# Database

Auditory Ace’s database manages the local database of the app using SQLite.

The database consists of two tables:

* Settings - Contains values for settings
* Name (CHAR) - The name of the setting referenced
* Sound (CHAR) - The sound that is outputted by the setting
* Volume (INT) - The volume at which the sound is played at
* Entries - Contains user statistics for each sound, each entry records information from exercises
* Date (TIME) - The date on which the entry was completed at
* Score (INT) - The user’s performance regarding the specific background noise level, word sound, exercise
* Time (FLOAT) - TBD (May be removed)
* BackgroundNoise (CHAR) - The volume level of the background noise
* Sound (CHAR) - The word sound that was practiced on
* Exercise (CHAR) - The exercise that the entry was recorded on

## Usages:

### Adding an entry to the database

**# score: int (Example: 0, 124, 2831, 5000)**

**# time (in ms): float (Example: 1041, 4137, 12042)**

**# bgNoise: string (Example: None, Low, Medium, High)**

**# sound: string (Example: MvN, TvP, SvF)**

**# exercise: string (Example: Exercise 1, Exercise 2)**

**Database.addEntry(score, time, bgNoise, sound, exercise)**

### Search/retrieve entries

**# searchEntries(): returns a db query result (an array of dictionaries) which contains all entries that match search result**

**# Days: string (Example: 1, 7, 30, 365, All)**

**# BGNoise: string (Example: None, Low, Medium, High, All)**

**# Sound: string (Example: owe, ear, e, All)**

**# Exercise: string (Example: Exercise 1, Exercise 2, All)**

**var Entries = Database.searchEntries(Days, BGNoise, Sound, Exercise)**

**# Processing entries**

**# Entries[x][y]**

**# x: array index of entries returned**

**# y: Dictionary for database (Date, Score, Sound, etc)**

**for n in range (0, entries.size(), 1): # Iterate through entry array**

**$TextElements/EntryTable/Date.text += Entries[n]["Date"]**

**$TextElements/EntryTable/Score.text += str(Entries[n]["Score"])**

**$TextElements/EntryTable/Time.text += str(Entries[n]["Time"])**

**$TextElements/EntryTable/BGNoise.text += str(Entries[n]["BackgroundNoise"])**

**$TextElements/EntryTable/Sound.text += Entries[n]["Sound"]**

**$TextElements/EntryTable/Exercise.text += Entries[n]["Exercise"]**

### Loading a setting

**# retrieveSetting(): returns an array which contains the setting specifications**

**# setting: string (Example: Default, Exercise 1 TTS, Exercise 2 BGNoise)**

**var Setting = Database.retrieveSetting(setting)**

**# Setting[0] contains the Sound**

**# Setting[1] contains the Volume**

**# Setting TTS settings after retrieving settings**

**TextToSpeech.Voice = Setting[0]**

**TextToSpeech.Volume = Setting[1]**

### Updating a setting

**# category: string (Example: Default, Exercise 1 TTS, Exercise 2 BGNoise)**

**# setting: string (Example: Sound, Volume)**

**# value: int, float (Example: 0, 1, 2.5, 12, 50)**

**Database.updateSetting(category, setting, value)**