



FIFA 21

GROUP2

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Outline

- Introduction
- DB design and modeling
- Demo of UI and functions
- Lessons Learned

Introduction

- Topic: FIFA 21 - Sports (football)
- Target Users: **Football fans** or people interested in football
- Users can use as a **search engine** to find players
based on characteristics, nationality, name, contract information, etc.

Introduction

- Main function: Searching players matching specific features
Update database with “Delete” button
- Language: Python
- Packages: Python pandas for importing and cleaning data
Tkinter for GUI

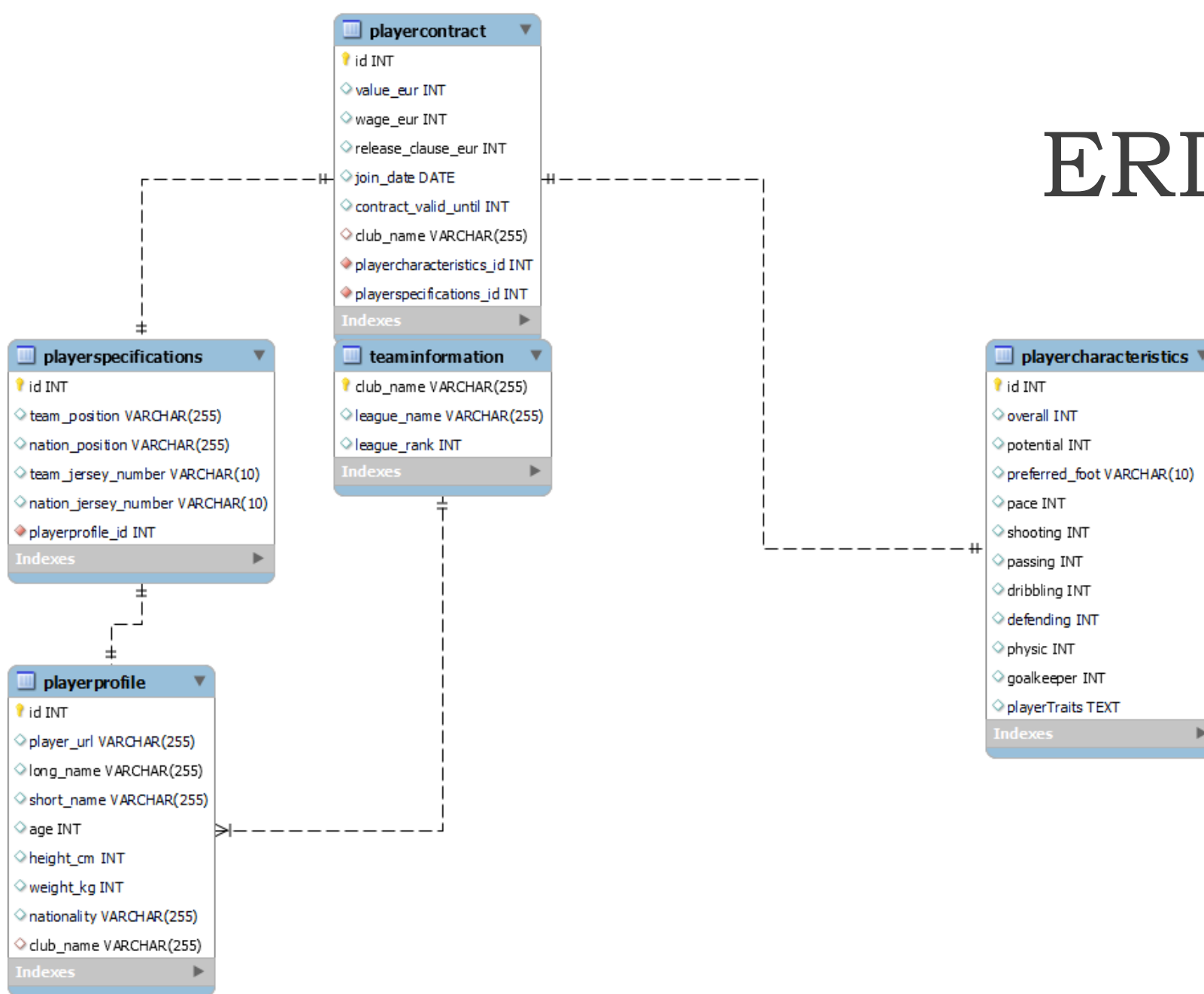
DB Design and Modeling

- Fifa Database found [here](#) => 106 columns, 18.9k rows
- Many features, we had to clean => Pandas DataFrame
- NA values, cleaning was necessary
- Cleaning finished : 31 columns, 15959 rows => push the pd.DataFrame to MySQL Workbench

Code example to push the DB on Workbench

```
62 mycursor.execute("USE footballplayersdb;")
63
64 mycursor.execute('CREATE TABLE IF NOT EXISTS teamInformation (club_name varchar(255) primary key, league_name varchar(255)')
65 cnx.commit()
66
67
68 for row in teamTable.itertuples():
69     mycursor.execute('''
70         INSERT INTO teamInformation (club_name, league_name, league_rank)
71         VALUES (%s,%s,%s)
72         ''',
73         (row.club_name,
74         row.league_name,
75         row.league_rank)
76         )
77 cnx.commit()
```

ERD Diagram



Requesting on the database

- Creation of a function « search » linked to the search button

```
26 def search():
27     filledCorrectly=True
28     clear()
29     whereStatement=True
30     querySQL = str("SELECT playerprofile.id, short_name, nationality FROM playerprofile
31     #PLAYER PROFILE PAGE
32
33     if name_textbox.get()!="":
34         querySQL = querySQL+" AND long_name LIKE '%" +name_textbox.get()+"%'
35
36     if age_textbox.get() !="":
37         if age_textbox.get().isnumeric():
38             if whereStatement:
39                 querySQL = querySQL+" AND age="+age_textbox.get()
40         else:
41             filledCorrectly=False
42             messagebox.showerror("Error", "Wrong age")
```


Demo of UI and functions

5 tabs for entering information + 1 tab for showing Results + Search button on each tabs

Function I. Searching: Enter Info → Message box comes out → Can see the results on “Results” tab.

① Player Profile Tab: For basic information of players

- ex) Searching players who are 25 years old and their height is 170cm.

FIFA 21

EA SPORTS FIFA 21 OFFICIAL LICENSED PRODUCT

Player Profile | Player Characteristics | Player Specification | Contract | Club | Results

Player Name:

Age:

Height:

Weight:

Nationality:

CLICK!



FIFA 21

EA SPORTS FIFA 21 OFFICIAL LICENSED PRODUCT

Player Profile | Player Characteristics | Player Specification | Contract | Club | Results

Players

id	name	nationality	update
229588	R. Zambrano	Venezuela	Delete
232810	T. Kida	Japan	Delete
234930	Pedro Rebocho	Portugal	Delete
237218	J. Hayes	United States	Delete
242764	H. Ishige	Japan	Delete
243807	C. Sibbald	Scotland	Delete
245538	K. Furuhashi	Japan	Delete
247027	Ruan	Brazil	Delete
253645	F. Mesones	Peru	Delete
254202	C. Neyra	Peru	Delete

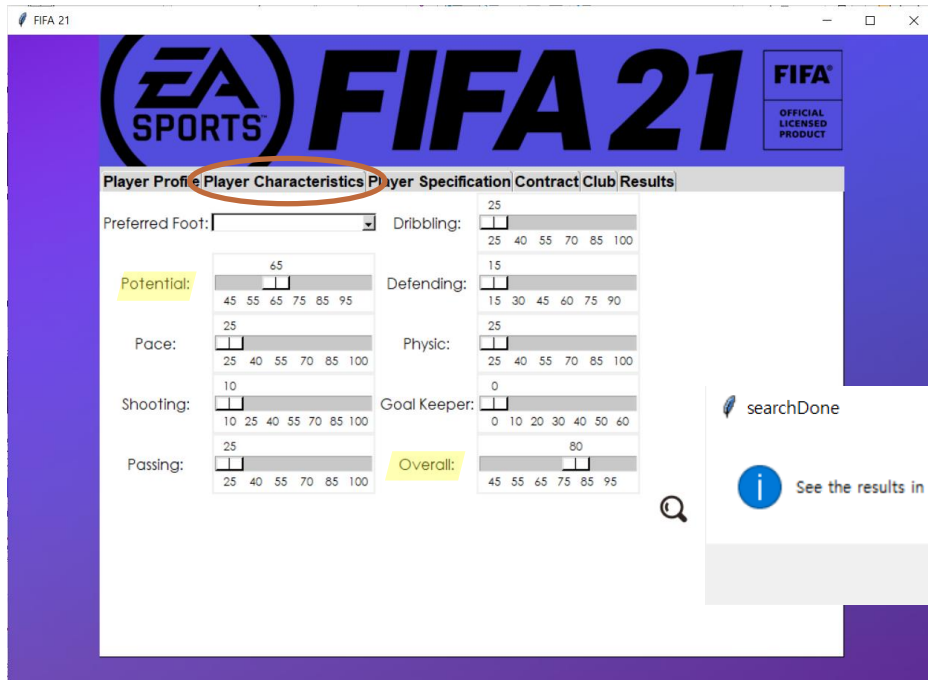
searchDone

See the results in the results field !

확인

Demo of UI and functions

- ② Player Characteristics Tab: Skills of players
 - Placed sliders to choose numbers within the range
 - ex) Searching players with Potential over 65, Overall over 80



Demo of UI and functions

③ Player Specification Tab: Positions, Jersey number

- ex) Searching players who have same position both in team and nation as “ST”

The screenshot shows the 'Player Specification' tab in the FIFA 21 interface. The 'Team Position' and 'Nation Position' dropdown menus are both set to 'ST'. The 'Nation Jersey Number' field is empty. A magnifying glass icon is next to the search field. A small 'searchDone' dialog box is visible at the bottom, containing an information icon and the text 'See the results in the results field !', with a '확인' (Confirm) button.



The screenshot shows the 'Players' table with 10 rows of player data. Each row includes an 'id', 'name', 'nationality', and an 'update' button.

id	name	nationality	update
167397	Falcao	Colombia	Delete
176237	J. Altidore	United States	Delete
184200	M. Arnautović	Austria	Delete
189250	S. Rondón	Venezuela	Delete
190362	T. Pukki	Finland	Delete
196910	G. Álvarez	Bolivia	Delete
202126	H. Kane	England	Delete
204538	R. Ruidiaz	Peru	Delete
204838	R. Jiménez	Mexico	Delete
212188	T. Werner	Germany	Delete

Demo of UI and functions

④ Contract Tab: For contract information

-Placed sliders as well & Calendar to choose date

- ex) Searching players who joined on July 9th,2020 and their contract valid year is 2024.


The image shows two screenshots of the FIFA 21 UI. The left screenshot shows the 'Contract' tab selected, with sliders for 'Value (euro)', 'Wage (euro)', and 'Release Clause (euro)', and a calendar for 'Join Date' (July 2020) and a year selector for 'Contract Valid Until (year)' (2024). A search dialog box is open, displaying 'searchDone' and a message 'See the results in the results field !' with a '확인' button. An orange arrow points from the 'Join Date' calendar to the search dialog. The right screenshot shows the 'Players' table with columns 'id', 'name', 'nationality', and 'update'. The table lists several players, including M. Rodriguez, F. Öztörün, Y. Kurtuluş, C. Frăsinescu, A. Papadopoulos, V. Figueroa, H. Pellerano, Kang Min Soo, and Lee Chung Y'ong, each with a 'Delete' button next to their name.

In order to get the SQL date format, which different from the Tkinter calendar, we created a function to convert the date : `getSQLDate()`


Demo of UI and functions

⑤ Club Tab: Club, League information

- ex) Searching players whose club name is “Paris Saint-Germain



The left screenshot shows the FIFA 21 Club Tab interface. The 'Club Name' dropdown is set to 'Paris Saint-Germain'. The 'League Name' and 'League Rank' fields are empty. A search icon is visible. A 'searchDone' dialog box is open, displaying the message 'See the results in the results field !' and a '확인' (Confirm) button.



The right screenshot shows the FIFA 21 Club Tab interface with the search results displayed in a table. The table has columns for 'id', 'name', 'nationality', and 'update'. The 'update' column contains 'Delete' buttons for each row.

id	name	nationality	update
183898	A. Di Maria	Argentina	Delete
190871	Neymar Jr	Brazil	Delete
191740	Ander Herrera	Spain	Delete
193474	I. Gueye	Senegal	Delete
198950	Pablo Sarabia	Spain	Delete
199556	M. Verratti	Italy	Delete
201399	M. Icardi	Argentina	Delete
201510	L. Kurzawa	France	Delete
202166	J. Draxler	Germany	Delete
202515	Jesé	Spain	Delete

Demo of UI and functions

Function II. Update:

Delete button → Message box → Can see player deleted from the result → Next player from the DB will be shown

- ex) want to delete last player

The image illustrates the process of deleting a player from the FIFA 21 application. It consists of three sequential screenshots of the application's interface, connected by an orange arrow.

First Screenshot: The application window shows the 'FIFA 21' logo and a navigation bar with tabs: 'Player Profile', 'Player Characteristics', 'Player Specification', 'Contract', 'Club', and 'Results'. The 'Players' tab is active, displaying a table with columns: 'id', 'name', 'nationality', and 'update'. The table lists 12 players. The last player, 'Jesé' (id: 202515, nationality: Spain), is highlighted in yellow. An orange arrow points to the 'Delete' button next to his name with the text 'CLICK!'.

Second Screenshot: A message box titled 'Deleted' is displayed, stating 'The player has been deleted !'. Below it is a '확인' (Confirm) button. Another message box titled 'searchDone' is also displayed, stating 'See the results in the results field !', with a '확인' button.

Third Screenshot: The application window shows the same 'Players' table. The last player, 'A. Florenzi' (id: 203551, nationality: Italy), is now highlighted in yellow, indicating that the next player from the database has been shown after the deletion.

Demo of UI and functions

III. Error Handling

① Entering wrong data type : Gives warning message

- ex) entering character for weight on Player Profile tab.

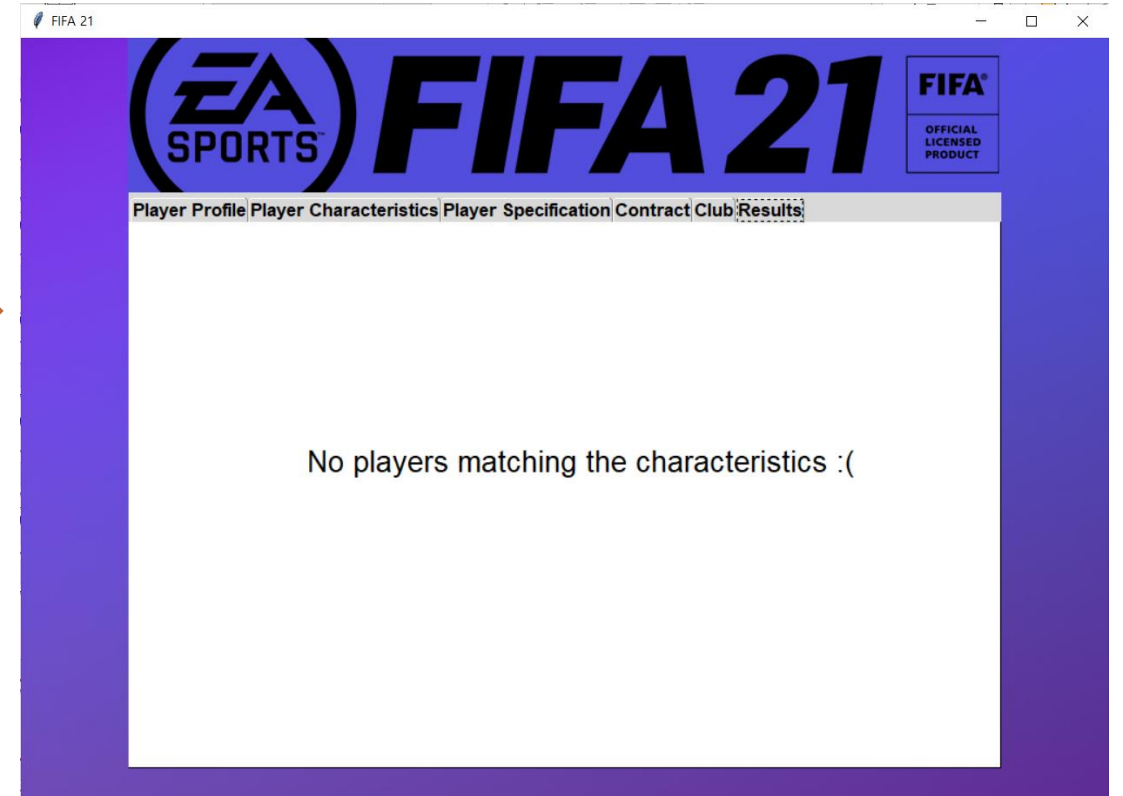
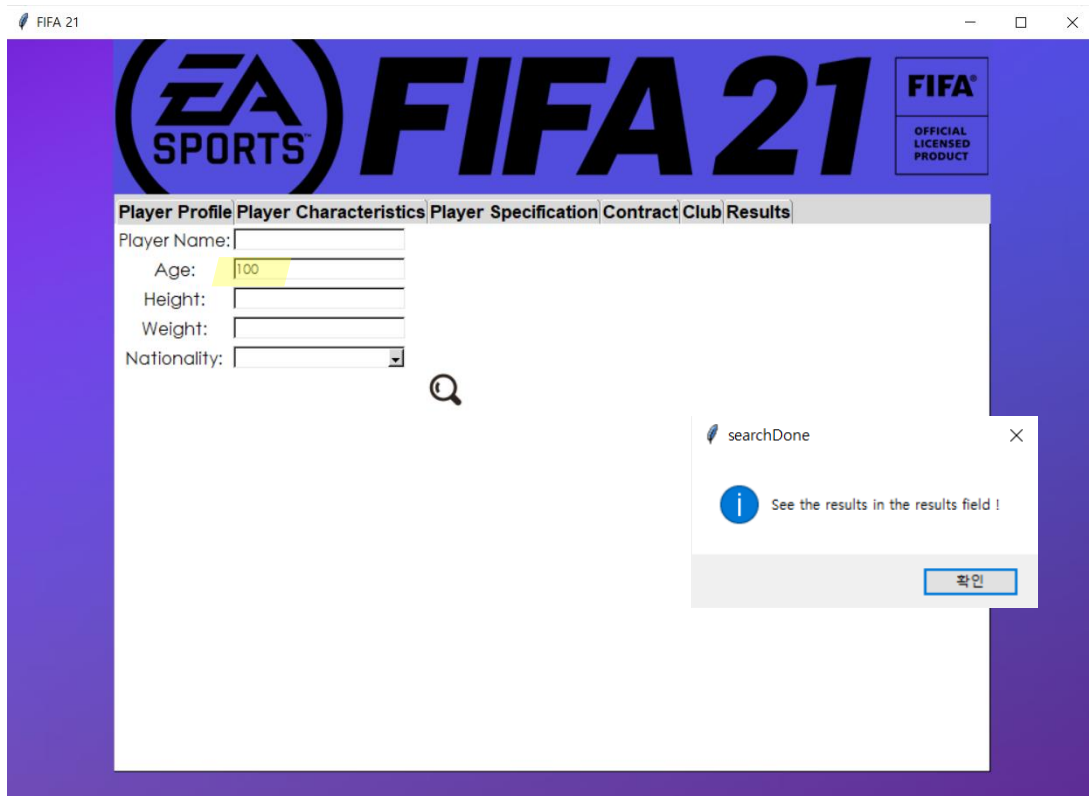


Demo of UI and functions

III. Error Handling

② When there is no players matching

- ex) Searching players whose age is 100.



Lessons Learned

- Creating DB: The NA values and the number of columns to clean.

Also, finding the method how to clean and push on MySQL Workbench

- GUI: hard to align the widgets appropriately,
tried several times using grid, place, and pack to find suitable method
⇒ grid was convenient , have rows/columns so easier to think about their locations.

THANK YOU