REAL-TIME SYNTHESIZER

Figure 6.1 Overview of research development. Initial work resulted in a real-time synthesizer, which employed X86 native signal processing capability on a PC platform and a custom made wirewrap adapter card with timing, interrupt, and D/A circuitry. Work next focused on improvement of the synthesizer glottal source waveform. A MATLAB software synthesizer was then created to more quickly evaluate new synthesizer algorithms. Problems with modeling vowel quality then motivated research into external source identification of the vocal tract. Lastly, nonperiodic properties were analyzed and modeled as aspiration noise, FM (frequency modulation), and AM (amplitude modulation).