第一周(9月2日至9月8日)

第一周时间表

北京时间9月2日下午2点，汤烽、赵杨、王鑫源经讨论组成三人小组，在组长汤烽的带领下选择彭本利作为本组的指导老师。

北京时间9月2日下午5点，\_\_\_\_\_\_团队与彭本利老师进行了第一次线上沟通，讨论了毕业设计课程的具体要求和项目的几个主要议题。设立了多个方案，并将在下周和老师见面选取其一。  
At 2 p.m. Beijing time on September 2, Feng Tang, Yang Zhao, and Xinyuan Wang, after discussion, formed a three-person team, with Feng Tang as the team leader, and chose Benli Peng as their mentor.

At 5 p.m. Beijing time on September 2, the \_\_\_\_\_\_ team had their first online communication with Benli Peng teacher, discussing the specific requirements of the graduation design course and the main topics of the project. Multiple solutions were set up, and the team will meet with the teacher next week to select one.

项目内容如下：

1、热声效应被用来制造一种可以探测温度的装置。当温度过高时，它会发出声音警告人们避免危险。例如，当发生火灾时，房间上方的温度很高，传递到这个装置的温度会使它产生声音来提醒人们。或者在工厂生产中，我们可以通过这个设备来检测电源线。当电源线出现问题的时候，由于有电流通过电源线，但是其中一部分损坏了，就会产生高温，我们可以用这个设备及时检测出来。因为温度高的部件会导致本设备产生声音。我认为它可以像铅笔一样，也可以像火警一样。

Thermoacoustic effects are used to make a device that can detect temperature. When the temperature is too high, it will sound to warn people to avoid danger. For example, when there is a fire, the temperature above the room is very high, and the temperature transmitted to this device will make it produce sound to remind people. Or in factory production, we can detect the power line through this device. When there is a problem with the power line, due to the current passing through the power line, but some of it is damaged, high temperature will be generated, and we can use this device to detect it in time. Because the part with high temperature will cause this device produces the sound. I think it can be like a pencil, or it can be like a fire alarm

2、导热拓扑优化。例如，在电脑和手机高强度使用下会产生大量的热量，这会让其的性能下降并且会减少它们的使用寿命。因此，我认为可以通过拓扑优化其内部的散热模块来快速找到最佳材料分布，提高传热效率，降低能耗。  
Thermal topology optimization. For example, when computers and smartphones are used intensively, a lot of heat will be generated, which will cause their performance to decline and reduce their lifespan. Therefore, I think that the internal heat dissipation modules can be optimized through topology optimization to quickly find the optimal material distribution and improve heat transfer efficiency, thereby reducing energy consumption.

3、计划设计一种小型的综合海洋求生装备，用于海上救生艇。这个装备可以进行海水淡化，为小型救生艇提供淡水，这种装备也能通过太阳能和海水化学能发电，驱动LED灯等电器。

It is planned to design a small integrated Marine survival kit for use in sea lifeboats. The device can desalinate seawater and provide fresh water for small lifeboats. The device can also generate electricity from solar and seawater chemical energy and drive electrical appliances such as LED lights