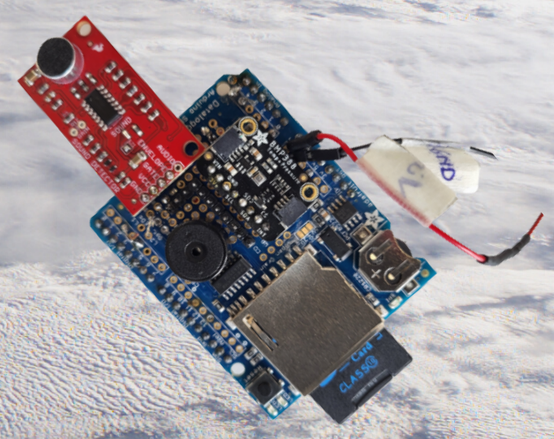
KONINKLIJK ATHENEUM ZOTTEGEM PRESENTS

SOUND WAVES



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INTRODUCTION

We are 3 students of the Royal Atheneum of Zottegem. In the ASGARD-XI campaign, we have investigated if the sound level of a buzzer changes as the air pressure around it changes.

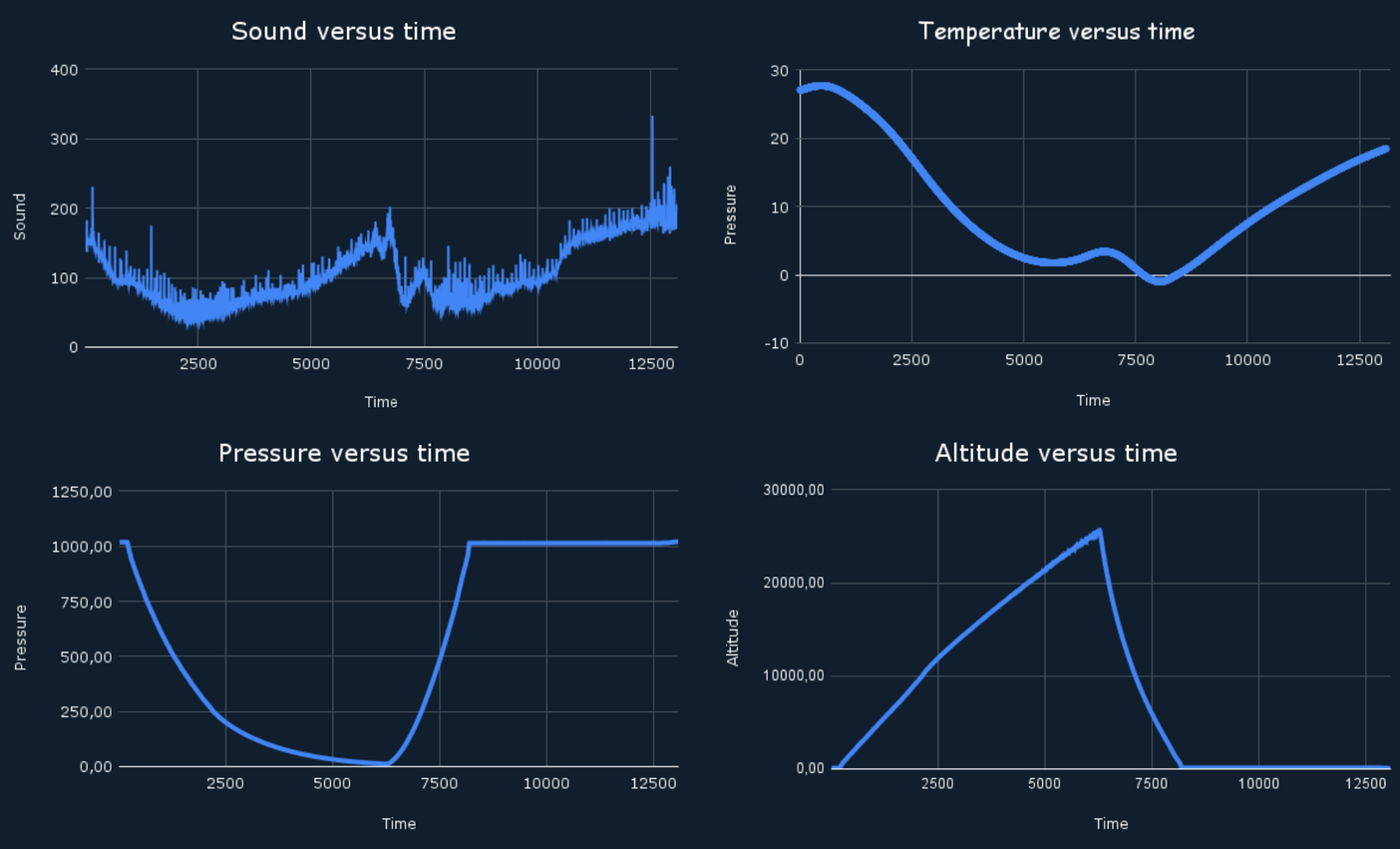
WHAT IS OUR RESEARCH QUESTION?

Do sound levels change if the air pressure changes?
To examine this, we measured air pressure and sound levels. We measured temperature as well, as this might be another influencing factor.

WHAT IS OUR PROJECT?

We set up an Arduino Uno, connected with a BMP 388 and an adafruit sound sensor to measure the time, pressure and sound level every 3 seconds. We saved all of the data on an SD-card.

Photo @ Sint-Barbaracollege Gent



RESULTS

You can see the results in the graphs to the left. Sound level is definitely influenced by the air pressure. The first graph shows that the sound level lowers as the air pressure lowers (air pressure as shown in the graph left-under). Some strange measurements might show that there are other factors that influence the sound level as well, temperature and air consistency for example. These factors have to be examined more closely before taking conclusions.

WHAT DID WE LEARN?

We learned how to work with Arduino. We also learned a lot about the stratosphere, the place where the balloon had risen to. We had to look up a lot of information about that because we needed to know what was probably going to happen with the balloon.

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