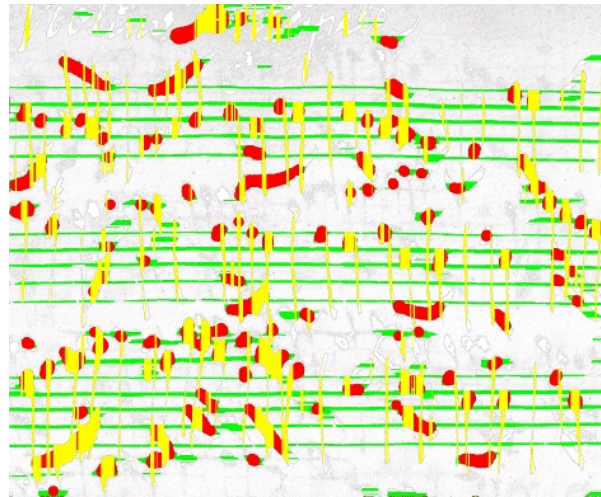


- ♦ Image processing methods are developed to automatically extract the individual handwriting characteristics of a writer, which can be further on compared with the characteristics of other writers. Characteristics such as form and orientation of notes, clefs, rests and other music elements are extracted and stored. Yellowed or dirty paper, ink stains, and unique handwriting style set high requirements for the precision of the employed algorithms. Only through the combined and iterative usage of various methods a relatively high precision can be achieved. The developed algorithms have to be integrated in the digital archive environment to realize the writer identification scenario.

note heads and beams

note stems and bar lines

staves



The eNoteHistory Project is funded by the German Research Foundation (DFG) from January 2003 until December 2004.



www.enotehistory.de

Writer Identification in Historical Music Scores

- ♦ Handwriting analysis, classification and evaluation
- ♦ Digital archive of historical music scores: storage and retrieval
- ♦ Image processing for handwriting analysis in historical manuscripts

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Institut
Graphische
Datenverarbeitung

Funded by the DFG

(German Research Foundation)

Deutsche

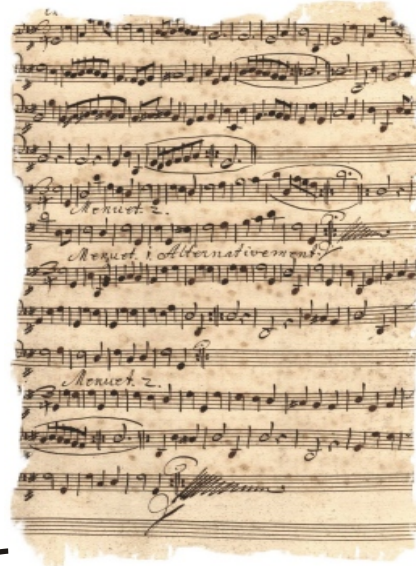
Forschungsgemeinschaft

DFG

Motivation

◆ During the late 17th century until the beginning of the 19th century music works have been mainly recorded, copied and disseminated as handwritten music scores. Historical collections of music scores all over the world are part of the world's cultural heritage.

The preservation of these documents, at the same time allowing their further use for music research and in library services is an important and difficult task. The digitalization and organisation of the historical documents in a digital archive collection can help to solve the problem.



Metadata from the musicology analysis of a music score

4 KAPITEL 1. BESCHREIBENDER KATALOG

Musica Saec. XVIII.-2.
Johann Friedrich Agricola
Dramma giocoso *La nobiltà delusa*

Titel: *La Nobiltà delusa*, | Dramma giocoso, | posto in Musica | del Sig: Giovanni Federico | Agricola. | 1754.

Quellenbeschreibung: Partitur [1.] u. 4 Stimmen [2.-5.]
[1.] Partitur, [1r] Titel s.o., [unten links] Bacedlone: il Sig: Paganini | la Contessina, la Sig: Paganini. | Panerazio. il Sig: Cricchi. | Lindoro. il Sig: Croci | Pampalogo. il Sig: Sidotti., 112 fol. (originale Foliierung), Pappereinband, 200x320
[2.] Violino I, ohne Einband, Ternio + Quaternio, 330x205
[3.] [Basso], Fragment, 6 Blätter, 330x210
[4.] [Etikett (73x95)] Vorne | Bacedlone, Pappereinband wie Partitur [1.], 19 fol. + Vorsatzblätter, 330x205
[5.] fol. 1 eines Umschlages: Intermezzo. | Basso., 330x205

Schreiber:
[1.] (J. Theile I)
[2.-5.] (Scalabrini)

Papier:
[1., Vorsatz] gekrönter Adler, belegt mit FR-Monogramm
[1., rastriertes Papier] a) leer, b) gekrönter Doppeladler
auf den Flügeln, Brustschild mit Z belegt (sch
[2.+3.] nicht identifizierbar
[4., Vorsatz] gegürtete Lilie
[4., rastriertes Papier] nicht
[5.] gekrönter Doppeladler

◆ Source description - bibliographic and musicology analysis of music scores

◆ Handwriting analysis - building a knowledge base for handwriting identification

◆ User scenarios - search, navigation, writer identification

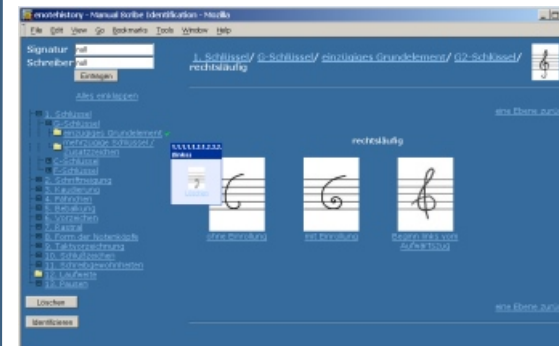
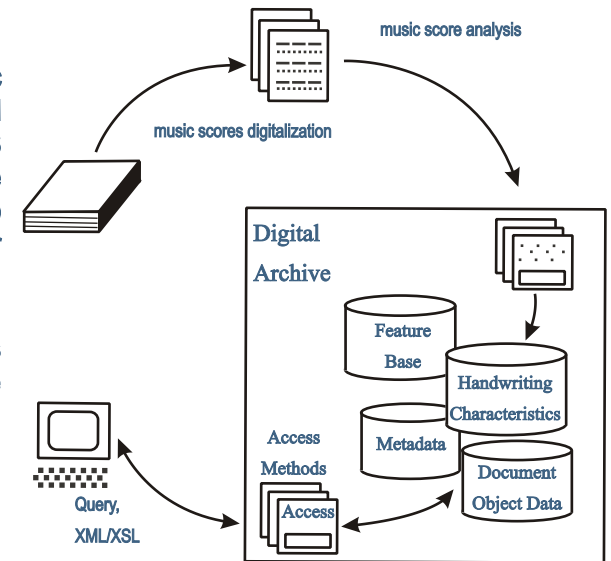
◆ Database - storage and retrieval of music scores and their metadata

◆ Image processing - extraction and classification of handwriting characteristics

System Overview

◆ A digital archive of music scores has been created based on an object-relational DBMS and special purpose database extensions are integrated to support the predefined user scenarios.

◆ Web-based user interfaces are implemented to realize the user scenarios.



bibliothek	Signatur	werk-Titel	Komponist	Bilder
D-KO	Musik Saec. XVIII.-2.	Titel	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Capitata Cora Senzita di COSTA SENZA	Giuseppe Antonio Scarlatti	150
D-KO	Musik Saec. XVIII.-2.	Capitata Scaur. Nra. die Fuga	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Quartette A	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Quartette B	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Quartette C	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Quartette D	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Chorale A	Giuseppe Antonio Scarlatti	150
D-KO	Musik Saec. XVIII.-2.	Titel A	Giuseppe Antonio Scarlatti	N/A
D-KO	Musik Saec. XVIII.-2.	Ch. Costant. et. Senzita. di F.	Giuseppe Antonio Scarlatti	N/A

