http://www.creepynights.org/Projects/2006/Banging-Mausoleum/index.html

Mausoleum With A Bang

In 2005 we built a mausoleum simply to accommodate the Blaze light projector used to light up the flying witches. A fog machine, red lighting from inside, and a pair of torches burning nearby gave it a pretty gloomy effect.

This year the mausoleum also gets an extreme makeover - turning it into something that'll REALLY grab 'em.

Here's what it looked like last year:

Creepy and nice... But this year we wanted MORE.

Here's the daylight view of this year's banging mausoleum:

We start with another Parallax PROP1 controller and motion detector; add a box-pusher pneumatic, and a Rogue Robotics uMP3 sound card. Wrap with some new (real metal) chains, and equip the PROP1 with a short program that bangs the door randomly when a TOT approaches, and we think we've found the recipe for potential golden salutes.

First Christopher, our chief of haunted construction, gives the old place a little curb appeal. It took quite a bit of punishment since last Halloween, and needed some sprucing up anyway:

Last year one of the doors was propped open, while the other was bolted shut.

This year the door on the right will get animated. First we lined up a box pusher pneumatic cylinder just right. It's angled to help it push the door out (as the wheel is pushed out and down by the cylinder). The solenoid for the cylinder is mounted on the same 2x4 we used to mount the cylinder.

The bungee in these pictures was later replaced by a (weaker) spring, since the bungee gave too much resistance and the pusher had difficulty rattling the door.

Next the PROP1 and uMP3 needed to be mounted. A small piece of plywood did nicely and was mounted on the inside wall in the upper right. The motion detector was cleverly hidden inside the small appliqué glued to the front of the

mausoleum (you can see the appliqué in some of the pictures at the top of this page). A hole was drilled through the bump out just below the cross and the piece was hollowed out from behind before being glued to the front of the mausoleum.

The cable was then run through a hole behind the appliqué to the PROP1 board inside.
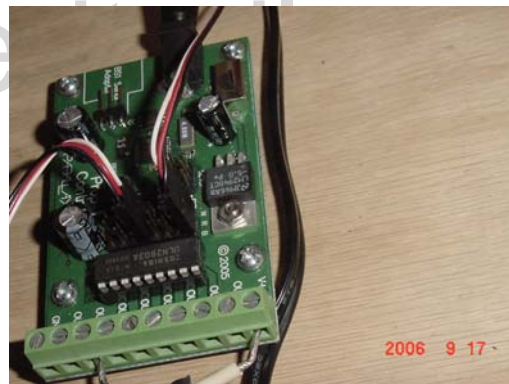
Here's a look in the front of the mausoleum before we fastened the doors. A pair of speakers have been installed on either side to project the agonizing screams that will emanate from within...

The mausoleum got a new coat of paint, having its new chains attached across the front, and some other small touches. Final touches included fine tuning the sound effects (courtesy of a Rogue Robotics uMP3 sound card inside) and the mounting of the PIR (motion detector) inside the small cross mounted on the front.   Now when TOTs approach, the door starts banging, rattling the chains and a creepy voice emanates from within...

Source Code for the PROP

```
' {$STAMP BS1}
' {$PBASIC 1.0}
' Mausoleum Prop
'  -Chris Bartram  www.creepynights.org
'
'  Wait for motion detector
'  Pause 4 seconds till victim gets closer
'  Trigger sounds
'  Pause (random) seconds
'  Start random solenoid door-banging (for 20 seconds)
'  Reset
'
' -----[ I/O Definitions ]-------------------------------------------

SYMBOL PIR=PIN7              ' P7   = Infrared sensor
SYMBOL PUSHER=1             ' Out1 = Box Pusher cylinder
                            ' white wire to V+, black to Out1 terminal
SYMBOL uMP3=3              ' uMP3 sound board on position 3
SYMBOL Baud = OT2400
SYMBOL COUNTER=W4
SYMBOL TriggerDelay=0 ' delay between motion detected and start
SYMBOL IdleTime=20000     ' delay between reactivations

SYMBOL  lottery       = W0                        ' random number
SYMBOL  tix           = W1                        ' timer
SYMBOL  shakeTime     = W2                        ' time for shaking
SYMBOL  shakeAcc      = W3                        ' shake accumulator

' -----[ Initialization ]-------------------------------------------


SEROUT uMP3, Baud, ("PC F /SOUNDS/LETMEOUT.MP3", 13)

DEBUG CLS                 ' Clear DEBUG Screen
FOR counter = 40 TO 0 STEP -1     ' Wait 40 Seconds For PIR Warm-Up
DEBUG "IR Ready in:", counter 'print how much time left
  PAUSE 1000                ' Display Counter Every Second
DEBUG CLS                  ' Clear DEBUG Screen
NEXT

lottery = 1031            ' seed random generator
counter = 0               ' Clear Counter Variable

DEBUG "WAITING...  "       ' Display Waiting Message

' -----[ Program Code ]-------------------------------------------

WaitForMotion:
    RANDOM lottery                              ' toss random generator
    LOW PUSHER
    PAUSE 25
    counter = counter + PIR*PIR
    IF counter<20 THEN WaitForMotion            ' Motion Detected?
```

```
        DEBUG "TRIPPED..."
        counter =0

    PropSequence:
    ' motion detected, wait 'triggerdelay' seconds before turning head

        PAUSE triggerdelay

        DEBUG "Sounds!"
        SEROUT uMP3, Baud, ("PC F /SOUNDS/LETMEOUT.MP3", 13)

        DEBUG "Start banging"

    Pre_Shake_Delay:
      tix = lottery // 31 + 20                      ' delay 2 to 5 seconds
      GOSUB Run_Timer

      shakeTime = lottery // 200 + 10               ' shake 1 to 20 secs
      shakeAcc = 0                                  ' clear accumulator

    Shake_Crate:
      RANDOM lottery                                ' toss random generator
      TOGGLE PUSHER                                 ' toggle cylinder control
      DEBUG "crate Toggle", CR
      tix = lottery // 5 + 1                        ' piston move, 0.1 to 1.5 secs
      shakeAcc = shakeAcc + tix                     ' update accumulator
      GOSUB Run_Timer
      IF shakeAcc < shakeTime THEN Shake_Crate      ' done shaking?

        DEBUG "Stop banging"

        LOW PUSHER
        PAUSE idletime

        DEBUG "Resetting"
    GOTO WaitForMotion

    ' -----[ Subroutines ]-----------------------------------------------------

    ' Pass timing units (0.1 sec) in "tix"
    ' -- "tix" is destroyed by routine

    Run_Timer:
      IF tix = 0 THEN Timer_Exit                    ' expired?
        PAUSE 100                                   '   no, pause
        tix = tix - 1                               '   and decrement
        GOTO Run_Timer                              ' test again

    Timer_Exit:
      RETURN
```