

# Music Encoding and Linked Data

**A flexible approach to sharing musical information online**

**David Lewis, AREM, December 2022**

University of Oxford eResearch Centre – [david.lewis@oerc.ox.ac.uk](mailto:david.lewis@oerc.ox.ac.uk)

Department of Computing, Goldsmiths University of London – [d.lewis@gold.ac.uk](mailto:d.lewis@gold.ac.uk)

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**Music is complex**

**Musical activities are multi-modal**

**Musical activities are individual**

**So what can we share?**



# *Climb!*

Maria Kallionpää





# Delius string quartet masterclass

The image displays a page of musical notation for a string quartet, likely from a masterclass. The score is written for four instruments: Violin I, Violin II, Viola, and Violoncello. The music is in 3/4 time and features a prominent melodic line in the Violin I part, marked with a *p* dynamic. The other instruments provide harmonic support, with Violin II, Viola, and Violoncello parts marked with *pp* dynamics. The score includes various musical notations such as notes, rests, and slurs, and is accompanied by the instruction "With slow waving movement". A small logo is visible in the top left corner, and a "Sync" button is located in the bottom right corner of the page.

With slow waving movement

Violin I

Violin II

Viola

Violoncello

pp

pp

pp

pp

Sync





Play 17:15 ————— 29:19

*With slow waving movement*



Violin I

Violin II

Viola

Violoncello



1

7

13

*p*

*cresc.*

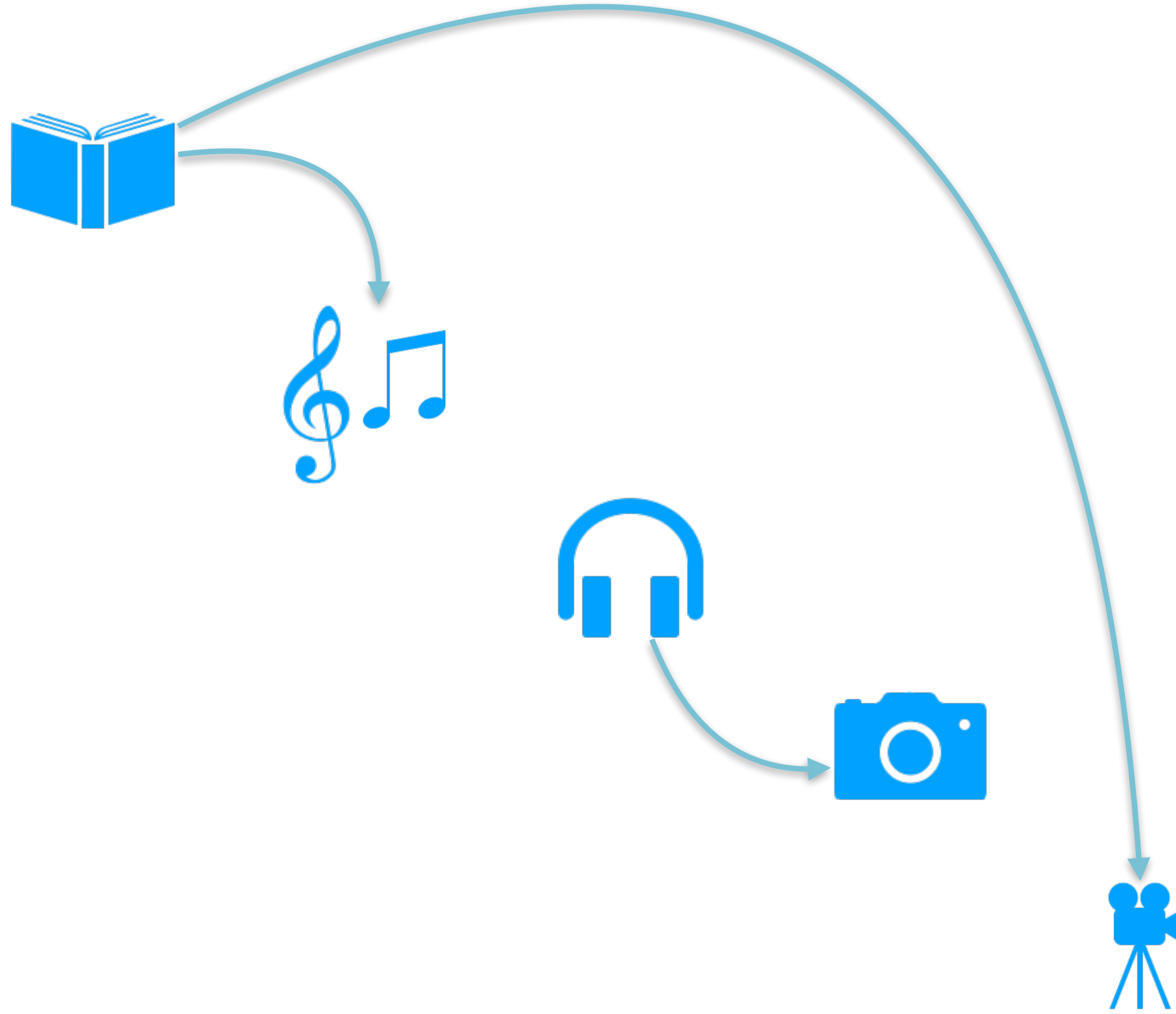
*mf*

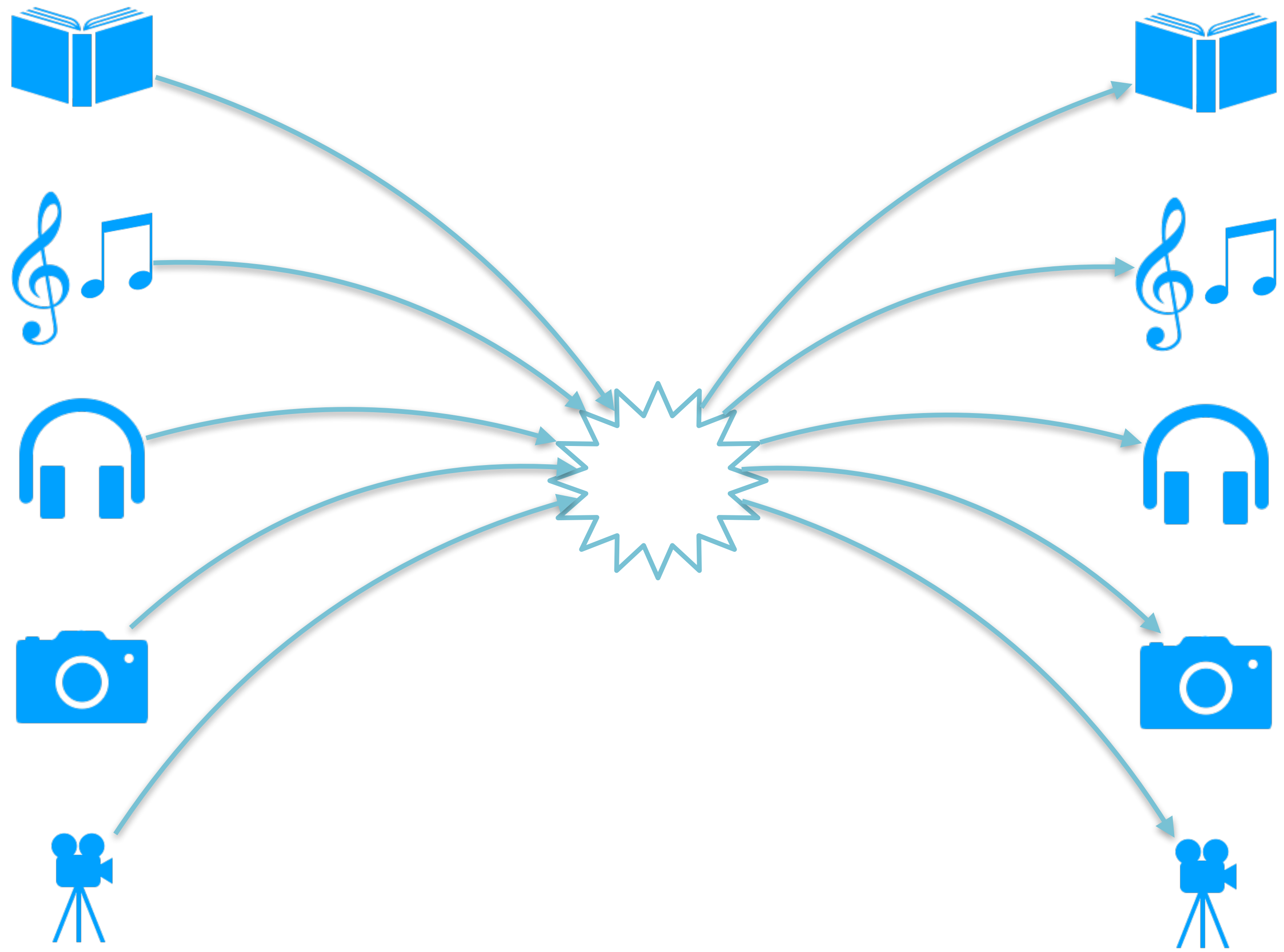


 TROMPA

  
university  
of music and  
performing  
arts vienna

CLARA SCHUMANN  
ROMANZE IN A-MOLL







# Music Encoding and Linked Data (MELD)

**We assume MELD apps will be very specific**

- Some are live and create data dynamically
- Some have rich data structures
- Some use external data sources
- Many audiences...
- *We can't and shouldn't prescribe required data structures or functionality*



# Music Encoding and Linked Data (MELD)

## What can we share between apps?

- Linked Data is always present.
- Triples are gathered from the Web
- The results are used to build the app
- Functionality is available for visualisation, interaction and co-ordination
- Often there is a lot of overlap of data model
  - (but also of personnel)

# Asking the Forbidden Question:

**A digital companion to a musicological essay**

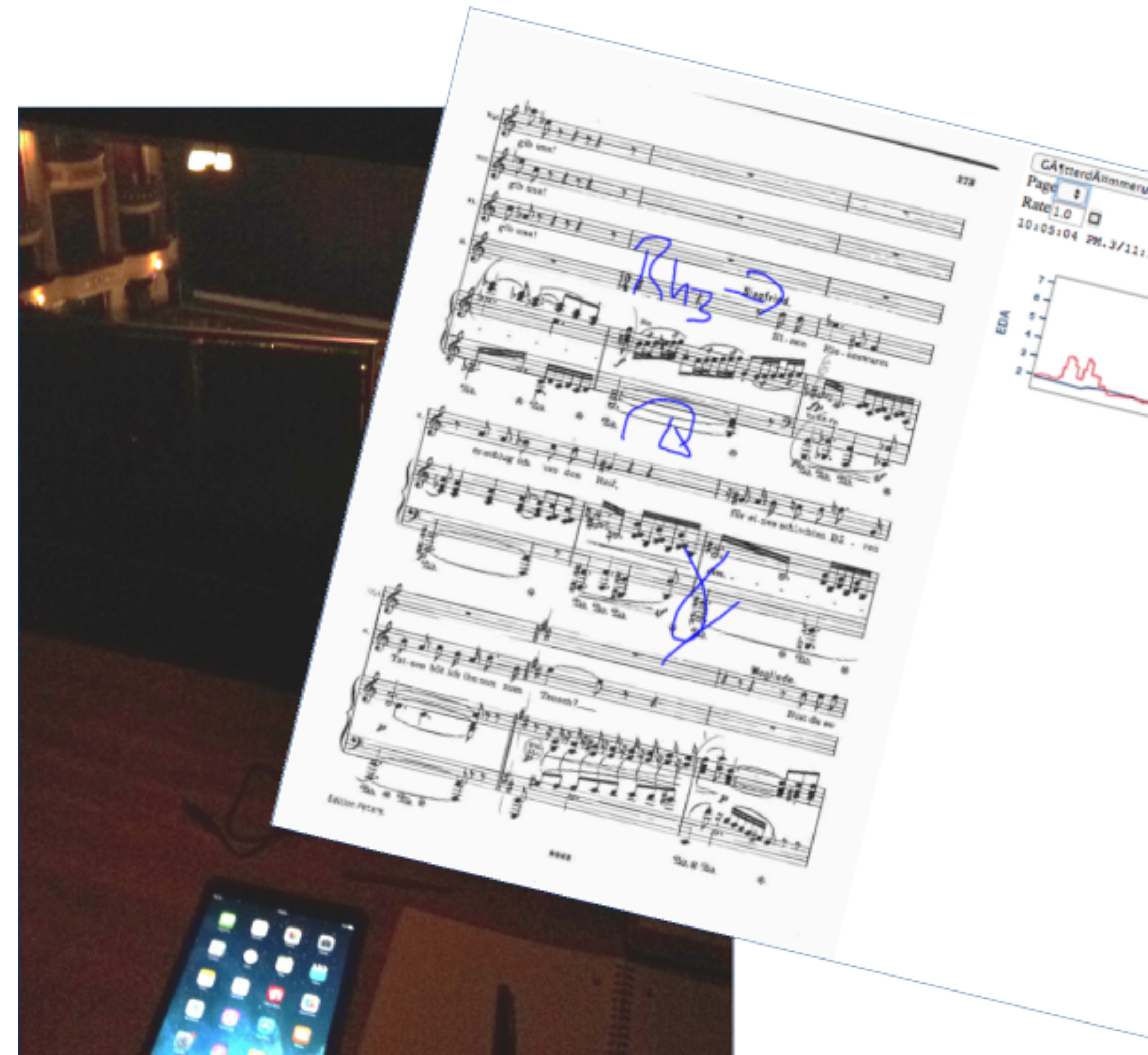
# Hearing Wagner

# Wagner's *Ring* in Birmingham

- Mariinsky Opera Company under Valery Gergiev
- 4 nights at the Birmingham *Hippodrome*
- Musicologists and Music psychologists:
  - Create musicological 'ground truth'
  - Build rich hyperstructure about a complex live event
  - *Hearing Wagner* public engagement event 2 weeks later

# Score annotations on tablet

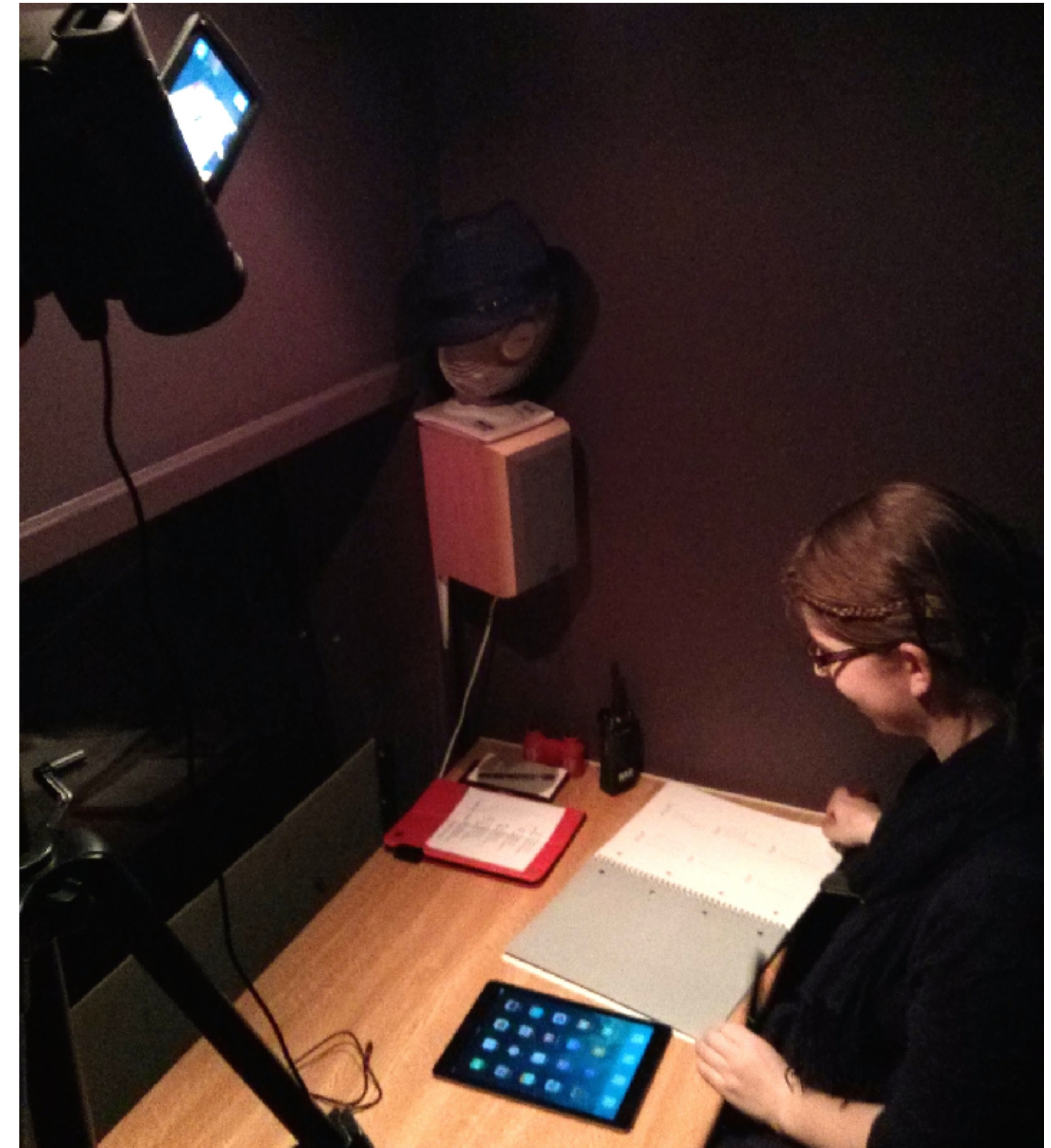
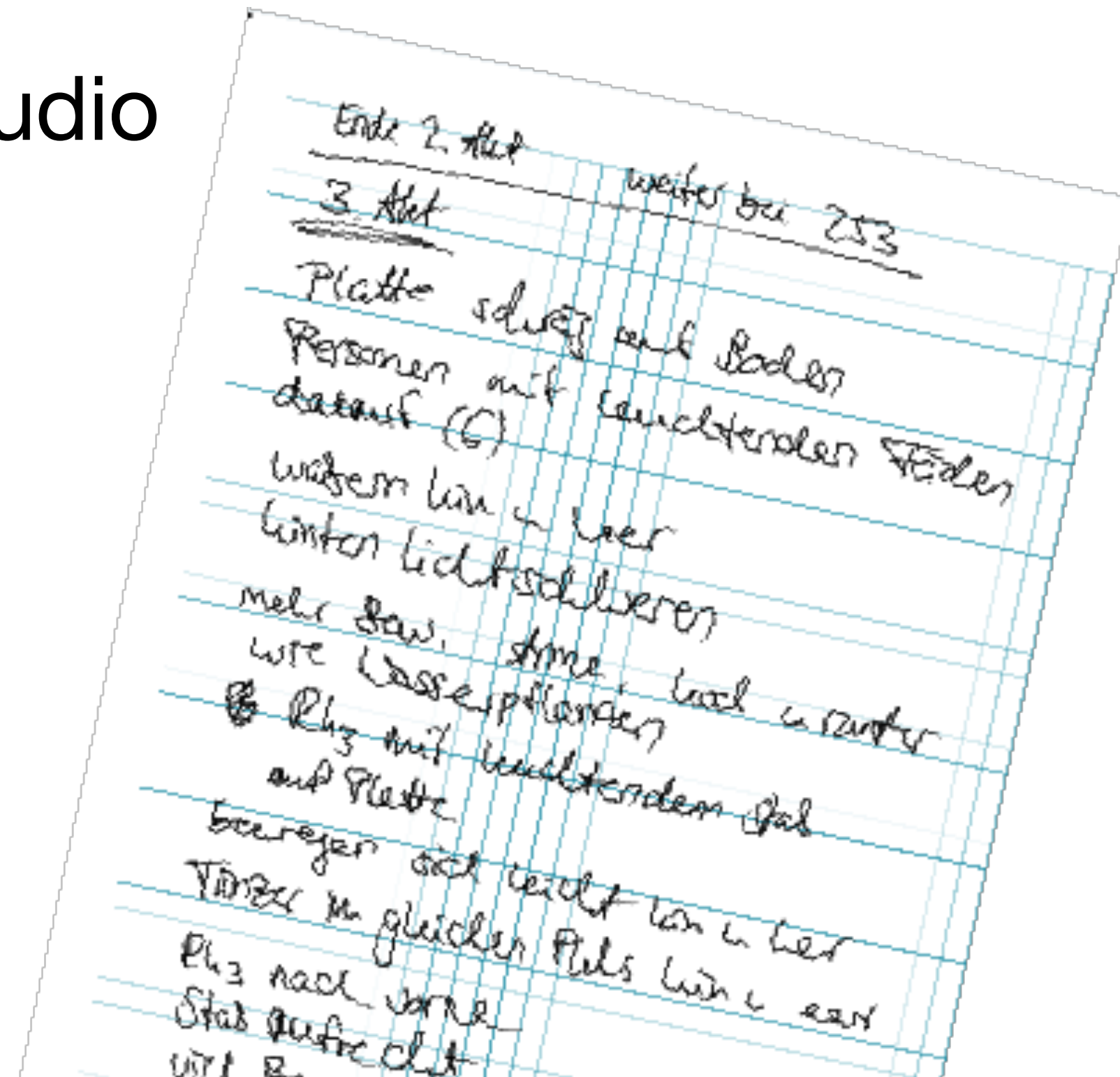
- Tablet with vocal score loaded
- Stylus-based annotations
- Each stroke is time-stamped and uploaded to a server





# Free form annotation

- Digital pen and dot paper
- Also records with a time stamp
- The pen records audio

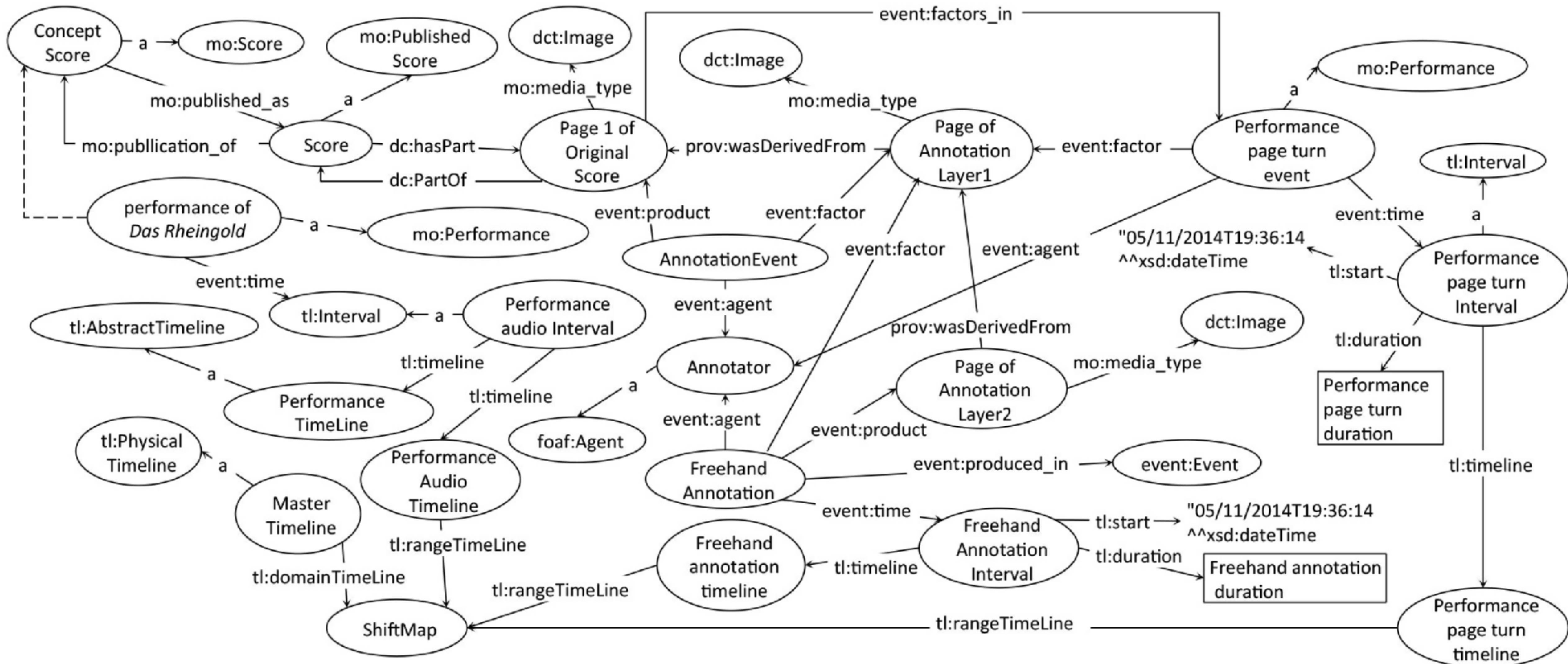




# More data!

- 1,316 digital images
- 1300 page turn timestamps
- Physiological data from 10 audience members (GSR & Pulse)
- 100,000 tablet strokes
- 104 pages of writing
- 15 hours of footage

# Getting complex quickly



# MELD

- MELD can't make complex information needs simple
- MELD doesn't provide general-purpose applications for music
- MELD can help build applications when you know what they're for
- MELD is under active development, open source and still research code

`meld.web.ox.ac.uk`

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Thank you

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