

Hello, my name is Rogério Corrêa Pimentel, I live in Brasil , In São Paulo state, Campinas city and I would like very much to participate of first Picbasic competition

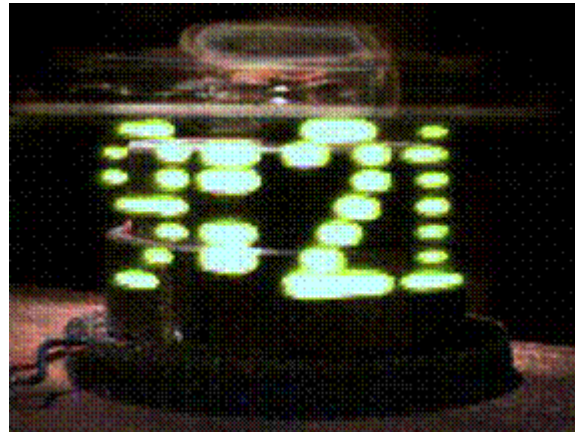
I am learning the English yet, then sorry about some errors!

My idea was to create a circuit with a mix of the good ideas and things that I learned using the PicBasic Pro compiler. My project is based on Persistence of Vision. I believe that the first project of this type was made by Bob Blick about 25 years ago.

<http://www.bobblick.com/techref/projects/propclock/propclock.html>

“Propeller Clock” Mechanically Scanned LED Clock

Seven light emitting diodes spin, giving the illusion of numbers in the air”



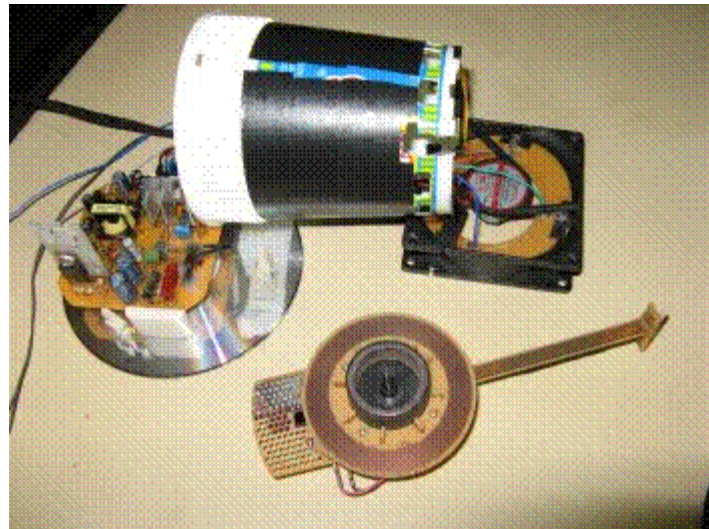
Then, when I started my first study using PIC microcontrollers and PBP compiler, I decided to do it!

My Propeller Clock and Messages Project !!!

The biggest problem of this type of project using an propeller, is the transference of the power for the revolving pcb (rotary board).

I already tried DC motor with transference using brushes but the noise is high beyond the consumption of the brush , batteries in the board, until I found a friend whom he showed to me another way to make this. He is Edson Tomioka from Brasil. Bellow your project link and some images:

<http://edsontomioka.zymichost.com/picclock/PICClock.html>

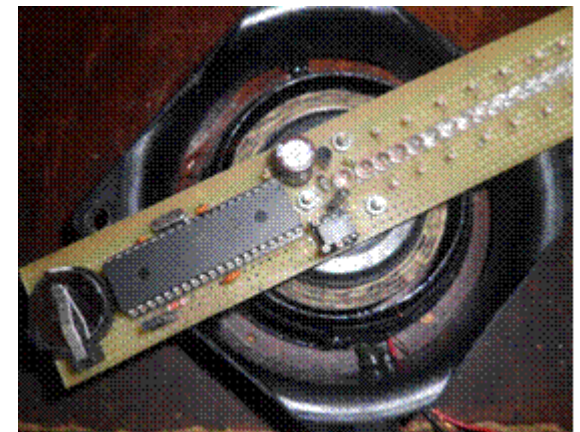
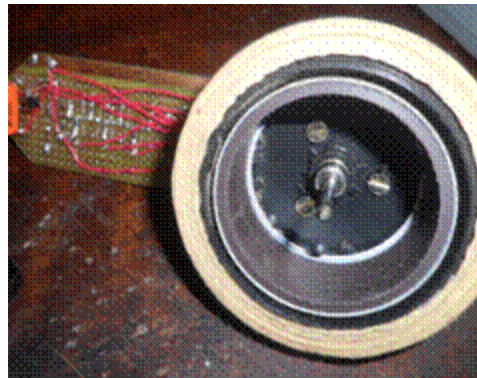
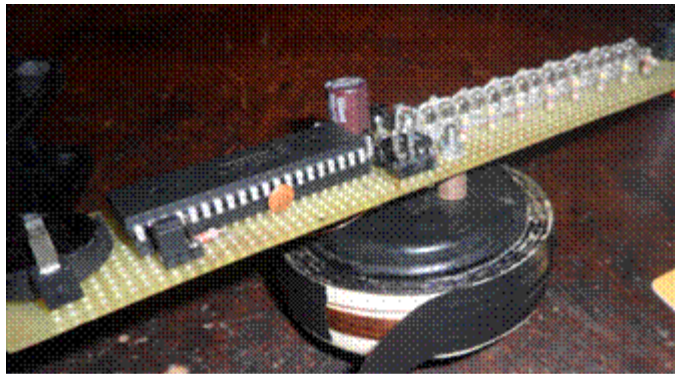


He used a cooler, a plain coil printed on pcb to transfer the energy as a transformer with air nucleus. He used a popular 555 integrated and a FET transistor to create about 200KHZ frequency on primary coil, and then using other coil on secondary with a simple fast diode to rectifier , a capacitor to filter and a 7805 to regulate to give 5v to microcontroller. However, I very found difficult to make this coil in the pcb, then I decided to copy the idea of it of a different and more practical skill for me.

I used a piece of a plastic cup of a candy to serve as form for the primary coil that is always fixed glue in cooler. In the rotor I made the secondary coil that turns together with the board.

I had to place a little of adhesive tape in the rotor to increase the space of the center after removing the helices, because underneath of the plastic has a part of iron therefore in my tests without this space occurred the collapse of the magnetic flow!

I used about 60 laps of enamelled wire in primary coil and 60 in the secondary, about 4 ohms every. I used a 13,5V source, then the max. current is about 3 A (peak). Its was necessary to have a min. Current on secondary to circuit to function correctly, about 150mA, basead in my tests!



As you know now, my initial inspiration was the Bob Blick project. However, I also leaned very PBP through the example written by Melanie Newman using a DS1307 RTC from Dallas. This program includes Setting the Date and Time, 3 Buttons Control Setting, 12/24 hour Clock Mode, Year, Month, Day of Month (also accounting for Leap Years), Hour, Minute, Second, written for 2 line 16 Character LCD, really a an excellent didactic project!

<http://melabs.com/resources/samples/submitted/mn1307.txt>

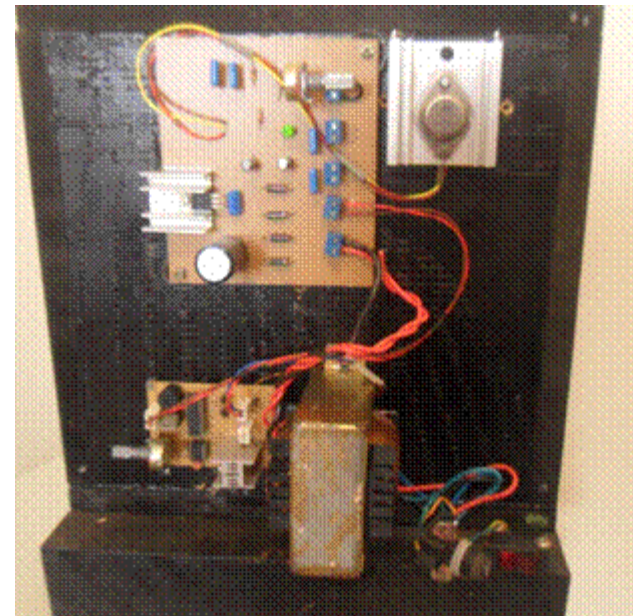
Then, I constructed my RTC to understand better the program and to improve my know how about PBP programming techniques.



And then, I joined everything and with a little of manual and mental effort I constructed my project based on the persistence of the vision

A big cooler spins the "propeller", and 16F877A PIC microcontroller keeps track of time and changes the pattern on 8RGB LEDs with exact timing to simulate an radial array of LEDs. Think about balance while you build this circuit, its is a critical because high rotation of the coller. I placed everything in a closed box for security guard question. Care will be to make this, therefore I do not make responsible!

I still need to improve the part of the adjustment of the clock because I have to use another hardware to adjust the DS1307 (Melanie Newman project) and then to change for the board, but as is only necessary makes this an only time, I was leaving the time to pass!





It is my project !!!

<http://www.youtube.com/watch?v=0odlySa3ZL/>

*Thank you
Pimentel*