# **App Class**

## **internal static ASCDatabase Database**

Method for getting database path, or triggering creation of database if need be.

Code modified from Microsoft documentation.

David Britch, C. D. (2018, June 21). Xamarin.Forms Local Databases. Retrieved July 18, 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/app-fundamentals/databases

# **ASCDatabase Class**

Class for the database creation and database tools.

Code modified from NuGet documentation for SQLite.Extensions and NuGet documentation for dependant SQLite-net-PCL NuGet. as well as Microsoft documentation Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions praeclarum. (n/d). GettingStarted. Retrieved August 2018, from GitHub praeclarum/sqlite-net/wiki: https://github.com/praeclarum/sqlite-net/wiki/GettingStarted David Britch, C. D. (2018, June 21). Xamarin.Forms Local Databases. Retrieved August 28, 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/app-fundamentals/database

Constructor for database class. Takes in database file path as param.

Method for inserting the scoring sheet into database. As it takes in details ID, details need to be inserted first. Returns sheet ID.

Mehtod for inserting details into database. Takes in param of date. Returns details ID.

Method for inserting end into database. Takes in end object as param.

Method for updating final total for end. Takes in all fields as update updates all feild in tuple.

Method for adding bow to database. Uses a try catch finally due to lack of InsertOrIgnore in NuGet used.

Adds sight marking for bow seected on main page.

Queries database for sight markings for current selected bow.

Queries database for personal best score for combination of competition type, bow and distance. Returns list of scoring sheet type containing ID and Final total.

Queries database for last score score for combination of competition type, bow and distance. Returns list of scoring sheet type containing ID and Final total.

Queries database for personal best score for combination of competition type, bow and distance. Returns list of scoring sheet type containing ID and Final total.

Method for adding notes and associated end reference to database.

Method for adding weather conditions and associated endRef to the database.

Method for returning previous ends associated with a scoring sheet, identified by final total.

Method for returning details associated with a scoring sheet.

Method for returning weather conditions associated with an end.

Method for returning notes associated with an end.

Method for backing up bows in database.

Method for backing up competition data in database.

Method for backing up practice data in database.

Class for Bow table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Class for handling e-mailing of csv backup files.

Method for e-mailing files. Based on the code from the NuGet Plugin.Messaging documentation cjlotz, j. (n/d). Xamarin.Plugins/Messaging. Retrieved September 17, 2018, from GitHub cjlotz: https://github.com/cjlotz/Xamarin.Plugins/blob/master/Messaging/Details.md

Class for use in getting PracBackup query from database and writing output to a csv file. Code for csv query modified from NuGet csvHelper documentation Close, J. (n/d). CSVHelper. Retrieved September 15, 2018, from CSVHelper GitHub: https://joshclose.github.io/CsvHelper/

Constructor, parameterless as needed by databse query

Method that calls databse query, writes the returned output to csv, then writes the csv file to device.

Class for use in getting CompBackup query from database and writing output to a csv file. Does not have any note or weather conditions output. Code for csv query modified from NuGet csvHelper documentation Close, J. (n/d). CSVHelper. Retrieved September 15, 2018, from CSVHelper GitHub: https://joshclose.github.io/CsvHelper/

Parameterless constructor, required by for database Query

Calls database and writes return to a csv file on the device. For line comment detail see PracBackup.

For the Bow backup. Uses the paramertless constructer for database table class Bow for the list type. Code for writing csv modified from NuGet csvHelper documentation Close, J. (n/d). CSVHelper. Retrieved September 15, 2018, from CSVHelper GitHub: https://joshclose.github.io/CsvHelper/

Calls database query method, and writes return to a csv file stored on device. For line comment level detail, see PracBackup.

Class for Details table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Class for End table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Class for Notes table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Class for Scoring sheet table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Class for Weather Conditions table. Code modified from NuGet documentation. Twincoders. (2018, August 13). SQLite-Net Extensions. Retrieved August 29, 2018, from Bitbucket: https://bitbucket.org/twincoders/sqlite-net-extensions

Static helper class for calculating the end total for competition. Seperate from Competition object as a comptition end is scored in two sets of three. Also used for for holding a competition scoring sheets 10s and Xs total for display. Used in case of a count back for a tie.

Method for calculating end total for competition.

Get method. Returns value of xs.

Get method. Returns value of tens.

Adds one to the value of tens.

Adds one to the value of xs.

Subtracts 1 off the value of tens. Used for when scores are edited.

Subtracts 1 off the value of xs. Used for when scores are edited.

Helper class for calculating running total for Pratice and competition. Holds the static variable curRT. Static as it is independant of any object.

Adds new score to running total and removes any previous scores. End total (eT) and previous score (pvrScr) are params.

Model for the dataGrids to use for the 720 Competition screens. Displayed in sets of 3, so each end consists of two of these objects. EndRef class ensures they both have the same endRef, and CompEnd stiches the two ends together.

Get, set.

Get, set.

Get, set. Set also handles adding total method calls for adding the score to totals and stiching together the two sets of three. Set also handles x's and 10's after each 6 rows.

Get, set. Set also handles adding total method calls for adding the score to totals and stiching together the two sets of three.

Get, set. Set also handles adding total method calls for adding the score to totals and stiching together the two sets of three.

Get, set.

Get, set.

Get, set.

Parses the totals and calls the calculation methods.

Gets the number of tens and x's for display on dataGrid.

Constructor for object.

Calls method to stich two sets of three into an end.

OnPropertyChanged method for INotifyPropertyChanged.

Static helper class for combining the two sets of three into one end for Competition scoring.

Method for combining two sets of three into an end.

Calls the database method for adding an end to the database.

Class for setting details object. This is where you would be handling the logic for getting user details from preferences in a multi-user system.

Constructor for object.

second parameterless constructor

get, set

get, set

get, set

get, set

get, set

get, set

Get, set

static so it can be called without a constructor being set. Gets previous details from database for display in header of previous scoring sheet pop-ups.

Helper class for assigning end references (endRef) for practice and competition ends.

Sets End ref for comp. Handles the fact that an end is two sets of three with an if loop.

Sets end Ref for prac. Seperate method as practice ends are not displayed as two sets of three.

Static class for holding the dataset for the practice scoring sheet, independant of any onbject.

Adds the notes to the dataset with the endRef as the key. Checks to see if the notes all ready exist using the key. If so, removes, then replaces the notes.

Checks to see if dataset contains endRef as a key.

Method for getting a note value associated with a endRef key.

Method for database call to add contents of dataset to the database.

Class for notes model. Creates object and calls method for adding it to the static dataset.

Constructor for object.

Method to add the notes object to the dataset.

Helper class. Static class for holding the ends for a practice sheet independant of an object.

Checks if endRef already a key in dataset, and is so removes end, then readds it. Otherwise, adds the end, with endRef as key.

Saves dataset to the database. Triggered on save button press.

Resets dataset to new set.

Class for handling the practice model object used by the dataGrid. Uses INotifyProperyChanged.

Get, set.

Get, set

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set. Calls calc, and hold (dataset) methods. Uses OnPropertyChanged.

Get, set.

Get, set.

Get, set. Used for Previous scoring sheets.

Get, set. Used for Previous scoring sheets.

Method to handle score calculations. Calls the invalid score pop-up.

Constructor for practice model object.

calls the HoldEnds method in static helper class, PracEndsHold. Passes current end to method.

Gets the previous weather conditions for end. Used by PracticeViewModel for previous ends.

Gets the previous weather conditions for end. Used by PracticeViewModel for previous ends.

OnPropertyChange method.

Class for creating non database scorinf sheet model, and adding to database.

Constructor for scoring sheet object.

Second constructor without param.

Calls database method to add scoring sheet.

Helper class. Holds code for dataset practice scoring. Static so it does not depend on end on weather object.

Adds param object to dataset. Removes and replaces with new object if it already exists.

Checks to see if dataset contains an object associated with an end.

Returns the weather object associated with an end.

Saves the ends in the dataset to the database.

Class for Weather. Creates non-database object, and handles business logic.

Constructor. Creates weather object.

Method for sending object to dataset.

Viewmodel class for Comp720 screen. Used by the dataGrids for dataset binding. Code modified from Syncfusion. (2001 - 2018). Xamarin.Forms. Retrieved August 2018, from Syncfusion Documentation: https://help.syncfusion.com/xamarin/introduction/overview#how-to-best-read-this-user-guide

Constructor for scoring sheet dataGrid

Constructor for previous dataGrid pop-up.

Generates ends for scoring sheet dataGrid dataset

Generates ends for previous dataGrid dataset

Class for a generic end model. Used for getting the previous ends for a scoring sheet.

Constructor for object.

Second constructor for calling GetPrev

Class for calling database for GetPreviousEnds.

Viewmodel class for Practice screen. Used by dataGrids for dataset. Code modified from Syncfusion. (2001 - 2018). Xamarin.Forms. Retrieved August 2018, from Syncfusion Documentation: https://help.syncfusion.com/xamarin/introduction/overview#how-to-best-read-this-user-guide

Constructor for scoring screen dataGrid

Constructor for Previous dataGrid

Generates ends for scoring screen dataGrid dataset.

Generates ends for previous dataGrid dataset.

The content page for the main page of the application. Uses SyncFusion commponets, and code for components are modelled on SynFusion documentation and Miroscoft Xamarin.Forms documentation. Syncfusion. (2001 - 2018). Xamarin.Forms. Retrieved August 2018, from Syncfusion Documentation: https://help.syncfusion.com/xamarin/introduction/overview#how-to-best-read-this-user-guide David Britch, C. D. (2017, July 12). Xamarin.Forms User Interface Views. Retrieved August 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/user-interface/index

holds bow type selected from combo box, static internal as it is accessed within namespace.

holds distance selected from combo box, static internal as it is accessed within namespace.

holds competition type selected from combo box, static internal as it is accessed within namespace.

pop up, declared in constructor for use in methods.

Constructor. Sets the elements on the page and the layout.

Method for when practice button is pressed

Method for popup when distance or bowtype have not been selected. Popup is modal.

Method for when backup button is pressed.

The error message for e-mail and file writing. Called from the DatabaseBackup class. Popup is modal.

The content page for the 720 Competition scoring page of the application. Uses SyncFusion commponets, and code for components are modelled on SynFusion documentation and Miroscoft Xamarin.Forms documentation. Syncfusion. (2001 - 2018). Xamarin.Forms. Retrieved August 2018, from Syncfusion Documentation: https://help.syncfusion.com/xamarin/introduction/overview#how-to-best-read-this-user-guide David Britch, C. D. (2017, July 12). Xamarin.Forms User Interface Views. Retrieved August 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/user-interface/index

Constructor. Sets components and layout for page.

Method for popup when score is not a valid score public as it is called from Comp720Model.

Displays details when details button clicked.

method for creating a new button with text suplied by lbl param.

Handles when text in sight entry box changes.

Handles when button for editing sight is clicked.

Handles text being changed in search entry field

Handles prev scoring sheet pop-up. Pop-up is modal.

Navigation method for back.

Naviagtion method for root page.

Creates the datgrid for scoring.

Sets style for scoring and previous datagrids.

Creates grid for details pop-up.

Creates dataGrid for previous pop-up. Seperate datagrid due to issues with having the same dataGrid displaying twice.

For Scoring sheet and Details to be set up in database and ID's returned.

The content page for the main page of the application. Code for components are modelled on Miroscoft Xamarin.Forms documentation. David Britch, C. D. (2017, July 12). Xamarin.Forms User Interface Views. Retrieved August 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/user-interface/index

Constructor. Uses passed in aRef to set endRef. Needed for database and dataset so that the note and weather cna be associated with an end. Sets the content and layout of the page.

Creates a new button with text set to label.

Handles notes editor box text changes.

Handles text change for temperature entry box.

Handles text change for windpseed entry box.

Handles text change for wind direction entry box.

Handles text change for humidity entry box.

Handles text changed for other entry box.

Checks to see if notes or weather already exist in dataset for end. If they exist, calls method and sets class variables to return for display.

Handles save button clicked code. async due to page navigation call.

Handles back navigation.

The content page for the Practice scoring page of the application. Uses SyncFusion commponets, and code for components are modelled on SynFusion documentation and Miroscoft Xamarin.Forms documentation. Syncfusion. (2001 - 2018). Xamarin.Forms. Retrieved August 2018, from Syncfusion Documentation: https://help.syncfusion.com/xamarin/introduction/overview#how-to-best-read-this-user-guide David Britch, C. D. (2017, July 12). Xamarin.Forms User Interface Views. Retrieved August 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/user-interface/index

internal so it can be accessed from other classes

internal so it can be accessed from other classes

holds PracID while previous fired.

Constructor. Sets components and layout for Practice page.

Displays pop-up for invalid score. Called from PracticeModel.

Handles navigation to root page.

Handles navigation to notes and weather page.

Pop-up for when a row is not selected and notes weather button pushed. Pop-up modal.

Gives details pop-up when details button pressed

Handles text changing in sight marking entry box.

Method for when Editsight clicked. Calls database.

handles texted changed in search entry box.

Handle pop-up of previous scoring sheet. Pop-up modal.

Mthod calls saving ends, notes and weather conditions when button pressed.

creates new buttons with text of lbl param.

Creates dataGrid for scoring sheet.

Creates dataGrid for displaying previous sheet. Seperate dataGrid as it contains extra columns.

Creates grid for details pop-up.

For Scoring sheet and Details to be set up in database and ID's returned.

The content page for the Statistics page of the application. Code for components are modelled on Miroscoft Xamarin.Forms documentation. David Britch, C. D. (2017, July 12). Xamarin.Forms User Interface Views. Retrieved August 2018, from Microsoft: https://docs.microsoft.com/en-us/xamarin/xamarin-forms/user-interface/index

Constructor for Statistics page. Sets components and layout.

Creates a new button with text from passed in label variable.

Naviagation, sets nxt page in stack as the 720 Competition screen.

Navigation, pops current page off stack to display previous page.

Method for getting the values for page variables.

Viewmodel class for the notes and weather page.

Constructor

Sends notes and endNum (notes object)to the dataset.

Sends weather conditions object to the dataset.

Checks if dataset contains notes for and end. Returns to UI.

Checks if dataset contains weather conditions object for an end. Returns to UI.

Returns saved notes for an end from dataset to UI.

Returns weather condtions for an end from dataset to UI.

View model class for the Statistics page.

Constructor

Calls the database method for getting sight markings for selected bow, and returns them to UI.

Calls the database method for personal best for selected bow and distance. Returns to UI.

Calls databse for last best for selected bow and distance combination. Then returns this to UI.

Calls database method for last score and returns to UI.

Main class for providing metadata for the app or library

GetXamlType(Type)

GetXamlType(String)

GetXmlnsDefinitions()