

spark racing

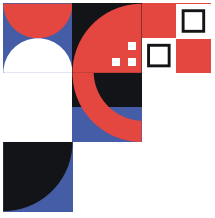
Ever to Excel



Enterprise Portfolio

***F1 in Schools 2023
Hong Kong Finals***

16 th December 2023



Section A - Project management



Introduction

Consisting of six members, *spark racing* is extremely structured, in which everyone has clearly-defined roles in aspects such as engineering, graphics and marketing. This ensure that all members can utilize their talents to soar high, and there is a clear division of responsibility.

F1 in Schools Hong Kong Finals (F1S) is a project consisting of various tasks, which are completed at different periods and by different members. Therefore, effective project management is necessary to facilitate the progress of the project and the organization of tasks.

To achieve excellence in project management, our team has used documents, charts and softwares to help with the initiating, planning, executing, monitoring and controlling throughout the project.


In this portfolio, we will elaborate on our works on project management. We will show the management documents: Project scope, project charter, Gantt chart made using software, budgeting and more. We hope that this portfolio will show our effort in project management.

Project charter

A project charter is used for starting F1S, and it belongs to the initiating process. It was completed at the very beginning, to describe the project and its objective. In addition, several milestones and its acceptance criteria are listed out, providing high convenience for us to monitor our progress. All content of the project charter is approved by every of us to build up a consensus of the project.

This project charter acts as a useful reference for team members. Our team manager will also sign-off milestones.

F1 in Schools Project Charter

Project Title:	Shatin Pui Ying College F1 in Schools		
Team Name:	SPARK Racing	Kick-off Date:	8 th Aug 2023
Project Manager:	Carson She	Signature:	

Team Members:

Design Engineers	Augustine Kong, Vilson Chan
Graphic and Marketing Manager	Chloe Ngan
Manufacturing Engineer	Felix Lo
Finance and sponsorship Manager	Travis Tsang

Project Description	<ul style="list-style-type: none">To develop a F1 in Schools model car along with all the submission items required by the Competition Regulations in Professional ClassCreating an Engineering Portfolio and an Enterprise Portfolio, both with rich and relevant content.To establish an innovative and consistent brand identity with pit display and other project elements
Project Objective	<ul style="list-style-type: none">Make it into the F1 in Schools World Finals by winning the Professional Class with excellent performance.

Major Milestone		Acceptance Criteria	Sign-off
1	Accomplishment of the Fabrio course	Complete understanding of course content, able to design using CAD	<input checked="" type="checkbox"/>
2	Basic sketch of car concept	Complies with the tech regs and can be practically designed and manufactured	<input checked="" type="checkbox"/>
3	Base model created	Fits with the car concept being sketched	<input checked="" type="checkbox"/>
4	Mature design of car concept	Comparison runs with various versions of the base model using CFD, the most optimal design found	<input checked="" type="checkbox"/>

F1 in Schools Project Charter (cont.)

Major Milestone		Acceptance Criteria	Sign-off
5	Engineering Portfolio	Able to explain the design and manufacturing process, showing evidence of various tools such as CAD/CFD	☑
6	Hand finishes	Car hand finishes completed, painted, decals applied	☑
7a	Enterprise portfolio—Project Management	All required documents finished in detail, with descriptions	☑
7b	Enterprise portfolio—Marketing and Sponsorship	Sponsorships can cover expenses, appropriate marketing strategies	☑
7c	Enterprise portfolio—Team identity and Graphics	Excellent brand identity shown, visually appealing and stunning graphics	☑
8	Pit display	(A) printed exhibition board(s), together with elements such as 3D car model, satisfying the scoring criteria	☑
Assumptions		<ul style="list-style-type: none"> The project is wholly supported by the school, so that promotional activities (such as speech) can be held there. Sponsorships can provide sufficient capital for our project if we actively reach out The professional class will have significantly higher requirements, so a high-efficiency working practice is needed. 	
Constraints		<ul style="list-style-type: none"> The car can only be manufactured once free of cost using the F1 router We will have a high workload due to schoolwork, limiting the time we can spend on this project The training course will be conducted in larger classes 	
Risk		Refer to page 4 of this document (Risk Assessment Matrix)	
Resources		Around HKD 47,800 (Refer to budgeting chart)	
Approved by		All members of the team	Date: 8 th Aug 2023

Project scoping

There are diverse tasks in F1S, so methods are needed to manage the extent and scope of each task. A project scope for F1S is important for defining the correct relation of tasks to each part (In-syllabus deliverables) and what are out of scope.

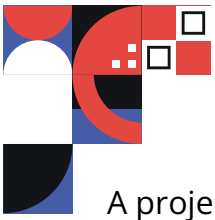
Aims of project scoping:

- Reduce workload
- Prevent unnecessary time spent on wrong tasks
- Give members a clearer understanding of the tasks included in F1S
- Facilitate division of work (See RACI matrix)

Our project scope (attached) belongs to the planning process of project management. We divided the project into six mark-counting criteria, including specifications and scrutineering, design and engineering, enterprise, team identity, verbal presentation and racing. The relevant tasks are also listed.

Scope Statement	
Specification and Scrutineering Judging	
In scope deliverables	Compliance with rules
	Engineering drawings, rendering and finishes
Out of Scope	Aerodynamics/CFD, creativity of design
Design and Engineering Judging	
In scope deliverables	Design concepts, 3D modeling, application of computer-aided analysis
	CAM/CNC, other manufacturing and assembly
	Research and development, testing' design process evaluation, document presentation
Out of Scope	Manual calculation, choice of painting colours
Enterprise Judging	
In scope deliverables	Team management—schedule, responsibilities, risk management, monitoring, communication
	Marketing and sponsorship—Marketing strategies, diversity and quantity of sponsorship, use of digital media
Out of Scope	Working environment, graphic design
Brand Identity Judging	
In scope deliverables	Graphic identity (Highly effective, consistently applied, team dynamic)
	Team identity (Name, trademark, operating style, common aims)
Out of Scope	Budgeting, personal background and values
Verbal Presentation Judging	
In scope deliverables	Visuals, team contribution, engagement, concept clarification, time management
	Innovation, collaboration, F1 in schools learning experiences
Out of Scope	/
Racing	
In scope deliverables	Reaction times, car straight line speed
Out of Scope	Enterprise, pit display





Project schedule

A project schedule is vital for time management throughout F1S, because it clearly shows the starting and completion time of each task, and can be easily adjusted with any early finishing or delays. A clear schedule allows us to allocate sufficient time for each task and keep track of our progress in F1S.

Digitalised management through ClickUp

This time, we have made use of a software called ClickUp to make the Gantt chart. In ClickUp, we can clearly check the status of different tasks (e.g. in progress, completed). The tasks can be displayed in different ways, such as board, list and Gantt chart.

Gantt chart

In the Gantt chart, we can find the tasks and the corresponding subtasks. The duration of each task is adjusted through dragging the timeline. The dependencies of tasks are also shown, and can be adjusted with just a few clicks.

Other features

Here is the most attractive feature: When we click into each task or subtask, we not only can see the status and assignee, we are also able to add some attachments and description. Members will work more efficiently as they can obtain the documents they need through ClickUp. This facilitates the communication in our team and reduces the confusion of members.

After a task is completed, the project manager will create a checklist in ClickUp and give constructive feedback. If something can be refined, a "New draft" task can be created for we to progress and improve our work.



Roles and Responsibilities

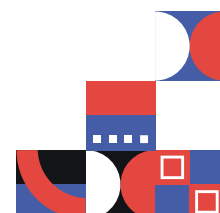
Our team is highly united, with clear roles and suitable responsibilities. To achieve this, our team has built up a RACI matrix which identifies our roles in each task. There are four types of roles, including R-responsible, A-accountable, C-consulted, I-informed. For example, the design engineers are responsible for the CAD design, while the project manager is accountable.

The matrix helps maintain a suitable workload for each of us and make use of our talents, such as engineering mind. It is also useful for enhancing teamwork. In addition, the matrix promotes a general understanding of F1S among us, ensuring no one is malinformed of uninformed of anything.



Task	Carson	Augustine	Vilson	Felix	Chloe	Travis
CAD and CFD design	A	R	R	C	I	I
Manufacturing and hand finishing	A	C	C	R	I	I
Engineering portfolio	A	R	R	R	I	I
Enterprise portfolio	A	I	I	I	R	R
Weekly regular meetings	A	C	C	C	C	C
In-school promotion	A	C	I	I	R	I
Digital promotion	A	I	I	C	R	I
Writing sponsorship proposals	A	I	I	I	R	I
Reaching out for sponsorship	A	R	I	R	I	R
Creating budget	A	I	I	I	I	R
Making pit display	A	I	I	I	R	I
Verbal presentation	A	C	I	I	I	I

Key
 R - Responsible
 A - Accountable
 C - Consulted
 I - Informed





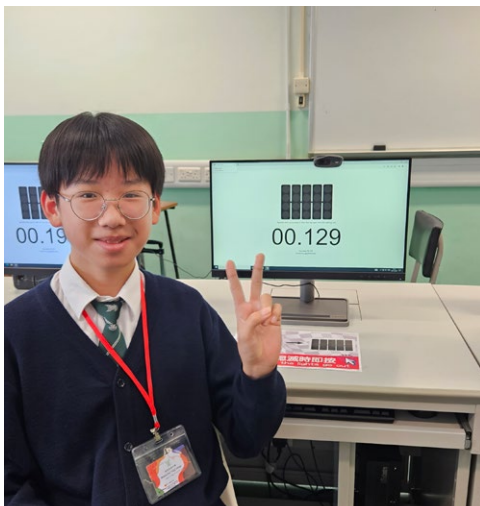
Risk assessment

Risks are very common in F1S, for example, a lack of budget and delay of souvenir arrival. Risks can affect the project scope, time, resource and quality. However, with proper risk assessment and planning, we can identify risks and how they impact the project, then take preventive planning to reduce the risks.

Our team created a risk assessment matrix in the planning process to identify risks. We evaluated the risk levels (classified from low to high) and suggested measures that can be done. It is a useful tool for us to prepare early and avoid accidents.

What might go wrong	Risk Level	Area of Impact	Preventative Planning
Delay of project progress	High	T, Q	A high efficiency working practice, stick to relevant tasks
Lack of creativity	High	T, Q	Putting in more time during the brainstorming sessions
Expensive car testing costs	Medium	R, Q	Actively reaching out for all ways of sponsorship, control expenditure
Souvenirs/ Leaflets not delivered on time	Medium	R, T,Q	Early order of souvenirs/leaflets
Manufacturing damages/ flaws	Medium	R, Q	Careful handling of race cars, master polishing and painting skills
Complete understanding of all car design skills	Low	Q	Self-studying on Fabio website and clarify all questions
Duties not clearly defined for team members	Low	S, T, Q	Brief all members about their work and duties
Incomprehensive utilization of graphic design tools	Low	R, Q	Practice graphic design and regularly evaluate the graphics

Key
 R - Resource
 T - Timing
 S - Scope
 Q - Quality



Communication

Clear communications

Our team members constantly communicated with each other and stakeholders (sponsors, in-country coordinator, etc.) through methods such as email and WhatsApp. Hence, all stakeholders are informed suitably and we have good cooperation with them. For instance, our WhatsApp group, consisting of all members and Mr. Ma, our teacher responsible, consists of about 1000 documents.

We also have regular face-to-face meetings every week to follow-up all tasks and collect opinions on important decisions, like team shirt design and school promotion methods. For clear reference, our project manager creates an agenda for every meeting.

Who to contact	What to communicate	Communication method	When
Teacher (Mr. Ma)	Project progression, ask for assistance	Regular meetings, WhatsApp group	Throughout the project
ICC	Competition details, CAD/CFD skills, clarification of competition regulations	Email, in-person	Throughout the project
Sponsors	A business deal, discuss about promotion for sponsors	Email, WhatsApp	When reaching out for sponsorship
Team Members	Project progression, division of labour	Whatsapp, Google Drive, by phone calls, regular meetings	Throughout the project

Weekly meetings

We also have regular face-to-face meetings every week to follow-up all tasks and collect opinions on important decisions, like team shirt design and school promotion methods. For clear reference, our project manager creates an agenda for every meeting.

F1 in Schools SPYC meeting 7

Date: Thursday, 26/10/2023
Time: 12:40-1:45 pm

Attendees
All members, Mr. Ma (Teacher responsible)

Agenda

- A. Project Management
 - Discuss about resources+ risk planning
 - High-efficiency working practice
 - Using new project management software
 - Tracking and reporting progress
- B. Design and Engineering
 - Evaluating latest car design (CFD)
 - Wheels
 - Front/rear wings
 - Compliance with regulations
 - Design principles and references
- C. Manufacturing
 - When to manufacture for testing?
 - Is the racing car manufacturable?
- D. Sponsorship

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- Evaluating sponsorship proposal (both layout and words)
- Evaluating sponsorship list
- Checking progress of reaching-out sponsors
- Issue confirmation letter and receipts

E. Marketing

- Evaluating website (with sponsor page)
- Evaluating linktree
- Compare prices for souvenirs
- Evaluating social media posts
- Discuss promotional material (poster/leaflet)
- Interviewing sponsors
- School speech script

F. Graphic

- Pit display ideas
- Improving Team identity/ Graphic identity
- Team shirt layout for sponsors

G. External


- Rendering
- Animation

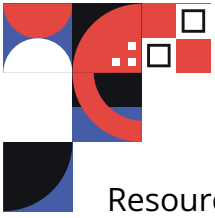
Evaluation

Task	Good	Satisfactory	Poor	Incomplete
Resource/risk planning				
Latest car design				

3

(CFD)				
Regulations + design principles				
Car manufacture				
Sponsorship proposal				
Sponsorship list				
Website				
Social media posts				
Pit display ideas				
Team shirt layout				





Resource planning

Resources, such as F1 blocks and paint, are required for completing the project. We planned our resources so that they are available when we need them.

Resource Needed	When will you need it?	How will you acquire it?
F1 Block	28 th Oct 2023	ICC
F1 Router	28 th Oct 2023	ICC
Paint + sandpaper	2 nd Dec 2023	Paint Shop
Pit Display board + printing	12 th Dec 2023	Stationery shop
Decal printing	12 th Dec 2023	SPYC
Souvenirs	20 th Nov 2023	Taobao
Pit display board	20 th Dec 2023	E-print
Wheels and axles	1 st Dec 2023	Supplier
Team uniform	18 th Dec 2023	Online shopping
Container for cars	25 th Nov 2023	Muji
Materials for assembling pit display board	20 th Dec 2023	From school/ members
School promotion poster	11 th Nov 2023	Printed
School display board	18 th Nov 2023	Made by school
School simulated racing wheel	20 th Nov 2023	From Augustine
Online software (Ansys and Airshaper)	14 th Nov 2023	Sponsorship



Budgeting

There are many materials needed for F1S, such as pit display boards and paints. Therefore, good budgeting is needed for tracking our expenses.

Finance work

Our Finance Manager works closely with other members to identify necessary resources and research the best purchasing places within the budget. Then, he analyzes our financial needs and develops strategies to manage the proper use of the budget, considering the costs of materials, manufacturing, and other expenses. Some strategies include estimating purchasing amounts accurately to prevent waste of resources, and discussing thoroughly with all members.

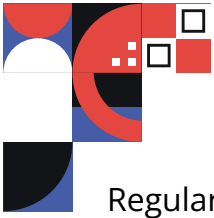
Keeping within budget

Most of our expenditures were staying within budget since we were very attentive. For example, we try our best to lower the cost of the wheels, axle and the container for the race cars. However, the expenditure on souvenir and promotion materials was quite over budget due to an increase in demand in our school.

Item	Budget Cost	Actual Cost	Balance
F1 Block	HKD \$5600	HKD \$2800	HKD \$2800
F1 Router	HKD \$0		
Professional training	HKD \$36000	HKD \$36000	HKD \$0
Hand finishing and decals materials	HKD \$270		
3D printed wheels and rod	HKD \$1000	HKD \$769	HKD \$231
Pit Display Materials	HKD \$1800		
Team uniform	HKD \$2000		
Materials for assembling 3D printing parts	HKD \$100		
Container for the cars	HKD \$130	HKD \$12	HKD \$118
Printing (incl. 3D printing)	HKD \$200	HKD \$102	HKD \$98
Souvenir/ school promotion material	HKD \$1500	HKD \$1445.71	HKD \$54.29
Spending on sponsors	HKD \$100	HKD \$55	HKD \$45
Total	HKD \$47800	HKD \$41183.71	HKD 6166.29

budget and expenses as of 9th Dec 2023





Status reports

Regular monitoring and controlling of the project is the key to success, and making status reports is a manageable way. In our reports, issues are identified, so we can search for ways to resolve them.

Our status reports show the current project status and tasks that have been completed. If there are concerns raised, we will mention the solutions on the report, allowing us to take further action to clear the problems.

Status Report 1

Team: SPARK Racing
Date: 30th Nov 2023

Overall status: In good shape

A. Good performance

The pit display in school info day has strong promotional effects with simulated racing wheel, increasing our Instagram followers
The engineering work has almost finished
There are already 5-6 sponsors confirmed
The regular meetings are constructive, having tasks assigned appropriately

B. Difficulties and solution

Difficulty	Solution
The team shirt design lacks clear logos and unsure about logo placement	Ask for clear logos from sponsors and also their preferred placement
Front wing was too short	Redesign the front wing, increase width to 60 mm
Unsure about materials for wheels, axles and front wing	Contact Addify3D through WhatsApp
Not all documents (e.g. budgeting) completed	Set a deadline



Section B -

Marketing & Team Identity

Team name and logo



Our team name, SPARK Racing, symbolizes the speed, accuracy and refinement of our engineering and graphic designs, our passion to strive excellence in the competition, and our determination for becoming knowledgeable.

A simple logo is used. It not only has the power of enhancing our team's identity ,but also catching our audience's attention. Our logo exudes a sense of sophistication, clarity, and modernity. It allows our team's name or emblem to take center stage without distractions. By reducing complexity, our logo is highly recognizable and leaves a long lasting impression, creating an impactful visual identity.

In F1S, where teams strive to captivate audience attention, our logo creates a strong visual presence that stands out of the crowd. It can easily be adapted to various mediums, such as team uniforms, merchandise, or promotional materials. The minimalistic design conveys professionalism, showcasing our dedication to excellence in every aspect.



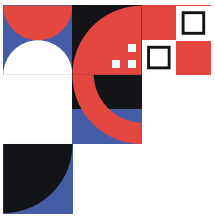
Colour theme

Red represents our burning passion and eagerness to fulfill our responsibility and values. It shows our determination and strength to become a better team, to push boundaries and achieve our goals.

Blue represents our serenity and stability in dealing with demanding circumstances. Blue is known for its dependability, which we strive in tandem to soar high. This is reflected in our precisement of car engineering and vigilance on every detail.

White represents simplicity and sophistication. It reflects our commitment to clarity and refinement, and shows our striving for excellence in every aspect. We ensure flawless performance on the racetrack.





Marketing and social media strategy

Social media

We have utilized social media platforms like Instagram, Facebook and YouTube to share updates, videos, and images of our team. We post engaging content on car engineering, promotion, race simulations, behind-the-scenes sneak peeks, and other educational content. We also interact with our target audience, like making polls. We garner support and receive positive feedback from enthusiasts, constantly promoting our team anywhere, anytime.



SPARK Racing HK

Professional dashboard	
Insights 14 Nov - 13 Dec	
Accounts reached	1,164 +155%
Accounts engaged	308 +316%
Total followers	489 +77.1%
Content you've shared	12

Marketing

We created a pit display at our school on info day (18/11) which introduces visitors to the world of F1 in Schools and showcases our team's achievements and dedication.

On 29/11, we held a simulated racing wheel game and distributed souvenirs for SPYC students. By the advanced use of technology, we introduced students to F1 racing simulation, in which we found they have great interest and fun. This greatly enhanced our team's innovative image and promoted our social media platform, demonstrating our passionate identity in F1.



Souvenirs

We have developed suitable marketing materials, such as Instagram reels and animations that can be easily shared. Besides, we have created the symbolic SPARK Racing files and keychains which are widely used in our school, constantly promoting our team anywhere, anytime.

ATTENTION SPARK RACING SOUVENIR IS OUT NOW



SPARK Racing file
and key chain
\$0

睇吓 依個車隊太狠了！

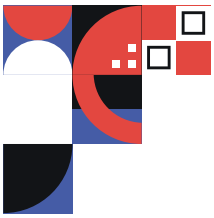


SPARK Racing
file 及鎖匙扣
\$0

School Promotion

In terms of school promotion, we have also shared our team's progress, goals, and learning outcomes at school assemblies to gather interest and inspire our schoolmates. Moreover, the files and key chains designed by us features our team's logo and tagline to promote our team spirit and create a sense of unity.





Website

We have utilized social media platforms like Instagram, Facebook and YouTube to share updates, videos, and images of our team. We post engaging content on car engineering, promotion, race simulations, behind-the-scenes sneak peeks, and other educational content. We also interact with our target audience, like making polls. We garner support and receive positive feedback from enthusiasts, constantly promoting our team anywhere, anytime.



SPARKRacingF1.com



Graphic design

Our graphic design plays a crucial role in showcasing our brand identity and capturing the audience's attention. It is a visually compelling way to communicate our team's values.

Our car's exterior design serves as a moving canvas, creating a striking visual representation of who we are and what we stand for.

Colors are significant in capturing attention and showcasing our values. The red-blue-white color theme aligns with our team's values and dedication and create a stimulating experience to the audience.

The use of unique geometric patterns, bold stripes, and abstract representation of our identity successfully added depth to our car's visual aesthetics and demonstrated our team dynamic—unity in diversity.



Section C - Sponsorship

Introduction

Sponsorship is an important part of our F1S as our budget is an astonishing amount of \$50000 Hong Kong Dollars, including the Professional Class Training fee.

Prime sponsor



Title sponsors



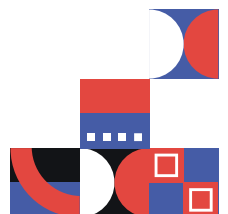
Team partners

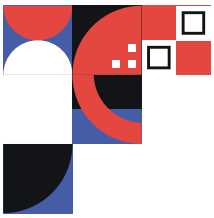


NetDragon



Technical sponsors





Our process

Considering sponsors

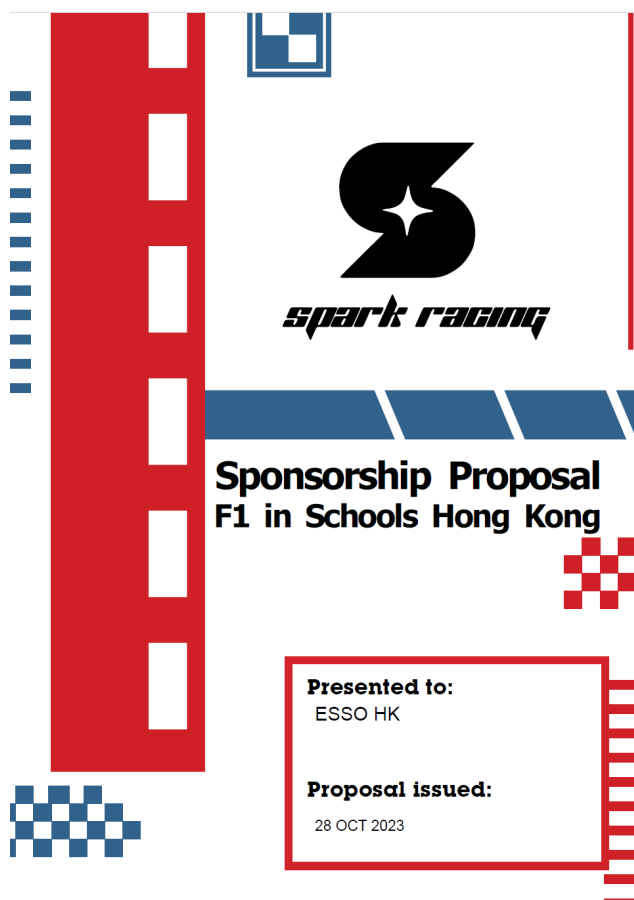
First of all, we have to consider what companies are possibly related to F1S. We also consider whether they have similar goals and values with our team.

Sponsorship proposal

Next, we have to write a detailed proposal for the sponsors. The proposal includes the introduction of F1S, our team's goals in the Hong Kong Final and what we achieved in the preliminary round, the types of sponsor package (e.g. Title sponsors, team partners) and what benefit the sponsors will get.

Linking with sponsors' goals and values

Then, we have to send an email to each of the sponsors. We show the ROI to them and how it matches their companies' goals and values. For example, NetDragon has started getting involved in education in 2010 with the aim to develop "the largest learning community globally", we showed them that sponsoring us can show their support to young people and increase their exposure to young people—their target audience.



Hard work pays off

After nearly 4 months of dedicated work, we are very glad to have several sponsors that are great influencers in the industry. The sponsors include ZF, Valiant Autoparts, ZF, DHL , Otto Zimmermann, Sachs Performance and Netdragon. Our school, as our prime sponsor, is responsible for the fee of the training. We also found 3 technical sponsors, Ansys and Airshaper and Perfect Consultant, providing remarkable support to us.

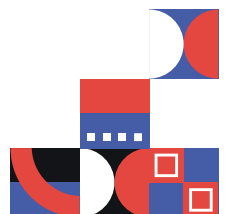
Return of Investment (ROI)

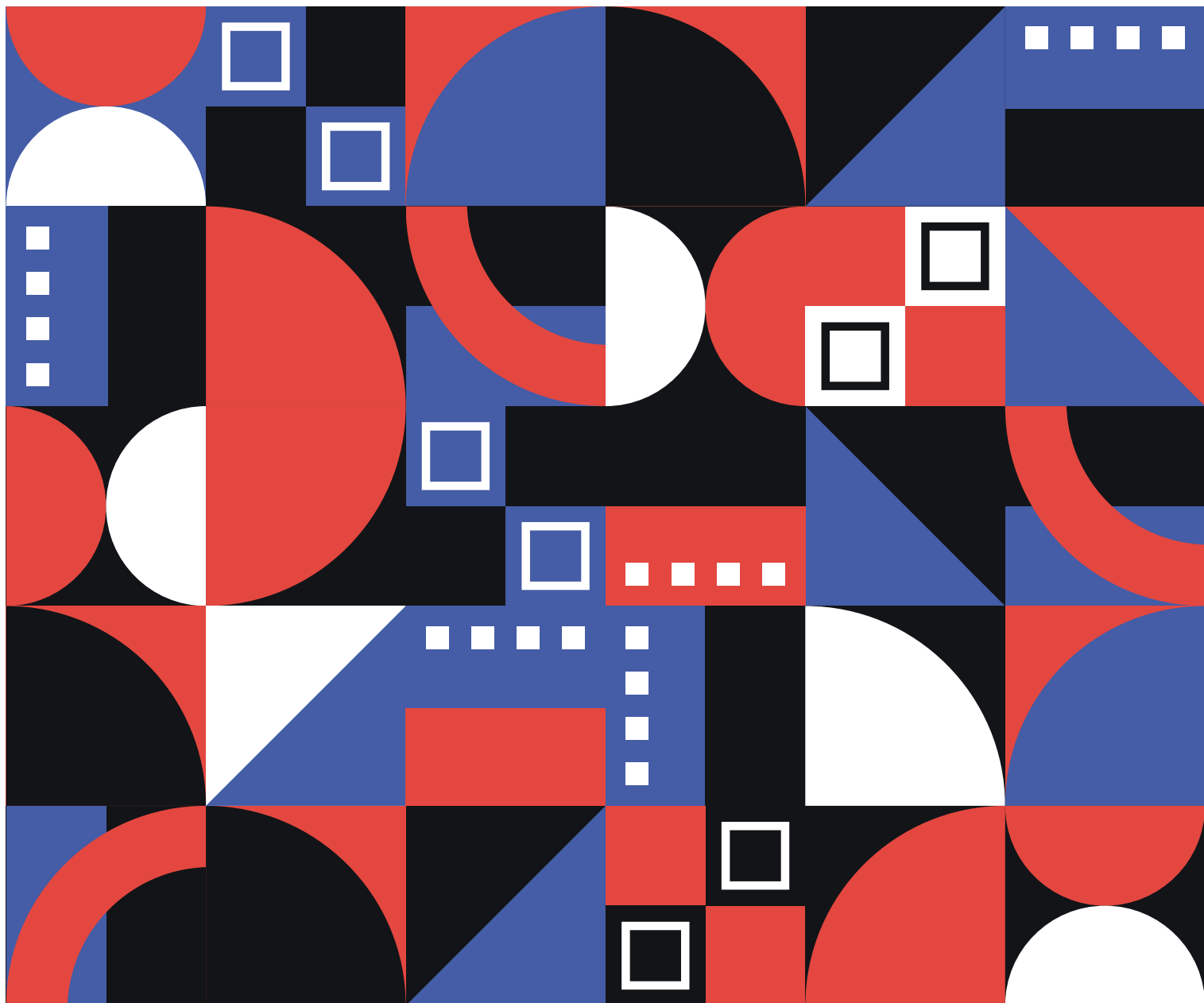
In order to attract individuals or companies to sponsor us, we have to show them the ROI, what benefits we may bring them, and how their sponsorship will benefit them. Sponsorship is not just about our own needs, but it is also about the sponsors' needs.

We have utilized social media platforms like Instagram and Facebook to introduce them and thank them for their support . Moreover, we had a morning assembly sharing in our school in late November. Through our capturing and interesting presentation (e.g, with an animation video), we further introduced them to our schoolmates, increasing our sponsors' exposure.

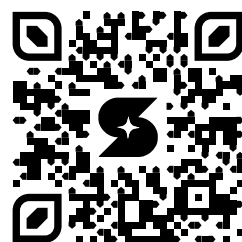
Visiting DHL— our sponsor

Last but not least, we went to the DHL Express Hong Kong Head Office to do an interview with them. We understood more about DHL and received some useful advice about sustainability, innovation and graphics, which can benefit our project. It was an extremely valuable experience, and we were very grateful for DHL to give us such an opportunity.





spark racing
Ever to Excel



SPARKRacingF1.com



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