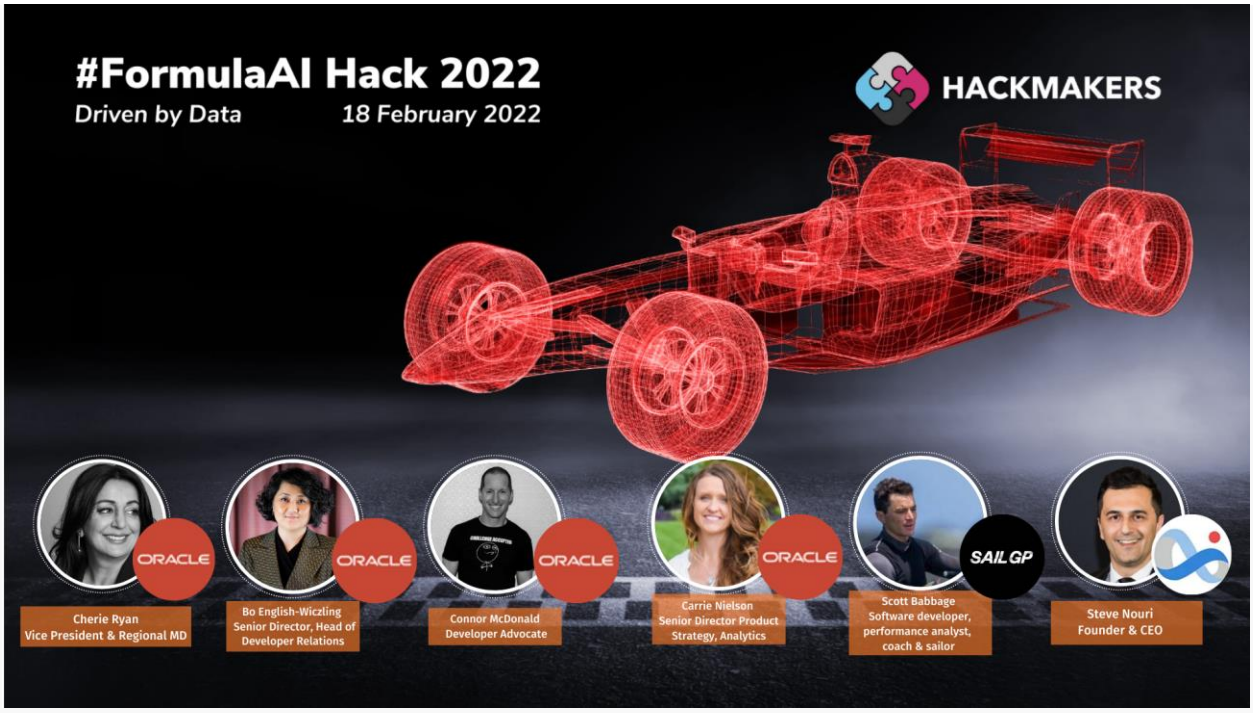


# **#FormulaAI Hack 2022** Challenge 2: Augmented Reality

This challenge is all about bringing to life a concept that we started to explore. It's has all to do with what should be the next level Replay Experience. Think about any events that generate 3 dimensional data, and how those can be translated into impressive replays. Whether it is for eSports, Live action sport events etc.

**Github link:** https://github.com/oracle-devrel/formula-ai-2022-hackathon/blob/main/challenges/challenge2.md

**Challenge 2 APIs**

Name: Session API
Purpose: There were multiple game sessions that have been played and data collected. Each dataset is a single game session.
Endpoint URL: https://apigw.withoracle.cloud/formulaai/sessions
Parameters: None
Data Structure:
- M_SESSIONID (number) - unique game session id
- M_GAMEHOST (string) - game machine id
- TRACKID (string) - track name
- DRIVER (string) - driver name
- SESSION_TIME (string) - start time of session (in EPOC milliseconds)
- LAPS (number) - number of laps raced in that session

Sample Data:


```
[{"M_SESSIONID":"1127492326198450576","M_GAMEHOST":"FormulaAI","TRACKID":"Texas","DRIVER":"For
mulaAI","SESSION_TIME":"1645163520504","LAPS":3},{"M_SESSIONID":"4343711350942679131","M_GAMEH
```

OST":"FormulaAI","TRACKID":"Melbourne","DRIVER":"FormulaAI","SESSION_TIME":"1645161571115","LAPS":1}]

Name: Car Data API
Purpose: Each dataset is a single data point in a game session of a car.
Endpoint URL (template)
: https://apigw.withoracle.cloud/formulaai/carData/:session/:lap/:sector
Parameters:
- session (mandatory) - unique game session id (accessible from Session API)
- lap (mandatory) - lap number (1 is the first lap)
- sector (optional) - sector number (0 to 2)
Examples:
- https://apigw.withoracle.cloud/formulaai/carData/1127492326198450576/1
Data Structure:
- M_FRAME (number) - unique frame id that is ordered
- M_TIMESTAMP (datetime YYYY-MM-DD HH24:MI:SS) - local time of the race (in seconds)
- M_CURRENT_LAP (number) - current lap number
- M_SECTOR (number) - current sector on the track (0 is the first sector)
- M_LAST_LAP_TIME_IN_MS (number) - lap time of previous lap (in milliseconds)
- M_SPEED (number) - current speed (in KPH)
- M_THROTTLE (number) - current throttle value (0 to 1)
- M_STEER (number) - current steering value (-1.0 (full lock left) to 1.0 (full lock right))
- M_BRAKE (number) - current brake value (0 to 1)
- M_GEAR (number) - current gear (1-8, N=0, R=-1)
- M_ENGINERPM (number) - current engine (in rpms)
- M_YAW (number) - current yaw angle (in radians)
- M_PITCH (number) - current pitch angle (in radians)
- M_ROLL (number) - current roll angle (in radians)
- M_LAP_DISTANCE (number) - current distance driven in lap (in metres)
- M_WORLDPOSX (number) - world space position x coordinates
- M_WORLDPOSY (number) - world space position y coordinates
- M_WORLDPOSZ (number) - world space position z coordinates
- M_WORLDFORWARDDIRX (number) - forward world x direction (normalised)
- M_WORLDFORWARDDIRY (number) - forward world y direction (normalised)
- M_WORLDFORWARDDIRZ (number) - forward world z direction (normalised)
- M_WORLDRIGHTDIRX (number) - right world x direction (normalised)
- M_WORLDRIGHTDIRY (number) - right world y direction (normalised)
- M_WORLDRIGHTDIRZ (number) - right world z direction (normalised)
- DRIVER (string) - name of driver
Sample Data:

[{"M_FRAME":341,"M_TIMESTAMP":"2022-02-16 12:59:10","M_CURRENT_LAP":1,"M_SECTOR":0,"M_LAST_LAP_TIME_IN_MS":0,"M_SPEED":299,"M_THROTTLE":1,"M_STEER":0.0007171630859375,"M_BRAKE":0,"M_GEAR":8,"M_ENGINERPM":10441,"M_YAW":-2.340430736541748,"M_PITCH":-0.0071542044170200825,"M_ROLL":-0.0018109707161784172,"M_LAP_DISTANCE":2.2625153064727783,"M_WORLDPOSX":114.20816040039062,"M_WORLDPOSY":464.0025939941406,"M_WORLDPOSZ":2.9363811016082764,"M_WORLDFORWARDDIRX":42005,"M_WORLDFORWARDDIRY":65268,"M_WORLDFORWARDDIRZ":42736,"M_WORLDRIGHTDIRX":22801,"M_WORLDRIGHTDIRY":59,"M_WORLDRIGHTDIRZ":42004,"DRIVER":"formulaai"},{"M_FRAME":342,"M_TIMESTAMP":"2022-02-16 12:59:10","M_CURRENT_LAP":1,"M_SECTOR":0,"M_LAST_LAP_TIME_IN_MS":0,"M_SPEED":299,"M_THROTTLE":1,"M_STEER":0.0007171630859375,"M_BRAKE":0,"M_GEAR":8,"M_ENGINERPM":10454,"M_YAW":-2.340660810470581,"M_PITCH":-0.005452938377857208,"M_ROLL":-

0.00023848997079767287,"M_LAP_DISTANCE":6.431710243225098,"M_WORLDPOSX":117.20304107666016,"M_WORLDPOSY":461.10235595703125,"M_WORLDPOSZ":2.9095938205718994,"M_WORLDFORWARDDIRX":42010,"M_WORLDFORWARDDIRY":65295,"M_WORLDFORWARDDIRZ":42730,"M_WORLDRIGHTDIRX":22806,"M_WORLDRIGHTDIRY":7,"M_WORLDRIGHTDIRZ":42009,"DRIVER":"formulaai"}]

References (for additional level of detail)
- https://github.com/jasperan/f1-telemetry-oracle/blob/main/telemetry_f1_2021/cleaned_packets.py

**Challenge 2 Sample App**

https://securesites-prodapp.cec.ocp.oraclecloud.com/documents/link/LDE2C04501EF1417BE528C007A6471819350D35DE180/fileview/DC3A45DD56DBF8BCC94817F6866E68E822908E247023/_F1_iOS_Sample_App.zip

The access code is hackmakers