RFE Plugin Series 1.0

USER MANUAL

What is RFE Plugin Series

RFE Series is a set of plugins created with the purpose of Enhancing rFactor. We all know what rFactor is, and most of the times such a complex engine (simple enough to run on a home laptop) has been be tweaked to create the most amazing and realistic games. However, not all the possibilities have been explored yet. There is a lot of work to do, and the only way we can do (as long as the game code has not been publicly released, will it ever be?) is using plugins that provide the missing functionality we all love to see in a game.

RFE Series is currently at its first public step, the version 1.0. The plugin series has been divided into several components, providing each one a different set of features that can be used independently, or in conjunction with other components.

RFE Plugin Series Components:

➢The RFE Weather component provides changing climate conditions to rFactor. This component is released as a plugin for both Client and Server side that will work together to enhance the environmental changes during a rFactor session. Weather is something that should affect to all the participants of the session, and this is the reason because RFE Weather applies mainly into the server side. This addition will enable the variable weather system and will centralize some of the physical and visual aspects of a changing environment. However, it is not possible to have a complete weather system running only on the server and a client plugin is needed to provide all the functionality not already covered in rFactor.

➢RFE Track component will bring the rFactor track to live. Currently, rFactor's track is a very static element, and changes are only applied to the tarmac temperature. With the addition of the weather system, the track will support a drying line, however this is not enough. We do want a better track, a track that you first have to learn, and the you have to know, more close to a real track.

➢Tires in simulation are a very important factor, however in rFactor these elements does not have the attention they deserves. The RFE Tire model component will make tires behave completely different. Tires will degrade and wear affecting not only the physics, but the visuals. Flatspots will appear and affect the driving conditions, but that is only the beginning of a set of changes that needs very heavy testing and more exploration. The temperature and wear will affect parts of the tire (currently they affect the tire as a single part), and other physic aspects like geometry will be introduced into the driving calculus, making the tires something that you must know when you try to get the most of them.

➢Current rFactor steward is good, but for sure that it can be improved. It is that simple, rFactor steward control is very limited, and this component will improve the options and features of the steward system not only in qualifying or race sessions.

➢During our time using rFactor, we missed and suffered one of its big missing features: being able to synchronize in real time both server and client instances to remove all the mismatches caused by editing any of them. Actually, during all the tests performed while developing the RFE plugin series, this is one of the 'most wanted' features.

Some features are only at the first stage of developments and/or not present into this first version 1.0 and can change in the future...

What do you expect by RFE Plugin Series?

We would like to remind that our mission is to enhance rFactor to bring you to a more real simulation and what you will experience is only one of the first steps!

If you expect to get on track under a monsoon (by the way, it can happen...), you will be disappointed... what we like is to introduce you to a different environment where every aspect of the weather is linked to another one and all together influence the behavior of the car and your driving style.

We strongly recommend the use of G.I.D. that allows you to better control the temperatures of the whole environment / asphalt / tire, because, unlike before, now on the temperatures will be critical to the grip of the car!

Speaking of tires, if the temperature differs too much from the ideal temperature, from now on this adversely affects the grip and performance: understanding this is essential to get a good lap time... not only the rain and wet asphalt adversely affect the performance!
For example, apparent similar weather conditions, that is how you perceive seeing a clear sky, leave you to believe there are no other variables, but reading the ambient and track temperatures, you may notice wide variations between a certain period of the session and another ... and this markedly affects the performance of the tires!
Even an ideal temperature for the track, but with a very low ambient temperature, you should make us reflect on the fact that soon it will drop the temperature of the asphalt and the grip of the tires will be negatively affected ... and this is just an example of how, with RFE Plugin Series, rFactor will become "live"!

Talking about the rain, we can have different intensities of rain that decrease the grip of the asphalt ... and when the rain stops, according to the track temperature (which is linked to the ambient temperature), based on how many cars are on the track, according to the wind, more or less slowly the track will dry out.

Please note that in this first stage the physical effect of the wind is not yet enabled.
We have actually already implemented many other features not present in this version (flatspot and real wear of the tires, paddles on track, reuse of used tires, etc..), but we prefer to release them in the future with more accurate tests. Most of the more advanced features will be available only if the dedicated server will be connected with our "RFE Climate server"...

Now, remember! Look around, "scan" the sky ... if clouds and the mist increase, if the temperatures change ... could soon be raining and when it will stop to rain the track will remain wet for long ... so you must also choose the most appropriate time to replace wet tires with intermediate ones or try the hazard of the slicks.

Why RFE?

Here, before the doubts creep in, as it is!

Why RFE is coming right now?

Yes, it really drives out a coincidence, but nothing more! The project RFE Plugin Series was born last October 2011 almost by accident: by some friends involved in using rFactor had long talked about the innovations that were introduced with rFactor2, movies and images that are beginning to see, but also continuing delays in the release of the game and that's when Iñaki has decided to create a plugin that would allow to bring to light and use the hidden parts of the code of rFactor.

But the appetite comes with eating, and then here came the ambitious project of RFE Plugin Series!

The first private races were held in the rain in the Spanish League rFactor Imperio as early as December 2011, while almost simultaneously with the release of the first public beta of rF2 has been the release of the first public package RFE Weather, with mod and track already online with variable weather conditions.

Who is Iñaki López?

Iñaki López is the creator and the programmer of the project named RFE Plugin Series. He is a Spanish fellow who was born in Pamplona in 1976. After spending several years living in various Spanish cities due to his studies and also because of personal interests, he returned to live and work in his hometown.

Iñaki by himself undertook a long and arduous route to bring this plugin to the market. Iñaki is implementing the most ambitious and comprehensive project that has ever even conceived, to make sure that rFactor will be and remain the most successful simulator ever produced.

RFE Plugin Series is property of Symracing.net

ChangeLogs RFE Components

RFE Weather Component

RFEWeather version 0.108

- Added update checks at plugin startup.
- AIW::RainyDarkness limited by plugin because of lights-reflections issue.
- Added transparency for sunny cloud map.
- Added special skid* materials cleaning by rain.
- Added transparency based on offpathwetness.
- Added wind information to ScoringInfoV2 structure, plugins now can read wind parameters using mInfo.Wind structure in UpdateScoring().
- Added wind for cloud movement. Currently Wind HAS NO ANY physic effects and is randomized at the start of session.

0.107 Changelog

- Added ambient light changes based on rainyDarkness parameter.
- Added rain volume for both cockpit and track cameras to configuration.
- Rain wav files must be located in %SOUNDSFOLDER%\Ambient\RFE\
- Added current sound system.
- Fixed dedicated "Nice" conditions preset for scripted sessions.
- Fixed a bug on rfactor.exe when sending visual settings while joining a session.

0.106 Changelog
- Added Special FX and Shadows Settings minimum settings check.
- Added Plugin minimum version check.
- Added randomization for scripted sessions: Random, Season and Scripted.
- Fix for initial conditions on scripted sessions

0.105 Changelog
- Added search for a weather script named as the SCN file in the scripts folder. If no script is found with the tracks name (SCN file name) the default script is loaded.

0.104 Changelog
- Added custom damping parameter modifiers.

0.103 Changelog
- Additional ambient system's bug patches applied.

0.102 Changelog
- Fixed weather modes, now random generates random scripts, season reads weather information from the GDB file and Scripted looks for a 'Plugins\RFE\Scripts\weather\default.wet' script.

0.101 Changelog
- Added a new option in the weather selection widgets for 'Scripted' mode.

0.100 changelog

–First testing version, all weather widgets included, default options enabled.
–New weather default options available in the rfeweather.ini configuration file.

RFE Track Component

RFETrack version 0.003

0.003 changelog
- Overall performance improvements

0.002 changelog
- Fixed missing wetgroove reaction crash rfactor

0.001 changelog
–First testing version

RFE Tire Model Component

RFETire version 0.107

- broadcast tires information on every event of players and AI.

0.106 Changelog
- Saved session information log.
- Fixed race condition for version mismatch on session restart.

0.105 Changelog
- Tire information is now broadcasted so other plugins can make use of this.
- Different messages for missing plugin or incorrect plugin version
  when server has version check enabled.
- Tire information is reset between sessions, so new players joining a
  previously used slot (without the plugin) do not get the latest user
  tire configuration.
- Fix for wrong version mismatch.

0.104 Changelog
- Fixed issues with other rfactor plugins using or sharing socket control.

0.103 changelog
–First testing version

Installation of RFE Plugin Series (Client and Server Side)

➢ It is highly recommended to install a rFactor Lite instance before the installation of RFE Plugin Series

➢ Unpack the RFE Plugin Series downloaded from RFE forums and install it into the main folder of rFactor

VERY IMPORTANT NOTES – READ THEM CAREFULLY:

✔ Make sure that C++ 2010 redistributable package is installed: http://www.microsoft.com/en-us/download/details.aspx?id=5555

✔ The RFE Plugin Series works nice only if you are using a legacy version of "rFactor.exe" file (It means only original CD/DVD version and original Trymedia download version). All other versions, also if released by ISI like versions in bundle with some devices, are not valid for use in conjunction with RFE. In case of rain, if you do not hear its own sound, is very likely that your version of rFactor is not suitable to work with RFE: in this case, please download and install the "rFactor.exe" file that you find into the RFE forums, otherwise you will miss also the other visual features of our plugins. http://symracing.net/rfeseries/forum/viewtopic.php?f=32&t=376

✔ In few cases we noticed a crash of the "rFactor Dedicated.exe" (Server side): in this case you need to install the "rFactor Dedicated.exe" file that you find into the RFE forums.
http://symracing.net/rfeseries/forum/viewtopic.php?f=32&t=377

✔ Optionally, installing the GID – Global Info Display made by Fazerbox is a good idea, as it includes a RFE weather widget that shows the wetness % on track.

What else do you need?

To enjoy the new environment created by RFE Plugin Series you need to drive a mod on a track that have been updated to RFE Plugin Series!

You can find several mods and tracks into the repository area of the RFE forums:
http://symracing.net/rfeseries/forum/viewforum.php?f=12

But you can also update by yourself a mod or a track following the several tutorials that we have released into the tutorial area of the RFE forums:
http://symracing.net/rfeseries/forum/viewforum.php?f=2

To make the updating of the tracks easier, you can download the "Las3Caras – RFE Track Adapter" software:
http://symracing.net/rfeseries/forum/viewtopic.php?f=32&t=312

Running rFactor enhanced by RFE Plugin Series in local mode (offline)

Once completed the previous steps you will be able to start playing rFactor in local mode (offline) with different and/or variable weather conditions. The availability of the weather controls depends on the MOD you might be using, but most of them include this control on the "Race details" tab when creating a session.

Running rFactor enhanced by RFE Plugin Series in multiplayer mode (online)

Once completed the steps described above you will be able to start playing rFactor in multiplayer mode (online) with different and/or variable weather conditions.

If you want to join a server, technically nothing is different from the past. Obviously to enjoy the new environment you need to join a server that is running RFE Plugin Series and we also offer few servers during the first months of life of the plugin, as well as an incoming list of Events running RFE Plugin Series...
You will find more information about the servers into the RFE forums:
http://symracing.net/rfeseries/forum/viewforum.php?f=34
http://symracing.net/rfeseries/forum/viewforum.php?f=40

Hosting rFactor running the Dedicated Server (online)

If you like to create a multiplayer session we highly recommend to DO NOT USE the rFactor UI, but use the rFactor Dedicated program, otherwise some issues might appear.

Once completed the installation of RFE Plugin Series also into the Server PC, you will be ready to launch the rFactor dedicated server.

If the plugin is installed correctly, you will find a new "Weather Type" drop-down menu into the Event Options dialog box, as shown in the next image:
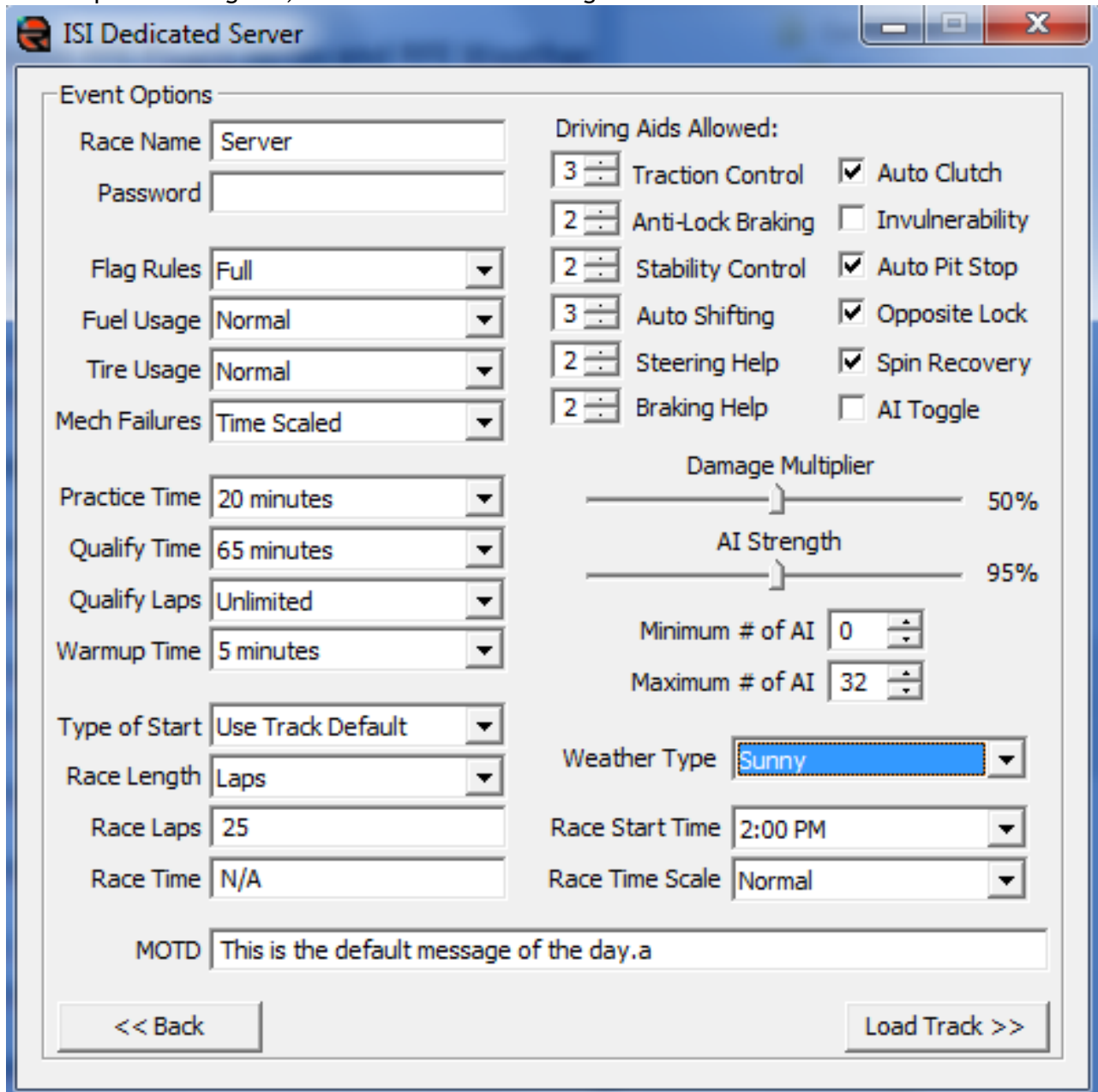
The list of available weather types on this new widget is:
- **Sunny**: Clear sky and best weather conditions, no rain, hot ambient temperature.
- **Overcast**: Cloudy sky and bad conditions, no rain but cold ambient and track temps.
- **Rainy**: Cloudy sky and falling rain, even colder temperatures.
- **Monsoon**: Cloudy sky and storm weather conditions. Very cold temperatures.

➢ **Random:** provides random weather.
➢ **Season:** following scripted conditions specific for a track.
➢ **Scripted**: Weather conditions are scripted (loaded when starting the weekend).
➢ **RealTime**: Weather conditions are remotely controlled on real time.

Sunny, Overcast, Rainy and *Monsoon* conditions are predefined and static weather conditions, they do not change during the whole session.

Season, Scripted and *Realtime* conditions are special cases that both require additional setup (local or remote). <u>Currently the Realtime condition is disabled.</u>

The special *Random* mode depends on some attributes into the GDB file:
➢ "Average rain" (from 0 to 1)
➢ "Average day temp" (from 0 to 100)
These values are the average, for the specific area where the circuit is located, during the whole year, not during the session *(you will find more details into the Appendix section of this manual)*

The special *Scripted* mode reads the weather conditions from the ...\Plugins\RFE\Scripts\Weather folder.
When you load a track, the plugin will look at a file ".WET" with the same name of the track that is stored into that folder; if not found, the plugin will use the "default.wet" file located in the same folder.
You can write the "nameoftrack.WET" file as well as rename the file created for another track.

Despite the fact that weather scripts are very accurate setting weather conditions at certain 'second' in the session, the <u>rfeweather.ini</u> file located into ...\Plugins\RFE\Config folder includes some parameters that will create <u>weather randomization</u> 'based on the scripted' conditions.
That means that the script will be the main 'guideline' about the weather variability, but conditions may be different as defined in the script.

This currently applies to the .WET file of any track, if present into the Weather folder as well as to the default.wet file.
If the script states that rain should start during the first minutes of the session, however it may happen that no raindrop falls during the whole session, or that rain will last for longer than expected. Tweaking this parameters you can remove this randomization or increase the weather variations.
Please note that the 'randomization' of the scripted conditions affect ALL the scripted modes (including the random option). Remember that a script is created for the whole weekend, and only IS RE-CREATED if a the weekend is restarted. Restarting a P1 session will reuse the same conditions (even if they were generated automatically using random mode).
<u>However the 'randomization' in the weather.ini file will alter the conditions ON EVERY SESSION, so no two Qualify Sessions as well as Races will be equal, even if the use the same scripted conditions.</u>

Starting Tips

Note that "Rain" option is probably the best mode to start with, as you can check the different tire behavior on a wet track under 'fixed' conditions. Remember that with variable weather not only tire's wet grip is important, but tires, brakes and engine will behave completely different because of temperature changes.
Read the RFE forum if you do not understand how tires' grip are affected by wetness or temperature.

Although it is not essential to the operation of RFE Plugin Series, to appreciate the quality of the visual effects due to the new environment we suggest to set the "Shader Level" into the rFactor config to "QUALITY DX9".

Pay attention at the level of the "Special Effects" into the display setting UI: level LOWER THAN MEDIUM doesn't show rainspray and raindrops effects related to RFE Plugin Series *(person in charge to manage the dedicated server are highly recommended to read the Appendix section of this manual to find more details).*

APPENDIX

The Scripted .WET file

The content of this special .WET file is a script that must follow a definition scheme described below, that can be used to set basic weather conditions at the start of any session, and change them selecting different conditions during the session.

The file must be edited by a simple text editor, like the Notepad and saved into the folder ...\Plugins\RFE\Scripts\Weather with the same name of the other files that define a track but with the extension .WET

This means that if the circuit is called "Monza", but the files that define the track are called Brianza_ItalianGP, the wet file must be named "Brianza_ItalianGP.wet"

Example of scripted session: Practice 1

```
Weather
{
  Practice1
  {
    Conditions = Best
    TrackWetness = Dry
    AmbientTemp = 30
    TrackTemp = 36
    Minute = 5.00
    {
      Conditions = Drizzle
      AmbientTemp = 24.32
    }
    Minute = 12.50
    {
      Conditions = Rain
      AmbientTemp = 22.65
    }
    Minute = 62.00
    {
      Conditions = Overcast
      AmbientTemp = 22.65
    }
  }
}
```

The script will set session start as the *Best* weather conditions available (no clouds, clear sky), with an average day temperature of 30°C (temperature on the noon is higher than at night), and a completely *Dry* track. The track temperature is also set on the script as 36°C.

Weather conditions will go worse during the session, and on the minute 5.00 of the session, some rain drops will fall because of the *Drizzle* conditions. During this initial 5 minutes, the temperature will decrease until it reaches 24.32°C.

From minute 5 to minute 12.50, *Rain* will increase in intensity and temperature will continue to drop until it reaches 22.65.

Weather conditions will improve from minute 12.50 to minute 62.00 of the session, and rain will go disappearing slowly during this period. Average temperature will remain flat, and temperature may vary only because of the time of the day.

From minute 62.00 to the end of the session, weather will remain *Overcast* and average temperature will remain as 22.65ºC.

Configuring Scripted sessions

The file might include any or all of the following session names:
Practice1, Practice2, Practice3, Practice4, Qualify, Warmup, Race.
Note: By not including a session, the weather conditions will try to follow a mix of the conditions from the previous existing session and Sunny conditions.

Starting conditions set the ambient status at the beginning of the session, and the following list of variables may be used:

➢ "Conditions=" are the overall weather conditions. It is a value that goes from 0.0 as the best weather conditions to 99.00 as the worst weather conditions, being the intermediate values used to set different clouds status and rain intensity.
Instead of numeric values you can use a name that indicates a predefined weather condition; available names are: Best, Nice, Clear, Overcast, Drizzle, Rain, Monsoon.

➢ "TrackWetness=", "OnPathWetness=" and "OffPathWetness=" define how much wetness the track is, and can be configured globally (TrackWetness) or using different values for the fast path or drying line (OnPathWetness) and the rest of the track (OffPathWetness). Wetness is defined as a value going from 0.0 to 99.0 being 0 a dry status and 99.0 a completely undriveable wet track. Also in this case you can use a name that indicates a predefined condition; available names are: Dry, Damp, Wet, Soaked, Monsoon.

➢ "AmbientTemp=" and "TrackTemp=" are variables used to configure temperatures on the ambient (AmbientTemp) and the track (TrackTemp). The temperatures are values from 0.0 as 0ºC and 99.0 as 99ºC. Preset conditions may be used instead of numeric values. The list of available predefined conditions is: Cold, Cool, Medium, Warm, Hot.

➢ To change the weather status, you may include additional script chunks related to a minute of the session using the Minute = xxx.xx {} scheme as in the example. That means the weather will try to catch these defined conditions during the period between this minute and the previous status.

NOTE: Per-minute settings may include **ONLY** any of the following variables (with their corresponding presets): "Conditions=" and "AmbientTemp=".

All the variables may have a value from 00.00 to 99.00. The presets are just a direct relation from an easy to remember word to a numeric value as described in the following tables:

Conditions preset	Conditions Value
Best	30.00
Nice	45.00
Clear	60.00
Overcast	65.00
Drizzle	73.00
Rain	85.00
Monsoon	97.00

Table 1: conditions presets

Wetness preset	Wetness Value
Dry	00.00
Damp	25.00
Wet	50.00
Soaked	75.00
Monsoon	99.00

Table 2: Wetness presets

Temperatures preset	Temperatures Value
Cold	07.50
Cool	13.75
Medium	20.00
Warm	26.25
Hot	32.50

Table 3: Temperatures conditions.

IMPORTANT NOTE:
Cloudy conditions goes from 60 to 65 and rainy conditions goes from 71 to 99.

A more comfortable way to set the "Conditions Value" is to use a formula that helps you to reason in a human way, considering the quantity of rain (as well as the quantity of wetness) as a % from 0 to 100.
Decide the % of rain you want, divide it by 3,33333, sum to 70 and write the result into the script as "Conditions = nn"

The formula: (wanted % of rain / 3,33333) + 70 = rFactor value
e.g. 42% / 3,3333 = 12,6 + 70 = 82,6 (that you can add as 83)

Example script

The following script describes a 60 minutes qualifying session starting with clear sky, standing with clear sky for half of the session, and then raining by the end of the session. The rest of weekend session have been predefined to have different climate conditions, but these conditions will remain static during these sessions:

```
Weather
{
  Practice1
  {
   Conditions = Best
   TrackWetness = Dry
   AmbientTemp = 30
   TrackTemp = 36
  }
  Practice2
  {
   Conditions = Overcast
   TrackWetness = Damp
   AmbientTemp = 22
   TrackTemp = 16
  }
  Practice3
  {
   Conditions = Drizzle
   AmbientTemp = 24
  }
  Practice4
  {
   Conditions = Nice
  }
  Qualify
  {
   Conditions = Best
   TrackWetness = Dry
   AmbientTemp = Hot
   TrackTemp = Cold
   Minute = 30.00
   {
    Conditions = Best
    AmbientTemp = Warm
   }
   Minute = 45.00
   {
    Conditions = Drizzle
    AmbientTemp = Medium
   }
   Minute = 60.00
   {
    Conditions = Rain
    AmbientTemp = Cool
   }
  }
  Warmup
  {
   Conditions = Monsoon
  }
  Race
  {
   Conditions = Clear
   OnPathWetness = Dry
   OnPathWetness = Damp
   AmbientTemp = 30
   TrackTemp = 16
  }
}
```

RFEWeather.ini

This file is located into the folder ...\Plugins\RFE\Config and contains several important values that any person in charge in managing a dedicated server must know well. <u>The file is almost self explanatory due to the clear information added to the values</u>, but here we want to resume few of them in detail.

First of all we want to highlight that also driving with different visual conditions can be considered a kind of cheat; during an online race we'd like all participants can drive in the same conditions.
For that you can set 2 values that are very important:
- ➢ "RFEWeatherMinimumShadowSettings ="
- ➢ "RFEWeatherMinimumFXSettings ="

Both values can be set to 0 = Off, 1 = Low, 2 = Medium, 3 = High, 4 = Max. The second one is specifically related to the "rainspray" and to the "raindrops": a value lower than 2 doesn't show the visual effect.
Any value higher than 0 (zero) set by the person in charge in managing the dedicated will exclude the participant to actively join the session and a "warning message" will be shown to that client.

In addition there is another important string that can be very useful to the person in charge that manages the dedicated server as well as a league, an event, etc.:
- ➢ "RFEWeatherMinimumVersion ="

If the value is set to "0" every client also without the plugin can join the session, on the contrary a value set to "default" means that for the current version as well as for future versions of RFE Plugin Series the server checks if any client that joins the session is up-to-date.

The RFEWeather.ini file manages the way to send technical data to an external application, like the tire's compound for each driver. By default it is enabled with the following values:
- ➢ BroadcastAddress = 127.0.0.1
- ➢ BroadcastPort   = 1975

A txt file, named with date and time, will be generated into the ...\Plugins\RFE\Log every time you enter an instance of rFactor.
If you need more info, please read the "RFE Tire Development.pdf" manual that is located into the Support folder of the plugin.

[Special Settings] section
Here you find several values that, working together, generate randomized variable weather conditions that are automatically applied to *Random, Season* ans *Scripted* options. Be careful to apply values that are very different from the default ones to avoid unstable weather transitions and unreal conditions!

To simulate the real effects due to the wetness left by the rain after a shower, but to "translate" them to the times of the simulation, ie to see the drying line appearing in a shorter time as well as to see the asphalt drying out faster than in the true life, currently you can manage the last 2 values of the RFEWeather.ini file:
- ➢ "CarDampFactor ="
- ➢ "AmbDampFactor ="

Changing these values means that you do not need to alter the time compression in rFactor.
You need to experiment different coefficients related to the race / session duration and the number of cars.

This is a non exhaustive list of several values you can apply:

CarDampFactor = 0.0005787037 // time factor is 50x
CarDampFactor = 0.00011574074 // time factor is 10x
CarDampFactor = 5.787037E-5 // time factor is 5x
CarDampFactor = 2.3148148E-5 // time factor is 2x
AmbDampFactor = 5.78703691E-5 // time factor is 50x
AmbDampFactor = 1.15740738E-5 // time factor is 10x
AmbDampFactor = 5.78703691E-6 // time factor is 5x
AmbDampFactor = 2.31481476E-6 // time factor is 2x

RFETire.ini

This file is located into the folder ...\Plugins\RFE\Config and contains several important values that any person in charge in managing a dedicated server must know well. <u>The file is almost self explanatory due to the clear information added to the values</u> but here we want to resume few of them in detail.

The RFETire.ini file manages the way to send technical data to an external application, like the tire's compound for each driver. By default it is enabled with the following values:
  ➢ BroadcastAddress = 127.0.0.1
  ➢ BroadcastPort   = 1975
A txt file, named with date and time, will be generated into the ...\Plugins\RFE\Log every time you enter an instance of rFactor.
If you need more info, please read the "RFE Tire Development.pdf" manual that is located into the Support folder of the plugin.
PLEASE NOTE THAT SAME LINES ARE PRESENT INTO THE RFEWeather.ini, due to the fact that RFETire Model Component can be used also stand-alone.

<u>[VISUAL] section</u>
Currently is possible to enable / disable info about the compound used by other drivers into the rFactor "Monitor" UI, overwriting the "Team" column.

Remember that to receive the right info from the plugin as well as to see the different compounds used by all drivers the mod in use must be updated to RFE Plugin Series.

<u>**IMPORTANT NOTICE:**</u>
Due to the structure of rFactor and the way it allocates the memory using lots of compounds and their .GMT files (e.g. the 6 compounds of the F1 in their low, medium, high and max resolutions) can cause a disconnection / crash of some clients after a variable number of participants to a session.
From several tests we did, usually with a F1 mod (6 compounds in 4 resolutions), exceeding a number of 20 participants can cause the problem.

Currently, to increase the number of participants that rFactor can manages, you can decrease the number of resolutions used by each compound, modifying the mod itself.
Obviously a mod with less compounds allows rFactor to manage a higher number of participants.

Sound files location

Sound files are located into ...\GameData\Sounds\Ambient\RFE folder that rFactor reads by default.
In few mods that points to a different folder for ingame sounds, please check the .RFM file of the mod itself, pointing to the "ConfingOverrides" section to add the following line:
"SoundDir=GAMEDATA\SOUNDS\Ambient\RFE"

Track .GDB file

This file is located into the subfolder of a track, into ...\GameData\Locations.
To update this file to use correctly the "Random" and "Season" option of the variable weather conditions managed by RFE Plugin Series, is easy.

Lines for "Random" option
You must edit the file adding the following lines at the end of the file, but BEFORE the last brace "}":
Average rain = n.n
Average Day Temp = nn

Where "n.n" is a value between "0.0" and "1.0" and "nn" is a value between "00" and "99".
These values are the average during the whole year, not during a rFactor session.

More details on how to calculate the "Average rain" value will be posted into the RFE forums.
The "Average Day Temp" can be written as you find it on the web for the specific location you need. The value must be written in Celsius.

Lines for "Season" option
You must consider the values need for this option exactly like the ones that need for a "Scripted" option.
Copying & pasting a script used into a .WET file at the end of the .GDB file, but BEFORE the last brace "}", is enough. Please, read "The Scripted .WET file" section at the beginning of the APPENDIX for more info.

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