# Advanced Data Management 2018/2019

# REFERENCE SCENARIO

We imagined to be Dana White, the president of UFC, and wanting to sell to TVs, media of any kind and gyms a tool to analyze and present a match.

There are two main applications: a desktop application for media and TVs that give access to some basic information about an event and some statistics and a desktop application for coaches that dive deeper into statistics.

In order to provide these two applications UFC has to have a database updated periodically and with a lot of read operations. Building this database we choose Cassandra as reference technology and CQL for executing workload.

# TECHNOLOGY

Cassandra replicates data on multiple nodes to deal with fault and ensure reliability. In Cassandra is possible to decide the factor of replication, that is equal to the total number of replicas across the cluster.

We decided to use a factor of replication equal to 3, that is the default value and moreover we use the “SimpleStrategy” replication strategy.

# CONCEPTUAL SCHEMA

There are 3 column families that are used by coaches, they contains very detailed statistics about three big aspects of a MMA fight (grappling, striking and time statistics).

One column family contains the info about an event and it´s used by TV for graphics and

# LOGICAL SCHEMA

**PRIMARY AND PARTITION KEY**

**CLUSTERING KEY**

INFO\_CARD(**Event\_id**, Fight\_id, Date, Name, ID, Corner)

INFO\_FIGHT(**Fight\_id**, **ID**, Event\_id, Date, Winner, Winby, Corner, Last\_round, Max\_round, RStreak, Height, Weight, Age, HomeTown)

INFO\_FIGHTER\_GENERAL(**ID**, **Age**, **Date**, Height, Weight, Prev, RStreak, HomeTown, Name)

INFO\_FIGHTER\_STATISTICS\_STRIKES(**ID**, **Fight\_id**, Winner, Winby, Last\_round, Max\_round, Prev, RStreak, [Stats about strikes])

INFO\_FIGHTER\_STATISTICS\_GRAPPLING(**ID**, **Fight\_id**, Winner, Winby, Last\_round, Max\_round, Prev, RStreak, [Stats about grappling])

INFO\_FIGHTER\_STATISTICS\_TIP(**ID**, **Fight\_id**, Winner, Winby, Last\_round, Max\_round, Prev, RStreak, [Stats about tip])