HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

CONSTRUCTION OF A GREEK SPEECH SYNTHESIS SYSTEM FOR HANDICAPPED CHILDREN

(E/960)

by

LOIZIDES GEORGE

JUNE 1995

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

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CONSTRUCTION OF A GREEK SPEECH SYNTHESIS SYSTEM

Project report submitted by

LOIZIDES A. GEORGE

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Στη μνήμη του αγαπητού μου φίλου
Νικόλα Κυριακίδη τον οποίο ο Θεός
τόσο νωρίς πήρε κοντά Του.

In the memory of my friend Nikolas
Kyriakides who in his early twenties gave
his life while trying to help others

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ABSTRACT

Greek Speech Synthesis System for handicapped children by George Loizides.

The aim of this project is the development of a low cost technique for storing and playing back voice signals from a ROM. These signals which are small phrases or words which combined together can produce a whole message can be choosen by a keyboard.

The ability to give a complete message with the use of hands only was the first thought for this system in order to be used by handicapped children who can use their hands only for communicating easily with their environment.

This system is designed for a maximum capability of 16 independent messages either words or small phrases each of maximum duration of 1.5 seconds.

The voice is stored in memory and recalled each time a phrase is needed accordingly.

The cost of the system is not high and the main contribution to this belongs to the number of words required.

INTRODUCTION

The system already described since it can play back 16 voice signals has the need to store them somewhere. In conjunction with the principle of operation which is Pulse Code Modulation the storing media are EPROMs. The Codes of Pulse Code Modulation signals are stored in EPROMs. Each EPROM stores the codes for one word only of duration not greater than 1.5 seconds.

By depressing a key the EPROM which corresponds to it is enabled via a circuit which makes everything about the control of the system.

The digital form of the signal is converted with the aid of a Digital to Analog Converter back to analog. Then is low pass filtered, amplified and driven to a speaker.