BabyMac Software Description

This project will utilize the Atmega324P microprocessor in conjunction with a PC Visual Basic application. The basic premise is this: the user will start the program, and be greeted verbally by the text-to-speech (TTS) component. The microprocessor will select the first image to be displayed and communicate the choice to the PC through the USB cable; the image will be displayed on the main PC monitor, and the answer choices will appear on the touch screen. The user will then be verbally prompted with a question by the TTS. The TTS is fed serially from the uP. The uP will then wait for the user to respond using the touch screen. When an answer is selected on the touch screen, the TTS will say the name of the answer that was selected. The uP will then determine if the answer is correct. If the answer is correct, the TTS will affirm the user, and then proceed to the next image/question. If the answer is incorrect, the TTS will play a “try again” message. The user is allowed to try as many times as necessary until they get the answer correct. Once they select the correct answer, the game will proceed to the next image/question. Visual Basic details: The VB program will use the USB input from the uP to decide which image and corresponding answer key to display. The PC will be set up ahead of time to extend its desktop, so that the main screen will display the image, and the touch screen (connected by VGA-LVDS conversion) will display the answer choices.