气泵

大家好，这是我们小组的智能鱼缸项目，目前在展示的是我们各模块的测试部分。鱼的活动需要氧气，当鱼缸里有很多鱼时这非常重要，我们设计了可以使用PWM控制的可以调节速度的气泵来维持水中氧气含量，而这一切都可以通过我们的配套手机应用实现。

Hi everyone, this is our group's smart fish tank project, and what we are showing is the test part of our modules. Fish need oxygen to move, which is very important when there are many fish in the tank. We designed an air pump that can be controlled by PWM with adjustable speed to maintain the oxygen level in the water, and all this can be achieved through our supporting mobile application.

水泵

在这个视频里，我们在开启气泵的同时还开启了水泵，这可以模拟鱼的自然生活环境，而水泵也是可以使用手机应用进行调速的。

In this video we have turned on the air pump along with the water pump, which simulates the natural living environment of the fish, and the pump is also adjustable in speed using the mobile app.

温度调节

不同种类的鱼需要不同的水温，我们使用温度传感器和加热棒控制水温。我们设计的手机应用上可以查看当前温度，并且可以设置鱼需要的温度，当加热进行时，我们的控制器红灯会亮起，而当加热结束时，红灯会熄灭。我们可以在视频中清楚的看到这一切。

Different kinds of fish need different water temperatures and we use temperature sensors and heating rods to control the water temperature. We designed a mobile app where you can check the current temperature and set the temperature the fish need. When the heating is in progress, our controller's red light comes on and when the heating is finished, the red light goes off. We can see all this clearly in the video.

蓝牙

1. 在之前的视频中提到，我们设计了手机应用，今天我们就来测试它。首先是使用手机对气泵进行控制，我们从慢到快设计了五个档位，包括关闭。
2. 成功关闭
3. 接下来是水泵的测试，也同样是有五个速度调节
4. 成功关闭
5. 很好

1, as mentioned in the previous video, we designed the cell phone application, and today we will test it. The first is to use the phone to control the air pump, we designed five gears from slow to fast, including off.

2, successfully shut down

3, the next is the pump test, also has the same five speed adjustment

4, successfully shut down

5, very good