

UFE Coding (Advanced)

Besides visual tools, UFE also comes with several easy to use classes, events and methods all done in C#.

You can find usage examples under UFE\Engine\Scripts\UI\Base\BattleGUI.cs ([Source](#)) and UFE\Engine\Scripts\UI\Templates\DefaultBattleGUI.cs.

Example

```
void OnAwake(){
    /* Subscribe to UFE events:
    * Possible Events:
    * OnLifePointsChange(float newLifePoints, ControlsScript player)
    * OnNewAlert(string newString, ControlsScript player)
    * OnHit(HitBox strokeHitBox, MoveInfo move, Hit hitInfo, ControlsScript
    player)
    * OnBlock(HitBox strokeHitBox, MoveInfo move, Hit hitInfo,
    ControlsScript player)
    * OnParry(HitBox strokeHitBox, MoveInfo move, Hit hitInfo,
    ControlsScript player)
    * OnMove(MoveInfo move, ControlsScript player)
    * OnRoundEnds(ControlsScript winner, ControlsScript loser)
    * OnRoundBegins(int roundNumber)
    * OnGameEnds(ControlsScript winner, ControlsScript loser)
    * OnGameBegins(ControlsScript player1, ControlsScript player2,
    StageOptions stage)
    *
    * usage:
    * UFE.OnMove += YourFunctionHere;
    * .
    * .
    * void YourFunctionHere(T param1, T param2){...}
    *
    * The following code shows more usage examples
    */
    UFE.OnGameBegin += this.OnGameBegin;
    UFE.OnGameEnds += this.OnGameEnd;
    UFE.OnGamePaused += this.OnGamePaused;
    UFE.OnRoundBegins += this.OnRoundBegin;
    UFE.OnRoundEnds += this.OnRoundEnd;
    UFE.OnLifePointsChange += this.OnLifePointsChange;
    UFE.OnNewAlert += this.OnNewAlert;
    UFE.OnHit += this.OnHit;
    UFE.OnBlock += this.OnBlock;
    UFE.OnParry += this.OnParry;
    UFE.OnMove += this.OnMove;
```

```
    UFE.OnTimer += this.OnTimer;
    UFE.OnTimeOver += this.OnTimeOver;
    UFE.OnInput += this.OnInput;
}

void OnStart(){
    UFE.StartIntroScreen(1f);
}

void OnDisable{
    // Make sure to unsubscribe from events
    UFE.OnHit -= this.OnHit;
}

void OnDestroy{
    // Make sure to unsubscribe from events
    UFE.OnHit -= this.OnHit;
}

public void OnGameBegin(CharacterInfo player1, CharacterInfo player2,
    StageOptions stage){
    Debug.Log(player1.character.characterName + " - " + player1.playerNum);
    Debug.Log(player2.character.characterName + " - " + player2.playerNum);

    UFE.PlayMusic(stage.music);
}
```

Global Events

Use these to listen to several in-game events.

```
void OnLifePointsChange(float newFloat, ControlsScript player)
```

Triggered when the a character's life points change.

```
void OnGaugeUpdate(int targetGauge, float newValue, ControlsScript
character)
```

Triggered when the a character's gauge meter change.

```
void OnNewAlert(string newString, ControlsScript player)
```

Triggered when the game fires a new alert (first hit, combo, round 1, etc.).

```
void OnHit(HitBox strokeHitBox, MoveInfo move, Hit hitInfo, ControlsScript
player)
```

Triggered whenever a character gets hit.

```
void OnBlock(HitBox strokeHitBox, MoveInfo move, Hit hitInfo, ControlsScript player)
```

Triggered whenever a character blocks.

```
void OnParry(HitBox strokeHitBox, MoveInfo move, Hit hitInfo, ControlsScript player)
```

Triggered whenever a character parries.

```
void OnMove(MoveInfo move, ControlsScript player)
```

Triggered whenever a new move is cast by a character.

```
void OnBasicMove(BasicMoveReference basicMove, ControlsScript player)
```

Triggered whenever a basic move is cast by a character.

```
void OnButton(ButtonPress button, ControlsScript player)
```

Triggered whenever a button is pressed.

```
void OnBodyVisibilityChange(MoveInfo move, ControlsScript player, BodyPartVisibilityChange bodyPartVisibilityChange, HitBox hitBox)
```

Triggered whenever [Body Parts Visibility Changes](#) is casted.

```
void OnParticleEffects(MoveInfo move, ControlsScript player, MoveParticleEffect particleEffects)
```

Triggered whenever [Particle Effects](#) is casted in a move.

```
void OnRoundBegins(int roundNumber)
```

Triggered when the round begins.

```
void OnGameBegins(ControlsScript player1, ControlsScript player2, StageOptions stage)
```

Triggered when the game begins.

```
void OnGameEnds(ControlsScript winner, ControlsScript loser)
```

Triggered when the game ends. Use `winner.playerNum` or `loser.playerNum` to know which player is which.

```
void OnTimer(Fix64 time)
```

Triggered whenever the timer ticks and returns the current timer value (Fix64).

```
void OnTimeOver()
```

Triggered when timer runs out.

```
void OnInput(InputReferences[] inputReferences, int player)
```

Triggered whenever a player presses a button.

Public Methods

You can find examples on all these under the following folders:

- .\Core\Scripts\UI\Base\ ([UFE Source and Bundle](#))
- .\Scripts\UI\Templates\ (Any version)

Note: All screen transition methods use the *Default Fade Duration* value under [Global Editor -> GUI Options](#). You can override this value by typing the time (in seconds) as a parameter. Example:

```
void OnStart(){  
    //Fades for 3 seconds before reaching the Main Menu:  
    UFE.StartMainMenuScreen(3f);  
}
```

Main

```
UFE.StartMainMenuScreen()
```

Fades from the current loaded screen (if any) to the [main menu screen](#).

```
UFE.StartOptionsScreen()
```

Fades from the current loaded screen to the [options screen](#).

```
UFE.StartCharacterSelectionScreen()
```

Fades from the current loaded to the [selected character selection screen](#).

```
UFE.StartStageSelectionScreen()
```

Fades from the current loaded screen to the [stage selection screen](#).

UFE.StartTrainingMode()

Starts the [character selection screen](#) and sets UFE.gameMode to GameMode.TrainingMode. See [Training Mode Options](#) for more information.

UFE.StartLoadingBattleScreen()

Fades to [loading screen](#) before starting the game. Its recommended you load the game this way, specially if you are using the [Preload Options](#). Calling this function will use the current defined GameMode and characters selected.

UFE.StartGame()

Skips the loading screens and fades to the game screen instantly. Calling this function will use the current defined GameMode and characters selected.

Extras

UFE.StartIntroScreen()

Fades from the current loaded screen (if any) to the [selected intro screen](#).

UFE.StartCreditsScreen()

Fades from the current loaded screen to the [selected credits screen](#).

UFE.SetAIDifficulty(AIDifficultyLevel)

Sets the difficulty level for the [current AI](#).

UFE.Quit()

Quits the application.

Versus

UFE.StartPlayerVersusPlayer()

Starts the [character selection screen](#) and sets UFE.gameMode to GameMode.VersusMode.

UFE.StartCpuVersusCpu()

Starts the [character selection screen](#) with UFE.SetCPU set to true for both players. It also sets UFE.gameMode to GameMode.VersusMode.

UFE.StartPlayerVersusCpu()

Starts the [character selection screen](#) with UFE.SetCPU set to `true` for player 2. It also sets UFE.gameMode to `GameMode.VersusMode`.

UFE.StartVersusModeAfterBattleScreen()

Starts the option menu that shows after a match on *Versus Mode*.

Story

UFE.StartStoryMode()

Starts the [character selection screen](#) and sets UFE.gameMode to `GameMode.StoryMode`. During *Story Mode* UFE.SetCPU is set to `true` for player 2 and it runs a series of battles listed under [Story Mode options](#) while following the intro and outro instructions. All subsequent functions are executed automatically after this.

UFE.StartStoryModeOpeningScreen()

(*) Starts the [opening](#) screen. This function is automatically called after player selects the character on `GameMode.StoryMode`.

UFE.StartStoryModeBattle()

(*) Starts the next battle listed on the [story](#) of this character. This function is automatically called after every conversation on `GameMode.StoryMode`.

UFE.StartStoryModeContinueScreen()

(*) Starts the [continue](#) screen. This function is automatically called after the player loses a match on `GameMode.StoryMode`.

UFE.StartStoryModeConversationBeforeBattleScreen(UFEScreen conversationScreen)

(*) Starts the conversation before battle listed on the [story](#) for this match. This function is automatically called after each battle on `GameMode.StoryMode`.

UFE.StartStoryModeConversationAfterBattleScreen(UFEScreen conversationScreen)

(*) Starts the conversation after battle listed on the [story](#) for this match. This function is automatically called after each battle on `GameMode.StoryMode`.

UFE.StartStoryModeCongratulationsScreen()

(*) Starts the [congratulation](#) screen. This function is automatically called after the player defeats all the opponents on `GameMode.StoryMode`.

```
UFE.StartStoryModeEndingScreen()
```

(*) Starts the [ending](#) screen. This function is automatically called after the congratulations screen on `GameMode.StoryMode`.

```
UFE.StartStoryModeGameOverScreen()
```

(*) Starts the [game over](#) screen. This function is automatically called after the continue screen timer runs out on `GameMode.StoryMode`.

* These methods are used mostly internally. Make sure you know what you are doing before calling them!

Core Control

```
UFE.SetPlayer1(CharacterInfo player1)
```

Sets the player 1 character (`CharacterInfo` class).

```
UFE.GetPlayer1()
```

Returns the player 1 selected character (`CharacterInfo` class).

```
UFE.SetPlayer2(CharacterInfo player2)
```

Sets the player 2 character (`CharacterInfo` class).

```
UFE.GetPlayer2()
```

Returns the player 2 selected character (`CharacterInfo` class).

```
UFE.SetCPU(int player, bool cpuEnabled)
```

Set if player (1 or 2) is controlled by the [A.I. engine](#) or a human player. Make sure you set this method *before* the battle begins.

```
UFE.SetLanguage(string language)
```

Set the language to one of the listed [languages](#).

```
UFE.SetStage(string stageName)
```

Set the selected stage to one of the listed [stages](#).

UFE.GetStage()

Set the selected stage (StageOptions class).

UFE.GetFont(FontId fontId)

(Deprecated) Returns the font (FontOptions class) based on the provided id (FontId enum) (as defined under [global editor's fonts](#)).

UFE.GetCurrentMoveSet(CharacterInfo character)

Returns the current selected move set (MoveSetData class) from the provided character.

UFE.SetLifePoints(float newValue, CharacterInfo character)

Set player's life points.

UFE.FireAlert(string alertMessage, CharacterInfo character)

Fire a new game alert. If you are using GUIScript.cs, the character provided will represent the side it will come out.

UFE.GetMusic()

Is the music on or off.

UFE.SetMusic(bool on)

Sets music on/off.

UFE.LoopMusic(bool loop)

Sets music looping mode on/off.

UFE.GetSoundFX()

Is the sound fx on/off.

UFE.SetSoundFX(bool on)

Sets sound fx on/off.

UFE.GetVolume()

Gets audio volume.

UFE.SetVolume(float volume)

Sets audio volume.

```
UFE.GetInputReference(ButtonPress button, InputReferences[] inputReferences)
```

Get Unity Input Manager's button reference based on an UFE assigned Key.

```
UFE.PlaySound(AudioClip sound)
```

Play a sound FX once (sound fx must be toggled on)

```
UFE.PauseGame(bool pause)
```

Pause Game.

```
UFE.IsPaused()
```

Is the game paused?

Public Variables

All public variables defined on the editors can be found and manipulated live using the following classes:

- Global data: `UFE.config`
- Character data: `UFE.config.player1Character` or `UFE.config.player2Character`
- Move data: `UFE.config.player1Character.moves` or `UFE.config.player2Character.moves`

With the project open, use IntelliSense to reach the desired variable.

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