Bridge : Scoring

NOTE:
To use the included ScoringDemoScene, first add the Login prefab to the Canvas object.
NOTE 2:
Only logged in users can submit scores. If not logged in when submitting the submission will fail

1. Preparation

Preparation is a two step process:
1. Upload, install and activate the wub_Scoring.zip plugin on your WordPress website.
2. Either:
   a. Call WUScoringUGUI.SpawnInstance(canvas) and FetchScores() to show the scores
   b. Call SubmitScore(int) to submit a new score to WordPress

2. QUICKSTART

Bridge : Scoring comes with an out-of-the-box working, skin-able prefab you can use to display the high scores in your project. It is merely a demo of how one could do a high scores prefab so feel free to replace it with one of your own but until then it does the job quite nicely.

To use it, call it's static SpawnInstance() function whenever you need it. This demo includes a "Close" button that allows you to trigger your own code when the window is closed. The fastest way to learn how the prefab works is to open the demo scene and look at how WUScoringDemo was done. It is a very short script and most of it is just comments so you should have no problems following along.

Basically, Bridge : Scoring has three main functions that you need to call:
1. First call WUScoringUGUI.SpawnInstance(canvas)
2. Then call either FetchScores() or FetchScores(how_many) to show the scores
3. Call SubmitScore(value) to submit a newly proposed high score to your database.

Call these three functions from your own code and you are good to go... It's that easy! Of course, there are a bunch of events that get triggered when a submission or a fetch request succeeds or fails, offering you the option of triggering your own code at that time.

In the demo scene you will see how I submit a score first then wait for the server to tell me the score was recieved and only then trigger the code to fetch the current high scores at that time.

The kit is super easy to use but also offers you flexibility in case you want to do more.

Authoritative server functionality
Bridge : Scoring supports multiplayer games by allowing one player to submit high scores on behalf of other players. In single player games WordPress will use your login details to determine who you are and in that way save your score correctly. The two authoritative functions should only ever be used when in a multiplayer game and only when you want to put one player in charge of keeping score.

Both of these functions require you to obtain the player's ID, username or email address in advance and provides no assistance therewith. The understanding is that when a player joins a game you will have some way of identifying them or find a way of identifying them via one of these three pieces of info. Having the client make an RPC upon joining the game is one option, for example.

- **Submit score via player ID:**
  SubmitScoreForUser(user, score [, game_id, onSubmitted, onSubmissionFailed])
- **Submit score via usename or email:**
  SubmitScoreForUsername(user, score [, game_id, onSubmitted, onSubmissionFailed])

3. Using the kit to Fetch the highest scores

To fetch the scores you simply need to call FetchScores() from within WUScoring.cs.
Before you do you need to call WUScoringUGUI.SpawnInstance(canvas) to display the results in once they arrive , if you are using the included demo prefab, that is.

You also have the option of specifying how many results get returned. By default the function returns the value you set in your WordPress site's Dashboard but you can override that with any value from 1 upwards.
If you choose to do this then, instead of calling FetchScores() with no parameters, just call FetchScores(my_limit) where 'my_limit' is the amount of entries to fetch.

Another feature I was asked about a lot was having multiple scoreboards for one game. Both FetchScores and SubmitScores now take an optional parameter that allows you to specify a different Game ID value to associate the action with. The default is to save the leaderboards to the game's assigned ID but as long as you specify globally unique id values (i.e. they are not being used by ANY other games of yours, not just the current one) you can have as many high score lists as you want per game.

The WordPress For Unity Bridge login prefab can automatically fetch the player's current high score as part of the default login, if you want it to. If you want to fetch the player's current high score during login simply tick the box on the login prefab and then use the score from inside any script by using the static WULogin.highscore.

> *PRO TIP:*
> *When you want to send up a new high score you can first check this value and only submit the new high score if it is higher than the current one. It thus stands to reason that you should set WULogin.highscore to the new high score at this time.*
>
> *Bridge : Scoring will only update a player's score if the new value is larger than the old so it doesn't matter if you send it lower scores. Doing the above just means you know in advance if the player's score will be updated or not and thus you can either send the score, wait for the response then make another call to the server to fetch the current high scores…. Or you can just fetch the new scores directly if you know the player's score won't need to be changed on the server.*

4. Using the kit to submit a score

To submit a score, just call SubmitScore(score) and pass it the actual score you want to submit for the player.

5. Custom systems (Advanced use)

Each time you contact the server, the action will either be successful or it will fail. Each of these scenarios will trigger a callback that you can hook into to perform custom actions.

> *PRO TIP:*
> *The included WUScoringDemo.cs script is a perfect example of how to make use of these callbacks to create a display system.*

The results from a successful fetch operation will be a List of *CMLData* objects. Each object will contain a

player's display name, their best score and a formatted Gravatar parameter to use to fetch the user's Gravatar image.

Fieldnames from results			
dname (display name)	Highlight (Is this the current player's score? Use this bool if you want to highlight the current player's score in the list using a different color, for example)	score (player's score)	gravatar (formatted Gravatar string)

Bridge : Scoring does it's thing using a static class which means it is display agnostic. It includes a working-out-of-the-box skin-able prefab but should you wish to make use of NGUI or any other GUI system you can do so.

WUScoreboardEntryUGUI is a self contained script that loads a prefab to show the score entries and populate it with the relevant data. If you want to use NGUI or some other display system, replacing this script will be where most of your time will be spent. Having said that, the entire script is only about 60 lines of code so it shouldn't pose too much of a problem

The callbacks you need to be aware of are:	
onSubmitted	Triggered after you submit a score and the action was successful
onSubmissionFailed	Triggered after you submit a score and something went wrong
onFetched	Triggered after you requested the scores and the action was successful
onFetchingFailed	Triggered after you requested the scores and something went wrong

6. Final thoughts

1. Once you've installed this kit, you can use it for all the games you create in future. All scores are separated by the game id valu. Be sure to keep them unique but as long as the game ids don't overlap across any games you can have multiple leaderboards per game

2. Inside the prefab you will find a setting called avatar_size. This value can be anything from 1 to 512 inclusive but be aware that the high scores area uses that size as the height of each row so if you make it too small then the names won't be able to appear. Also, if it's too big it will start to overlap the names. Some visual designing might be in order there.
I recommend a default of 32.

3. The prefab contains a field called age_rating. Here you can specify the age rating of your game and thereby force the Gravatar image to be appropriate for your audience. I.e. No sexually explicit Gravatars will be displayed in your high scores table if you set your rating to PG or G... To learn more about this, please visit www.gravatar.com