Liquid Galaxy Stellarium Documentation

Usage

Download Stellarium from :GitHub and follow these steps
1. Build from the source code. Refer:
   https://github.com/Stellarium/stellarium/blob/master/BUILDING.md
2. Refer this to locate config.ini file in your PC
   http://stellarium.sourceforge.net/wiki/index.php/Advanced_Use#Files_and_Directories
3. Open config.ini file as administrator and enter following lines of code in beginning:
   There should be only 1 master and rest can be slaves. Master should be in the center of grid.
   a. Master:

```
[LGConnect]
ip_addr          =
Offset           = 0
thisPC           = 1
```

```
[LGConnect]
ip_addr                                =
offset                                 = 0
thisPC                                 = 1
```

   b. Slave:

```
[LGConnect]
ip_addr          = <Master's IP address>
Offset           = <unit distance from master>
thisPC           = 0
```

```
[LGConnect]
ip_addr                                = 192.168.43.12
offset                                 = 1
thisPC                                 = 0
```

4. Start Stellarium on master and make sure it's up and running properly.
5. Start Stellarium on all slave PCs.

All displays should be synced now.

To make changes to code and build application

refer- https://github.com/Stellarium/stellarium/blob/master/BUILDING.md

Implementation

Function details

```
static void LG_communicate_master(StelCore *core, StelMovementMgr *mmgr,
QSettings* conf, StelMainScriptAPI *msapi);
```

- Location: core->StelLGConnect.cpp
- Responds to requests by slaves with current parameters.
- Only runs on master PC.

```
static void LG_communicate_slave(StelCore *core, StelMovementMgr *mmgr,
QSettings* conf, StelMainScriptAPI *msapi, int unsigned microsecond,
QString ip);
```

- Location: core->StelLGConnect.cpp
- Initiates UDP connection with master.
- Continuously requests the master for current set of parameters.
- If parameters have changed, then call set functions to set new parameters.
- Only runs on slave PC.

```
static size_t split(const std::string &txt, std::vector<std::string> &strs,
char ch)
```

- Location: core->StelLGConnect.hpp
- Split string by '|' when it arrives from master.
- Done on slave PC.

```
UDP_connect(StelCore *_core, StelMovementMgr *_mmgr)
```

- Location: core->StelLGConnect.hpp.
- Constructor function.
- Called when initializing StelMovementMgr.
- Reads parameters from config.ini file and calls either slave or Master related functions.

lookAtJ2000()

Edited or added Files

core-> StelLGConnect.hpp and StelLGConnect.cpp (added)
- Contains LGConnect class to communicate with master and slave.
- Contains functions to establish UDP connection and transfer data continuously.

src-> CMake (edited)
- Added StelLGConnect.hpp and StelLGConnect.cpp to list of files to build under core.

core-> StelMovementMgr.cpp (edited)
- It makes new object of LGConnect while initializing.

core->StelCore.cpp (edited)
- Edited lookAtJ2000() function to incorporate FOV offset.

Getter and Setter function for different parameters

View Direction
getViewDirectionJ2000()
setViewDirectionJ2000()

FOV
getCurrentFov()
setCurrentFov()

Time
getPresetSkyTime()
setPresetSkyTime()

Time rate
getTimeRate()
setTimeRate()

JDay (not used)
getMJDay()
setMJDay()

Atmosphere flag
getFlagAtmosphere()
setFlagAtmosphere()

Landscape flag
getFlagLandscape()
setFlagLandscape()

Cardinal Points flag
getFlagCardinalsPoints()
setFlagCardinalsPoints()

Constellation art flag

getFlagArt()
setFlagArt()

Constellation lines flag

getFlagLines()
setFlagLines()

Constellation label flag

getFlagLabels()
setFlagLabels()

Location

getObserverLocation()
setObserverLocation()