RenderScript Time Functions and Types

Overview

The functions below can be used to tell the current clock time and the current system up time. It is not recommended to call these functions inside of a kernel.

Summary

Types	
rs_time_t	Seconds since January 1, 1970
rs_tm	Date and time structure

Functions	
rsGetDt	Elapsed time since last call
rsLocaltime	Convert to local time
rsTime	Seconds since January 1, 1970
rsUptimeMillis	System uptime in milliseconds
rsUptimeNanos	System uptime in nanoseconds

Types

rs_time_t : Seconds since January 1, 1970

A typedef of: int When compiling for 32 bits.

A typedef of: long When compiling for 64 bits.

Calendar time interpreted as seconds elapsed since the Epoch (00:00:00 on January 1, 1970, Coordinated Universal Time (UTC)).

rs_tm : Date and time structure

A structure with the following fields:

int tm_sec	Seconds after the minute. This ranges from 0 to 59, but possibly up to 60 for leap seconds.
int tm_min	Minutes after the hour. This ranges from 0 to 59.
int tm_hour	Hours past midnight. This ranges from 0 to 23.
int tm_mday	Day of the month. This ranges from 1 to 31.
int tm_mon	Months since January. This ranges from 0 to 11.
int tm_year	Years since 1900.

int tm_wday	Days since Sunday. This ranges from 0 to 6.
int tm_yday	Days since January 1. This ranges from 0 to 365.
int tm_isdst	Flag to indicate whether daylight saving time is in effect. The value is positive if it is in effect, zero if it is not, and negative if the information is not available.

Data structure for broken-down time components.

Functions

rsGetDt : Elapsed time since last call

float rsGetDt();

Returns

Time in seconds.

Returns the time in seconds since this function was last called in this script.

rsLocaltime : Convert to local time

rs_tm* rsLocaltime(rs_tm* local, const rs_time_t* timer);

Parameters

local Pointer to time structure where the local time will be stored.

timer Input time as a number of seconds since January 1, 1970.

Returns

Pointer to the output local time, i.e. the same value as the parameter local.

Converts the time specified by timer into a rs_tm structure that provides year, month, hour, etc. This value is stored at *local.

This functions returns the same pointer that is passed as first argument. If the local parameter is NULL, this function does nothing and returns NULL.

rsTime : Seconds since January 1, 1970

rs_time_t rsTime(rs_time_t* timer);

Parameters

timer Location to also store the returned calendar time.

Returns

Seconds since the Epoch, -1 if there's an error.

Returns the number of seconds since the Epoch (00:00:00 UTC, January 1, 1970).

If timer is non-NULL, the result is also stored in the memory pointed to by this variable.

rsUptimeMillis : System uptime in milliseconds

int64_t rsUptimeMillis();

Returns

Uptime in milliseconds.

Returns the current system clock (uptime) in milliseconds.

rsUptimeNanos : System uptime in nanoseconds

int64_t rsUptimeNanos();

Returns

Uptime in nanoseconds.

Returns the current system clock (uptime) in nanoseconds.

The granularity of the values return by this call may be much larger than a nanosecond.