



Explanation:

The MainWindow class manages interactions between the user and UI components of the application, which consists of the User UI and the Control Panel UI. Acting as an observer, the MainWindow listens for signals emitted by UI elements and connects appropriate slots to these signals. The MainWindow class contains several objects, including Session, DBController, Menu, Record, and Setting.

The Session class holds information about a new HRV (Heart Rate Variability) measurement session and houses a QTimer object that updates HRV indicators when the timer elapses. The DBController class manages interactions between the application and the database, creating a new database connection object using the SQLite driver type to facilitate interaction with an SQLite database. The Menu class employs a recursive structure to display and manage menus and submenus. The Record class stores information about a session, linking the database and MainWindow. The Setting class allows modifications of the challenge level, breath pacer interval, and provides reset functionality to revert the device to its initial state.