

## Vocal System Modelling

Plan Dec 2005

Have got an overview of the project, and have divided it into groups of problem areas that can be tackled as individual projects. Have got an overview of the literature, and existing models and data that can be used in validating the modelling process.

The next stage of the project is to begin implementing the actual computational model, beginning with a component that can be relatively quickly put together to provide some early results. Also, there is a chance to write a “scoping” document that reviews the field and sets out the research direction. This should in fact take the form of a review article that can be submitted for publication, including some early results such as the anatomical modelling of the tongue.

Stages:

1. Establish overall model framework
  1. Define sub-components of the model
  2. Define the control inputs required to each sub-component
  3. Define interactions between sub-components
  4. Build framework with dummy sub-component models
2. Implement basic model elements
  1. Respiratory – pressure signal output in response to control input + postural/voice interaction terms
  2. Glottal vibration – puffs of air (flow+pressure field) controlled by Psg, control inputs to laryngeal muscles + back pressure/resonance in VT
  3. Vocal tract