

Project Title: Real-Time River Water Quality Monitoring and Control System

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Code:

```
int V_GasSensor = 0;
```

```
int PIRSensor = 0;
```

```
void setup()
```

```
{  
  pinMode(A0, INPUT);  
  pinMode(7, OUTPUT);  
  pinMode(5, INPUT);  
  Serial.begin(9600);  
  pinMode(10, OUTPUT);  
  pinMode(11, OUTPUT);  
  pinMode(0, OUTPUT);  
}
```

```
void loop()
```

```
{  
  V_GasSensor = analogRead(A0);  
  if (V_GasSensor >= 250) {  
    tone(7, 523, 1000); // play tone 60 (C5 = 523 Hz)  
  }  
  PIRSensor = digitalRead(5);  
  Serial.println(PIRSensor);  
  if (PIRSensor == 1) {  
    digitalWrite(10, HIGH);  
    digitalWrite(11, LOW);  
  }  
  digitalWrite(10, LOW);  
}
```

```
digitalWrite(11, HIGH);  
if (PIRSensor == 1) {  
    digitalWrite(10, HIGH);  
    digitalWrite(11, LOW);  
} else {  
    digitalWrite(10, LOW);  
    digitalWrite(11, HIGH);  
}  
  
digitalWrite(10, LOW);  
  
digitalWrite(0, HIGH);  
delay(10); // Delay a little bit to improve simulation performance  
}
```

