

Sport Prediction System

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

CSVReader< M >	5
CSVWriter< M >	6
EmailService	6
Match	8
FootballMatch	7
Member< T, M >	9
Prediction	11
FootballPrediction	8
PredictionGame< T, M >	11
Schedule< M >	13
Score	14

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

CSVReader< M >	5
CSVWriter< M >	6
EmailService	
Provides functionality to send emails using SMTP	6
FootballMatch	7
FootballPrediction	8
Match	
Abstract match class to set a frame for sport-specific kinds of matches	8
Member< T, M >	
Represents a member participating in the Sport Prediction System (SPS)	9
Prediction	11
PredictionGame< T, M >	
Represents a prediction game in the Sport Prediction System (SPS)	11
Schedule< M >	
Generic class Schedule which represents a tournament	13
Score	14

Chapter 3

Class Documentation

3.1 CSVReader< M > Class Template Reference

Static Public Member Functions

- static string[] [GetMatchDataFromCsvFile](#) (string PathToMatchDataCsvFile, int line_number)
Reads the match data from a CSV file.
- static List< [Match](#) > [GetScheduleFromCsvFile](#) (string PathToCsvFile, SportsTypes sport_type)

3.1.1 Member Function Documentation

3.1.1.1 GetMatchDataFromCsvFile()

```
static string [] CSVReader< M >.GetMatchDataFromCsvFile (  
    string PathToMatchDataCsvFile,  
    int line_number ) [inline], [static]
```

Reads the match data from a CSV file.

Parameters

<i>PathToMatchDataCsvFile</i>	The path to the CSV file containing match data.
<i>MatchID</i>	The unique identifier of the match.

Returns

An array of strings containing the match data.

The documentation for this class was generated from the following file:

- src/ClassLib/CSVReader.cs

3.2 CSVWriter< M > Class Template Reference

Static Public Member Functions

- static void **UpdateSchedule** (string PathToCsvFile, List< [Match](#) > schedule)
- static void **DeleteScheduleFile** (string PathToCsvFile)

The documentation for this class was generated from the following file:

- src/ClassLib/CSVWriter.cs

3.3 EmailService Class Reference

Provides functionality to send emails using SMTP.

Public Member Functions

- [EmailService](#) ()
Initializes a new instance of the [EmailService](#) class.
- void [SendEmail](#) (string Recipient, string Sender, string Subject, string Content)
Sends an email.

3.3.1 Detailed Description

Provides functionality to send emails using SMTP.

3.3.2 Constructor & Destructor Documentation

3.3.2.1 EmailService()

```
EmailService.EmailService ( ) [inline]
```

Initializes a new instance of the [EmailService](#) class.

Parameters

<i>smtpServer</i>	The SMTP server address.
<i>smtpPort</i>	The SMTP server port.
<i>username</i>	The username for SMTP authentication.
<i>password</i>	The password for SMTP authentication.

3.3.3 Member Function Documentation

3.3.3.1 SendEmail()

```
void EmailService.SendEmail (
    string Recipient,
    string Sender,
    string Subject,
    string Content ) [inline]
```

Sends an email.

Parameters

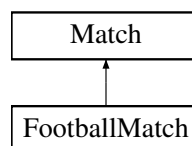
<i>recipient</i>	The recipient's email address.
<i>subject</i>	The subject of the email.
<i>content</i>	The content of the email.

The documentation for this class was generated from the following file:

- src/ClassLib/EmailService.cs

3.4 FootballMatch Class Reference

Inheritance diagram for FootballMatch:



Public Member Functions

- **FootballMatch** (string PathToMatchDataCsvFile, int line_number)
- override string **ToString** ()

Properties

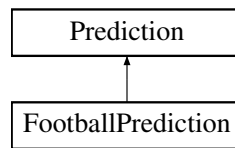
- string? **HomeTeam** [get]
- string? **AwayTeam** [get]
- byte? **ResultHomeTeamPenalties** [get]
- byte? **ResultAwayTeamPenalties** [get]

The documentation for this class was generated from the following file:

- src/ClassLib/FootballMatch.cs

3.5 FootballPrediction Class Reference

Inheritance diagram for FootballPrediction:



Public Member Functions

- **FootballPrediction** (uint MemberID, [FootballMatch](#) football_match, DateTime predictionDate, byte prediction_home, byte prediction_away)
- void **ChangePrediction** (byte? NewPredictionHome, byte? NewPredictionAway)
- override string **ToString** ()

Additional Inherited Members

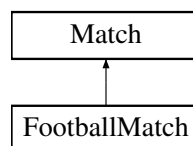
The documentation for this class was generated from the following file:

- src/ClassLib/FootballPrediction.cs

3.6 Match Class Reference

Abstract match class to set a frame for sport-specific kinds of matches.

Inheritance diagram for Match:



Public Member Functions

- [Match](#) (string PathToMatchDataCsvFile, int line_number)
Constructor to initialize a match object.
- override int **GetHashCode** ()

Properties

- uint [MatchID](#) [get]
Unique identifier for the match.
- DateTime [MatchDate](#) [get]
Date and time when the match takes place.
- byte? [ResultTeam1](#) [get]
Result of team 1 in the match.
- byte? [ResultTeam2](#) [get]
Result of team 2 in the match.
- string[] [MatchArray](#) [get]

3.6.1 Detailed Description

Abstract match class to set a frame for sport-specific kinds of matches.

This class provides the basic structure for any kind of sports match, including common properties like MatchID, MatchDate, and Results.

3.6.2 Constructor & Destructor Documentation

3.6.2.1 Match()

```
Match.Match (
    string PathToMatchDataCsvFile,
    int line_number ) [inline]
```

Constructor to initialize a match object.

Parameters

<i>PathToMatchDataCsvFile</i>	The path to the CSV file containing match data.
-------------------------------	---

The documentation for this class was generated from the following file:

- src/ClassLib/Match.cs

3.7 Member< T, M > Class Template Reference

Represents a member participating in the Sport [Prediction](#) System (SPS).

Public Member Functions

- [Member](#) (string forname, string surname, string EmailAddress)
Initializes a new instance of the [Member](#) class.
- void [AddSchedule](#) (uint ScheduleID)
Adds a schedule to the member's list of participating schedules.
- void [RemoveSchedule](#) (uint ScheduleID)
Removes a schedule from the member's list of participating schedules.
- void [AddPrediction](#) (uint PredictionID)
Adds a prediction to the member's list of predictions to do.
- void [RemovePrediction](#) (uint PredictionID)
Removes a prediction from the member's list of predictions to do.
- [Prediction SearchPrediction](#) (uint PredictionID)
Searches for a specific prediction in the member's list.
- void [AddScore](#) (ScheduleTypes PredictedSchedule)
Adds a score to the member's list of scores.
- void [UpdateScore](#) (ScheduleTypes PredictedSchedule, [Prediction](#) prediction)
Updates a score in the member's list of scores.

Properties

- uint [MemberID](#) [get]
Gets the unique ID of the member.

3.7.1 Detailed Description

Represents a member participating in the Sport [Prediction](#) System (SPS).

Type Constraints

T : [Prediction](#)

M : [Match](#)

3.7.2 Member Function Documentation

3.7.2.1 SearchPrediction()

```
Prediction Member< T, M >.SearchPrediction (  
    uint PredictionID ) [inline]
```

Searches for a specific prediction in the member's list.

Returns

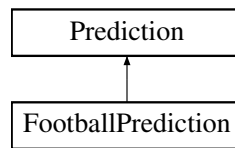
The prediction if found, otherwise null.

The documentation for this class was generated from the following file:

- src/ClassLib/Member.cs

3.8 Prediction Class Reference

Inheritance diagram for Prediction:



Public Member Functions

- **Prediction** (uint member_id, [Match](#) predicted_match, DateTime predictionDate)
- bool **ValidatePrediction** ()
- override int **GetHashCode** ()
- override string **ToString** ()

Properties

- uint **PredictionID** [get]
- uint **MemberID** [get]
- [Match](#) **PredictedMatch** [get]
- DateTime **PredictionDate** [get, set]

The documentation for this class was generated from the following file:

- src/ClassLib/Prediction.cs

3.9 PredictionGame< T, M > Class Template Reference

Represents a prediction game in the Sport [Prediction](#) System (SPS).

Public Member Functions

- [PredictionGame](#) ([EmailService](#) emailService)
Initializes a new instance of the [PredictionGame](#) class.
- void [Register](#) ([Member](#)< T, M > member)
Registers a new member to the prediction game.
- void [Unsubscribe](#) (int MemberID)
Unsubscribes a member from the prediction game.
- void [SendDailyEmail](#) ()
Sends a daily email to all members with the matches that need to be predicted.

Properties

- uint [PredictionGameID](#) [get]
Gets the unique ID of the prediction game.
- List< [ScheduleTypes](#) > **ScheduleTypes** [get]

3.9.1 Detailed Description

Represents a prediction game in the Sport [Prediction](#) System (SPS).

Type Constraints

T : [Prediction](#)

M : [Match](#)

3.9.2 Constructor & Destructor Documentation

3.9.2.1 PredictionGame()

```
PredictionGame< T, M >.PredictionGame (
    EmailService emailService ) [inline]
```

Initializes a new instance of the [PredictionGame](#) class.

3.9.3 Member Function Documentation

3.9.3.1 Register()

```
void PredictionGame< T, M >.Register (
    Member< T, M > member ) [inline]
```

Registers a new member to the prediction game.

3.9.3.2 SendDailyEmail()

```
void PredictionGame< T, M >.SendDailyEmail ( ) [inline]
```

Sends a daily email to all members with the matches that need to be predicted.

3.9.3.3 Unsubscribe()

```
void PredictionGame< T, M >.Unsubscribe (
    int MemberID ) [inline]
```

Unsubscribes a member from the prediction game.

3.9.4 Property Documentation

3.9.4.1 PredictionGameID

```
uint PredictionGame< T, M >.PredictionGameID [get]
```

Gets the unique ID of the prediction game.

The documentation for this class was generated from the following file:

- src/ClassLib/PredictionGame.cs

3.10 Schedule< M > Class Template Reference

Generic class [Schedule](#) which represents a tournament.

Public Member Functions

- **Schedule** (ScheduleTypes schedule_type, string PathToCsvFile)

Properties

- ScheduleTypes **ScheduleID** [get]
- List< M > **Matches** [get]
- List< M > **MatchesOnDay** [get]

3.10.1 Detailed Description

Generic class [Schedule](#) which represents a tournament.

It contains a list of all the matches which take place during the tournament.

Added to that it also contains a list of all the matches on the specific day of the tournament.

Type Constraints

M : [Match](#)

The documentation for this class was generated from the following file:

- src/ClassLib/Schedule.cs

3.11 Score Class Reference

Public Member Functions

- **Score** (ScheduleTypes PredictedSchedule)
- int **CalculateScore** (ScheduleTypes PredictedSchedule, [Prediction](#) prediction)

Properties

- uint **ScoreID** [get]

The documentation for this class was generated from the following file:

- src/ClassLib/Score.cs