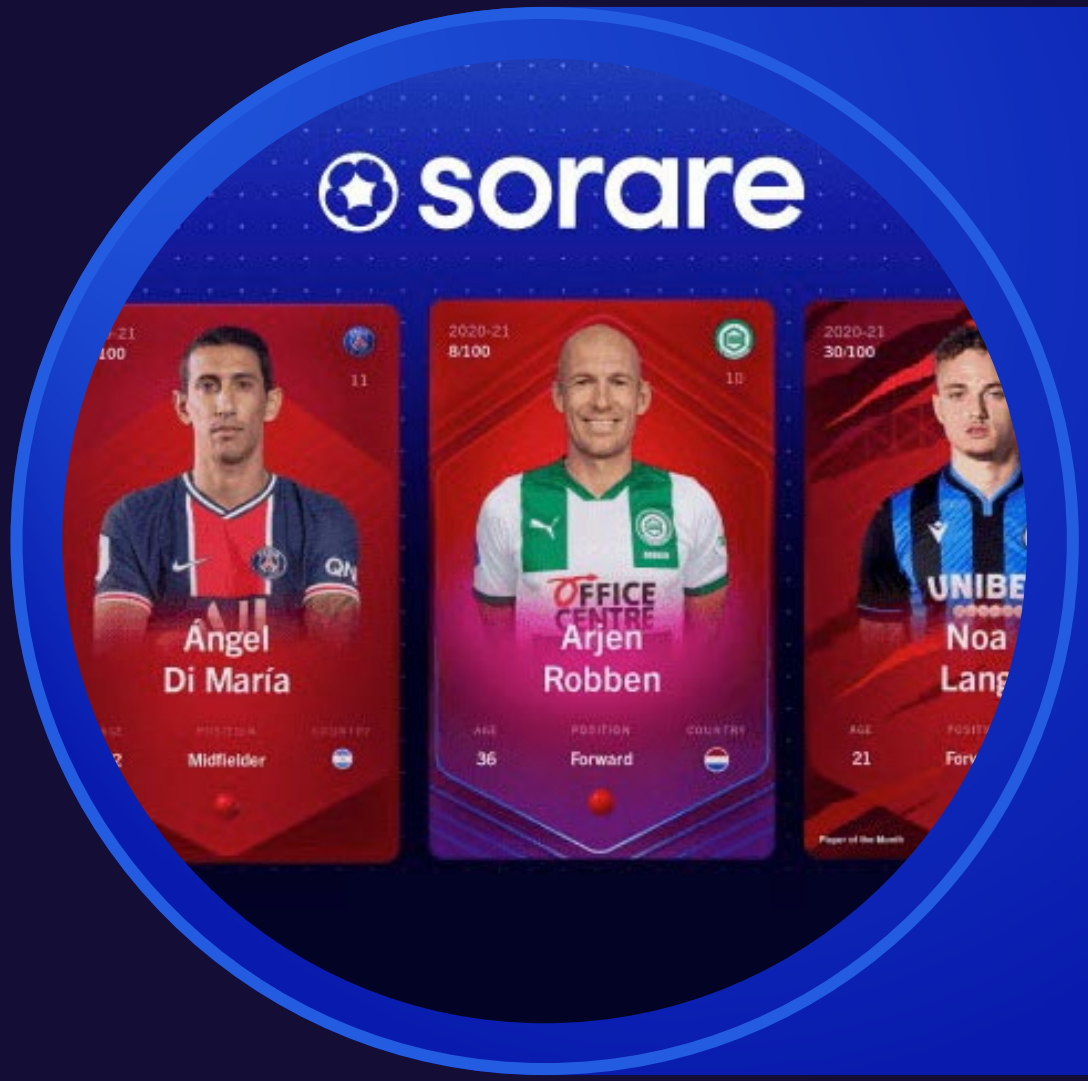
Dario Thürkauf & Tunç Polat

Analysis of Real World Football Performance on Sorare NFT Cards

Introduction

What we are going to talk about

- Motivation
- Data Integration
- Analysis



Sorare is a blockchain-based fantasy soccer game that digitizes the collection and exchange of football cards.

Data Retrieval Strategy

www.api-football.com

Our data retrieval strategy involved using the football API to gather data on leagues, seasons, and players and their stats.

www.api.sorare.com/graphql

We used the Sorare API to retrieve data on Sorare cards and their non-fungible tokens.

Main problem to solve during data integration

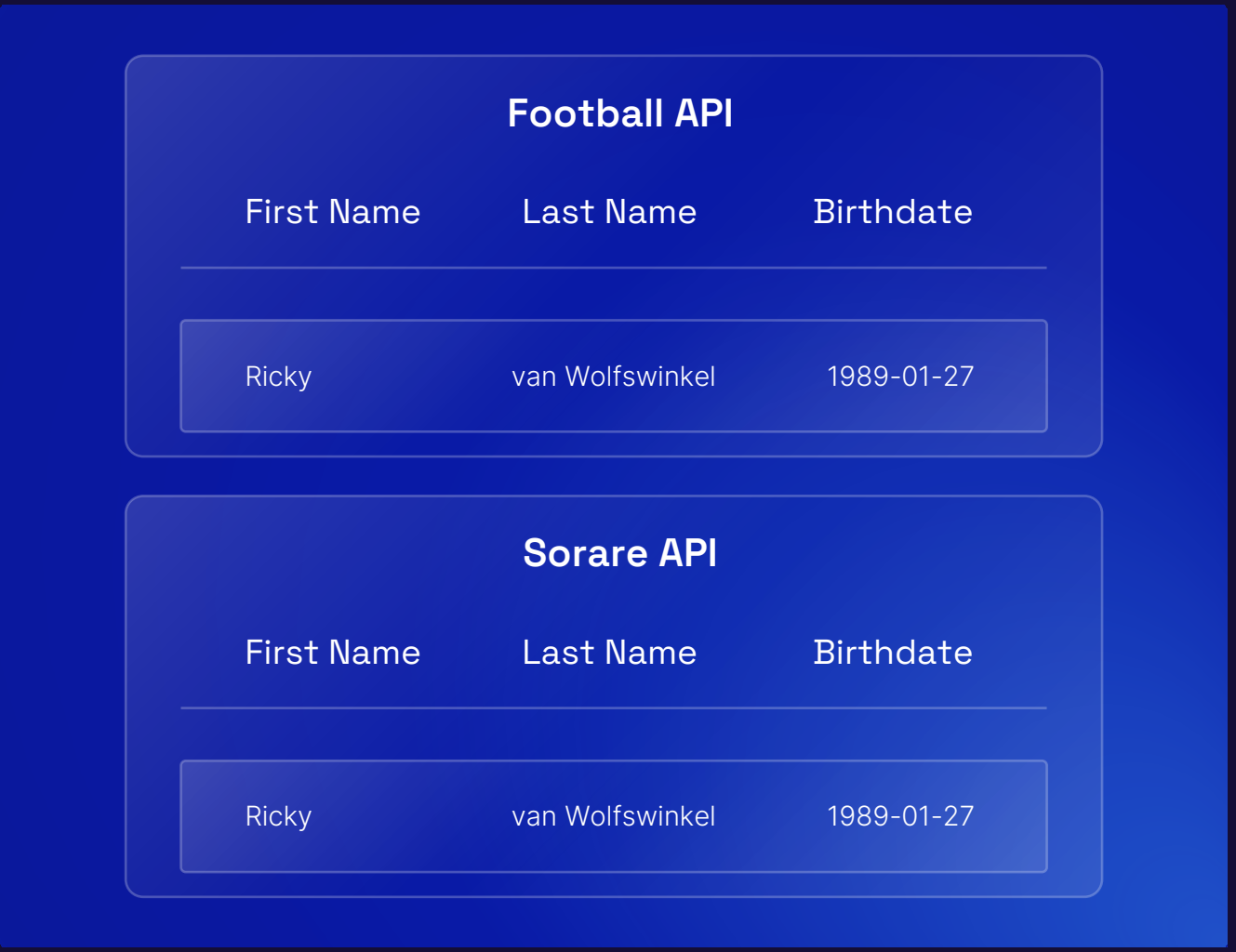
Football API

First Name	Last Name	Birthdate
Neymar	da Silva Santos Junior	1992-02-05

Sorare API

First Name	Last Name	Birthdate
Neymar Jr.	-	1992-02-05

93% of Sorare cards were successfully matched to football player data through a multi-step process.



- Exact First Name, Last Name & Birthdate

93% of Sorare cards were successfully matched to football player data through a multi-step process.

Football API

First Name	Last Name	Birthdate	Weight	Height
Idrissa Gana	Gueye	1989-09-26	66	174

Sorare API

First Name	Last Name	Birthdate	Weight	Height
Idrissa	Gueye	1989-09-26	66	174

Exact First Name, Last Name & Birthdate

Exact Birthdate, Weight & Height

93% of Sorare cards were successfullu matched to football p process.

Football

First Name	Last Name	Birthd
Neymar Jr.	da Silva Santos Junior	1992-0
Caner	Cavlan	1992-0

Sorare

First Name	Last Name	Birthd		
Neymar	-	1992-02-05	68	175

Name, Last Name

date, Weight & Height

date, Weight & Height
shtein Distance < 5
t of First & Last Name

93% of Sorare cards were successfully matched to football player data through a multi-step process.

Football API

First Name	Last Name	Birthdate	Weight	Height
Adama	Traoré Diarra	1996-01-25	86	178

Sorare API

First Name	Last Name	Birthdate	Weight	Height
Adama	Traoré	1996-01-25	72	178

- Exact First Name, Last Name & Birthdate
- Exact Birthdate, Weight & Height
- Exact Birthdate, Weight & Height with Levenshtein Distance < 5 on first part of First & Last Name
- **Exact Birthdate with Levenshtein Distance < 3 on first part of First & Last Name**

93% of Sorare cards were successfully matched to football player data through a multi-step process.

Football API

First Name	Last Name	Birthdate	Weight	Height
Anssumane	Fati Vieira	2002-10-31	66	178

Sorare API

First Name	Last Name	Birthdate	Weight	Height
Ansu	Fati	2002-10-31	-	-

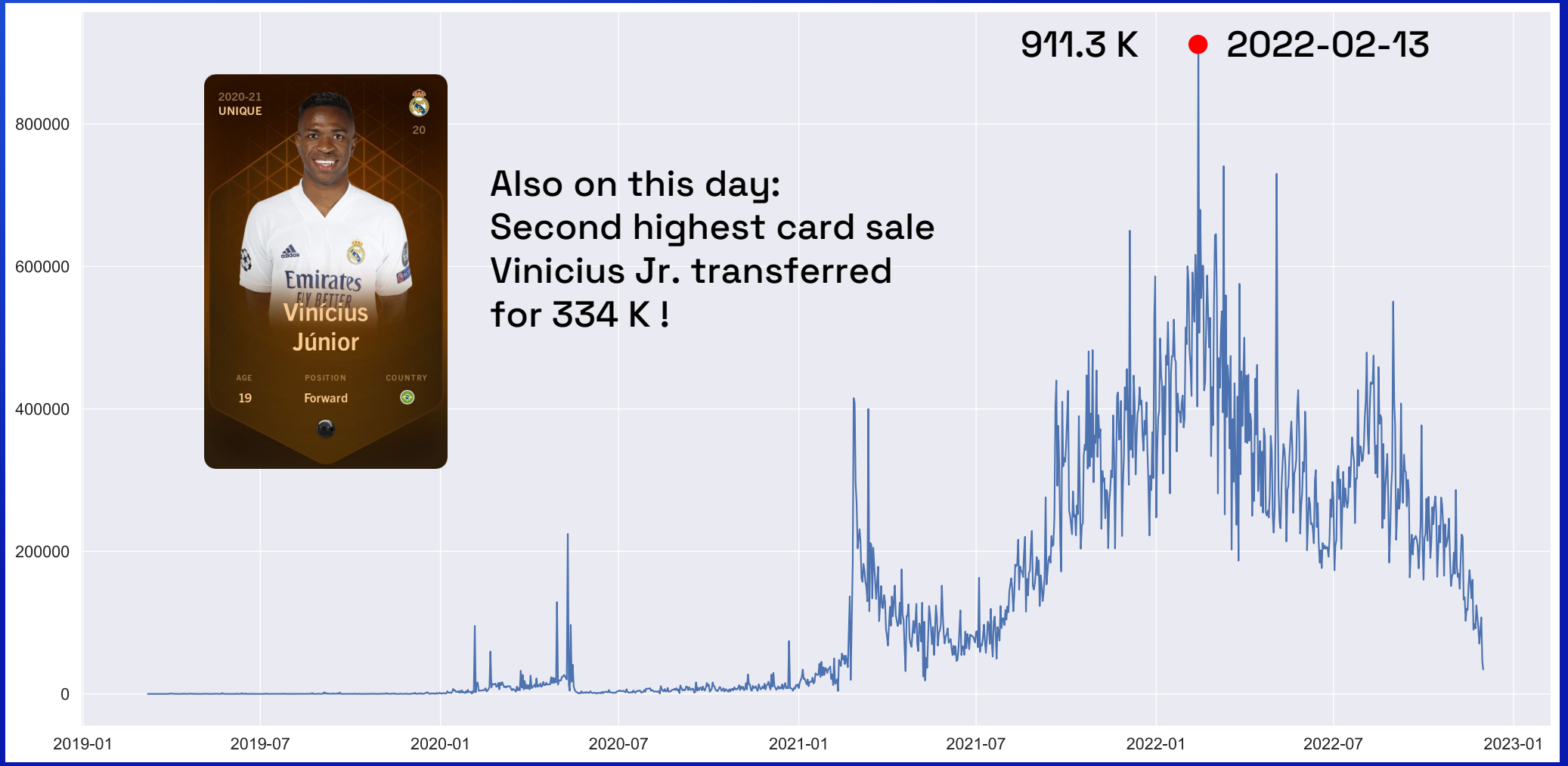
- Exact First Name, Last Name & Birthdate
- Exact Birthdate, Weight & Height
- Exact Birthdate, Weight & Height with Levenshtein Distance < 5 on first part of First & Last Name
- Exact Birthdate with Levenshtein Distance < 3 on first part of First & Last Name
- **Exact Birthdate with Levenshtein Distance = 0 on first part of First or Last Name**

Disclaimer

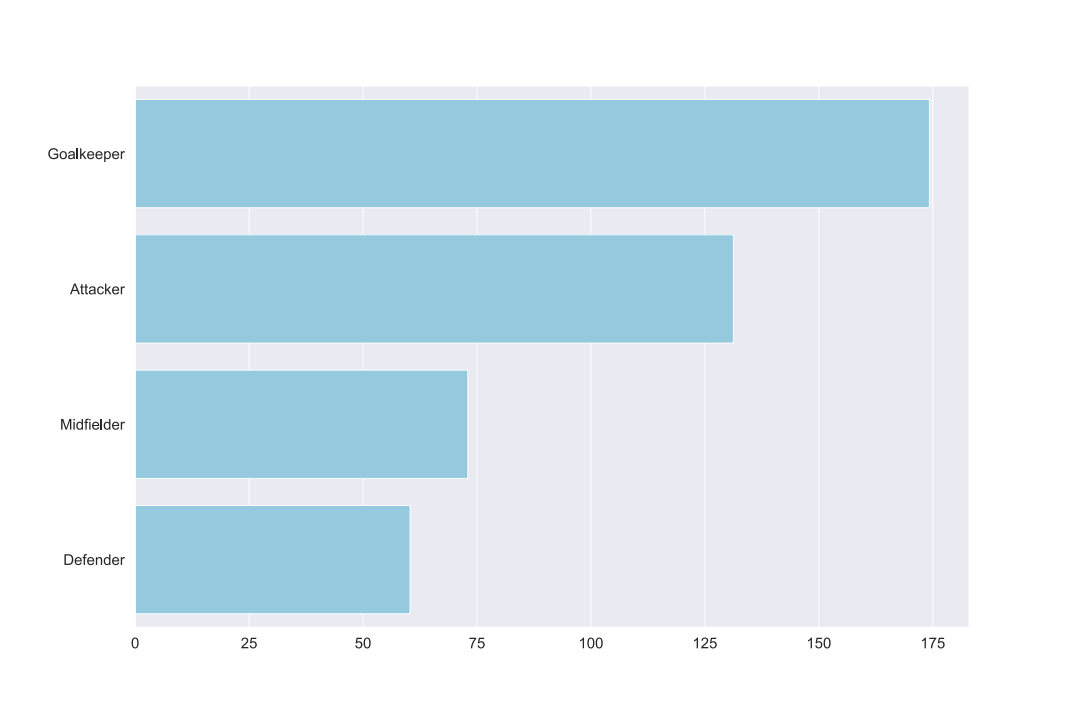
Please be aware that our analysis is based on a limited data set and should not be considered as definitive or exhaustive.
The information provided is for informational purposes only and is not intended as investment advice.
It is important to conduct your own research and consult a financial advisor before making any investment decisions. The results of our analysis should be viewed in the context of the current market conditions and are subject to change without notice.

Some descriptive statistics: Daily Trading Volume

Total: 173 M



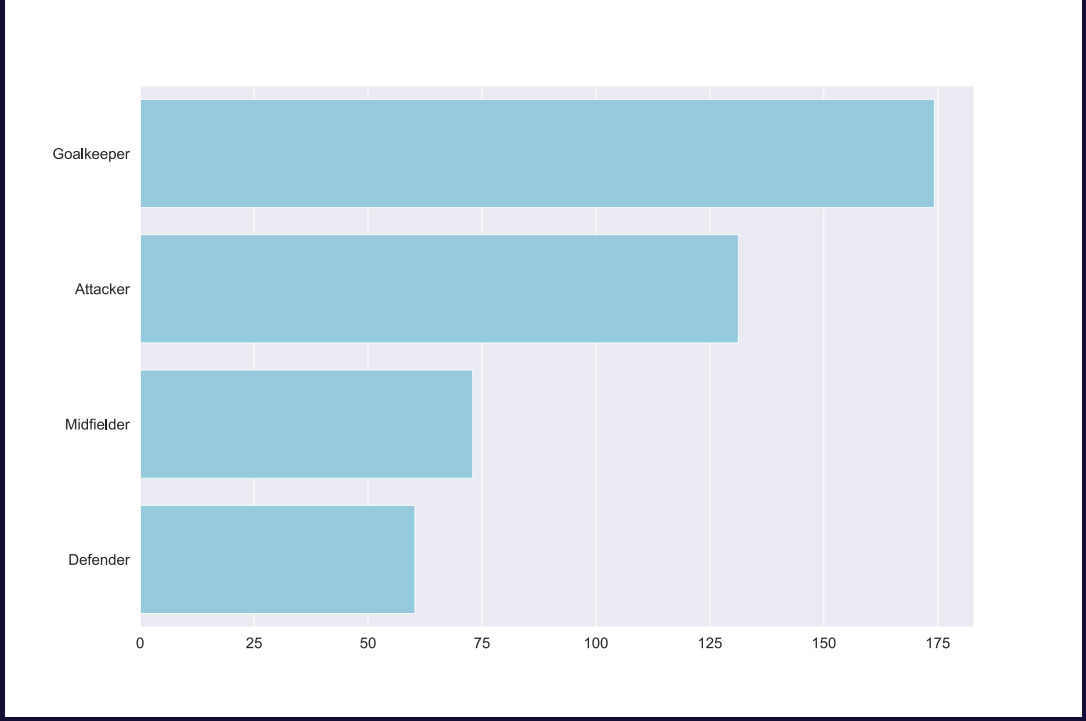
The most expensive starting 11. Total Worth: € 2.27 M



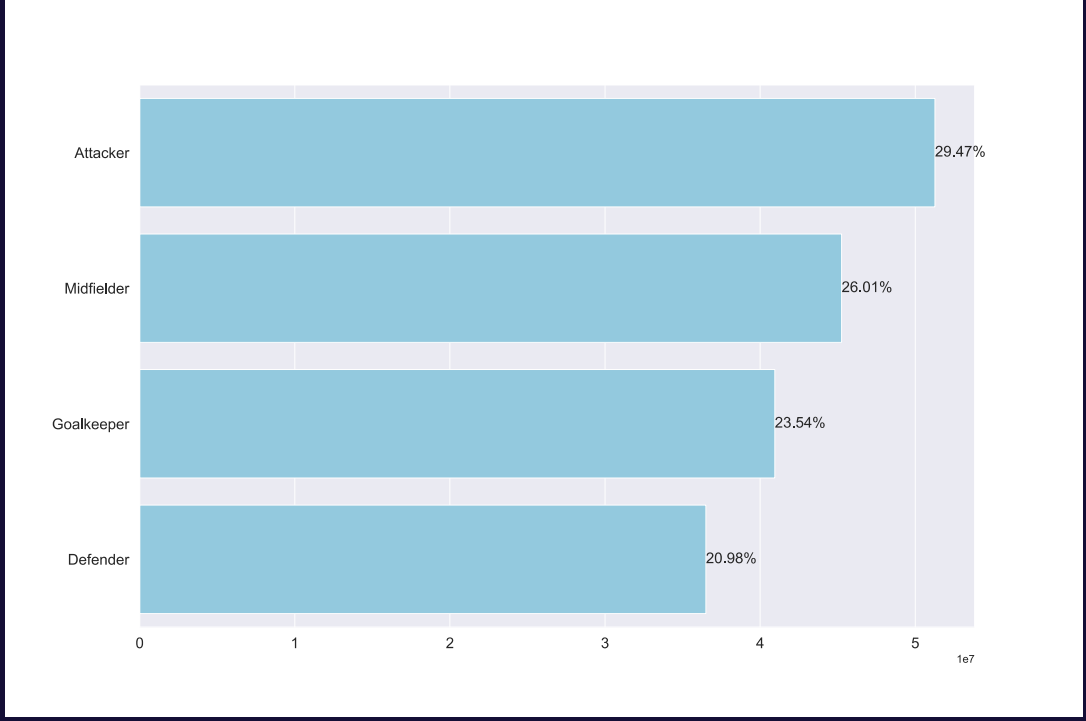
Average Price by Position (€)

On average Goalkeepers get traded for 175 €. Defenders have the lowest average price (60 €).

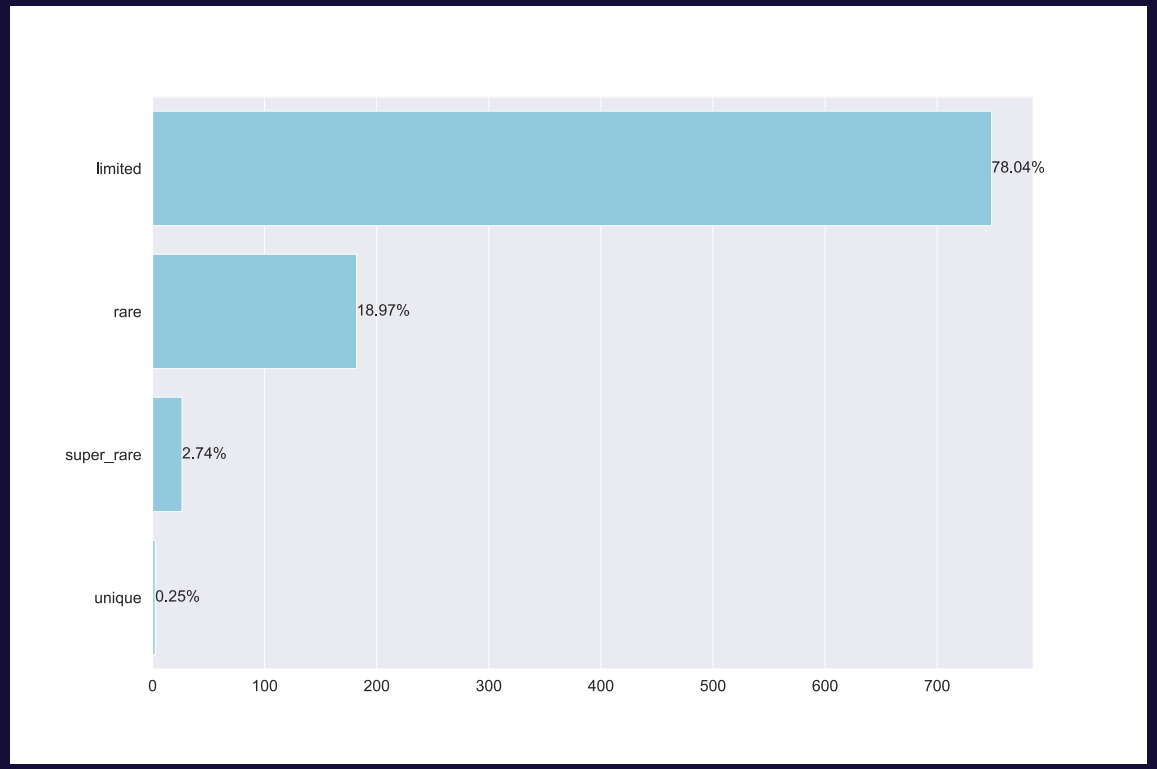
Attackers accounted for nearly 30% of the trading volume, which sums up to 51.3 Million Euros



Average Price by Position (€)

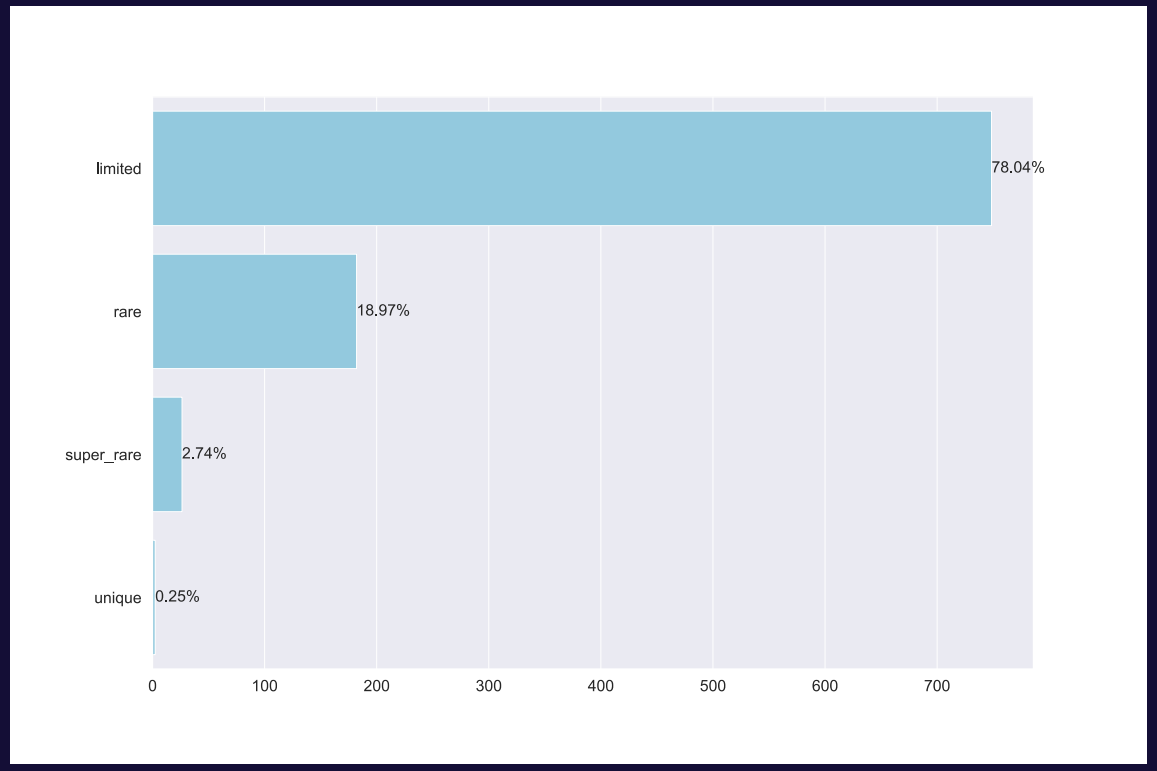


Trading Volume by Position (in 10 M €)



Cards by rarity (in 1000)

In total, we analyzed 959’161 Sorare NFT Football Cards



Cards by rarity (in 1000)

In total, we analyzed 959'161 Sorare NFT Football Cards

There are 2363 unique cards (0.25%), but some players have more than one unique card.

Does the position of play have a significant impact on the average price of a unique Sorare Card?

$$avg(log(price)) = x_0 + d_1 * gamesposition$$

Does the position of play have a significant impact on the average price of a unique Sorare Card, controlling for player statistics?

$$\text{avg(log(price))} = x_0 + d_1 * \text{gamesposition} + x_1 * \text{goalstotal} + x_2 * \text{goalsassists} + x_3 * \text{goalssaved} + x_4 * \text{avgrating} + x_5 * \text{yellowcards} + x_6 * \text{redcards}$$

	Coefficient	Standard error	Z-Value	P>|z|
Intercept	1.3459	0.430	3.129	0.002
Defender	0.0507	0.054	0.942	0.346
Goalkeeper	-0.1593	0.092	-1.730	0.084
Midfielder	0.0081	0.048	0.168	0.866
Goals scored	0.0203	0.004	4.563***	0.000
Goals saved	0.0044	0.001	4.167***	0.000
Average Rating	**0.3070**	0.064	4.785***	0.000

- OLS Regression with heteroscedasticity robust standard errors

	Coefficient	Standard error	Z-Value	P>|z|
Intercept	1.3459	0.430	3.129	0.002
Defender	0.0507	0.054	0.942	0.346
Goalkeeper	-0.1593	0.092	-1.730	0.084
Midfielder	0.0081	0.048	0.168	0.866
Goals scored	0.0203	0.004	4.563***	0.000
Goals saved	0.0044	0.001	4.167***	0.000
Average Rating	**0.3070**	0.064	4.785***	0.000

OLS Regression with heteroscedasticity robust standard errors.

We used other independent variables and ran the regression multiple times.

	Coefficient	Standard error	Z-Value	P>|z|
Intercept	1.3459	0.430	3.129	0.002
Defender	0.0507	0.054	0.942	0.346
Goalkeeper	-0.1593	0.092	-1.730	0.084
Midfielder	0.0081	0.048	0.168	0.866
Goals scored	0.0203	0.004	4.563***	0.000
Goals saved	0.0044	0.001	4.167***	0.000
Average Rating	**0.3070**	0.064	4.785***	0.000

OLS Regression with heteroscedasticity robust standard errors

We used other independent variables and ran the regression multiple times.

On average, an increase of the average game rating by 1 (on a scale from 1 to 10) leads to a 30% higher card price

Question

Does the position of play have a significant impact on the average price of a unique Sorare Card, controlling for player statistics?

Answer

No! Controlling for the most important player statistics (Average game rating, Goals scored, Goals assisted, Goals saved, Games played) we cannot find a significant difference between the average prices with respect to their position of play.

Dario Thürkauf & Tunç Polat

Thanks

References

Caner Cavlan, Twitter @Bandirmaspor, 5. February 2022