## **DASU20 Reflection**

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In the first assignment the rest of the members of my group and I were assigned the same task which was to analyse the profile of a runner. This taught me how to extract data from visual information and use these to form hypotheses.

In the second assignment, I undertook the task of cleaning, analysing and visualising the data. Through this I improved my skills in excel. In the beginning it looked like it would be a simple operation where I would have to calculate the additional physical quantities and then make the graphs. When this was done the graphs showed a lot of variation between the data points and they needed to be simplified in order to be more easily understandable. To do that I learned how using formulas I could identify every Nth measurement and keep only those. That way of filtering the data was useful in our case as it allowed to experiment with how detailed we wanted the graphs to be, to compare and then to decide how many seconds would be ideal between the measurements we would keep.

In assignment three I again handled the data and created the visualisations. This time, in order for the process to be didactic I tried a different method of filtering out the data. This time I used python. My experience using python is not extensive so I had to learn how to calculate the extra quantities. Moreover, in the final assignment we became aware of various issues such as gaps in the measurements. These issues were the perfect opportunity to try out and learn different ways to fix them in python. Python functions I learned, for example, are interpolation for estimating unknown data points, resampling for keeping every Nth measurement and gaussian filtering. In addition to that, combining python and excel for using their different features was also an instructive experience to me. As much I would search I could not find an easy way to make linear regression lines in python. However, in excel is automatic. So, I learned how to export the modified datasets from python as excel and create the graphs with linear regressions in excel. This is an extremely easy and efficient way to use the best from both python and excel and it is surely going to be useful in the future. This work was of great importance in the project as most of the rest of the work was based on the visualisers produced by it. Even though I did not work on the part of drawing conclusions from the graphs I actively followed the process of making the motivational profiles and the final visualisation making myself aquatinted with the theoretical aspect of the project as well.

All in all, I believe this course was a great source of knowledge, useful for future projects. Most importantly, the realisation of the importance of the analysis and the research of the target user group, through motivational profiles, in designing an app was the greatest lesson. This showed me that making such an app for training and motivational purposes is not as easy as it seems and requires much more thought and research. This was something that I did not do in my past projects but its effectiveness in showing insights will be useful in the future.

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2021-09-02 18:24:48	51.489845	5.476076	24.000000	138.333333	89.433333	39.880000	
2021-09-02 18:25:18	51.488968	5.476581	24.000000	146.000000	88.200000	40.040000	
2021-09-02 18:25:48	51.488376	5.475483	23.433333	147.833333	88.300000	40.333334	
2021-09-02 18:26:18	51.488066	5.474440	23.900000	152.500000	66.300000	40.619999	
2021-09-02 19:31:18	51.487379	5.461182	21.000000	119.300000	58.466667	40.973333	
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Filtering with excel

Resampling with python (top) - Interpolation with python (bottom)