SPORTS ANALYZER

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ACKNOWLEDGEMENT

The credit for the successful completion of this project work goes beyond our own work, to those people who have always been with us throughout. And we take this opportunity to express our heartfelt gratitude to each one of them.

We express our sincere thanks to our Mentor **Dr. Sarabjeet Singh** of for his valuable suggestions and providing guidance throughout the project, that enabled us to complete this project successfully.

ABSTRACT

Statistics play an important role in any field to analyze, improvise the performance of any organization to provide optimum results to ensure constant growth. Sports being a performance based and strategical field also requires constant monitoring and analysis of the team.

Sports analyzer provides a deep insight to the user in analyzing, monitoring and displays all the possible short-comings of a particular player, thus providing optimum results.

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INTRODUCTION

Sports Analyzer provides a multi-dimensional way to analyze, view and process the performance data as per the need of the user. This program works in multiple sports categories including: Football, Basketball, Cricket. It uses real-time match stats to analyze the data and using its sorting algorithms it processes it into various sub categories where a user can view top stats as per need.

The current program uses latest stats from different leagues which are:
1. Euro 2020 (Football)
2. NBA 2020 (Basketball)
3.IPL 2020 (Cricket)

Using various principles of Object-Oriented programming the data has been divided into various classes and sub classes which not only makes it easy to maintain but also reduces chances of errors in arranging the data.

AIM OF THE PROJECT

This project is aimed to provide a tool for free and easy statistical analysis and gathering data related to different sports and sportspersons. The purpose of this project entitled as "SPORTS ANALYZER" is to computerize all the analytical activities by developing various algorithms using different data structures and classes.

COMPILER SPECIFICATION

The software is been designed using Visual Studio Code in windows operating system with MinGW-w64 compiler which provides up-to-date native builds of GNU Compiler Collection (GCC). It has to be used on the specific system.
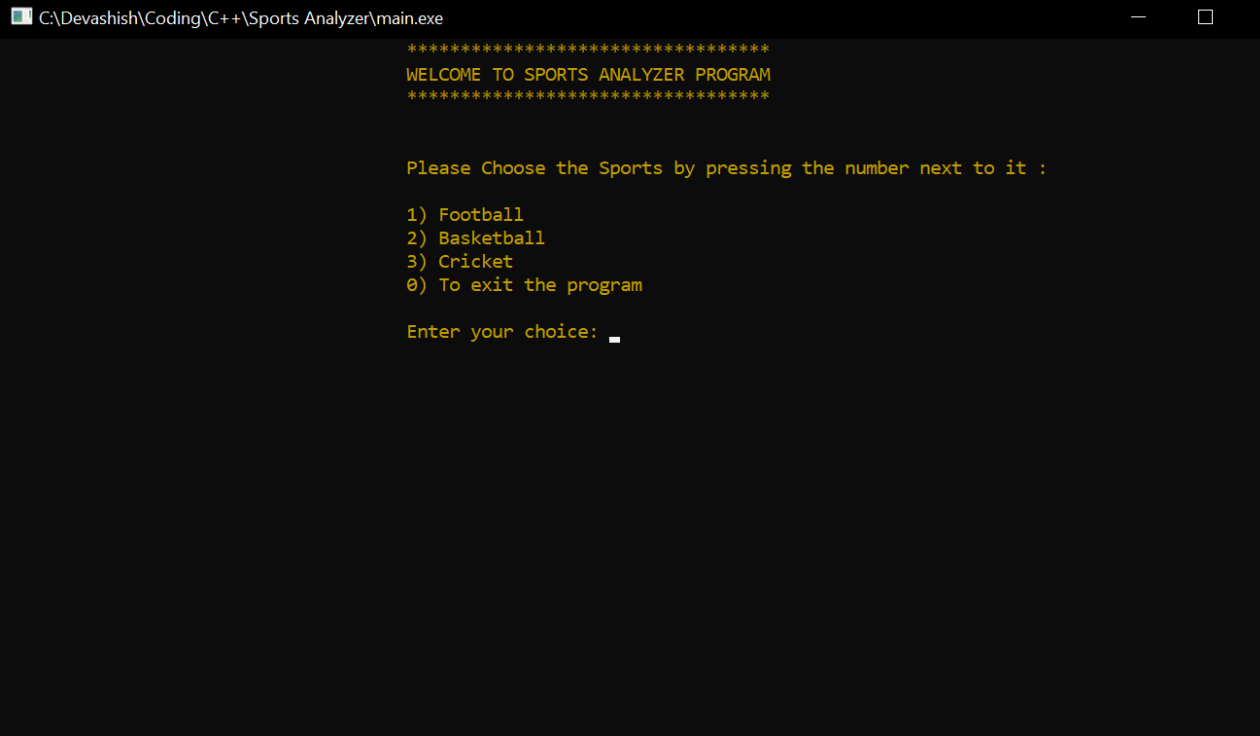
PROJECT DESIGN

➢ FLOW CHART
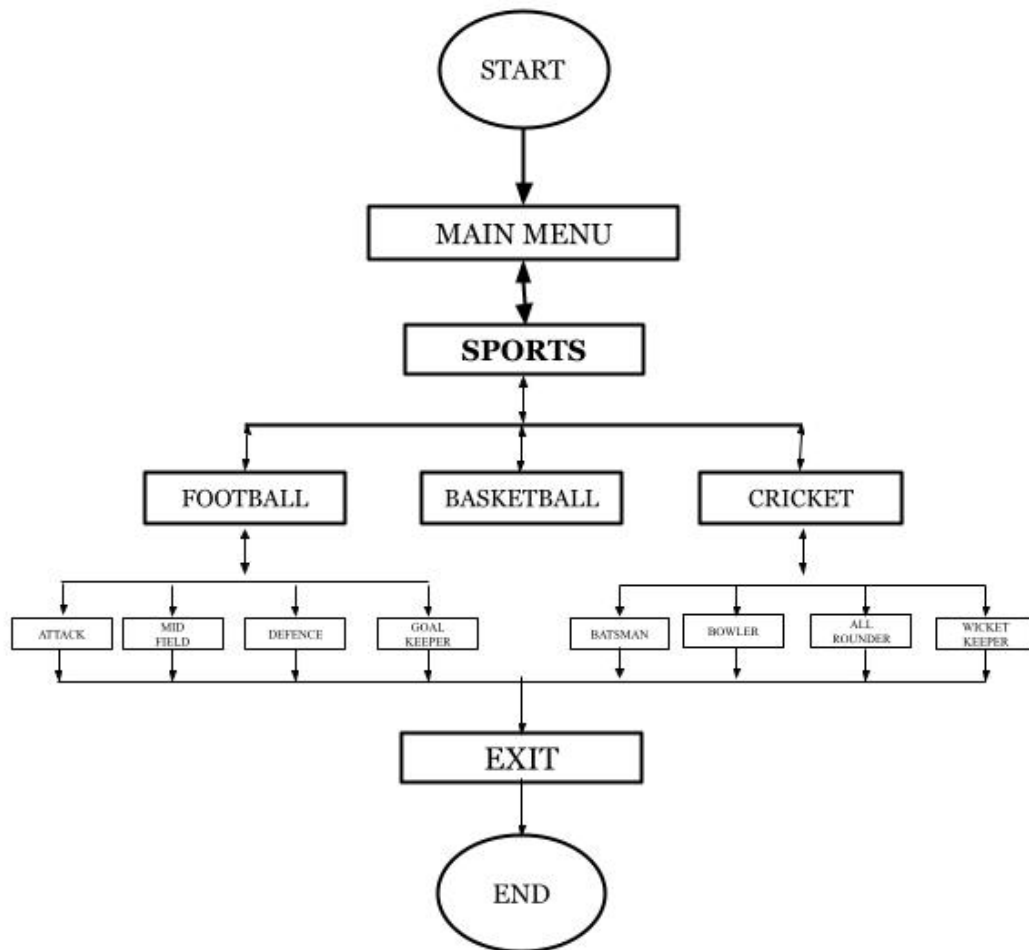
RESULTS

1. MAIN MENU
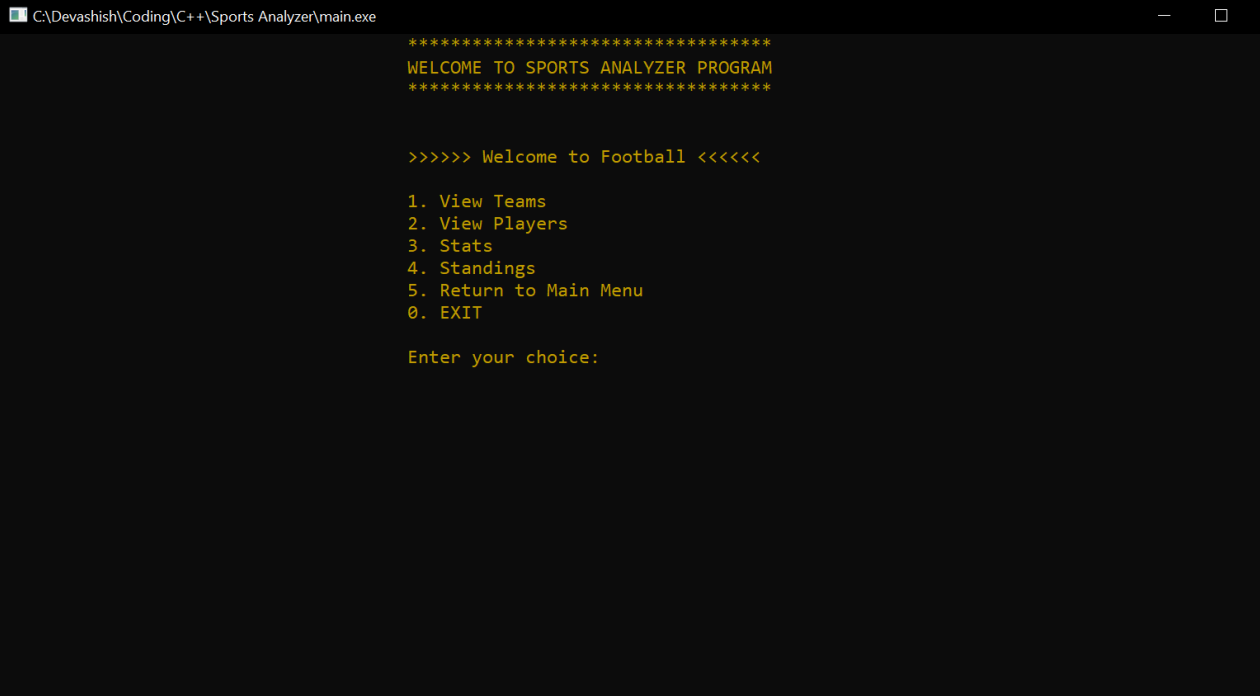
```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe                                    —    □

                      ********************************
                      WELCOME TO SPORTS ANALYZER PROGRAM
                      ********************************


                      Please Choose the Sports by pressing the number next to it :

                      1) Football
                      2) Basketball
                      3) Cricket
                      0) To exit the program

                      Enter your choice: _
```

2. SAMPLE INTERFACE

```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe                                    —    □

                      ********************************
                      WELCOME TO SPORTS ANALYZER PROGRAM
                      ********************************


                      >>>>>> Welcome to Football <<<<<<

                      1. View Teams
                      2. View Players
                      3. Stats
                      4. Standings
                      5. Return to Main Menu
                      0. EXIT

                      Enter your choice:
```

3. SAMPLE STAT VIEW

```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe

SNO F.Name    L.Name            AGE TEAM      COUNTRY     POS             TM MP   PTS  ASS REB FGM  FGA  FG%  3PM 3PA 3P%  FTM FTA FT%  STL BLK TO

1   STEPHEN   CURRY             33  WARRIORS  USA         GUARD           63 2152 2015 363 345 658  1365 48   337 801 42       362 395 91   77  8   213
2   ANDREW    WIGGINS           26  WARRIORS  CANADA      FORWARD         71 2364 1320 167 347 505  1058 47.7 140 368 38       170 238 71.4 67  70  126
3   KELLY     OUBRE_JR          25  WARRIORS  USA         FORWARD-GUARD   55 1688 849  73  329 318  724  43.9 90  285 31.6 123 177 69.5 57  42  70
4   JORDAN    POOLE             22  WARRIORS  USA         GUARD           51 988  612  99  92  205  474  43.2 97  276 35.1 105 119 88.2 26  9   51
5   KENT      BAZEMORE          31  WARRIORS  USA         GUARD-FORWARD   67 1334 481  108 229 176  392  44.9 75  184 40.8 54  78  69.2 69  33  82
6   JAMES     WISEMAN           20  WARRIORS  USA         CENTER          39 836  448  26  226 191  368  51.9 12  38  31.6 54  86  62.8 11  36  60
7   DRAYMOND  GREEN             31  WARRIORS  USA         FORWARD         63 1982 444  558 448 170  380  44.7 34  126 27       70  88  79.5 105 52  188
8   ERIC      PASCHAL           24  WARRIORS  USA         FORWARD         40 695  381  51  128 148  298  49.7 18  54  33.3 67  94  71.3 12  7   43
9   DAMION    LEE               28  WARRIORS  USA         GUARD-FORWARD   57 1079 373  73  180 128  274  46.7 77  194 39.7 40  44  90.9 38  8   30
10  MYCHAL    MULDER            27  WARRIORS  CANADA      GUARD           60 766  337  26  60  265  44   0.9  85  214 39.7 14  22  63.6 12  12  16
11  JUAN      TUSCANO-ANDERSON  28  WARRIORS  USA         FORWARD         53 1107 301  150 235 121  209  57.9 37  92  40.2 22  31  71   41  26  61
12  KEVON     LOONEY            25  WARRIORS  USA         FORWARD         61 1161 251  119 322 108  197  54.8 4   17  23.5 31  48  64.6 41  26  61
13  DONOVAN   MITCHELL          24  JAZZ      USA         GUARD           53 1771 1401 277 235 478  1091 43.8 178 461 38.6 267 316 84.5 52  15  147
14  JORDAN    CLARKSON          29  JAZZ      USA         GUARD           68 1818 1251 168 274 457  1075 42.5 208 599 34.7 129 144 89.6 61  10  115
15  BOJAN     BOGDANOVIC        32  JAZZ      CROATIA     FORWARD         72 2216 1225 136 281 406  925  43.9 180 461 39       233 265 87.9 45  4   128
16  RUDY      GOBERT            28  JAZZ      FRANCE      CENTER          71 2187 1015 89  960 391  579  67.5 0   4   0        233 374 62.3 40  190 118
17  MIKE      CONLEY            33  JAZZ      USA         GUARD           51 1498 827  305 177 284  640  44.4 138 335 41.2 121 142 85.2 70  9   99
18  JOE       INGLES            33  JAZZ      AUSTRALIA   FORWARD-GUARD   67 1867 809  318 244 275  562  48.9 183 406 45.1 76  90  84.4 45  12  117
19  GEORGES   NIANG             28  JAZZ      USA         FORWARD         72 1154 500  59  176 177  405  43.7 124 292 42.5 22  23  95.7 25  8   51
20  ROYCE     O'NEALE           28  JAZZ      USA         FORWARD         71 2240 496  181 485 175  394  44.4 107 278 38.5 39  46  84.8 57  32  83
21  DERRICK   FAVORS            29  JAZZ      USA         FORWARD         68 1039 369  44  376 155  243  63.8 0   2   0        59  80  73.8 32  68  36
```

4. TEAM STANDINGS

```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe

| S.NO | POSITION | TEAM                       | MATCHES | WON | LOST | NET_RR  | PTS | FORM      |
-------------------------------------------------------------------------------------------------
|  1   | W        | MUMBAI INDIANS             | 14      | 9   | 5    | +1.107  | 18  | L W W L W |
|  2   | Q        | DELHI CAPITALS             | 14      | 8   | 6    | -0.109  | 16  | W L L L L |
|  3   | Q        | SUNRISERS HYDERABAD        | 14      | 7   | 7    | +0.608  | 14  | W W W L W |
|  4   | Q        | ROYAL CHALLENGERS BANGALORE| 14      | 7   | 7    | -0.172  | 14  | L L L L W |
|  5   | 5        | KOLKATA KNIGHT RIDERS      | 14      | 7   | 7    | -0.214  | 14  | W L L W L |
|  6   | 6        | PUNJAB KINGS               | 14      | 6   | 8    | -0.162  | 12  | L L W W W |
|  7   | 7        | CHENNAI SUPER_KINGS        | 14      | 6   | 8    | -0.455  | 12  | W W W L L |
|  8   | 8        | RAJASTHAN ROYALS           | 14      | 6   | 8    | -0.569  | 12  | L W W L W |
-------------------------------------------------------------------------------------------------
Press any key to continue . . .
```

5. VIEW TEAMS

```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe                                    —    □
GROUP A:                          GROUP B:                          GROUP C:
    -> ITALY                          -> BELGIUM                        -> AUSTRIA
    -> SWITZERLAND                    -> DENMARK                        -> NETHERLANDS
    -> TURKEY                         -> FINLAND                        -> NORTH MACEDONIA
    -> WALES                          -> RUSSIA                         -> UKRAINE

GROUP D:                          GROUP E:                          GROUP F:
    -> CROATIA                        -> POLAND                         -> GERMANY
    -> CZECH REPUBLIC                 -> SLOVAKIA                       -> HUNGARY
    -> ENGLAND                        -> SPAIN                          -> FRANCE
    -> SCOTLAND                       -> SWEDEN                         -> PORTUGAL
Press any key to continue . . . _
```

6. LEAUGE LEADER

```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe                                    —    □
Rank F.Name    L.Name         Team       MP   Points

1    STEPHEN   CURRY          WARRIORS   63   2015
-------------------------------------------------------
2    DAMIAN    LILLARD        BLAZERS    67   1928
-------------------------------------------------------
3    NIKOLA    JOKIC          NUGGETS    72   1898
-------------------------------------------------------
4    BRADLEY   BEAL           WIZARDS    60   1878
-------------------------------------------------------
5    GIANNIS   ANTETOKOUNMPO  BUCKS      61   1717
-------------------------------------------------------
6    DEVIN     BOOKER         SUNS       67   1712
-------------------------------------------------------
6    JULIUS    RANDLE         KNICKS     71   1712
-------------------------------------------------------
7    JAYSON    TATUM          CELTICS    64   1692
-------------------------------------------------------
8    TRAE      YOUNG          HAWKS      63   1594
-------------------------------------------------------
9    ZACH      LAVINE         BULLS      58   1591
-------------------------------------------------------
10   DE'AARON  FOX            KINGS      58   1461
-------------------------------------------------------
Press any key to continue . . . _
```

7. PLANER SEARCH


```
C:\Devashish\Coding\C++\Sports Analyzer\main.exe
Enter name of the player to search : PANDYA
F.Name        L.Name        AGE TEAM             COUNTRY     TM INN RUNS S.R.   Avg   50s 100s Best 4s  6s W   ECO   Avg   Best 4WH


HARDIK        PANDYA        27  MUMBAI_INDIANS   INDIA       14 13  281  178.98 35.12 1   0    60*  14  25 0   0     0     0/0  0
-----------------------------------------------------------------------------------------------------------------------------------
KRUNAL        PANDYA        30  MUMBAI_INDIANS   INDIA       16 12  109  118.47 18.16 0   0    34   9   5  6   7.57  63.33 2/26 0
-----------------------------------------------------------------------------------------------------------------------------------
Press any key to continue . . .
```

CONCLUSION

The result obtained is a program of complete package which analyzes and also displays the statistics of different players in different field of sports.

REFRENCES

- www.stackoverflow.com
- www.geeksforgeeks.com
- www.cplusplus.org
- Object-Oriented Programming in C++ by E Balagurusamy

DATA SOURCE

- www.uefa.com
- www.nba.com
- www.iplt20.com

THANK YOU!!!