Football Match Result Prediction System
User Manual

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- Github Link: https://github.com/turan1609/football-match-result-prediction-software-system

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1. Introduction

a. This application allows users to:

- Access football match results and league standings effortlessly.
- Utilize filters and search functionality to find information about specific teams, leagues, or dates.

b. Target Audience:

1. **Football Enthusiasts**: Predict football match results based on historical data.
2. **Sports Analysts and Journalists**: Analyze league performances and trends.
3. **Betting Enthusiasts**: Make informed decisions on football betting using data.
4. **Data Scientists and Researchers**: Build machine learning models for predictive analysis in sports.
5. **Football Clubs and Coaches**: Evaluate performance trends and gain strategic insights from historical data.

2. System Requirements

Software Dependencies

- **Python**: Version 3.12.

Required Python Libraries

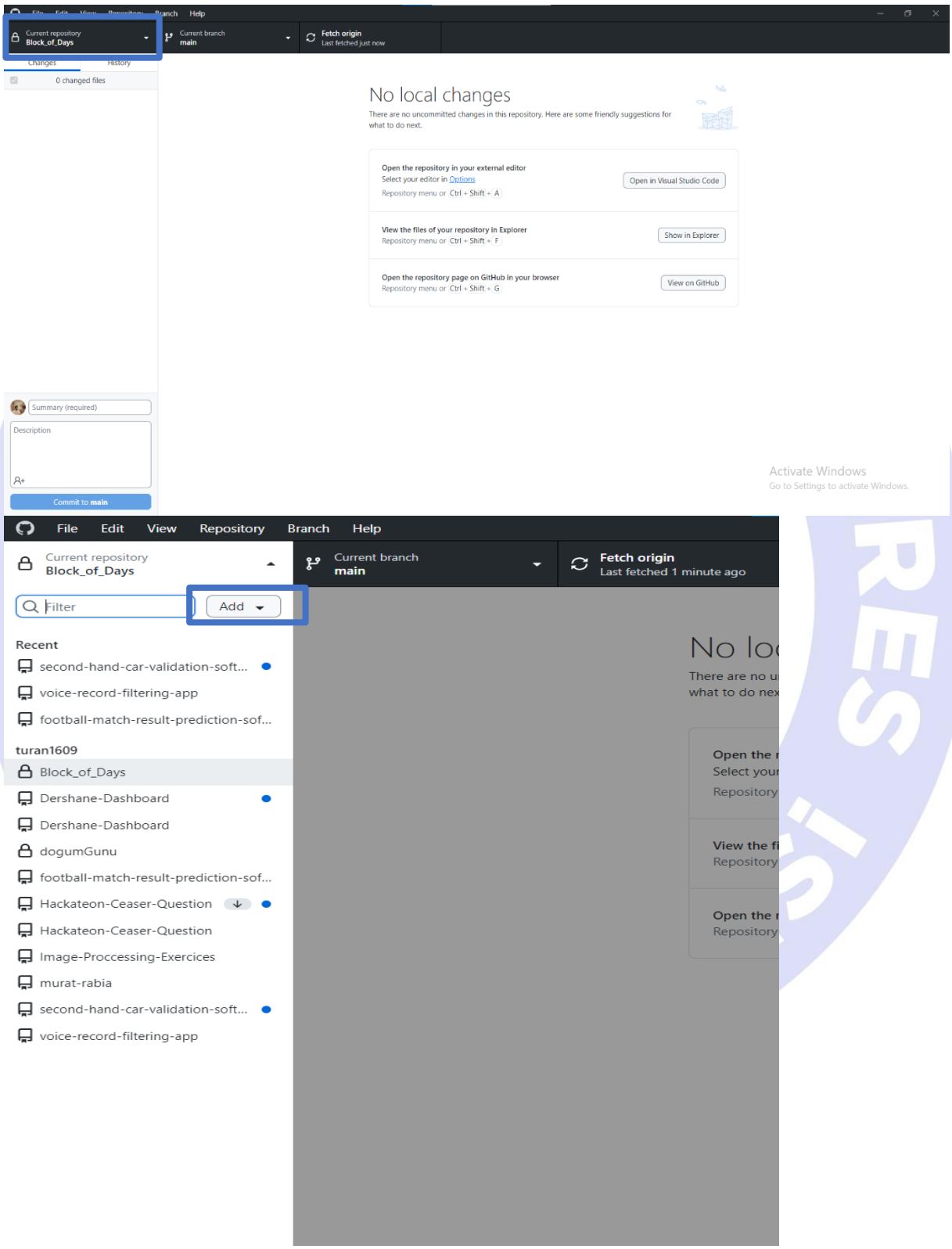
1. **Data Handling**:
   - `pandas`: Data manipulation and analysis.
   - `sqlite3`: Database operations (built-in with Python).
   - `lxml`: XML and HTML parsing.
2. **Web Scraping**:
   - `BeautifulSoup`: Parse HTML and extract data. (`pip install beautifulsoup4`)
3. **User Interface**:
   - `PyQt5`: Create graphical interfaces. (`pip install pyqt5`)
4. **Data Visualization**:
   - `matplotlib`: Plot trends and patterns. (`pip install matplotlib`)
5. **Export Formats**:
   - Support for exporting data to `.csv` and `.pdf` formats.

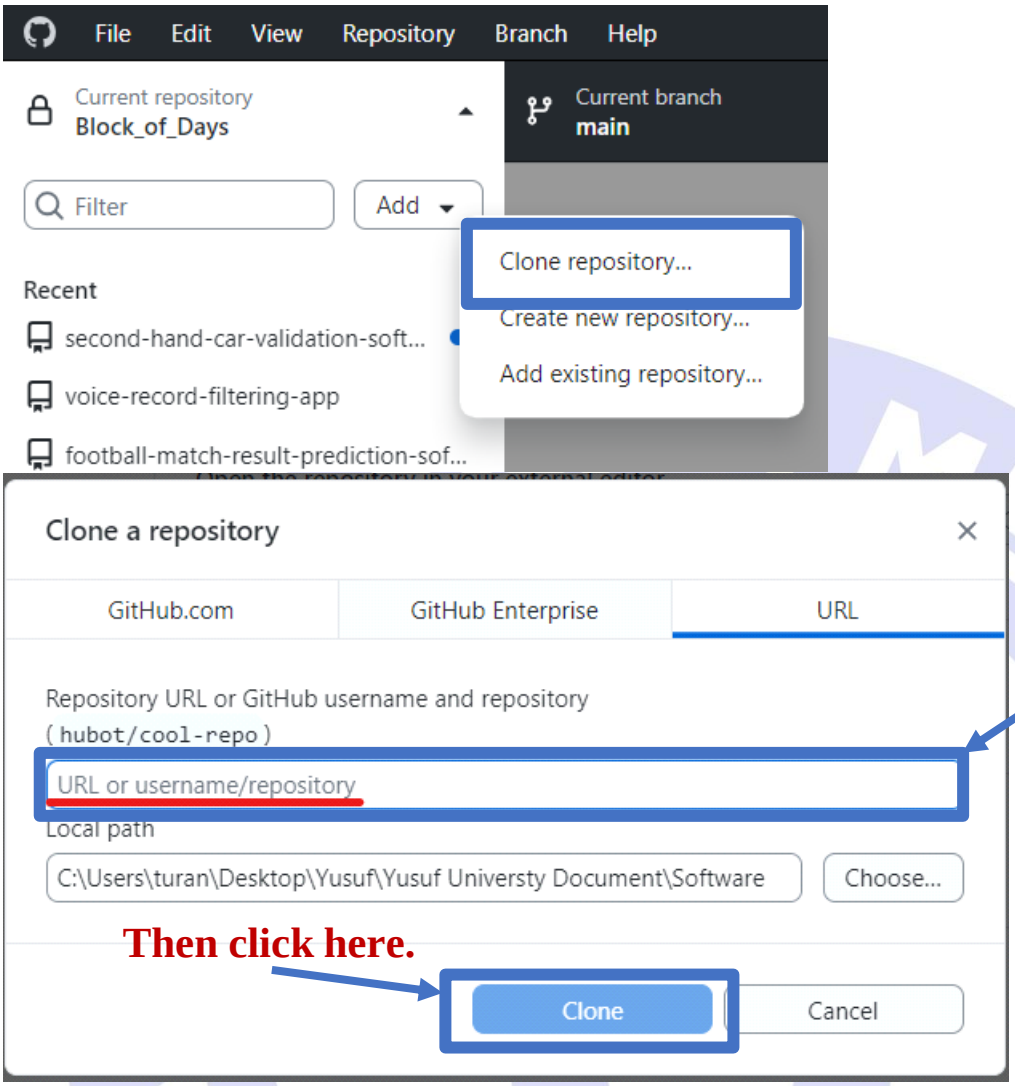
Additional Requirements

- **Internet Connection**: Required for fetching real-time data.

3. Installation Guide

1. Access the GitHub repository: [Football Match Result Prediction System.]
2. Clone the source code using GitHub Desktop (Windows) or your terminal (Linux/macOS).

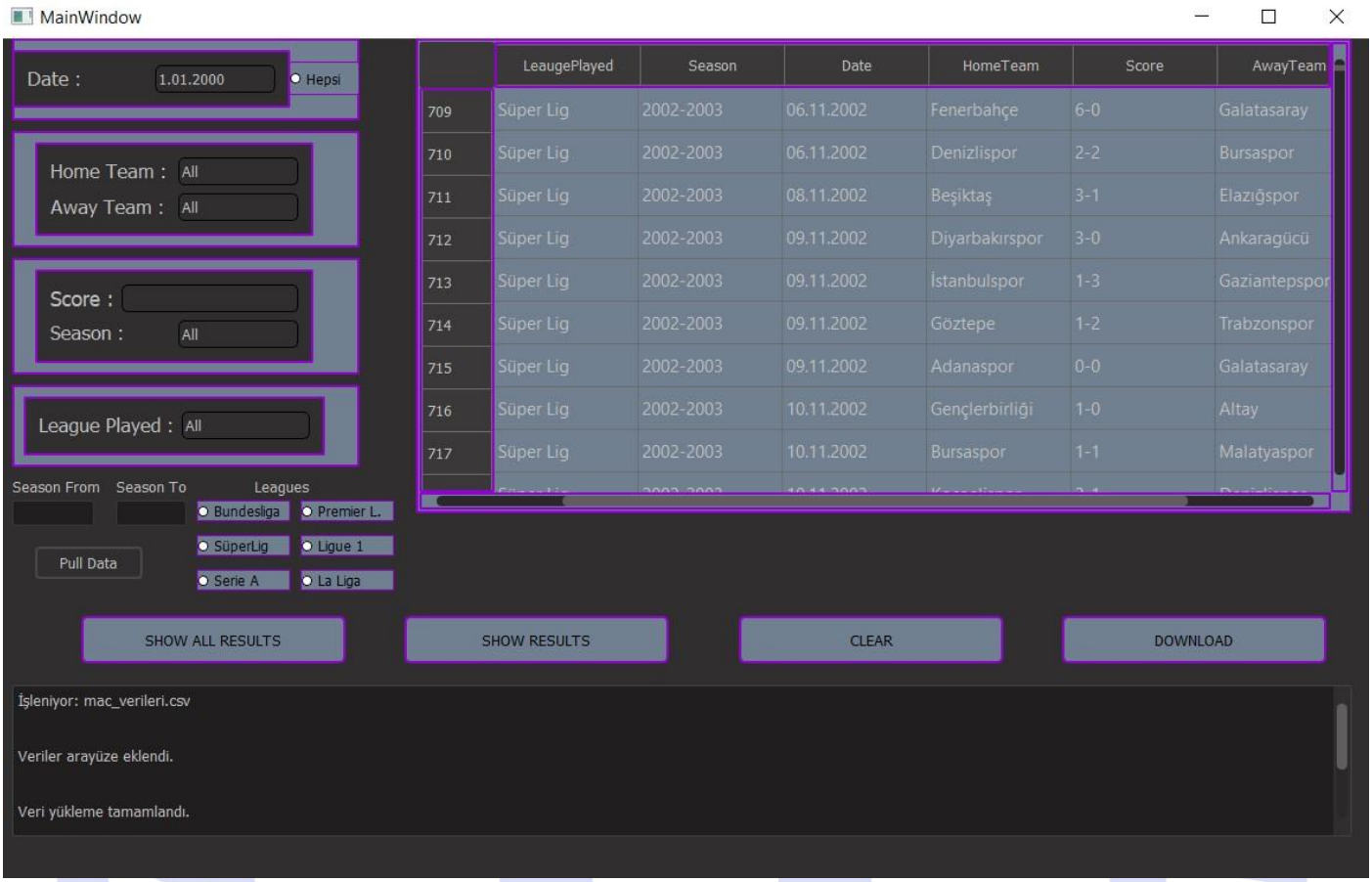




3. Open the folder containing the source code in your chosen IDE.
4. Locate the "Libraries" section in main.py and install the listed libraries. IDEs often underline missing dependencies and provide an option to install them.
5. Run the application using the "Run" button in your IDE.

Note: For PyCharm users, refer to PyCharm Library Installation Guide for resolving library installation issues.

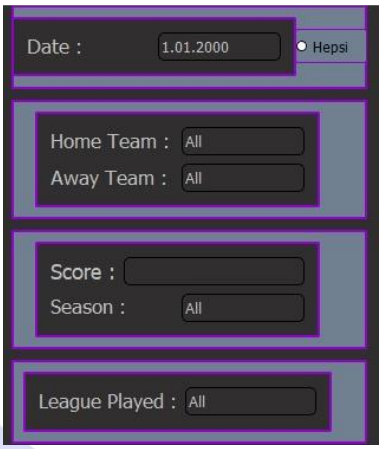
4. User Interface Overview



The user interface is designed for ease of use:

- **Top Left**: Filtering section.
- **Top Right**: Displays football match data.
- **Bottom Left**: Buttons for filtering actions.
- **Bottom Right**: Includes buttons for specific tasks and a label showing the number of displayed records.

5. Features and Functionalities

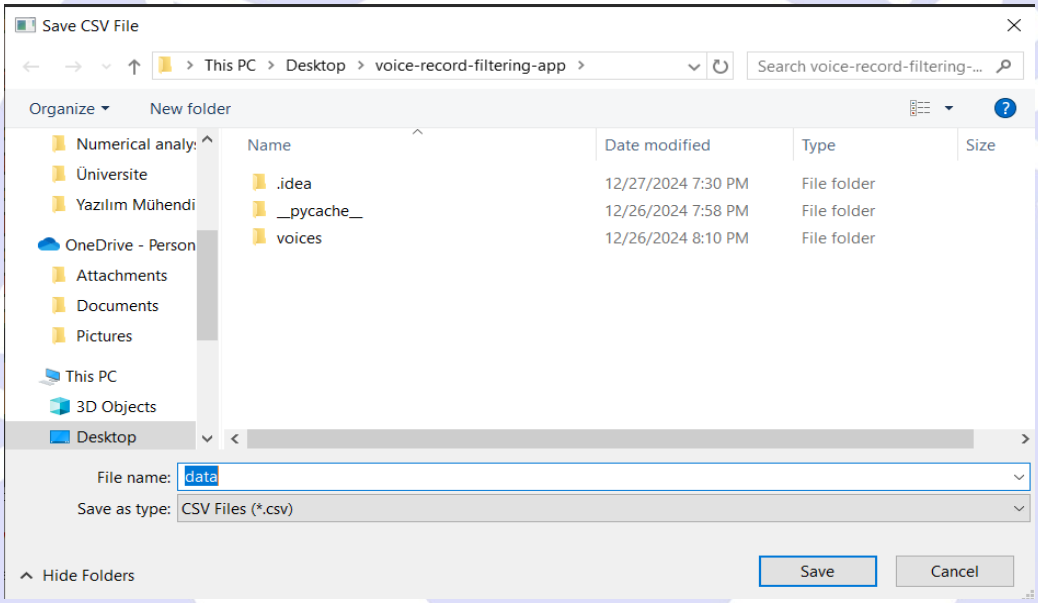


1. Match Data Filtering

- **Filter by Team**: Search for match results for a specific team.
- **Filter by League**: View standings and results for a particular league.
- **Filter by Date**: Focus on matches played on a specific date or range.
- **Filter by Season**: Focus on matches played on a specific season.
- **Filter by Score**: Focus on matches played on a specific Score.

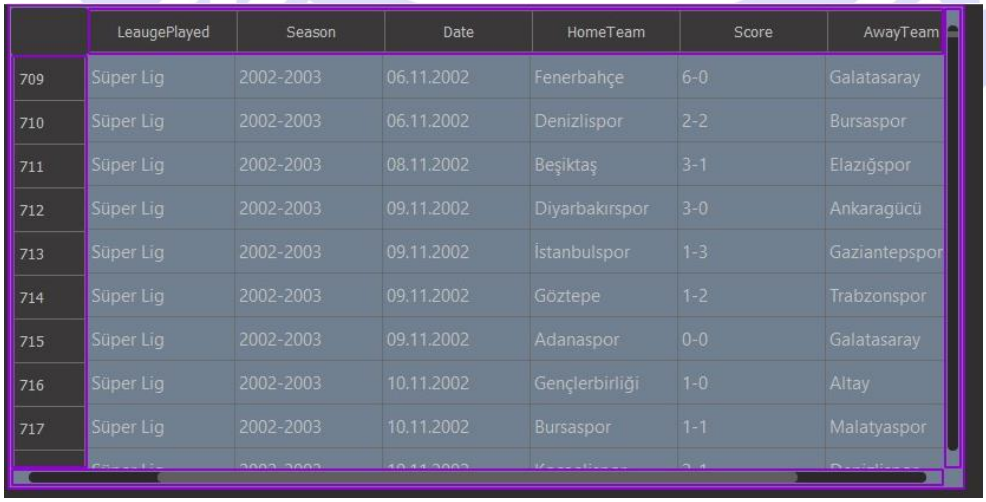
2. Exporting Data

- Export match results and analyses in `.csv` or `.pdf` formats for further use.



3. Data Visualization

- Graphical representations of trends and patterns using integrated libraries.



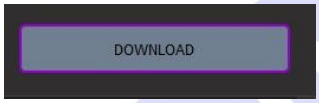
	LeaugePlayed	Season	Date	HomeTeam	Score	AwayTeam
709	Süper Lig	2002-2003	06.11.2002	Fenerbahçe	6-0	Galatasaray
710	Süper Lig	2002-2003	06.11.2002	Denizlispor	2-2	Bursaspor
711	Süper Lig	2002-2003	08.11.2002	Beşiktaş	3-1	Elazığspor
712	Süper Lig	2002-2003	09.11.2002	Diyarbakırspor	3-0	Ankaragücü
713	Süper Lig	2002-2003	09.11.2002	İstanbulspor	1-3	Gaziantepspor
714	Süper Lig	2002-2003	09.11.2002	Göztepe	1-2	Trabzonspor
715	Süper Lig	2002-2003	09.11.2002	Adanaspor	0-0	Galatasaray
716	Süper Lig	2002-2003	10.11.2002	Gençlerbirliği	1-0	Altay
717	Süper Lig	2002-2003	10.11.2002	Bursaspor	1-1	Malatyaspor

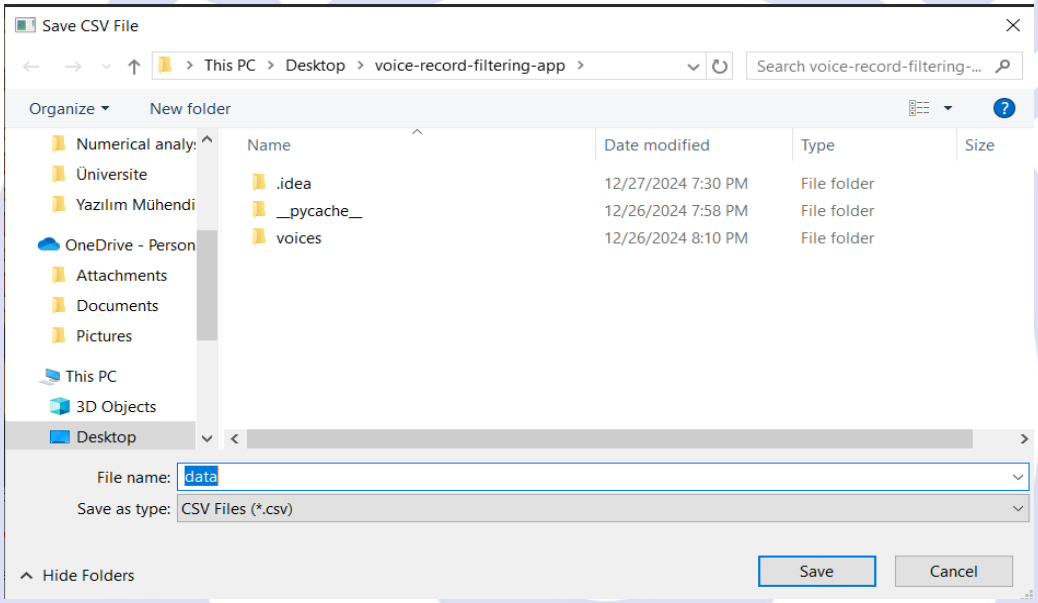
4. Show All Data

- Clicking "SHOW ALL RESULTS" displays all available vehicle data.

5. Download Data

- The "DOWNLOAD" button exports visible results to a CSV file.



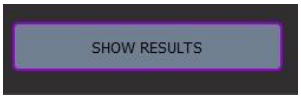


6. Clear Data

- Clears the data display area. Applying new filters automatically clears old data.

7. Show Results:

- After clicking "SHOW RESULTS", a list of vehicles matching the criteria is displayed.



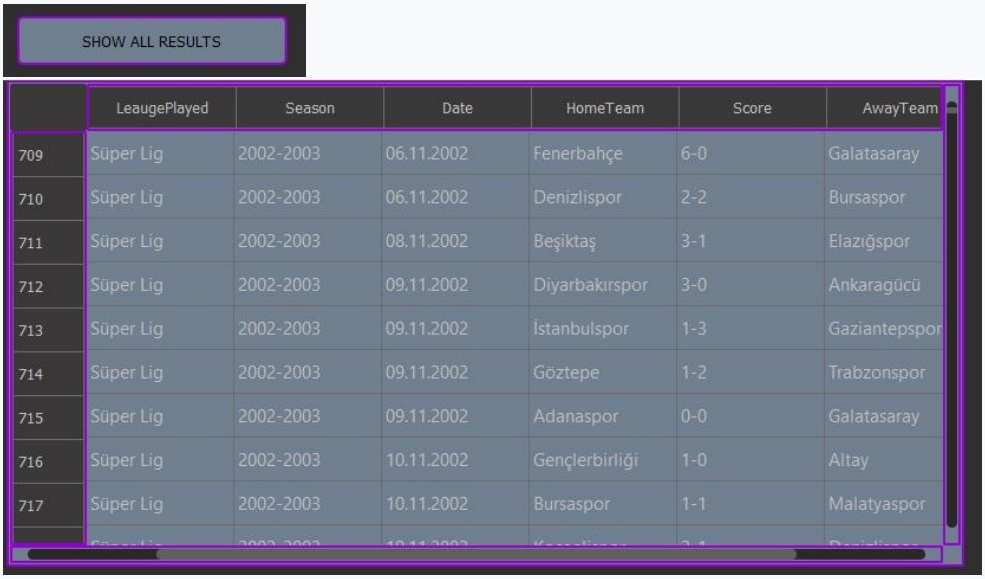
8. Pull Data

- Pulls data from the internet based on specific seasons and leagues.

AYDIN ADNAN MENDERES ÜNİVERSİTESİ 1992

6. Usage Instructions

- **The user wants to open the app and see all the data.**



	LeaugePlayed	Season	Date	HomeTeam	Score	AwayTeam
709	Süper Lig	2002-2003	06.11.2002	Fenerbahçe	6-0	Galatasaray
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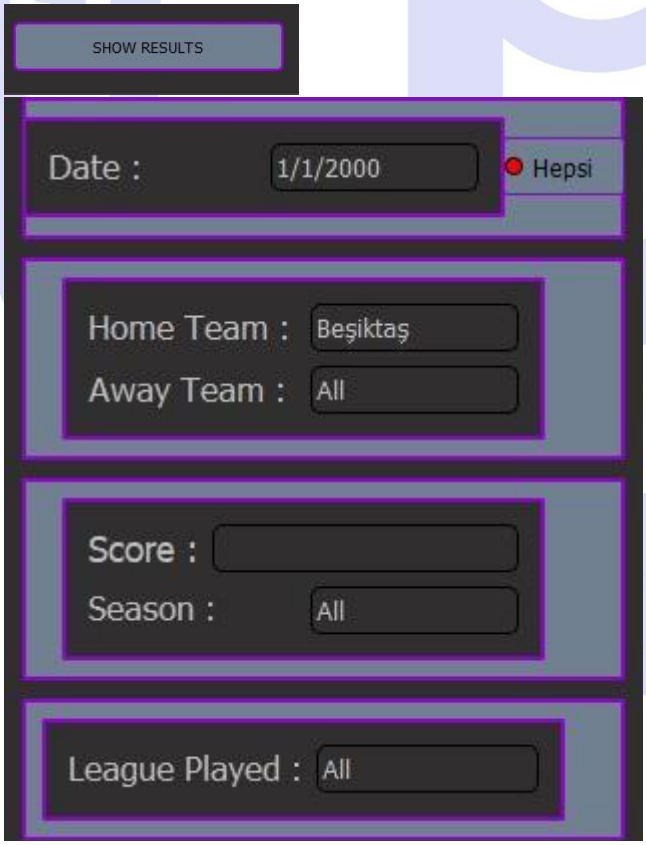
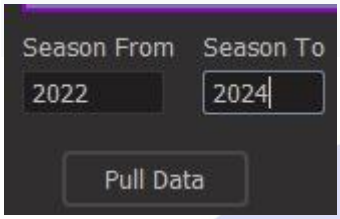
717	Süper Lig	2002-2003	10.11.2002	Bursaspor	1-1	Malatyaspor

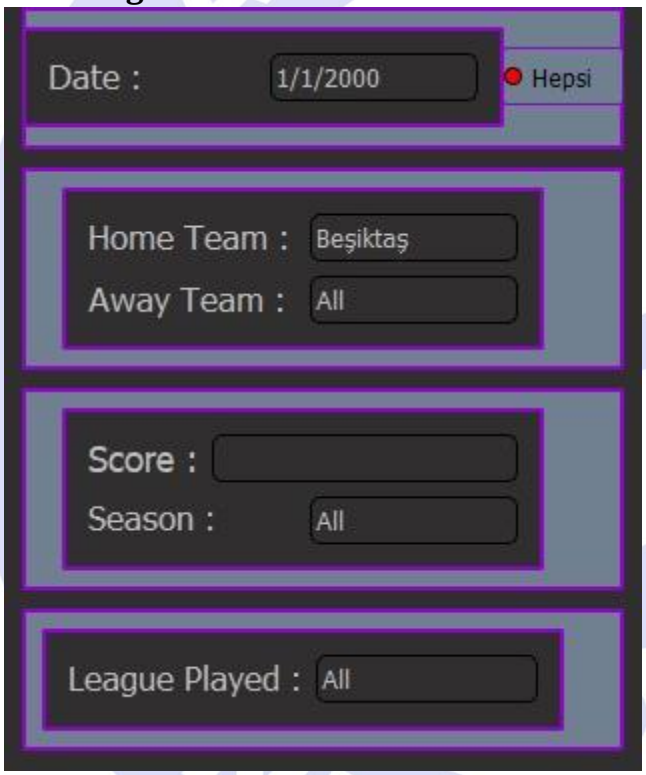
- **While looking at the data, he only wants to download Beşiktaş all home matches and enters the necessary filters for this presses the Show Results button.**



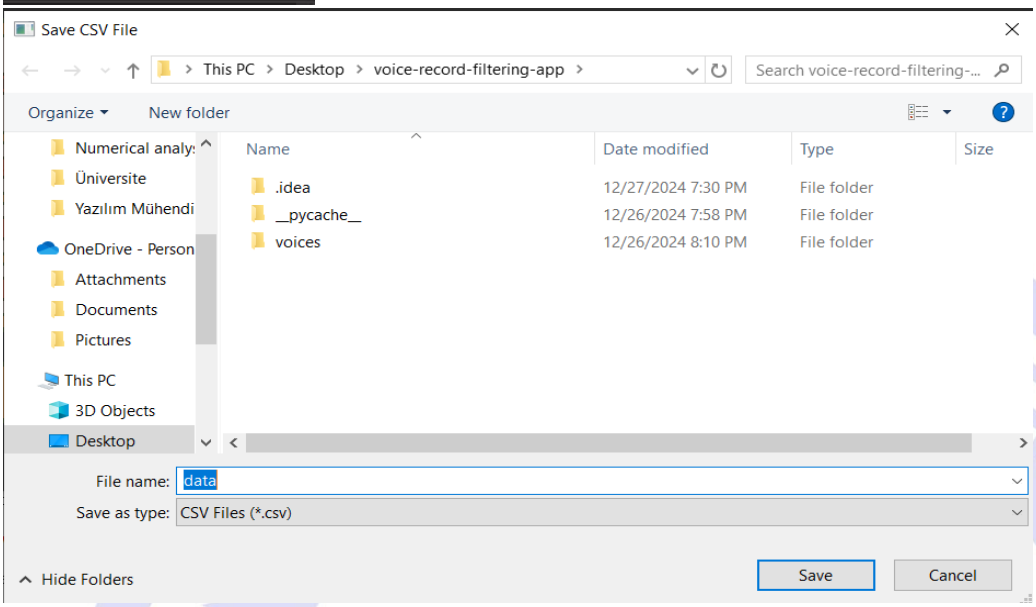
- **Wants to check if I can pull new and more data**
- **Here you can choose seasons. The more it is, the more data it finds. And press pull data.**



- **When the shooting process from the internet is completed, you can filter the same model again.**



Clicks the download button and add it wherever you want.



7. Troubleshooting and Maintenance

1. **Application Does Not Start:**
    - Ensure all required libraries are installed: `pip install -r requirements.txt`.

8. References

- https://stackoverflow.com/questions/tagged/pyqt5
- https://www.youtube.com/watch?v=97jyCxczg1Q&list=PLyaHWDDfgBPMQUBW95__P4KT3JcVclx4n
- https://medium.com/datarunner/librosa-9729c09ecf7a
- https://www.youtube.com/watch?v=iCwMQJnKk2c&list=PL-wATfeyAMNqIee7cH3q1bh4QJFAaeNv0
- https://www.sqlite.org/docs.html
- https://doc.qt.io/qtforpython-6/
- https://www.youtube.com/watch?v=uyYfnnye7qE
- https://pandas.pydata.org/docs/