

Formula 1 Database

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1 Introduction

Formula One (also known as Formula 1 or F1) is the highest class of international auto racing for single-seater formula racing cars sanctioned by the Fédération Internationale de l'Automobile (FIA). The World Drivers' Championship, which became the FIA Formula One World Championship in 1981, has been one of the premier forms of racing around the world since its inaugural season in 1950.



Figure 1: Formula 1

The word formula in the name refers to the set of rules to which all participants' cars must conform. A Formula One season consists of a series of races, known as Grands Prix, which take place worldwide on both purpose-built circuits and closed public roads.

The results of each race are evaluated using a points system to determine two annual World Championships: one for drivers, the other for constructors.

2 Specifications and Changes

2.1 Initial Specifications

Quote below was taken from the first submission of the project.

“The massive interconnected relational system of Formula 1 and the building blocks of our database can be explained by starting from many entities such as a driver, a season, or a team. For instance, a racer races for a team, which competes in a season, which includes around 20 races, which is held in a circuit among hundreds of other circuits around the world. After the race, the racer is awarded points if he/she finishes in the top 10, which forms the Championship rankings.”

2.2 Final Specifications

As in the final form of our project, we were able to develop most of our features mentioned in the first report. Drivers, Seasons, Teams, Races, and Circuits were developed. And the relations covering

these entities such as "races for", "works for", "raced in" were also implemented. Unfortunately, Championship system was not developed due to severe workload of the courses we are taking.

3 Front-end Implementation and Final Product

Bootstrap 4 was used in the development of the Front-end. Views were handcrafted carefully to provide a smooth experience to the

3.1 Landing Page

Landing page provides a brief summary of Formula 1 to the user. The "Get Started" button redirects user to the Filter page.

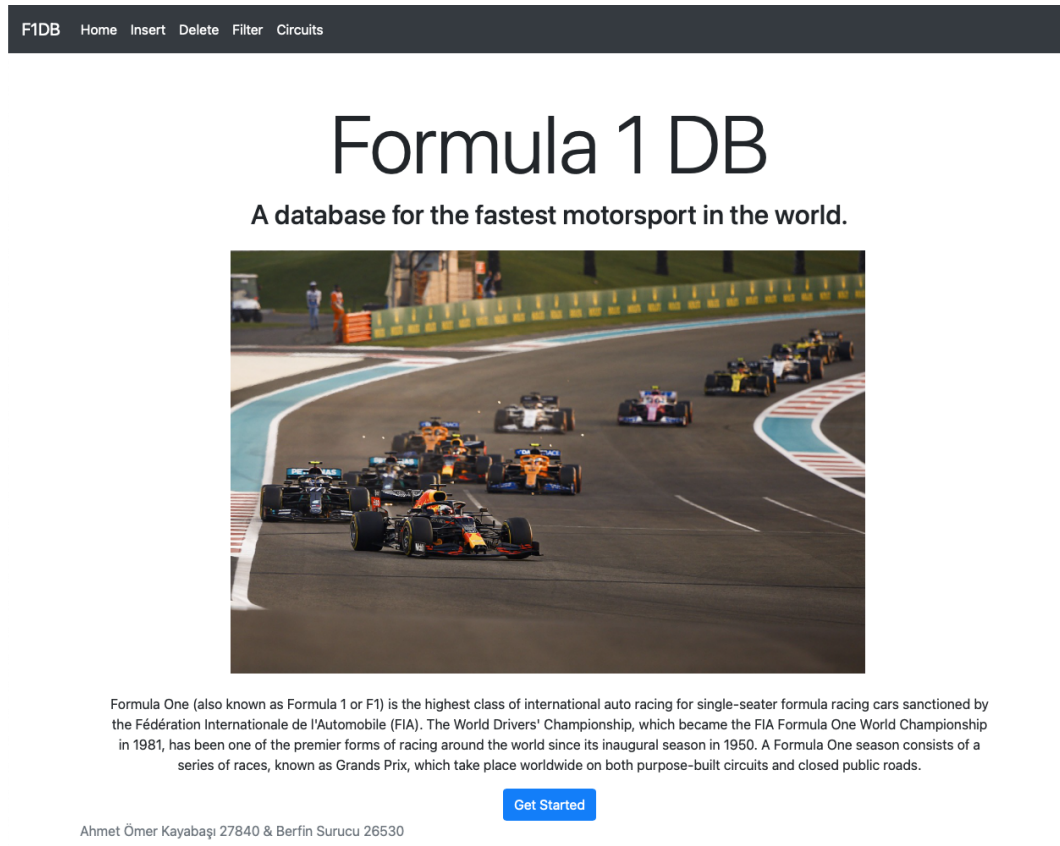


Figure 2: Landing Page

3.2 Insertion Page

Insertion page provides a broad variety of insertion options. Users can create new Grand Prix, add new people, teams and associate new people them with teams.

3.3 Deletion Page

Deletion page makes it possible to remove certain records off the database.

3.4 Filter Page

Filter page provides tools to user for handpicking the right data needed.

3.5 Circuits Page

Circuits page provides detailed information about the circuit being raced in. This includes race length, total lap count and circuit image.

3.6 Drivers Page

Drivers page provides a brief introduction of the selected driver by full-name with information of team that has been racing for, the number of race win that driver has, started racing date and the picture of driver.

F1DB
Insert
Delete
Filter
Circuits
Refresh View

Insert Data

Most beautiful looking insertion page, ever. In this page you can create new Grand Prixs, add new people, teams and associate new people them with teams

Upcoming Grand Prix List

Grand Prix Name	Circuit	Location	Date	Season
Emilia-Romagna Grand Prix	Autodromo Internazionale Enzo e Dino Ferrari, Imola.	Italy	2021-10-13	2021
Azerbaijan Grand Prix	Baku City Circuit	Azerbaijan	2021-10-20	2021
French Grand Prix	Circuit Paul Ricard, Le Castellet	France	2021-10-21	2021
Turkish Grand Prix	Istanbul Park	Turkey	2021-10-27	2021
Monaco Grand Prix	Monaco	Monaco	2021-11-08	2021
Bahrain Grand Prix	Bahrain International Circuit	Bahrain	2021-12-01	2021
Austrian Grand Prix	Red Bull Ring, Spielberg	Austria	2021-12-20	2021

Create a new Grand Prix

Grand Prix Name

Circuit

Season

Grand Prix date: 12/17/2021

Create

Figure 3: Insertion Page

People Registered to the Database

ID	Name
4	Max Verstappen
5	Lewis Hamilton
6	Valtteri Bottas
7	Lando Norris
8	Sergio Perez
9	Carlos Sainz Jr.
10	Charles Leclerc
11	Daniel Ricciardo
12	Pierre Gasly
13	Fernando Alonso
14	Esteban Ocon
15	Sebastian Vettel
16	Lance Stroll
17	Yuki Tsunoda
18	George Russell
19	Nicholas Latifi

Racers Registered to the Database

ID	Name	Team
4	Max Verstappen	Red Bull Racing
8	Sergio Perez	Red Bull Racing
9	Carlos Sainz Jr.	Scuderia Ferrari Mission Winnow
10	Charles Leclerc	Scuderia Ferrari Mission Winnow
20	Kimi Raikkonen	Alfa Romeo Racing ORLEN
21	Antonio Giovinazzi	Alfa Romeo Racing ORLEN
5	Lewis Hamilton	Mercedes-AMG Petronas F1 Team
6	Valtteri Bottas	Mercedes-AMG Petronas F1 Team
7	Lando Norris	McLaren F1 Team
11	Daniel Ricciardo	McLaren F1 Team
12	Pierre Gasly	Scuderia AlphaTauri Honda

Add Person to the Database

Name

Add

Create a new team

Team Name

Create

Associate People With Teams

Name

Department (If Applicable)

Team

Racer
Engineer

Associate

Figure 4: Insertion Page, continued

F1DB
Insert
Delete
Filter
Circuits
Refresh View

Delete Data

Here you can end people's F1 career. A quick reminder, please do not try to end Verstappen's career.

Delete Person from the Database

Name

Max Verstappen

Delete

Delete Grand Prix from the Database

GP Name

Emilia-Romagna Grand Prix

Delete

Deassociate Person with Team

Worker - Team

Kimi Raikkonen - Alfa Romeo Racing ORLEN

Deassociate

Figure 5: Deletion Page

F1DB
Insert
Delete
Filter
Circuits
Refresh View

Filter Data

In this page you can filter data from the database as you desire. There are three filter operations for now. But we will be developing many more as we proceed.

Filter Workers by Team

Team Name

Alfa Romeo Racing ORLEN

Filter

Filter Grand Prixs by Season

Season

2021

Filter

Filter Results by Grand Prix

Grand Prix

Emilia-Romagna Grand Prix

Filter

Racers Registered to the Database

ID	Name	Team	Season
20	Kimi Raikkonen	Alfa Romeo Racing ORLEN	2021
21	Antonio Giovinazzi	Alfa Romeo Racing ORLEN	2021

Engineers Registered to the Database

ID	Name	Team	Department	Season
56	Kamer Kaya	Alfa Romeo Racing ORLEN	Ahired Soru Hazirlama	2021

Figure 6: Filter Page

F1DB

Insert

Delete

Filter

Circuits

Refresh View

Search Circuits

Here you can gain detailed info about circuits.

Circuit

Bahrain International Circuit

Get Details

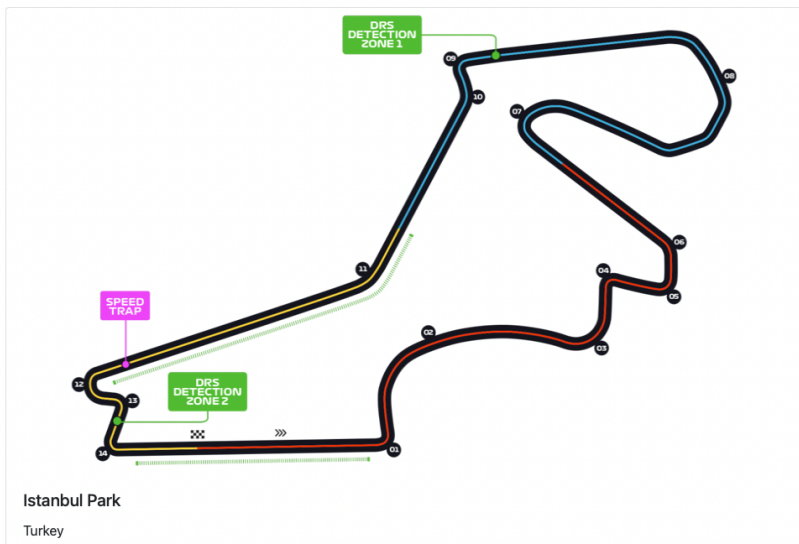


Figure 7: Circuit Info Page

Search Drivers

Here you can gain detailed info about drivers.

Driver

Max Verstappen

Get Details

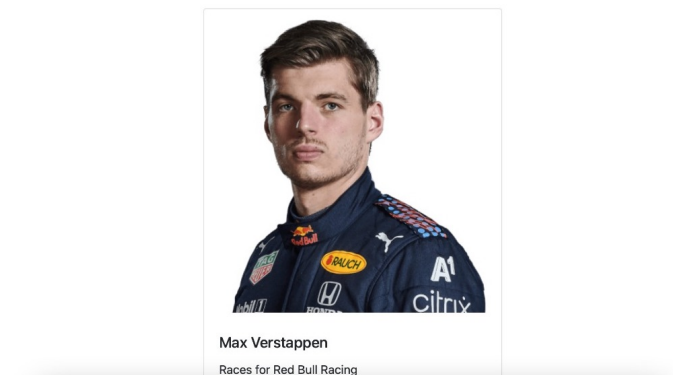


Figure 8: Driver Page