



IBC ACCELERATOR PROGRAMME

'BEING THERE'

IMMERSIVE AUDIO AND SOUND IMAGERY

2021

Enhancing the sense of presence with
immersive audio & sound imagery

WHY? – THE INITIAL PROJECT CHALLENGE



- We all miss *Being There* in that magical moment when an artist's intent is felt by a live audience.
- Immersive audio also benefits spoken word.
- How to bring a deeper sense of *Being There* with A/V recording styles and post-production techniques using cutting edge software?
- Constraint: simplification for light weight production suitable for live events.
- Constraint: end users should not require specific kit.

OBJECTIVES: IMMERSIVE AUDIO & SOUND IMAGERY



- Focus on high quality audio & visual aesthetics.
- Explore use cases with acoustic classical instruments, 360° VR cameras and voice actors.
- For music, the audio mix was no longer fixed.
- Binaural, spatial and room simulation via cutting-edge software braud.io
- Explore 6DoF with [Magic Beans](#).
- Multi-POV [Omnilive](#) video output, for responsive audience immersivity.
- Only used existing technology deployable in 2022.

PROJECT CO-CHAMPIONS

Vision, project lead, innovation practitioner

Austrian Broadcaster - Senior audio engineer

British Broadcaster - Audio innovation expert

Professional film studios & end-to-end A/V production

Arts & Culture / special interest multi-media platform

Academia, signal processing & spatial audio expertise

Spoken word production, part of Amazon

Professor of audio and music engineering

Spoken word production, part of Amazon

Ben Schwarz



Karl Petermichl



Nathan Freeman



Tom Witkowski



Vincent Charley



Zoran Cvetkovic
Enzo De Sena



braud.io

Ben Chapman



Marcela Rada



University of
Lethbridge

Jonathan Wyner



PROJECT PARTICIPANTS

Multi-cam output / audience platform solution

Cyril Zajac

Omnilive

Audio engineering + 6DOF

Jon Olive
Gareth Llewellyn



Magic Beans

THREE WORKSTREAMS FOR SPATIALIZED STEREO AUDIO

Live Music: where the audio mix follows the images, with multicam visual output

360VR: filming a live performance in 360°, with spatialised audio for an even more immersive experience

Spoken Word: exploring frictionless content dramatization with spatialised audio

WORKSTREAM 1: ACOUSTIC RECORDING OF CLASSICAL MUSIC



Real-world light-weight production

- 4K iPhone cameras),
- 1+ mic per musician + stereo pair
- multicam with specific binaural mix per cam
- fixed stereo mix for comparison

Some learnings

- “I felt as if I was in the room with the musicians”
- The Wow! Effect too small for some, too great for others
- Still to determine effect of multicam output
- Some camera movements don't work
- Lack of audience was a drawback

WORKSTREAM 2: ADDING 360VR CAMERA(S) TO WORKSTREAM 1



360 Shoot in parallel with the above

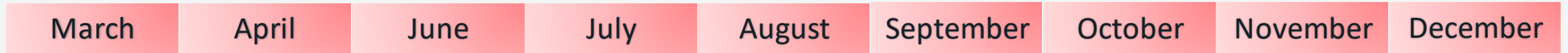
- Just one 360VR camera.
- An ambisonic mic was used, but not processed yet
- Spot mics used in post to creating a “pre-navigated” 2D rendition of 360 feed with “even more immersive audio” using binaural.
- 360 file is available on Vimeo for users to control orientation, but not part of project.
- Ideally have at least one cam amongst the musicians and one in the the audience

WORKSTREAM 3: EXPLORING SPOKEN WORD WITH IMMERSIVE AUDIO



- Audible commissioned and produced enhanced audio drama.
- Post production explored binaural and seamless spatialized sound
- 'Real' environments bringing physical spatial characteristics to life.
- The artistic intent drove the creative process.
- Recording occurred at Twickenham Studios in October 2021
- Omnivibe platform used to explore creative "branching" storytelling.

PROJECT 2021 TIMELINE



Recruit initial team

Ideation phase1

Project planning

Shoot, record



IBC Preview
progress report

Post Production

Deliver Final
POC session



IBC Virtual
Showcase





THANK YOU

For BeingThere

Ben Schwarz, Co-Champion & Project Lead

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