

# The Sixteenth Annual Interactive Audio Conference

## PROJECT BAR-B-Q 2011



## Group Report: Making Spatialization Work Within Constraints of New Form Factors

**Participants:** *A.K.A. "Spatial Ed's Honeywagon Roadshow"*

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**Facilitator:** David Battino, Batmosphere

### Problem

Current spatial audio authoring and delivery systems are not always aware of the rendering environment, so the content is not always rendered in a way that preserves the artistic intent.

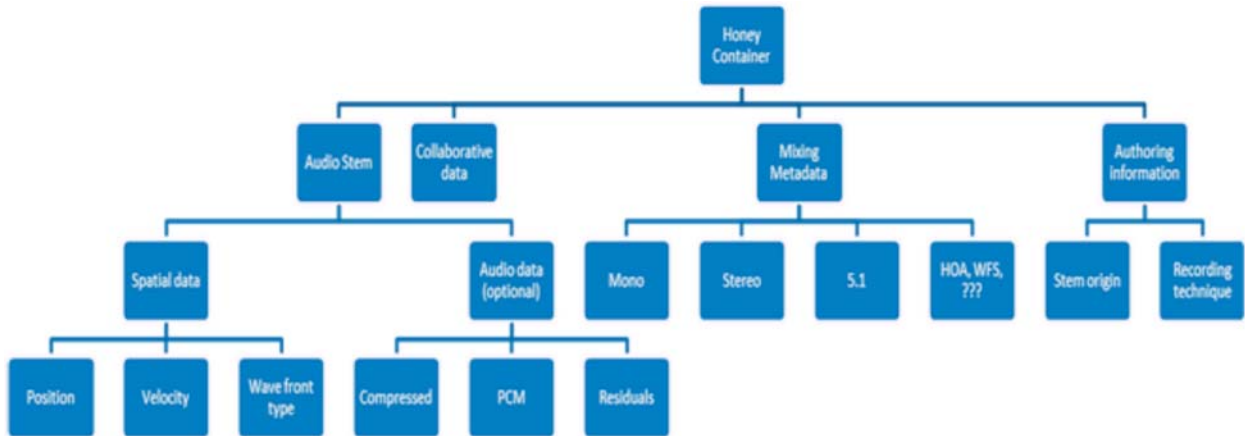
### Goal

A scalable audio spatialization system that preserves the original artistic intent. This system should support authoring, transmission and rendering of audio that adapts to the environment, the listeners(s), and the hardware.

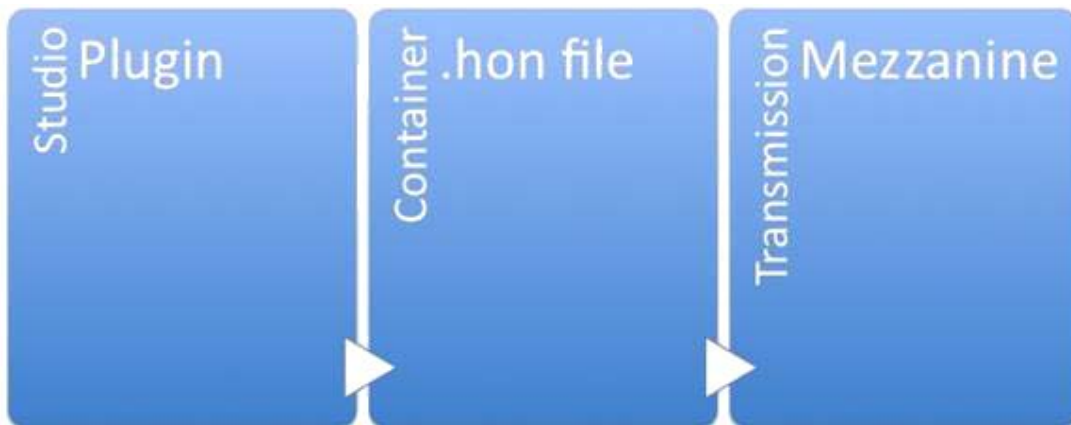
### Prior Art

- VBAP
- Ambisonics
- iXMF
- 3DAA
- AudioStage

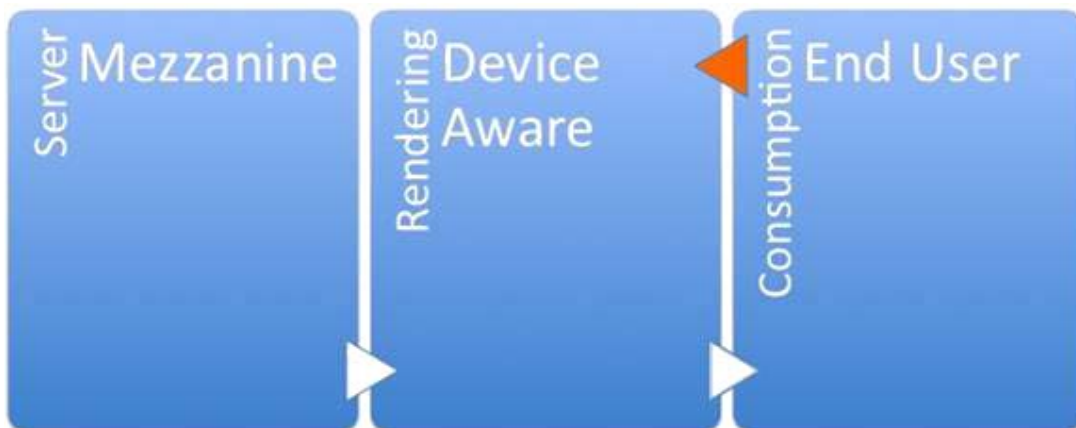
# Honey File Format



## Authoring Process



## Rendering Process



## Server to Renderer



## Use Cases

### Music video authoring “Linear Larry”

#### 2011

- Stems/5.1/stereo-matrix/mono/headphones

#### 2016

- Stems & Metadata à \*.hon file
- YouTube queries environment and renders as appropriate
- Small speaker, full-range speaker, number of speakers, headphone, dynamic compression

### Game Authoring “Interactive Irving”

- Environments, objects, distance, vector info
- Look at iXMF, add querying
- iXMF Hardware Platform
- Audio in app (trigger)
- Interactive (eg, voice, game variables)

## Voice Communications “Mobile Molly”

### Conference call with aggregated phones (M phones, N users)

- Server aggregates input, creates .hon stream
- Each device renders appropriately
- Language translation support

## Cinema “Zack Zimmer”

- Awareness of audience
- 3D movies (authoring)
- Earbuds & subwoofers
- Transmit sound effects like whispery voices to individual phones in the audience

## Musician “Performance Pete”

- In ear monitors for stage
- Stream in .HON format (local and remote)
- Fans can isolate instruments, e.g. guitar
- No bad seats
- Stage vs. audience perspective

## Tablet educational app “Sally Student”

- Feel like you are in the lecture hall
- Distance education – send voice back and forth
- Language translation

## Conclusion

# I Spy an Ecosystem!

