

LFE Medieninformatik • Bartholomäus Steinmayr

# SongWords

Final presentation of  
project thesis



# Outline

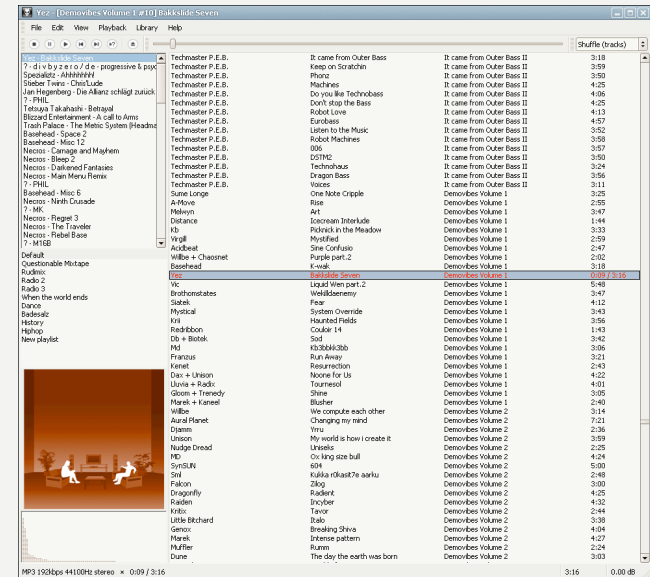
- Motivation
- User interface
- Implementation
- Evaluation





## Motivation

- Personal digital music collections can now easily contain tens of thousands of songs
- Usual solution for exploration: Endless lists of text
- Related research: use of musical similarity information
- Goal of SongWords:  
To provide a casual interface for music exploration, based on similarity of lyrics





## Why lyrics?

- Lyrics can be acquired easily from online databases
- Lyrics are objective
- Lyrics possess high descriptive value



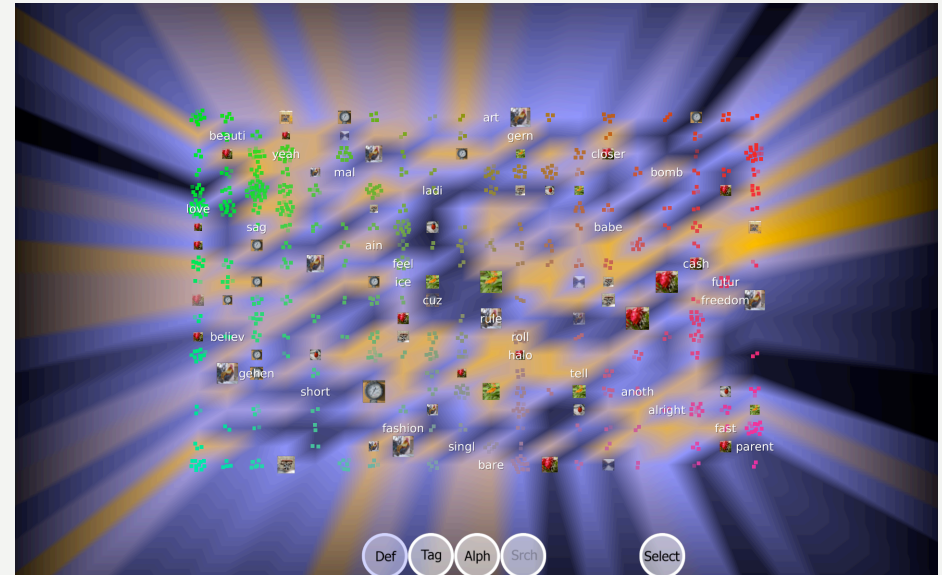
## Goals

- Aid exploration of music collection and discovery of new songs
- Casual, intuitive user interface
- Support for desktop and tabletop interaction
- Provide unified user interface



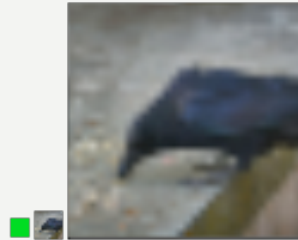
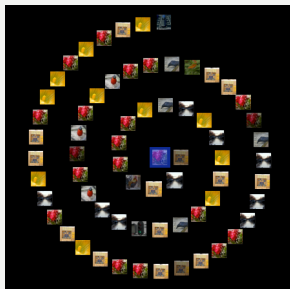
## User interface

- Individual songs displayed as icons
- Zoomable user interface
- Arrangement of icons by text (see image), genre or alphabet
- Animated transitions between views



## User interface (cont.)

- Display of own collection and songs from Web
- Song icons use semantic zoom (see image)
- Text can be selected and used for searching
- Interaction using only mouse (desktop) or fingers (tabletop)



Edgar Allan Poe  
The Raven

Once upon a midnight dreary, while I pondered weak and weary,  
Over many a quaint and curious volume of forgotten lore,  
While I nodded, nearly napping, suddenly there came a tapping,  
As of some one gently rapping, rapping at my chamber door -  
'Tis some visitor,' I muttered, 'tapping at my chamber door -  
Only this, and nothing more.'

Ah, distinctly I remember it was in the bleak December;  
And each separate dying ember wrought its ghost upon the floor.  
Barely I ratched the curtain - sabbly I had sought to border  
From my books surcease of sorrow - sorrow for the lost Lenore -  
For the rare and radiant maiden whom the angels name Lenore -  
Statuesque here for evermore.

And the silken sad uncertain rustling of each purple curtain  
Thrilled me - filled me with fantastic terrors never felt before;  
So that now, to still the beating of my heart, I abstain speaking  
'Tis some visitor entreating entrance at my chamber door -  
Some late visitor entreating entrance at my chamber door -  
'Tis it is, and nothing more.'

Presently my soul grew stronger; hesitating then no longer,  
'Sir,' said I, 'or Madam, truly your forgiveness I implore;  
But the fact is I was napping, and so gently you came rapping,  
And so faintly you came tapping, tapping at my chamber door,  
That I scarce was sure I heard you' - here I opened wide the door;  
Darkness there, and nothing more.

Deep into that darkness peering, long I stood there wondering, fearing,  
Doubting, dreaming dreams no mortal ever dared to dream before;  
But the silence was unbroken, and the darkness gave no token,  
And the only word there spoken was the whispered word, 'Lenore!'  
This I whispered, and an echo murmured back the word, 'Lenore!'

# Arrangement

- Arrangement using self-organizing map
- Feature vectors for all songs
- Color coding represents variety
- Genres based on tags from last.fm

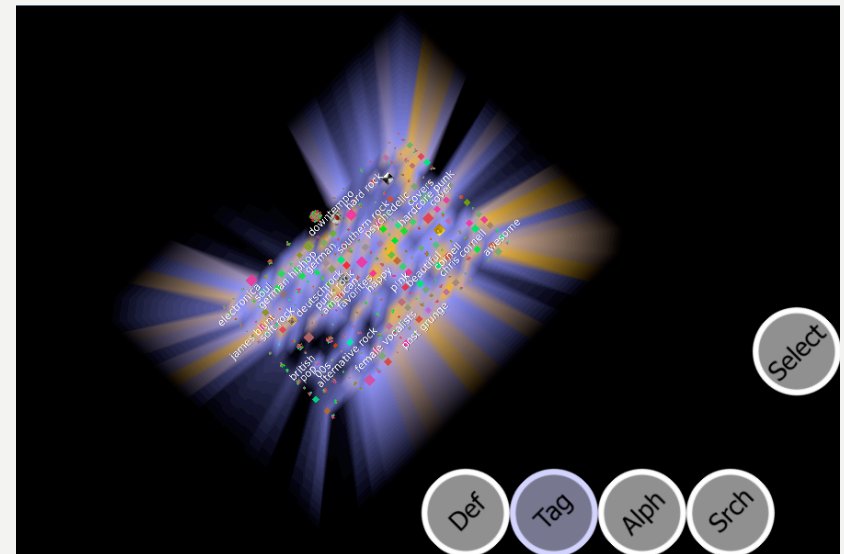






## Multi-touch interaction

- Entire user interface can be rotated
- Multi-touch interaction on tabletops
- Can process arbitrary amount of contacts
- Simulates real-world metaphor





## Video



## Evaluation

- Qualitative user study
- Six participants
- Higher satisfaction with tabletop, discovery failed
- Performance bottleneck: Item download



**Thank you for your time!**