ABSTRACT

Considering Brazilian situation concerning education, it becomes greatly important any effort in research and progress in this area. This work is still very little considering the existing needs, but it translates an action directed to people who do not have too much attention in our country, the handicapped people, more specifically people who have hearing problems.

In the beginning, some history is shown so that the reader can be correctly situated in the existing Brazilian reality of the handicapped education, which is called special education through the whole text. The prejudice against handicapped people already begins when law is created. Afterwards all the attention gets into the real interest of this work that is Facial Animation for Special Education – Specially concerning people with Speaking and Hearing Problems. Existing work have been used and the research available has been continued. The improvement which has been achieved is shown in the presented work. Parke and Waters facial model and mesh (Parke, Waters 1996) have been used. In the referenced model, the tongue has been inserted, interfacing with the existing mesh and all Brazilian phonetics have been mapped into the model in such a way that the user can notice the correct movements, which have to be done so that the sounds are reproduced during a speech.

In the actual stage of development, this work presents a virtual head, which shows the correct positioning of lips and tongue in such a way that reproduces the position of the mentioned organs at the moment when each phoneme is used during the speech. Therefore different muscles manipulation possibilities have been implemented in order to make it possible to reproduce in a talking head the same organs position of a human being at the moment of the speech reproduction. The developed system allows written or predefined words to be reproduced as a response of a virtual face.