Kiswahili Dictation system (SwaSpeak

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Dictation is the process of converting language from spoken format to written format. This process is usually carried out manually, that is, a human being listens to speech and then either handwrites or types the equivalent written form. Dictation systems are computer based automatic speech recognition systems that are meant to automate this process. Ideally a dictation system should improve significantly on the speed of the transcription and also reduce the number of erors that occur. Dictation systems are language specific. This is because each language has different words, which are used to form the sentences in that language. In spite of this, the techniques used to implement dictation systems for different languages are largely the same. The purpose of this report is to describe the work done in developing a prototype dictation system for the Kiswahili language. The implementation of the speech recognition front-end, the acoustic model, the Viterbi algorithm for recognition, and an evaluation component are described. The report also highlights the relevant literature on the techniques used to build dictation systems, the design of the dictation system, the results obtained from the prototype system that is built, and finally gives suggesstions on how this system can be improved.