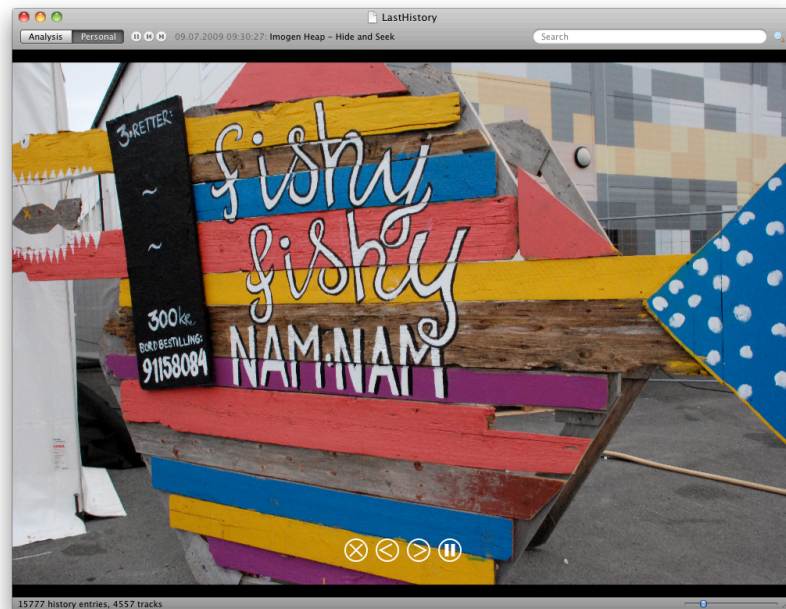
The size of the nodes in the listening history is varied according to the importance of the respective song around the time of the listening history entry: songs that were listened to more often in a one-month timeframe around the history entry than in the rest of the listening history are shown with a bigger node size, while songs that were not listened to often or that were listened to throughout the listening history are shown with a smaller node size.

- **Charts playback mode**

When playing history entries for an event (e.g. for photos or calendar entries), the songs are not played in the order of the entries in the listening history, but in the descending order of the number of plays of the songs during the selected timeframe.



Screenshot of LastHistory in Personal Mode, with the mouse hovering over a photo event



Screenshot of LastHistory showing a slideshow of a photo event