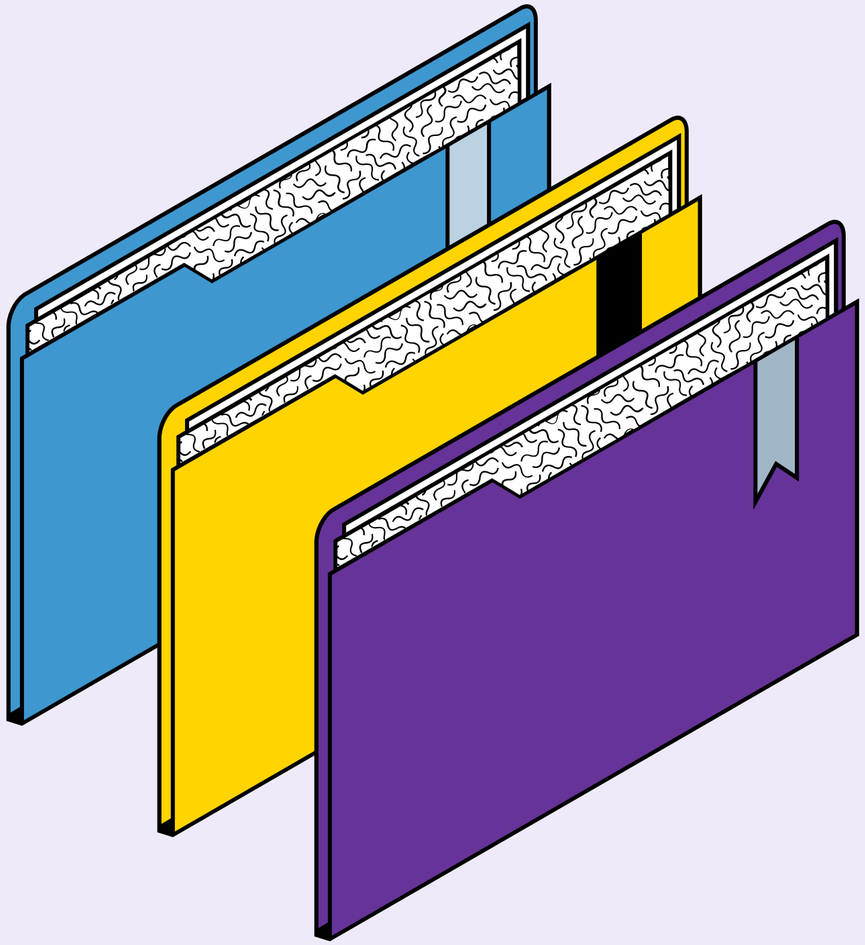
IRC Meeting
13 September 2023

The AEC ARTEMIS Digitisation Working Group presents:

The Digitisation Online Workshop



Agenda

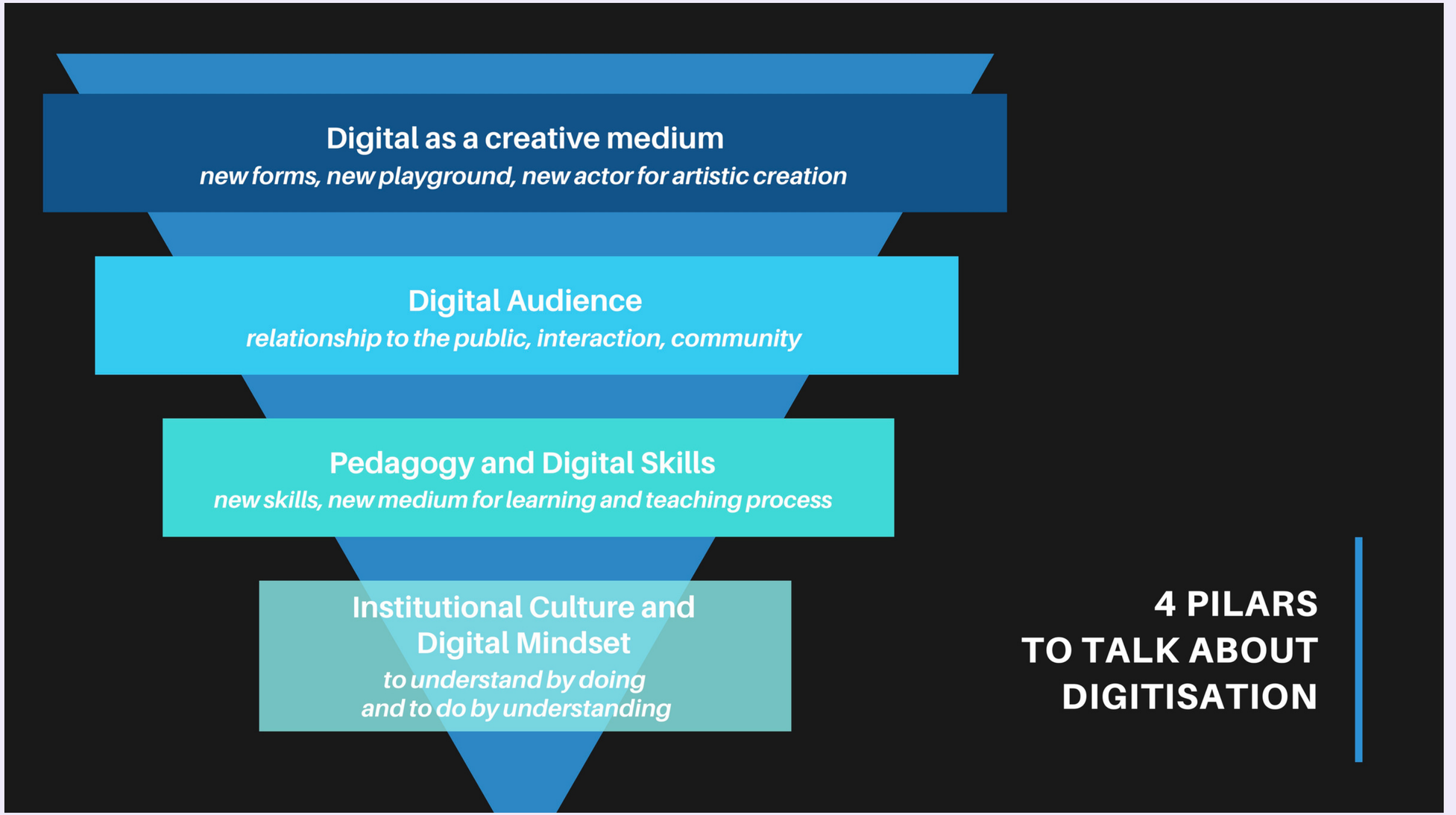
- Welcome & Introduction
- Digital as a creative medium
- Digital Audiences

Group Discussion

- Digital Skills for musicians
- Encouraging the development of Digital Skills and Culture in Conservatoire practice

Group Discussion

Introduction



Digital as creative medium

Enric Guaus, ESMUC, Spain

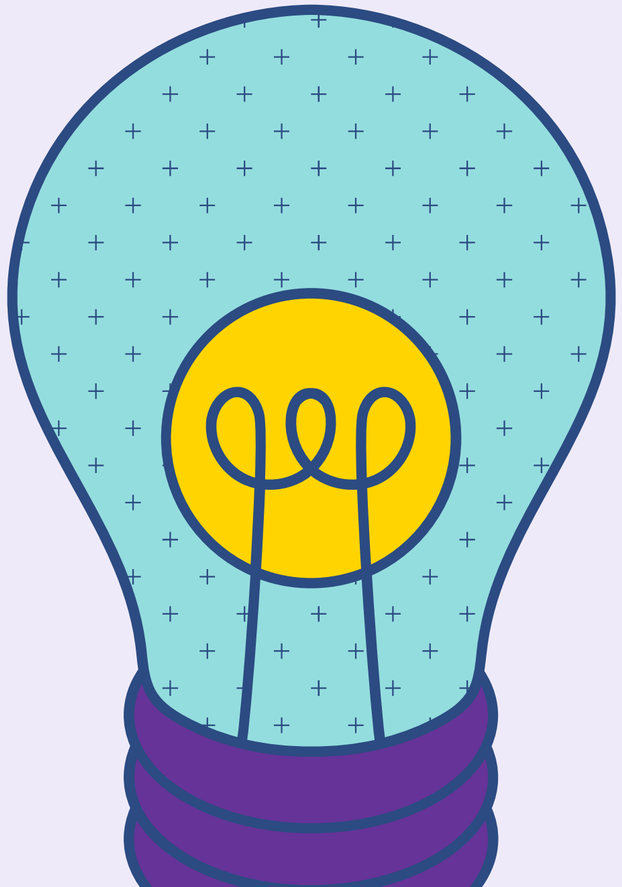
Network music

- Context
- Previous work
- La Roda

Music and AI

- Background
- Examples (ArInt, NaNAI, MAI)

Local conclusions



Network music - Context

Teaching	Same time (sync)	Different time (not sync)
Same place	Campus	Online forums
Different place	"Zoom"	Video lessons

Teaching models proposed by Satish Stromberg, IRC-AEC, Vigo, 2020.

Musical ensemble	Same time (sync)	Different time (not sync)
Same place	Campus Traditional setup	Online forums Online DAW, SoundCloud...
Different place	"Zoom""Jamtaba", etc. Experimental	Video lessonsYoutube videos

Based on teaching models proposed by Satish Stromberg, 2020. Inspired by [Barbosa, 2003]

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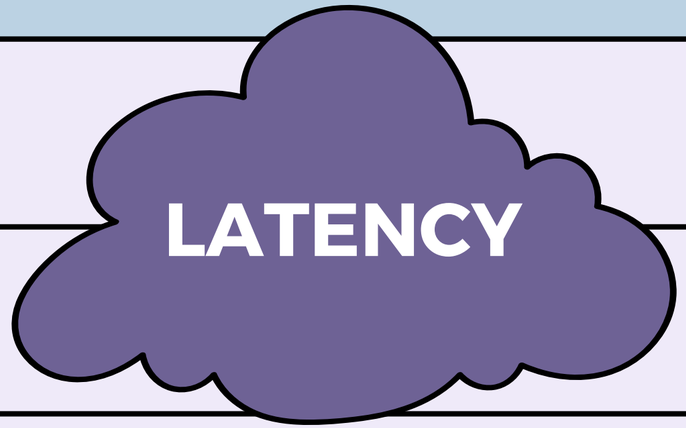

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Digital as creative medium

COVID-19 pandemic

- Classes became online (even music lessons)

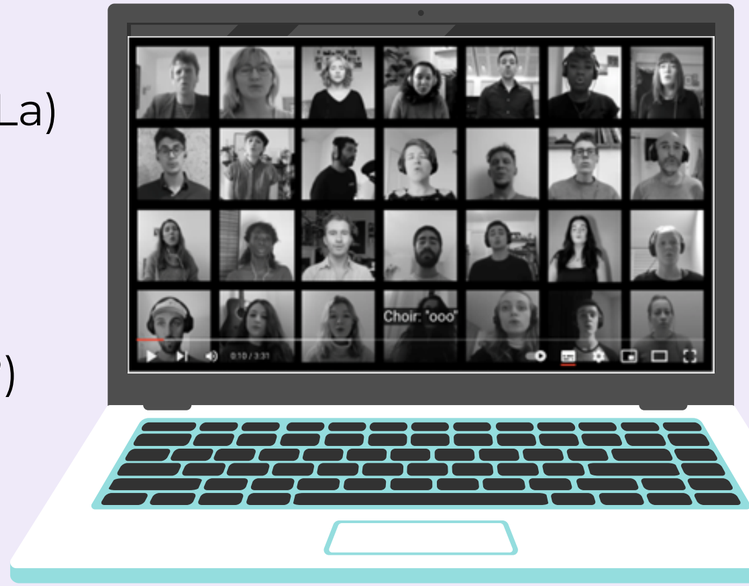
1. Adoption of LMS (Moodle, Classroom, Canvas, Blackboard, etc.)

Attempts playing together

- Virtual ensembles with video editing (usually shared on Youtube).
- Digital tools for playing online using internet connections

1. Using meeting tools (Zoom, Jitsi, Meet, etc.)
2. Using DAW or specific tools for musicians (Jamtaba, Sonobus, etc.)

- Institutional solutions for playing together were not available (i.e. LoLa)



Traditional festivals and conferences with streaming

- Full/partial online conferences (Artificia, AI Music Festival)
- Full/partial online music festivals (Network Music Festival, TopLap ??)

Can the network be part of the creative process?

Network music – Previous work

- Gresham-Lancaster, Scot. "The Aesthetics and History of the Hub: The Effects of Changing Technology on Network Computer Music." Leonardo Music Journal 8 (1998): 39-44. Muse.jhu.edu/article/585412.

- Tanaka, Atau. 1999. “Netmusic, a Perspective.” In Festival Du Web. Paris: Webbar Paris catalogue. https://www.academia.edu/44087519/Netmusic_a_Perspective .

- Barbosa, Álvaro. 2003. “Displaced Soundscapes: A Survey of Network Systems for Music and Sonic Art Creation.” Leonardo Music Journal 13 (December 2003): 53–59. https://doi.org/10.1162/096112104322750791.

- Oliveros, Pauline, Sarah Weaver, Mark Dresser, Jefferson Pitcher, Jonas Braasch, and Chris Chafe. 2009. “Telematic Music: Six Perspectives.” Leonardo Music Journal 19. https://doi.org/10.1162/lmj.2009.19.95.

- Lemmon, Eric C. 2019. “Telematic Music vs. Networked Music: Distinguishing Between Cybernetic Aspirations and Technological Music-Making.” Journal of Network Music and Arts 1 (1). https://www.internetworldstats.com/stats.htm.

- Ramsay, David B, and Joseph A Paradiso. 2015. “GroupLoop : A Collaborative , Network-Enabled Audio Feedback Instrument.” In Proceedings of the International Conference on New Interfaces for Musical Expression, 251–54. http://www.nime.org/proceedings/2015/nime2015_119.pdf.

- Mohammad, Zakaria, and Kun Setyaning Astuti. 2021. “Hyperreality of Virtual Music Ensemble.” Proceedings of the 4th International Conference on Arts and Arts Education (ICAAE 2020) 552 (Icaae 2020): 192–96. https://doi.org/10.2991/assehr.k.210602.038 .

- Fasciani, Stefano. 2020. Network-Based Collaborative Music Making. University of Oslo. https://youtu.be/GZCueJeg168.

- Jordà, Sergi. 2002. "FMOL: Toward User-Friendly, Sophisticated New Musical Instruments". Computer Music Journal, 26 (3), 23-39. https://doi.org/10.1162/014892602320582954

Network music – Previous work

Some interesting works:

The Hub (1986)

- From the League of Automatic Music Composers
- Include a Hub in their performances

Tanaka (1999)

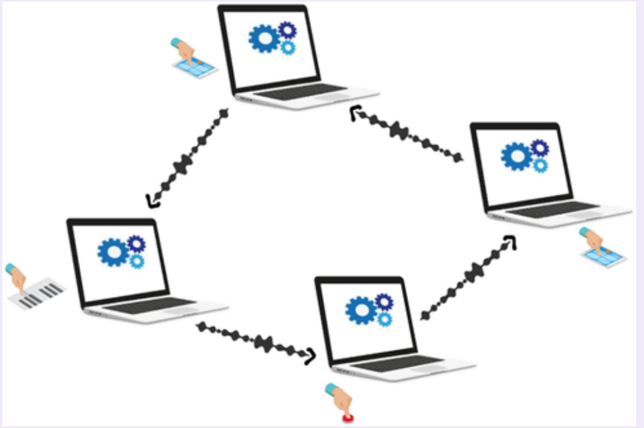
- "So, then an essential quality of the network becomes a problem. I would prefer to respect this character of the net, and conceive of a type of music that uses the delay to advantage. After all, no one ever complained about the long reverberation time of a cathedral. It is not a problem, it is acoustic. So, I propose: can we think of IP packet delays as a network acoustic that defines this new space in which we play? "

Jordà (2002)

- F@ust Music On-Line (FMOL)
- Instrument used on the Internet.

Network music – La Roda

- Based on The Telephone Game
- Individual connections in a loop
- Peer2Peer connections with different latencies
- Creates an accumulative distortion of audio signal
- Result is collaborative and unpredictable
- Flexible configuration (software, participants…)
- The LATENCY is crucial
  - Sum of all the individual latencies = tempo of the piece
  - Allowing the audio result being stable



Network music – La Roda

Music and AI – Background

In the last years, AI has provided numerous breakthroughs within the music industries:

- automatic music recommendation (p.ex. Spotify)
- copyright management companies using AI (p.ex. BMAT)
- Free online text to speech applications (p.ex. Murf)
- Noise removal plugins (p.ex. LALAL.AI)

Nowadays, with the emergence of generative artificial intelligence (wikipedia) part of the research in music applications is focused on:

- the automatic creation of melodies given a list of tags (p.ex. Mubert)
- a short textual description (p.ex. Riffusion)
- detailed textual description (p.ex. MusicML).

These stunning products are the result of many years of research carried out by universities and institutions sharing their results through

- research papers in journals and conferences (p.ex. ISMIR)
- code (p.ex. Tensorflow)
- datasets (p.ex. MusicBrainz)

Music and AI – Background

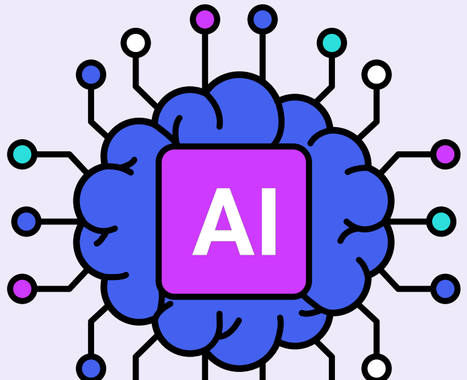
•Composers who have used AI models in their compositions in:

•contemporary music (p.ex. Quayola & Seta)
•jazz (p.ex. Marco Mezquida)
•electronic music (p.ex. Mouse on Mars).

•In these cases, the models used on stage have been created thanks to external collaboration or extensive in-house **knowledge in computer science and data mining**.

•According to Born (2021), this division of tasks between the composer and scientist may become a "**subordination-service**" in which science is brought in apparently as subordinate discipline to 'serve' what are assumed to be the pre-existing, autonomous creative 'visions' or 'needs' of composers.

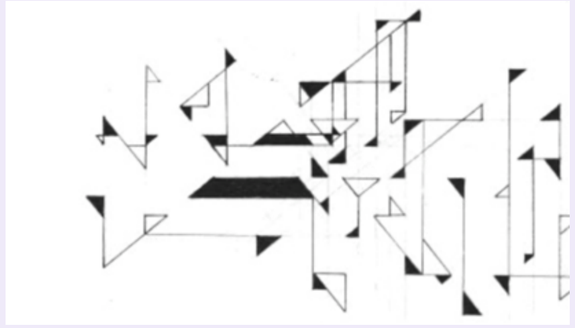
•Include **the "co-creation" concept** in music creation.

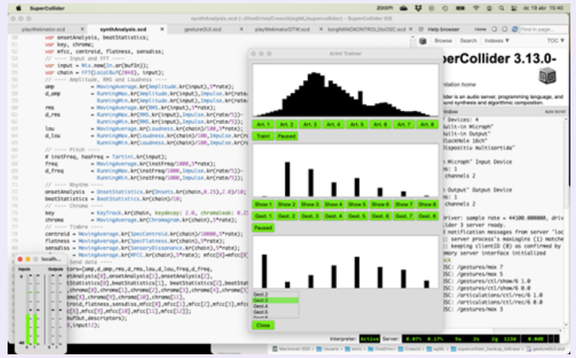


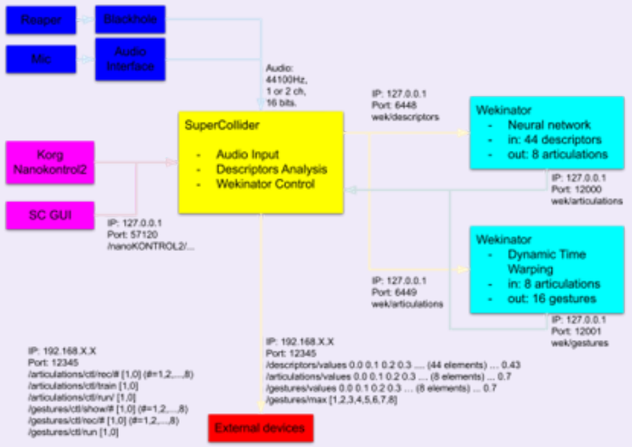
Music and AI – Examples

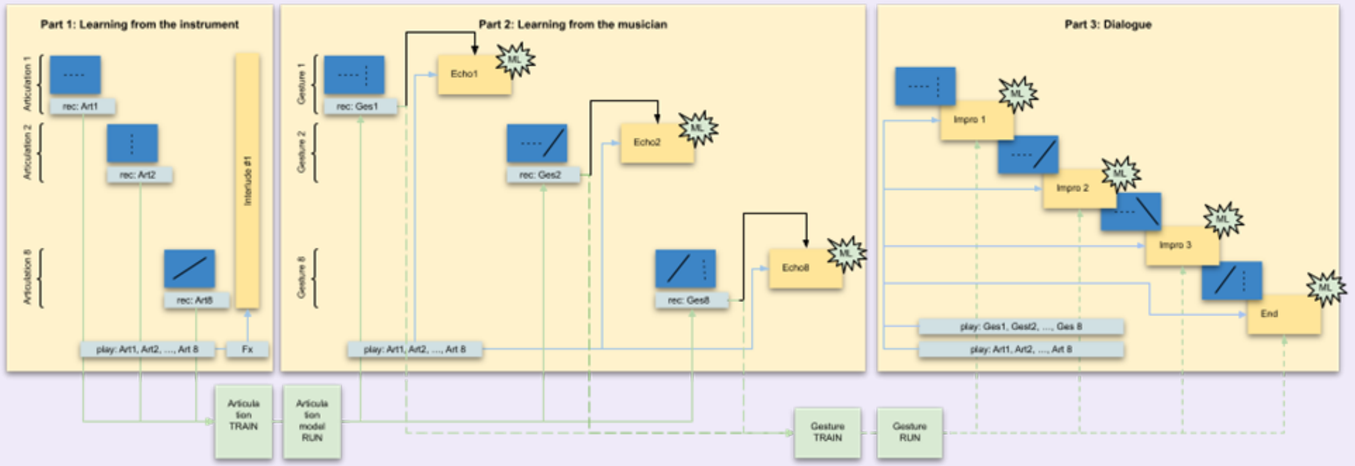
ArInt

- Too complex for a specific instrument and repertoire









Music and AI – Examples

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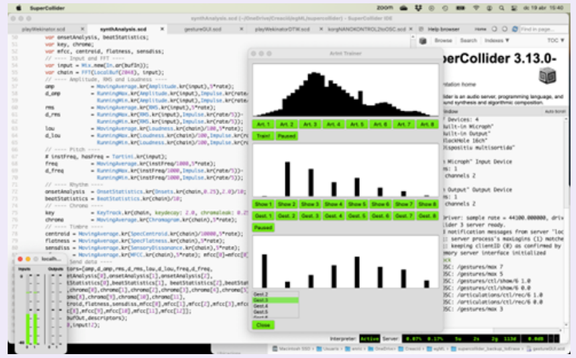


NaNAI

- Moderate complexity for any instrument and repertoire. Video Link here.

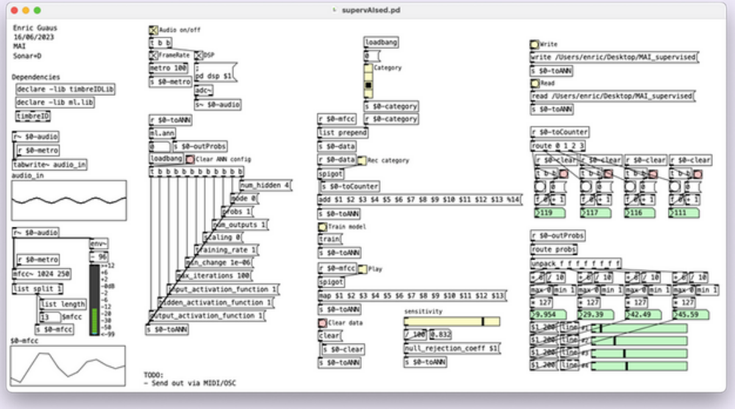
Music and AI – Examples

ArInt

- Too complex for a specific instrument and repertoire

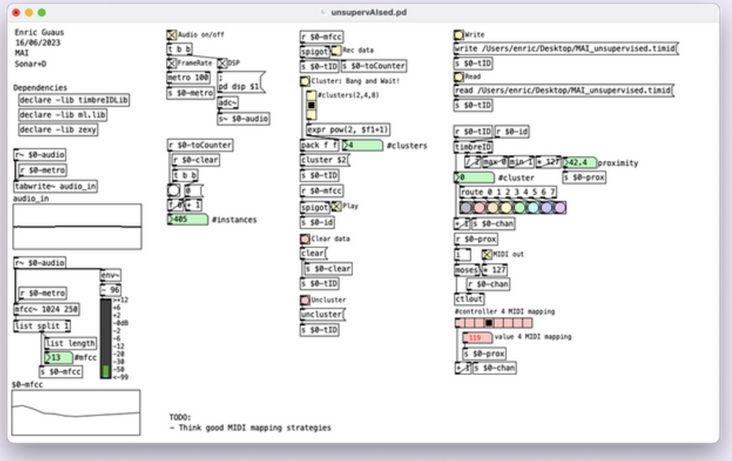
NaNAI

- Moderate complexity for any instrument and repertoire. Video Link here.



MAI

- Easy complexity for any instrument and repertoire
- Video Link here



Local conclusions

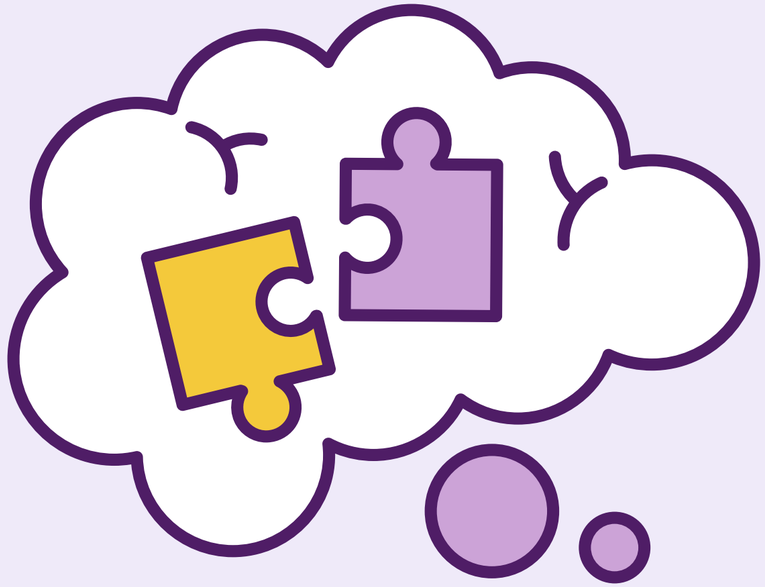
These projects / benchmarks are the basis for exploration, not a final product /piece /instrument/ technique by itself.

In our institutions, we need to provide spaces for creating music

- Seminar, practices, workshop, Erasmus...
- Not for developing technologies

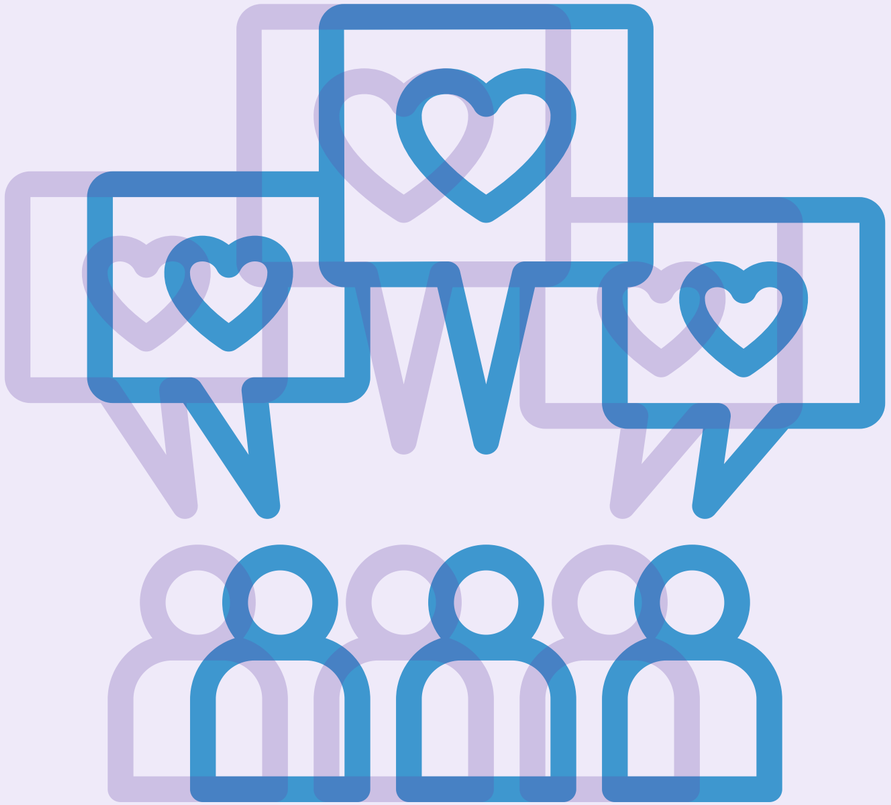
Key points

- On the stage
- Co-create
- Provide the right environment



Digital audiences

Sandrine Desmurs
CEFEDEM, France



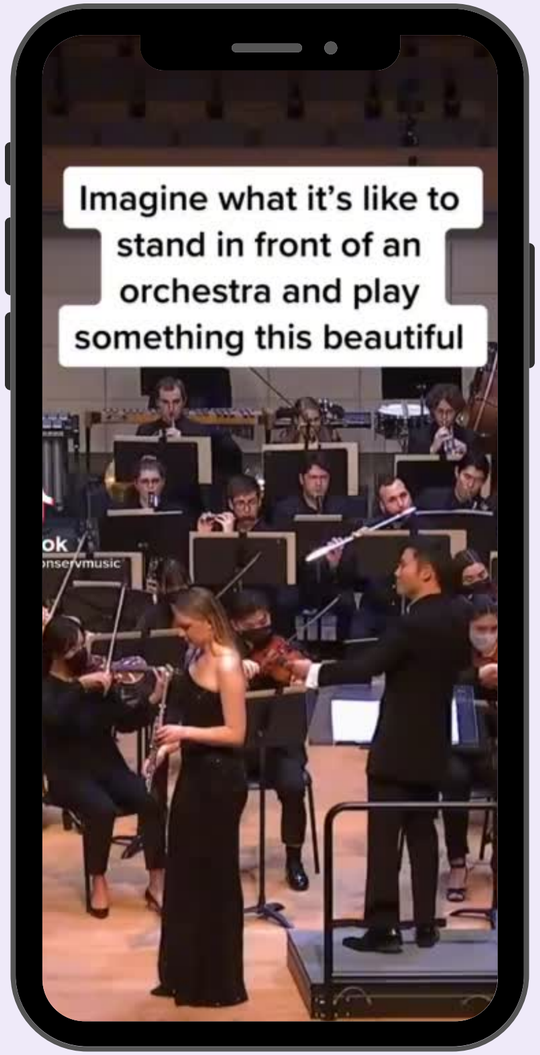
Current audience understanding

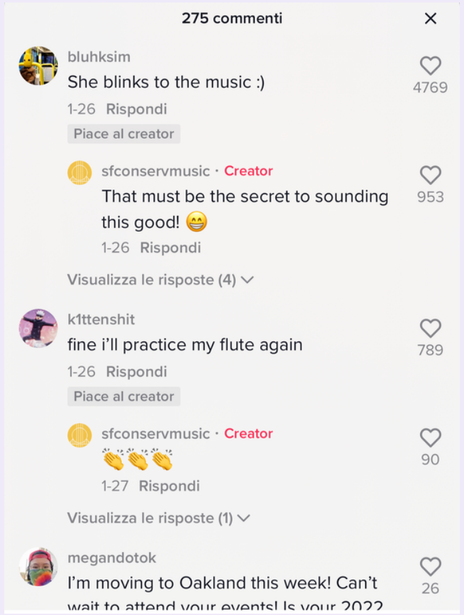
- Humans want **experiences**
- Humans want **interaction**

yesterday: a small number of transmitters addressed silent audiences
today: numerous transmitters, innumerable subjects and an enlarged, responsive audience

⟶ What? Where? Who? How?

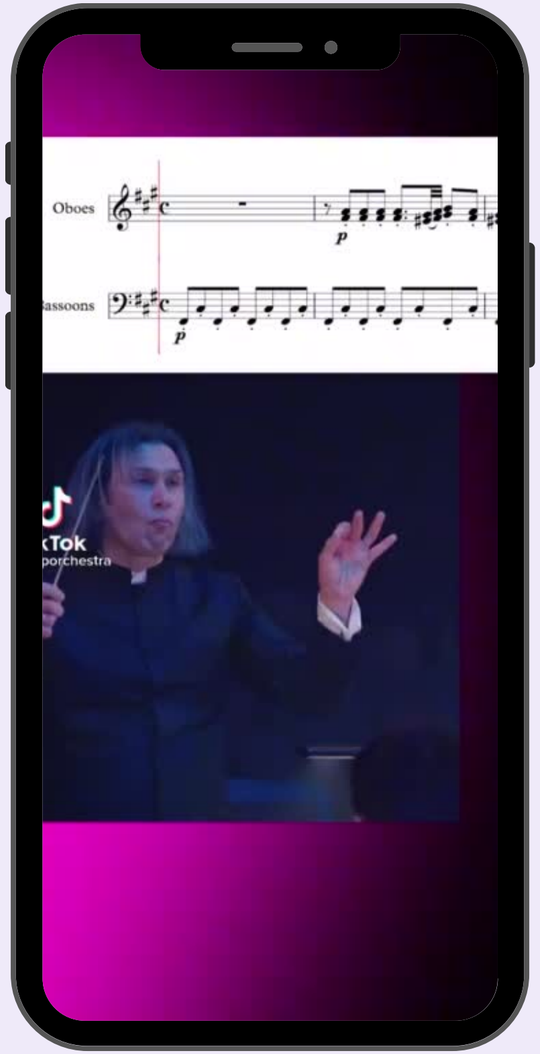
Short-Form: Performance & Educational

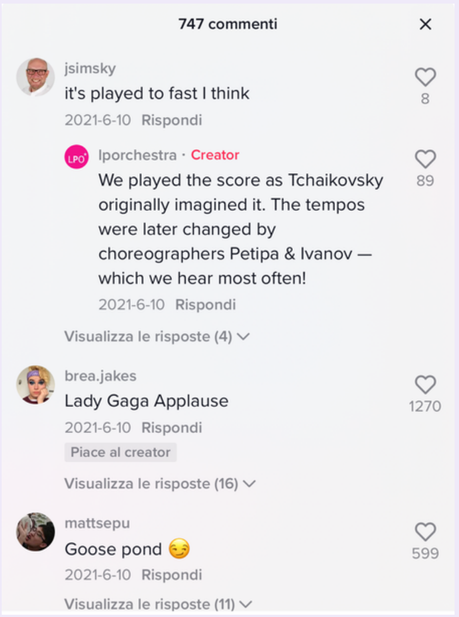




363k

72k

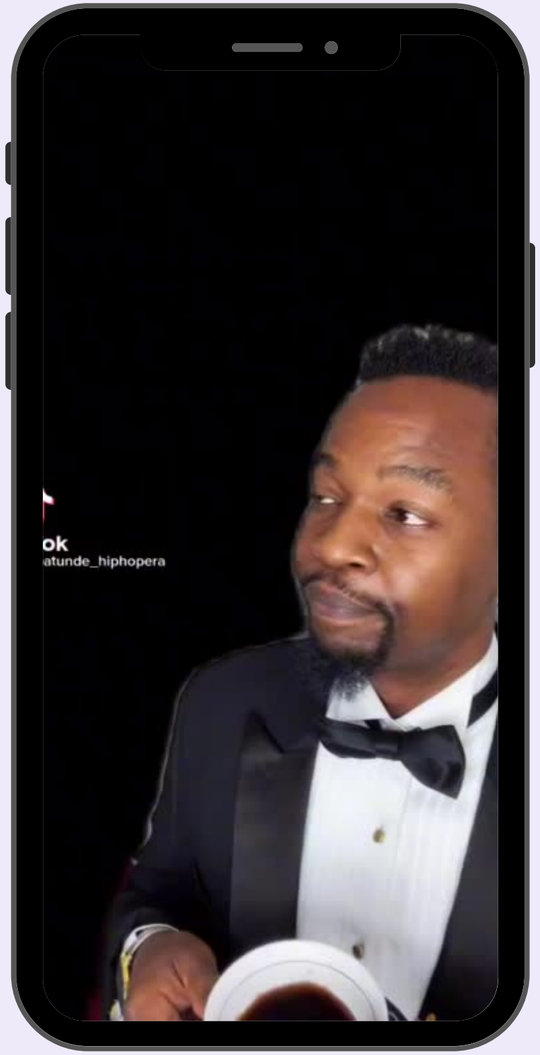




580k

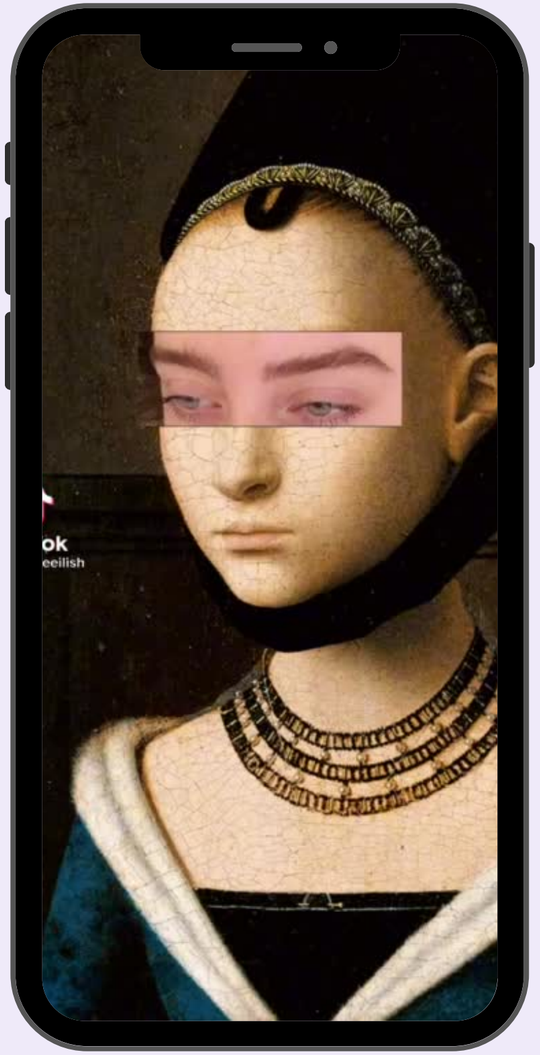
56k

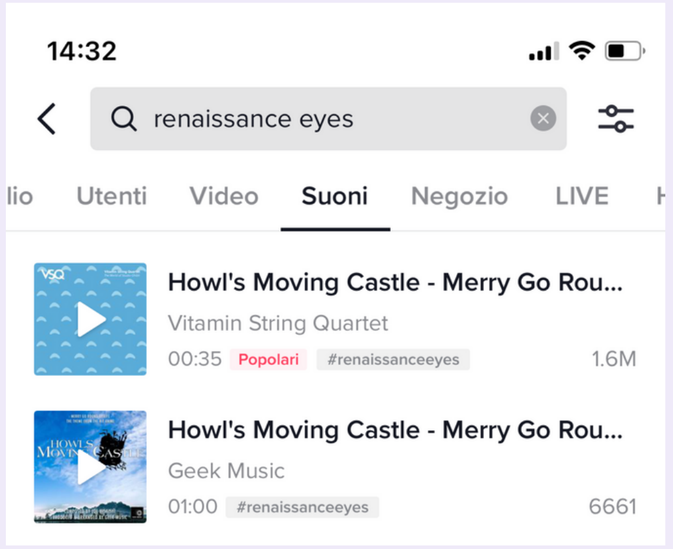
Short-Form: Trending / Meme



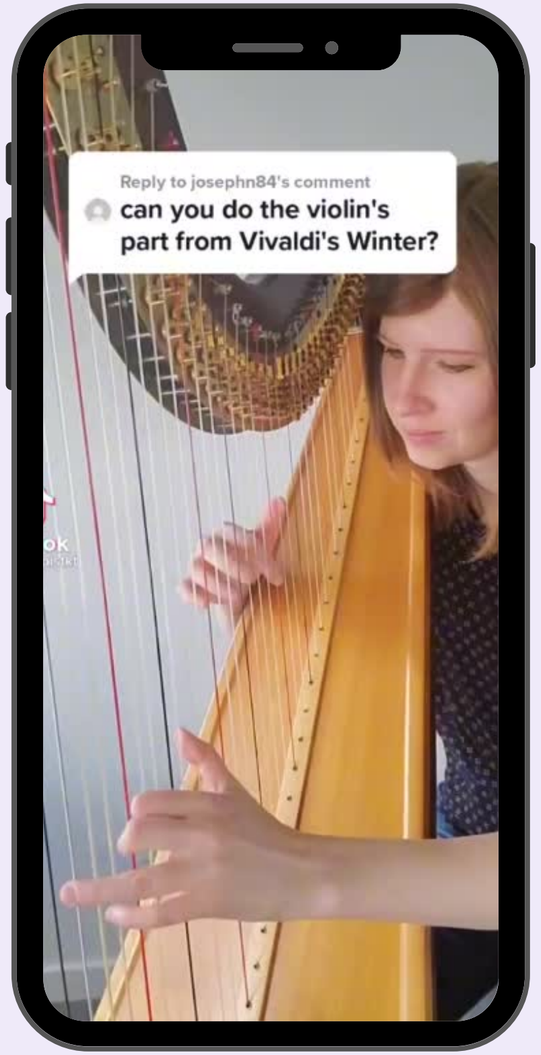
3.8m

1.1m





Online community



22638 commenti

ssega.vfx
Can you do angry birds?
5g Rispondi
9

harpistkt ▸ ssega.vfx
#angrybirds #harptok #videogamemusic

4g

michellesenakelley
Half of the fun of watching a harpist is to watch their feet! Can you post a video showing the crazy footwork? 😄
1-16 Rispondi
97

harpistkt ▸ michellesenakelley
#duet with **@harpistkt** most of the pedals happen near the end 😅 #harptok #vivaldi #winter #fourseasons #classical #music

22638 commenti

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1-16 Rispondi
97

harpistkt ▸ michellesenakelley
#duet with **@harpistkt** most of the pedals happen near the end 😅 #harptok #vivaldi #winter #fourseasons #classical #music #baroque #violin #concerto

1-19

Visualizza le risposte (8)

tonekapone_007
are u reading something or do you know the song
66

22638 commenti

are u reading something or do you know the song
1-23 Rispondi
66

harpistkt · Creator
reading the sheet music
1-23 Rispondi
53

Visualizza le risposte (1)

justinecabunducan
every string of the strument there is a color what does it mean of the color
1-30 Rispondi
5

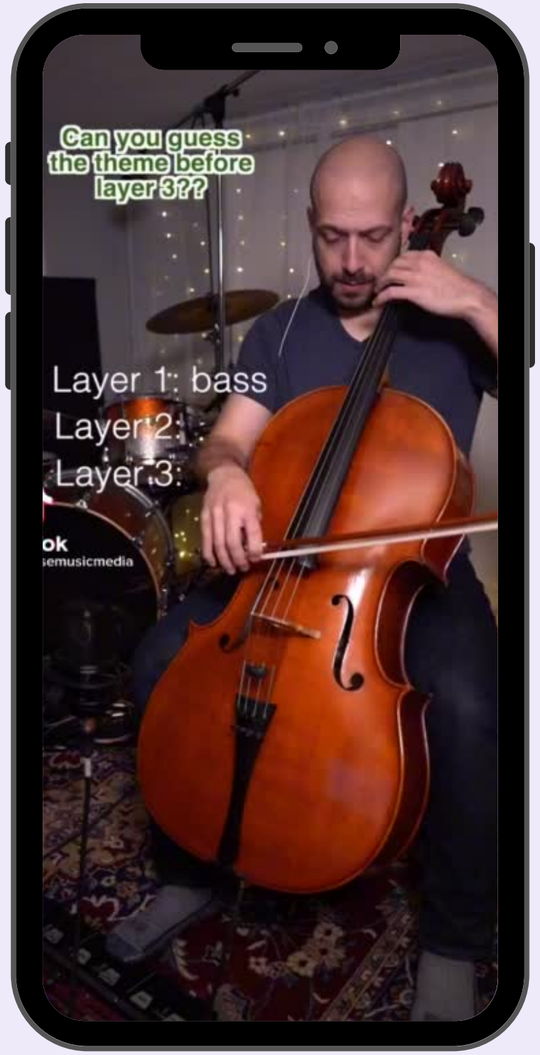
harpistkt · Creator
the red strings are Cs and black strings are Fs. without the colours we wouldn't be able to find our way around the notes!
1-30 Rispondi
8

iddiscovered
🍞 I know this is Vivaldi's winter but this was fire 🔥
11.5K

👀 **2.6m**

👍 **515k**

Community-building



1392 commenti

peshir
Screamed "Shire" to me well before the first layer was complete. Lovely... 😘
2021-11-20 Rispondi
Piace al creator
Visualizza le risposte (14)
2122

whitefoxspace
IMMEDIATELY recognized the Hobbit theme ain't getting this one by me, nope
2021-11-20 Rispondi
Piace al creator
Visualizza le risposte (24)
1351

l3x1con
CONCERNING HOBBITS BABY I'D KNOW THIS ONE ANYWHERE
2021-11-20 Rispondi
Piace al creator
551

kfromsixfeetaway
Layer 1: Oh! We're in the Shire. Layer 2: ... I think? Layer 3: Hehehe 😎 Shire.
319

👀 292k

👍 45k

1140 commenti

baileypickles · Creator
Fissato Hey guys! If you liked this, check out my Instagram @bailey_pickles_music thank you! 😄🙌
2021-12-28 Rispondi
17

tamaram81
I feel that your future in music and composing will be bright indeed! Keep doing what you you do....so gifted!
2021-12-1 Rispondi
Piace al creator
2559

baileypickles · Creator
Thank you for your support :))
2021-12-1 Rispondi
535

Visualizza le risposte (3)

nick_wh1tley
I need an orchestra behind this and I could fall asleep to this
2021-12-1 Rispondi
Piace al creator
2270

👀 292k

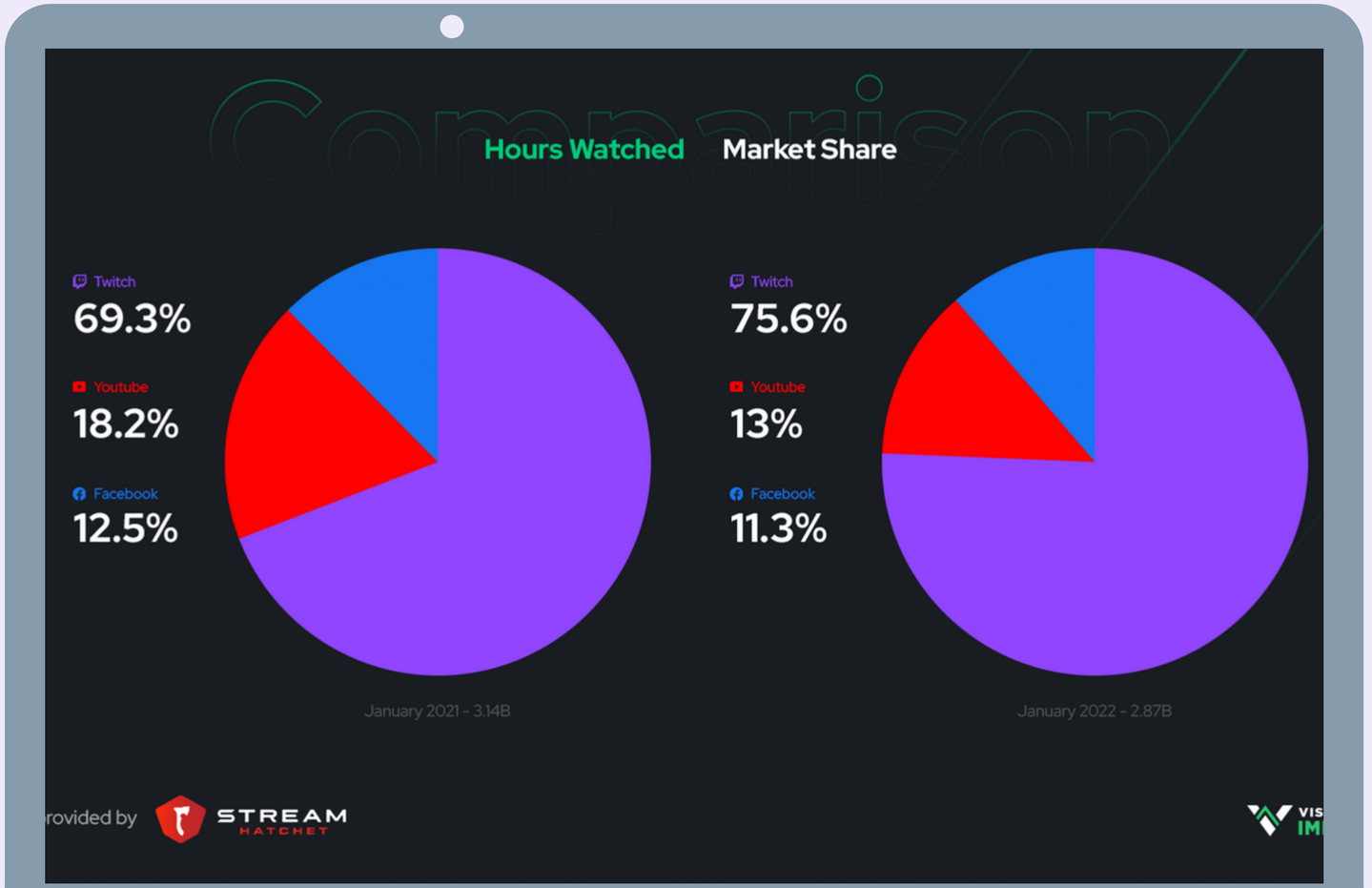
👍 74k

Long form video

32% in 2y

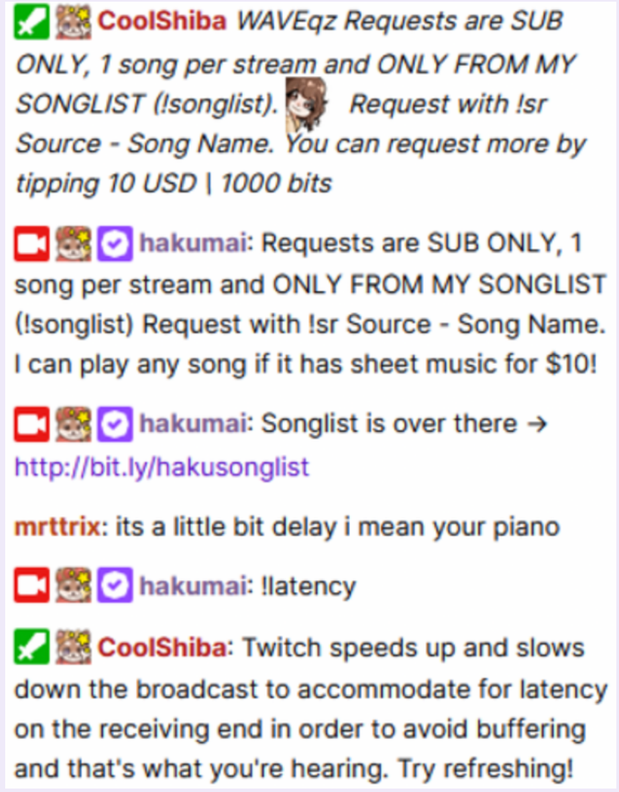
95m

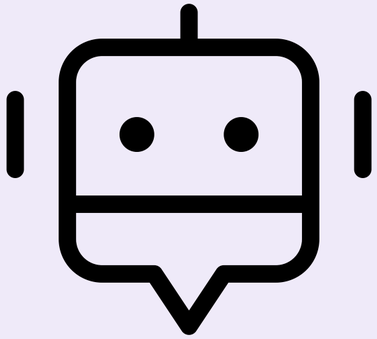
31m



Building relationships

- Chat function - automation
- Individual connection
- UX
- Raids
- Audience invest time in the creator
- Audience want to support!





Takeaways

- Long and short form
- Arts and cultural content has a place.
- Build interaction and community with the audience
- User led
- Be authentic
- **Offline concerts – do something out of the box to create traction online!**

MIRO BOARD

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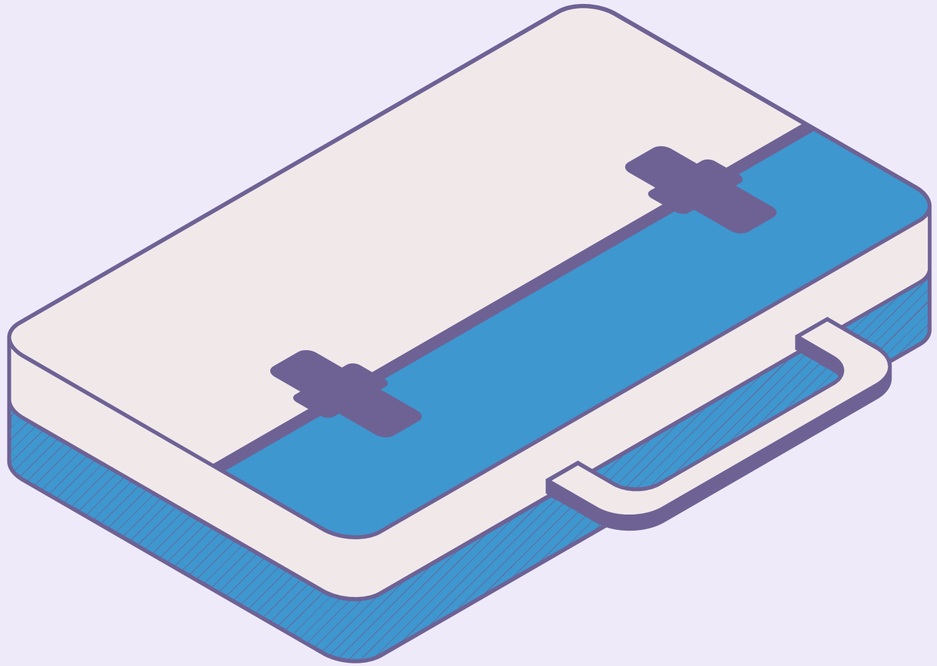
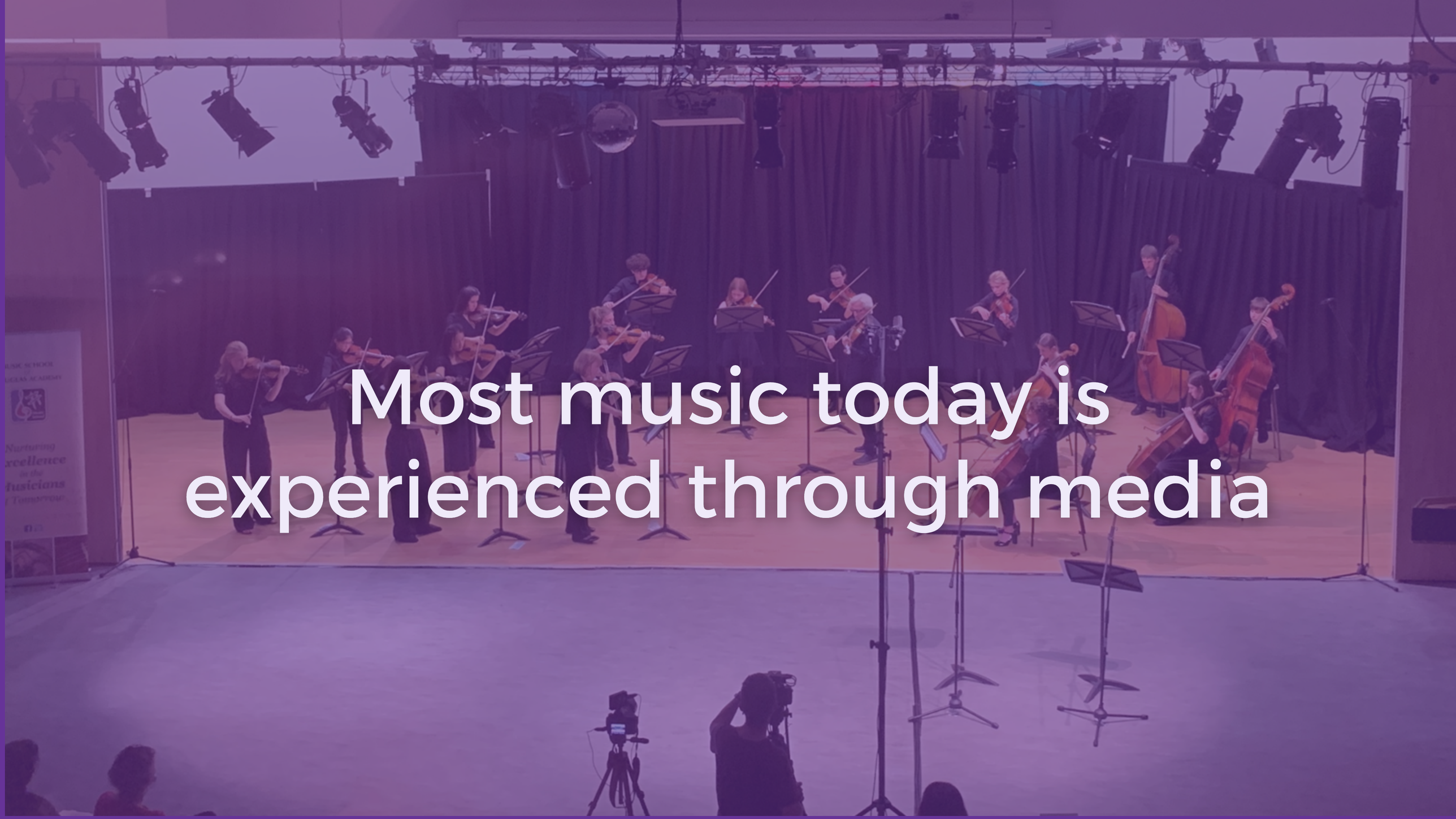
PW: AECIRC2023

Digital skills for musicians

Håkon Kvidal
Norwegian Academy of Music, Norway



marimba one

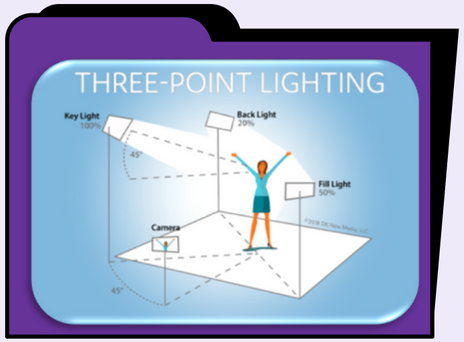

Most music today is
experienced through media

The Medium is the Message

Marshall McLuhan

Convey Artistic Ideas through Media

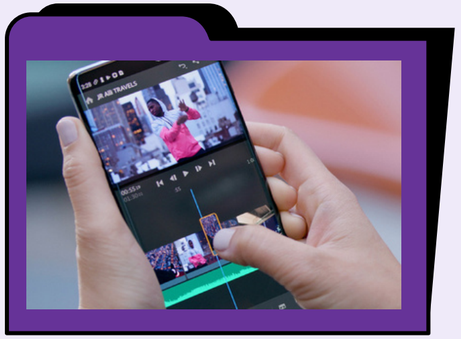
Picture Composition



Three Point Lighting

Stereo Microphone Tech

Audio Interface

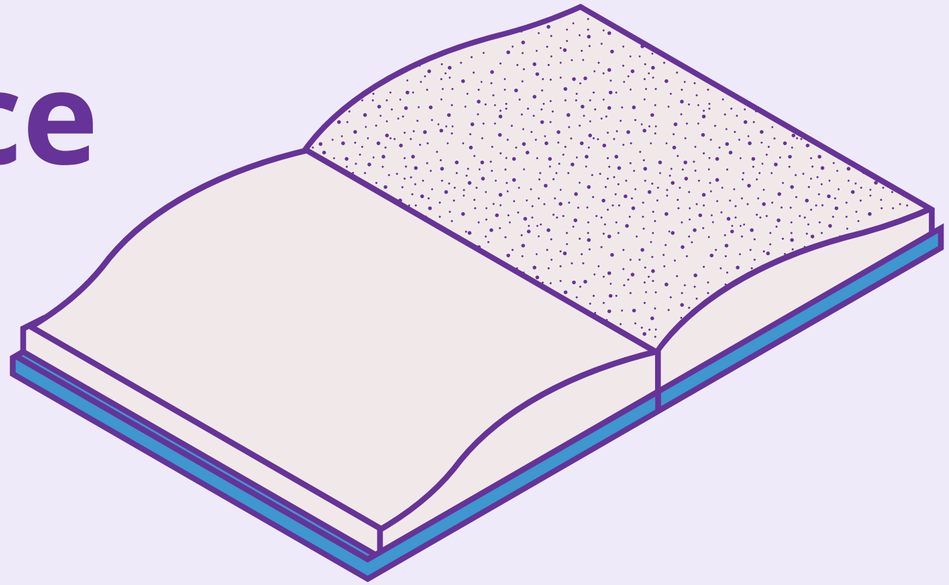


Video-Audio Recording/Editing App

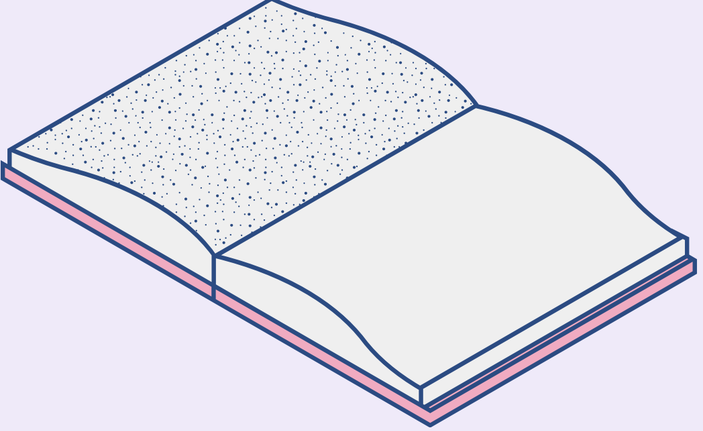
File Formats

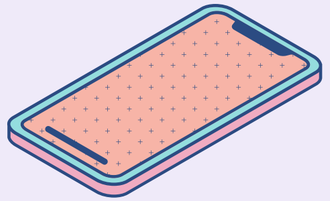
Copyright

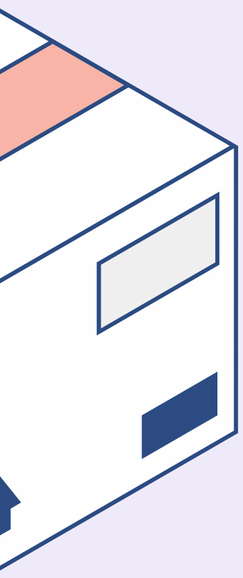
Encouraging the development of Digital Skills and Culture in Conservatoire practice



Thom Gilbert
Digital Learning Manager
Royal College of Music
United Kingdom



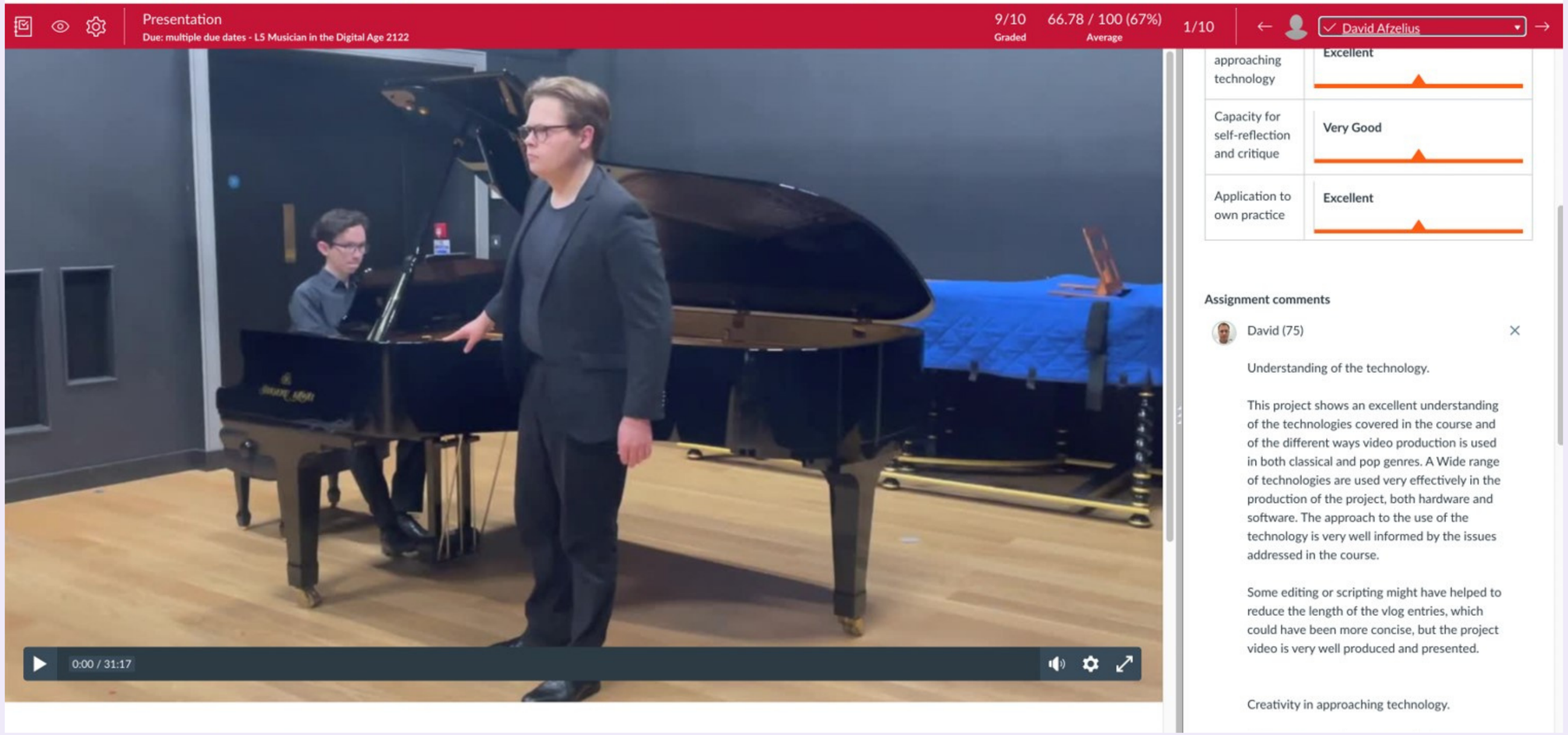




Building Digital Skills through Assessment Design and Adapting existing Practices

Developing Digital Skills without teaching them explicitly or compromising core learning objectives

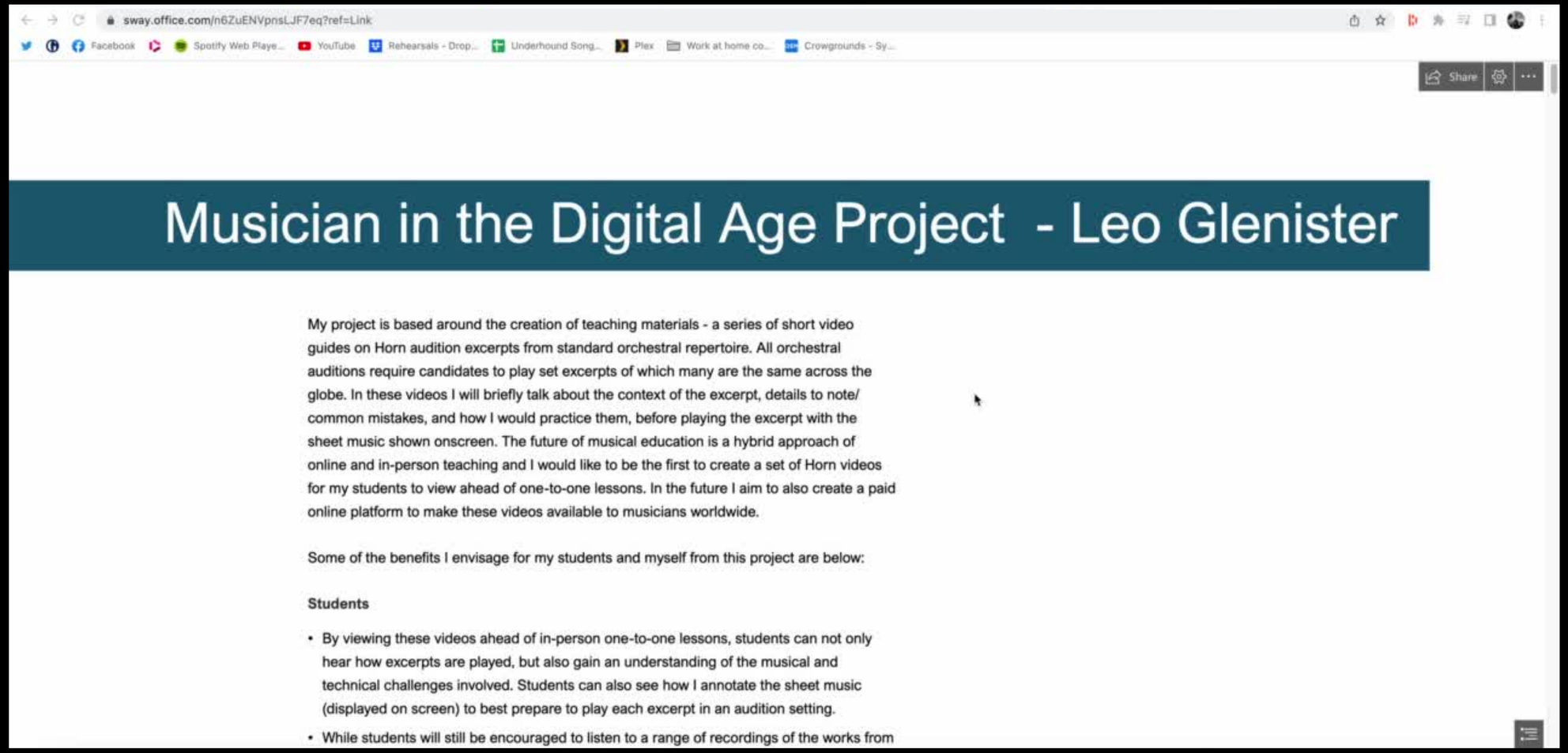
Assessing performance via video submission



Embracing online rehearsal (and its issues)

Project Based Learning

… High Freedom, High Stakes



Openness to different submission formats

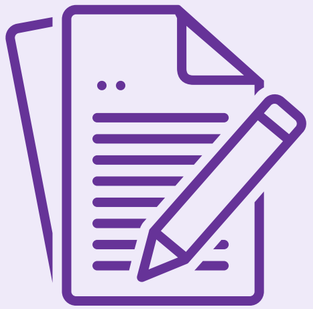
Video

Essay

Web Page

Journal

Podcast



what knowledge should be demonstrated, not how.

The Challenges of Culture and Practicalities

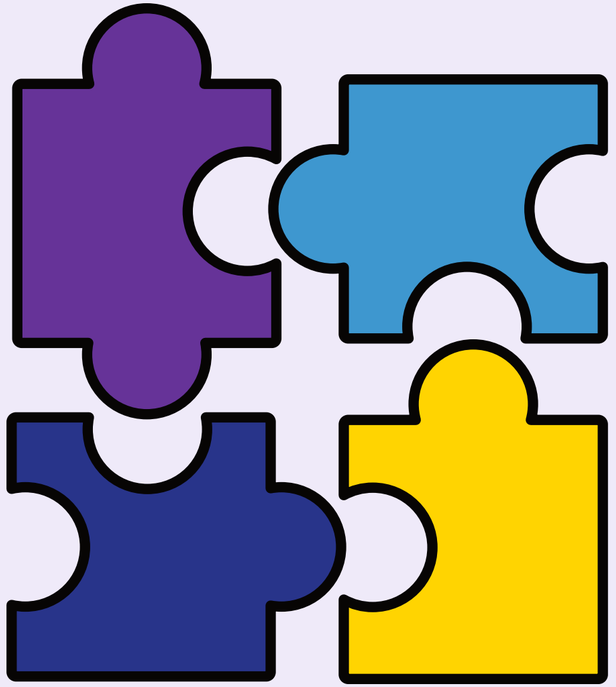
Cultural Issues

Time and Available Resources

Freedom of practice (and Strength of Opinion),

Isolation, Fear of judgement, Privacy of the 1:1 model,

Parity of Experience and Accessibility of resources



Suggestions for addressing these issues

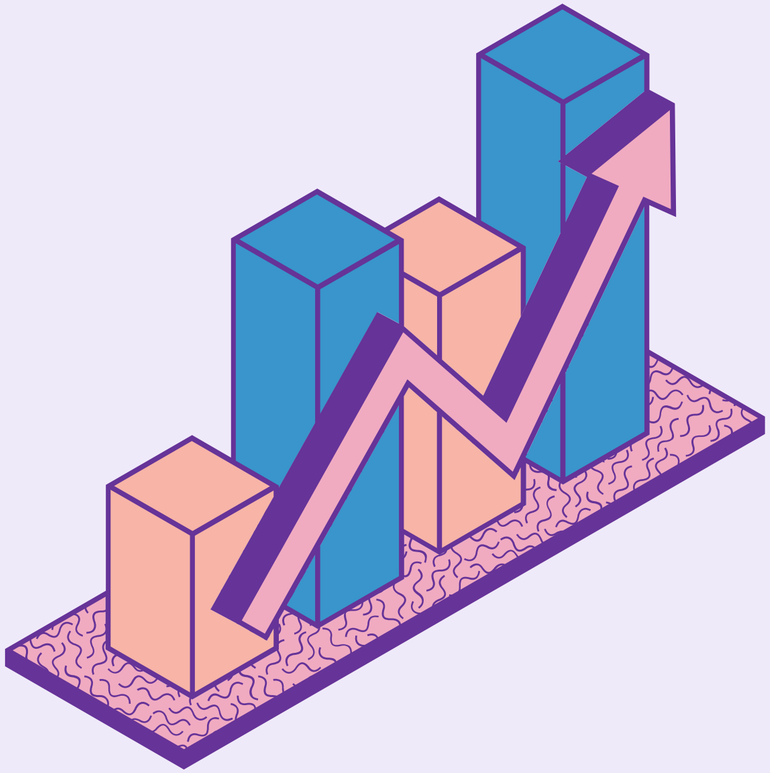
Encourage sharing of practice and openness, wherever possible

Lead by example

Set the vision and expectations and provide meaningful support to achieve them

Consistency and commitment

Use the student voice



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Thank you for your attention