

Project Diary

Daniel Anisoreac = D.A.

Aditya Bhargava = A.B.

Sushant Jasra Kumar = S.J.K.

Plan outline: (S.J.K)

Stage	Process	Progress	Skills used
1 st (27/03/2023) Introductory meeting	<ul style="list-style-type: none">Decided poster's outlineAssigned tasks	<ul style="list-style-type: none">More researchStart assigned tasksMeet online	<ul style="list-style-type: none">CommunicationTeamworking (tasks)Organisation
2 nd (30/03/2023) Online meeting	<ul style="list-style-type: none">Revised workModified sections/images	<ul style="list-style-type: none">More research (based on reliability)Meet in person	<ul style="list-style-type: none">Communication (conflicting opinions)TeamworkingOrganisation
3 rd (03/04/2023) In person meeting	<ul style="list-style-type: none">Improved posterCreated list of questions	<ul style="list-style-type: none">Ask questions to teacherModify poster (suggestions from teacher)	<ul style="list-style-type: none">Communication (created list)TeamworkingOrganisation
5 th (06/04/2023) In person and online meeting	<ul style="list-style-type: none">Asked questions to teacherFinalised the poster	<ul style="list-style-type: none">Final poster's and project diary's reviewMeet online	<ul style="list-style-type: none">CommunicationTeamworking (final review)Organisation
6 th (10/04/2023) Online meeting	<ul style="list-style-type: none">Final changes on PosterAgreed on Project Diary	<ul style="list-style-type: none">Final feedback before submitting	<ul style="list-style-type: none">CommunicationTeamworkingOrganisation
7 th (11/04/2023) In person meeting	<ul style="list-style-type: none">Tiny changes on Poster after teacher's feedback	<ul style="list-style-type: none">Submission of Poster and Project Diary	<ul style="list-style-type: none">CommunicationTeamworkingOrganisation

Note: during each stage, a record of the progress has been kept (Project Diary) (S.J.K)

One week before the first meeting, we started doing individual research paying attention to the reliability of the sources. (D.A.) (S.J.K)

On the 27/03/2023 we held an introductory online meeting where we decided the sections to include in the poster and specified the tasks for each person organizing tight deadlines. We looked at other academic research posters for inspiration and expressed our ideas to develop the poster. (D.A.) (S.J.K)

For the next stage, we decided to research more and we assigned specific tasks to start (Daniel: Poster, Sushant: Project Diary). (D.A.) (S.J.K)

On the 30/03/2023 meeting, we revised each other's work and gave suggestions for improvement (decided to do horizontally, but then changed to vertical, adjusting the poster's size). As expected, we modified some sections/images to include in the poster. When there were conflicting opinions about the sections/images, we tried both ideas and decided eventually which is visually engaging and suitable for the topic. (D.A.) (S.J.K)

For the next date, we decided to meet in person to work together on the poster. Meanwhile, we will continue researching being careful on the reliability of the sources. (D.A.) (S.J.K)

On 03/04/2023, we met in person and discussed about the uncertainties on the poster. We adjusted the poster and started cutting out some information to include relevant sections. In order to clarify our doubts and proceed clearly, we created a list of questions to ask the teacher. (D.A.) (S.J.K)

For the next date, we will ask the questions to the teacher to clarify doubts and eventually meet online to improve the poster sections/images considering the suggestions. (D.A.) (S.J.K)

On 06/04/2023, we had the opportunity to ask the teacher some specific questions and feedback regarding the poster. After the classes, we met online and made changes following teacher's advice. We started finalising the poster adding brief captions to the images and writing the conclusion together. (D.A.) (S.J.K)

For the next date, we will do a final review on the Poster and see if any improvement can be made. In addition to that, the Project Diary will also be reviewed together as it is important that all members of the group have agreed on the final version of the diary. (D.A.) (S.J.K)

On 10/04/2023, we held an online meeting with the three of us to make the final changes to the Poster. Later in the evening, Daniel and I met online to agree on the final version of the Project diary. (D.A.) (A.B.) (S.J.K)

For the deadline, that is on 11/04/2023, we will ask for final feedback on the Poster before submitting. (D.A.) (S.J.K)

Poster outline (modified throughout the Project): (S.J.K)

Introduction: What is Downforce?

Briefly explain what downforce is and how it works in F1 cars

Mention the importance of downforce for F1 cars in terms of control and stability

Newton's 3rd Law and Downforce relation:

Explain the relation between Newton's 3rd law and downforce

Connect it to the aerodynamic shape of the car and provide examples of how downforce is generated in F1 cars (mention the parts that generates the most amount of downforce)

Aircrafts wings & F1 car wings:

Explain the function of F1 cars wings comparing it to an aircraft wing

Bernoulli's Principle:

Connect it to the previous section and explain the importance of Bernoulli's principle

Downforce formula:

Mention the importance of the velocity in Downforce formula (square root of velocity)

Newton's 2nd Law and Downforce relation:

Explain the importance of the weight in creating more downforce mentioning Newton's 2nd law

Consequences of a heavier car (more Downforce):

Discuss the pro and cons when it comes to heavier cars (highlighting especially the negative effects)

Conclusion:

Summarize the key points discussed in the sections

Repeat the importance of downforce in F1 racing

Mention references

Problems that occurred and how we faced them: (S.J.K) (D.A.)

- At some stages we had conflicting opinions, but we always overcame this problem with communication and understanding each other's point of view (for example argued about the images and sections of the Poster).
- As expected, during the project we had to change the plan or solve problems. However, this was possible to exceed through problem solving skills and organisation (for example presenting both ideas).
- There were some difficulties in the clarity of the outline plan initially, but through the progress of the project we learned that detailing more and setting more tight deadlines can be helpful.