

# Theoretical Backgrounds of Audio & Graphics

## Audio Rendering

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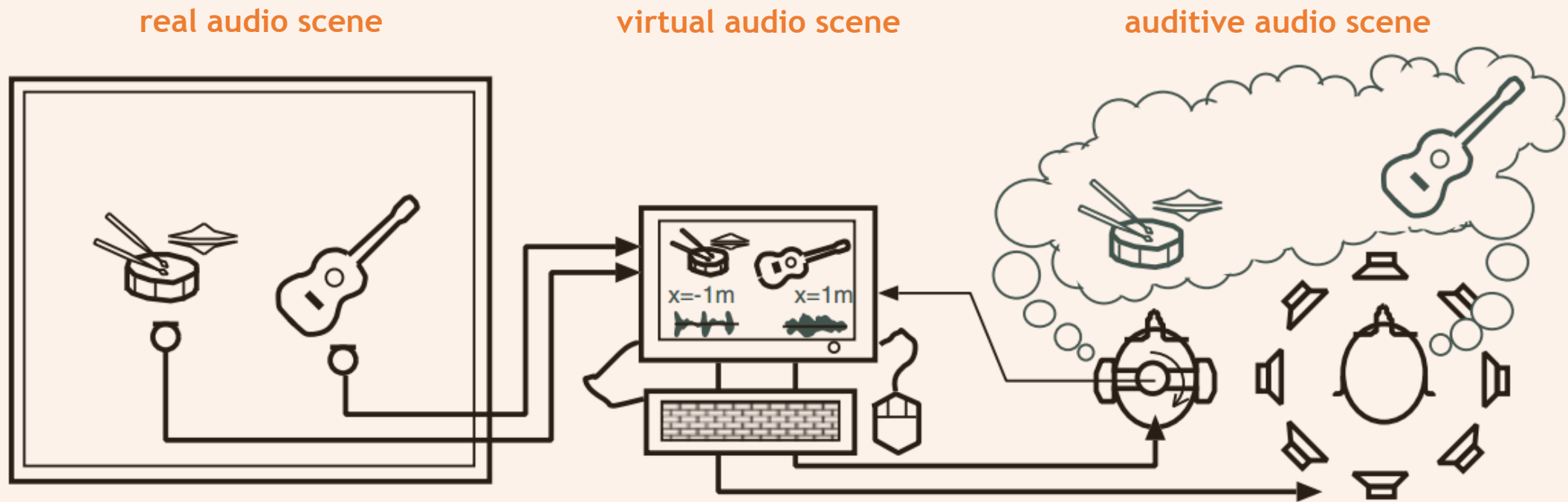
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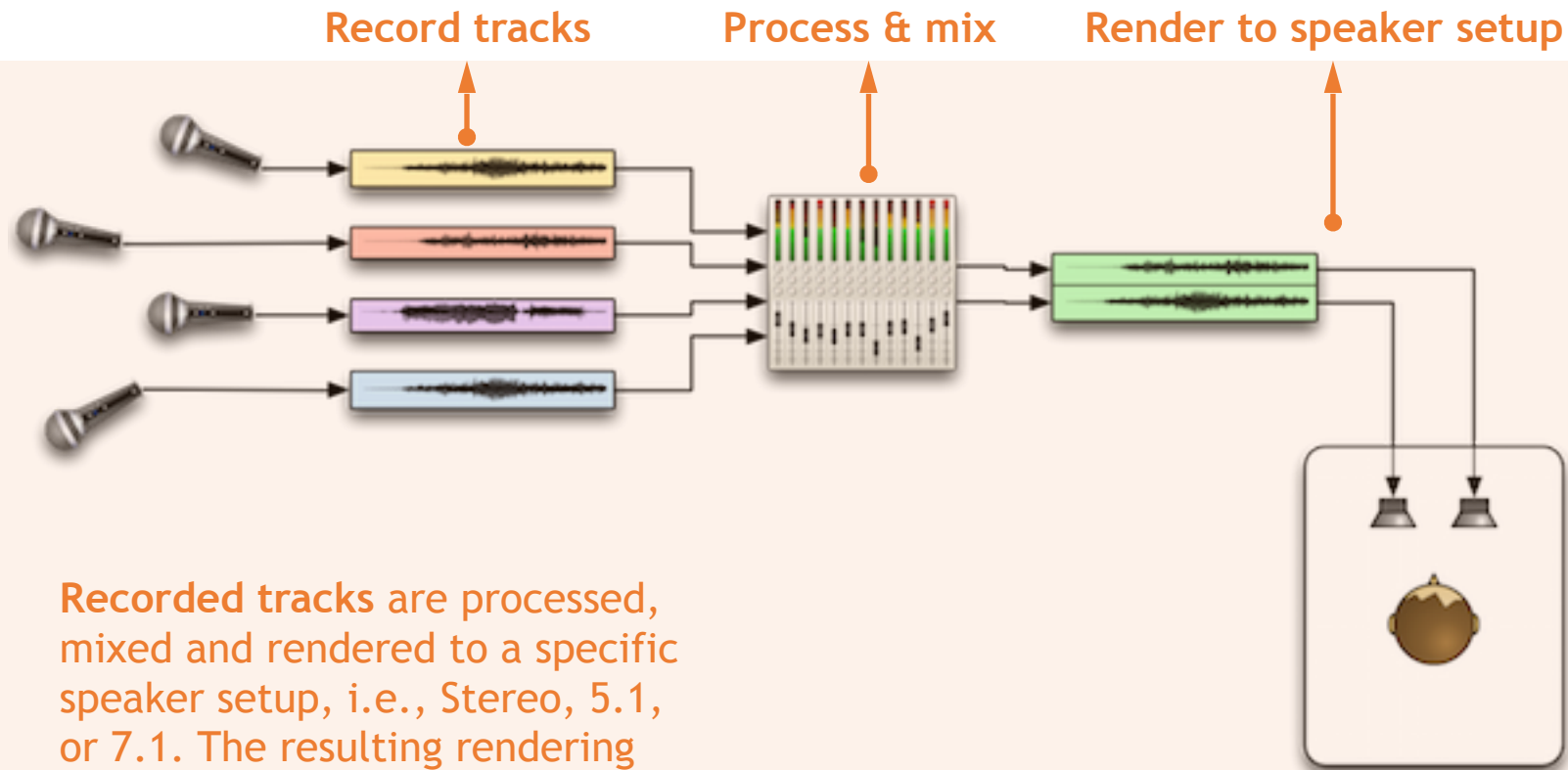
# Audio Rendering

- Central to most digital audio rendering approaches is the realistic simulation of a real audio scene



# Audio Rendering

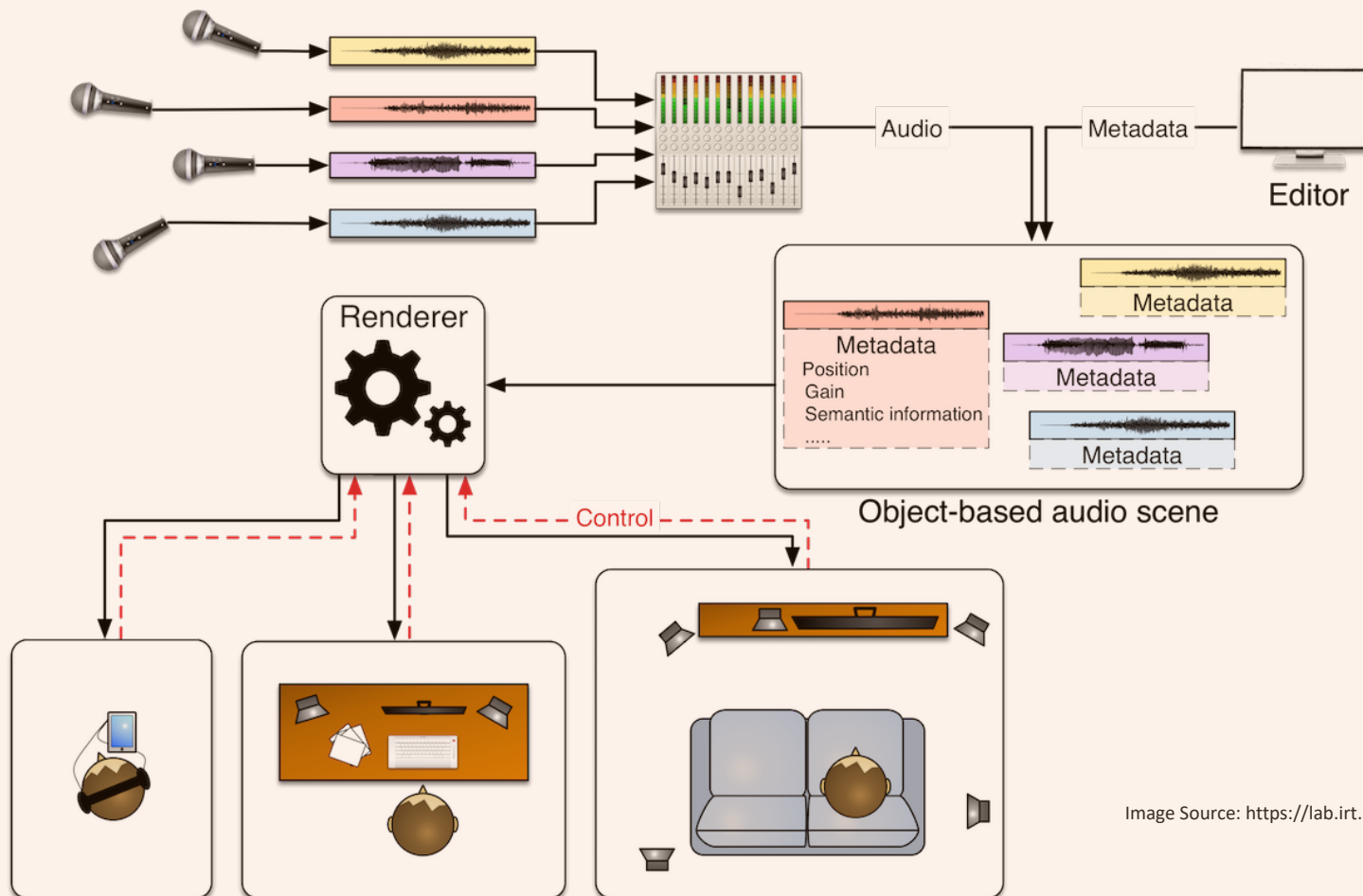
- Channel-based audio rendering



**Recorded tracks** are processed, mixed and rendered to a specific speaker setup, i.e., Stereo, 5.1, or 7.1. The resulting rendering cannot be changed.

# Audio Rendering

- Object-based audio rendering

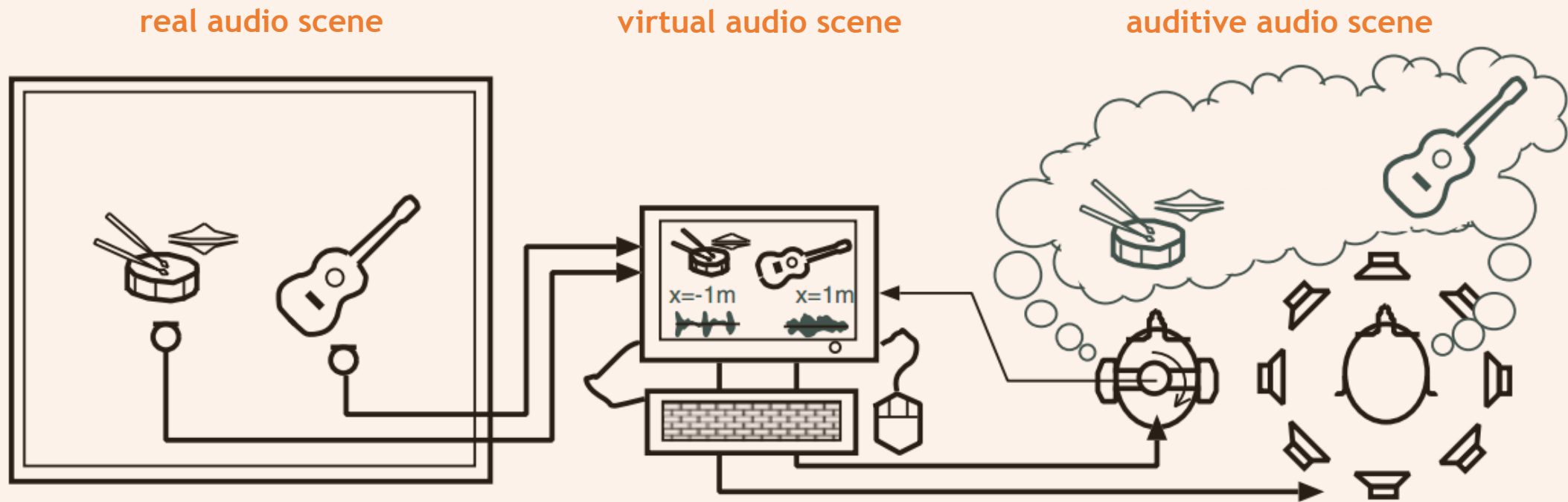


Recorded tracks are combined with meta data like position, direction, etc., to form individual **audio objects**.

A renderer generates loud-speaker signals based on the actual speaker setup and from the object based audio scene.

# Audio Rendering

- To understand audio rendering, we need to understand the properties of sound, hearing and acoustics, as well as digital audio techniques processing



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