Wall Poetry

How the code works?

The system was divided in two parts. One micro controller focused only in the MP3player shield, and the other one focused only in the count of the people. Those both systems are connected using I2C (or Serial).

Person Counter Micro Controller:

This code works, with four ultrasonic range sensors, two per checkpoint.

If someone cross the external sensor in one of the sides, and after that cross the internal sensor of the same side the counter of people will be increased in one. If the process is the opposite internal first and external at the end, that means that one person leave the controlled zone.

The number of persons is send via I2C to the MP3 controller Arduino every second or if that count reach 0.

If this code will run in the Atmega 328P the code must be uploaded using an Arduino Board as ISP. In this site is a tutorial of how to do that http://www.instructables.com/id/Burning-the-Bootloader-on-ATMega328-using-Arduino-/ (I strongly recommend you to change that Atmega 328 for an Arduino UNO, the chip is the same but you can avoid the construction of the circuit, and the problems in the programming process)

MP3 Controller

This code will run depending of the number or persons inside the zone:

If someone enters in the zone, the MP3Player will play a random “Greetings message” it will be always different from the last message.

After that message if someone still in the zone, the MP3 will reproduce a random poetry, it will be always different from the last one. If at least one person stays until the end of the poetry, the system will reproduce a new poetry.

If all the people left the zone during the recital of the poetry, the system must keep the position of the poetry and start an “Ask to stay message” that message is randomly picked, but this is allways different from the last one.

After the end of that message, if the at least one person returns to the zone, the system will resume the poetry in the last position. But if the people leave definitely the zone one timer start to run, if that timer reach 5 seconds. A randomly picked complaint message will be reproduced.

After that the system will back to his standby state.