

# Collaborative Vocal Puppetry

## Multi-User Performative Voice Synthesis on Distributed Platforms @ eNTERFACE 2011

Nicolas d'Alessandro<sup>1</sup>, Thierry Dutoit<sup>2</sup>, Maria Astrinaki<sup>2</sup>,  
Johnty Wang<sup>1</sup>, Onur Babacan<sup>2</sup>, Àngel Calzada Defez<sup>3</sup>

<sup>1</sup> MAGIC - University of British Columbia (Vancouver)

<sup>2</sup> NUMEDIART Institute - University of Mons (Belgium)

<sup>3</sup> La Salle - Universitat Ram3n Llull (Spain)

# Performative Speech Synthesis

providing artificial speech technologies

vs. providing artificial speaking systems

- text-to-speech ( TTS ) based on non-uniform unit selection ( NUU ) is the ultimate technology for providing high-quality speech waveforms - period, thank you :)
- it leads to a well-established but rather limited set of apps where the reading of some available text is the goal;
- but it does not make the conception of an *artificial speaker* much easier than back in the days of DECTalk, well actually it makes it harder ( black-box design, time scales issues );
- the *artificial speaker* as a system: realtime, reactive, interactive, listener-specific, context-aware, ubiquitous,... many aspects which require a different perspective.

**gist**

**goal**

**functional**

phonemes do not exist :)

**control**

**chunck**

**genre**

and then Nick Campbell came...

**cognitive**

**interaction**

**what**

**focus on**

**space**

**machines**

**action**

**social**

**should**

**say/do ?**

**engagement**

**speech**

# Focus on Three Existing Systems

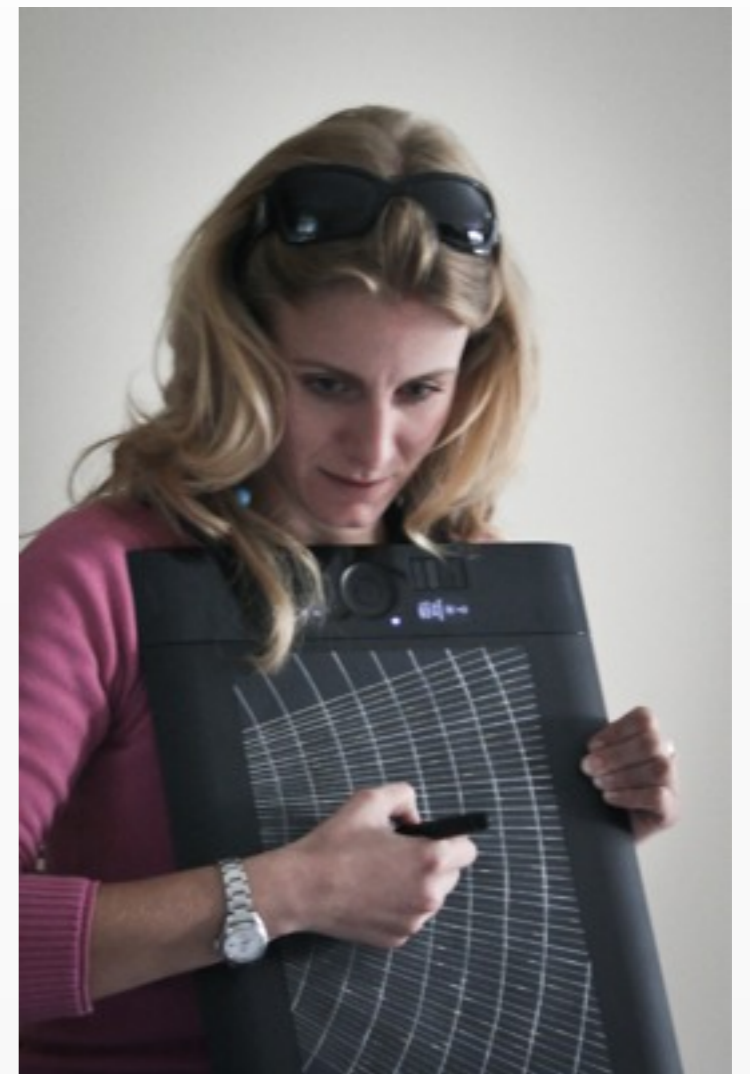
our team gathers three software systems for performing speech/singing synthesis



**RAMCESS**



**DiVA**

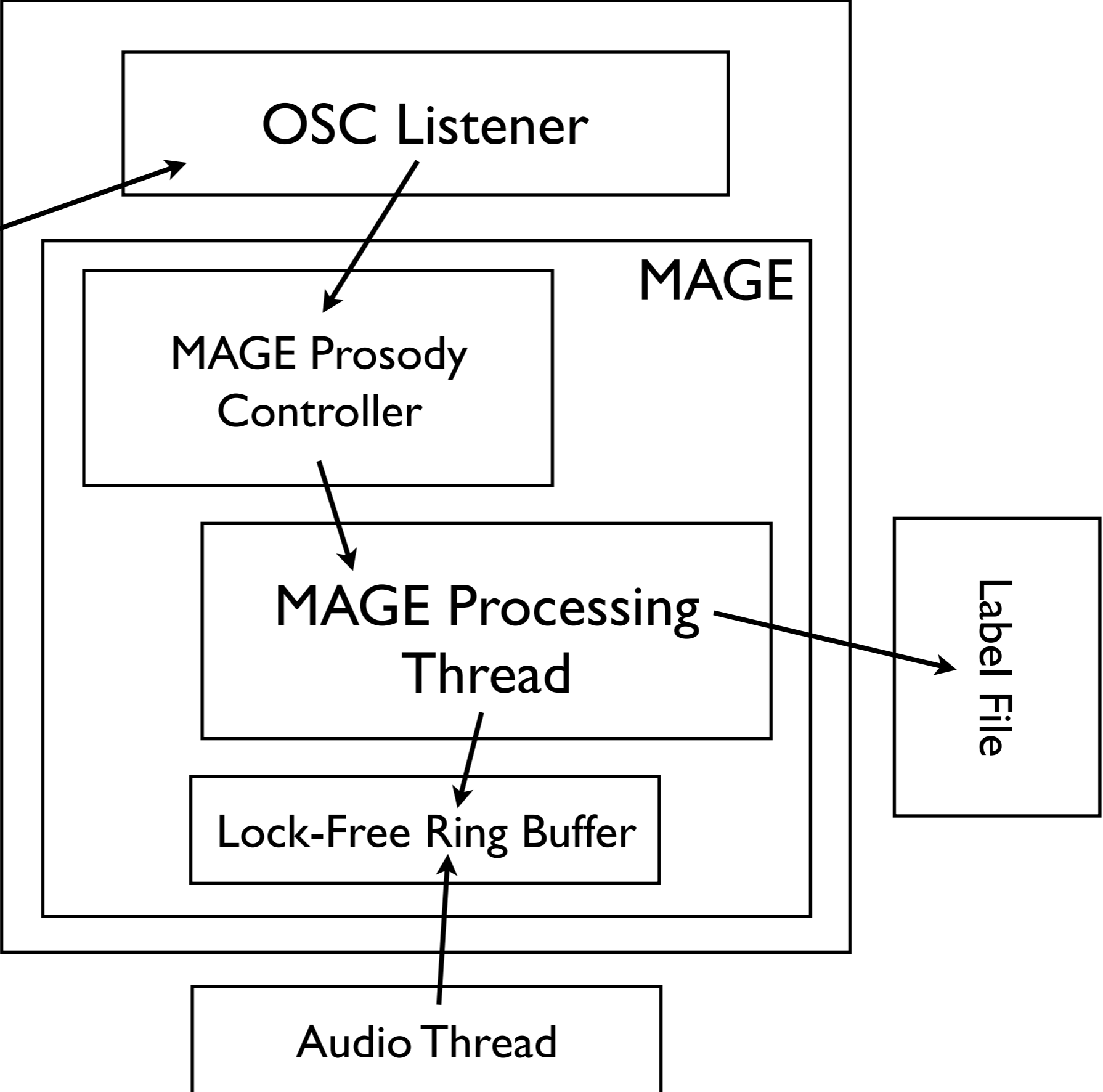


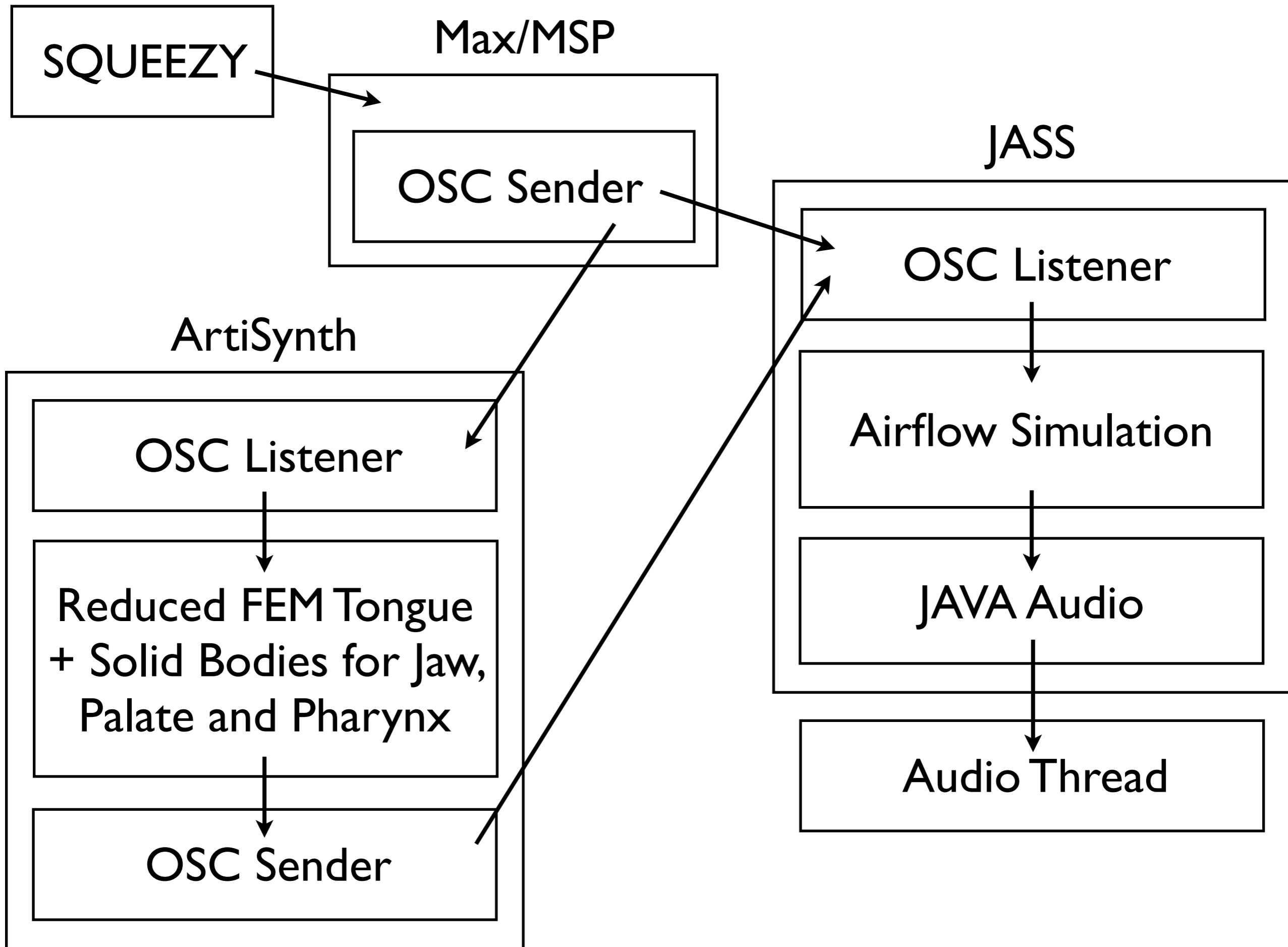
**MAGE/pHTS**

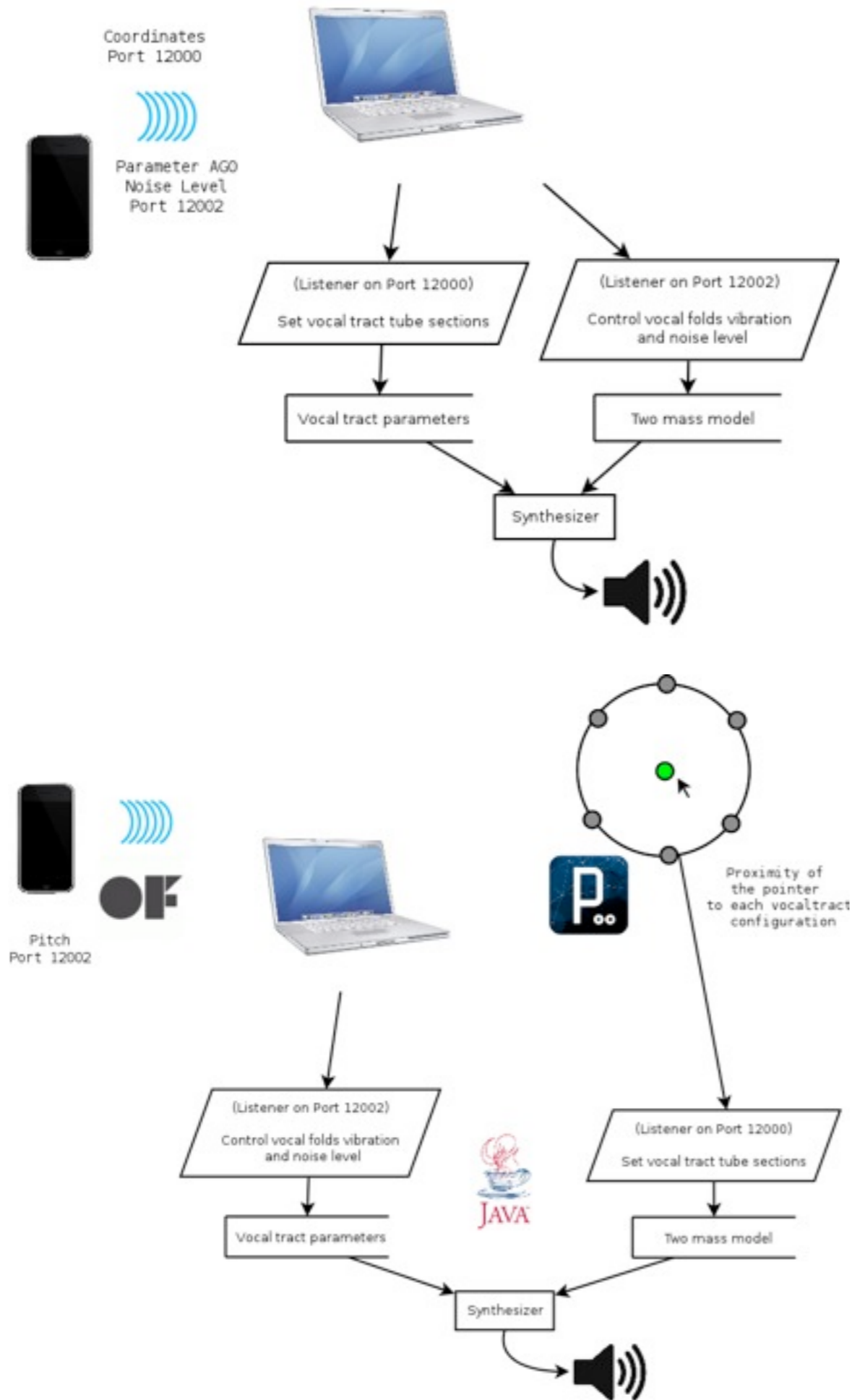
**exploring... based on the two most promising approaches we have so far**

- 1) bio-mechanical modelling**
- 2) statistical parametric modelling**

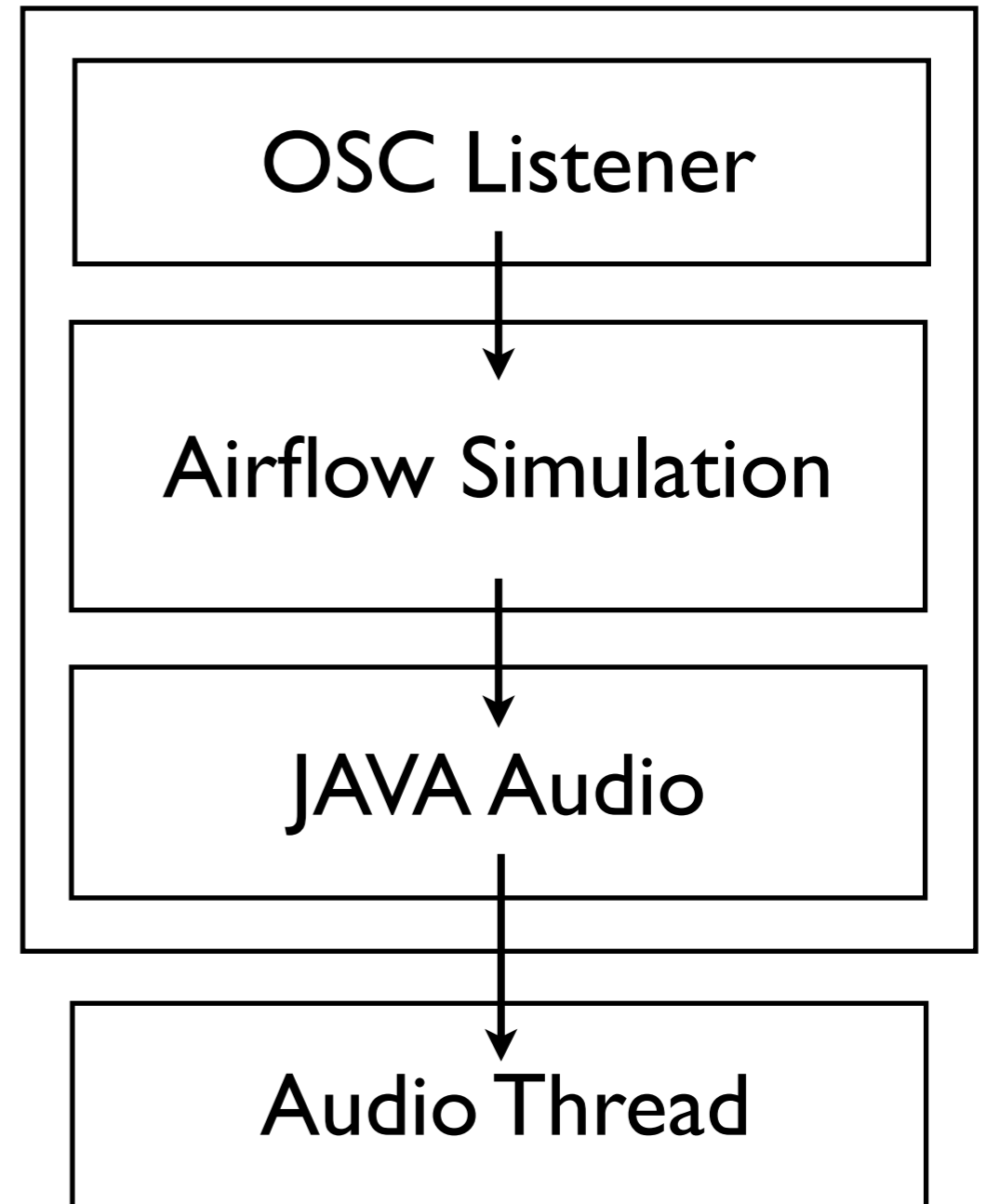
# openFrameworks Application







# JASS





**ofxCleo**

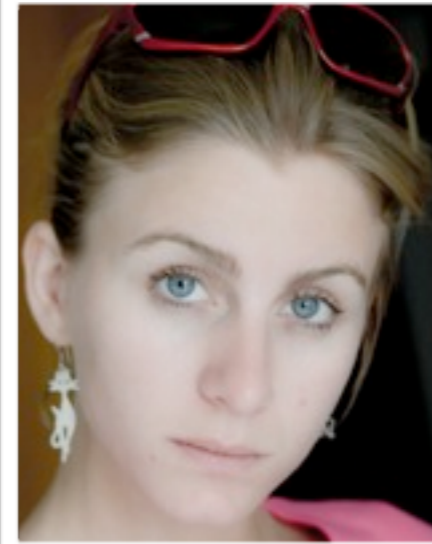
# Team



Nicolas  
d'Alessandro



Thierry  
Dutoit



Maria  
Astrinaki



Johnty  
Wang



Àngel  
Calzada



Onur  
Babacan

**thank you !**