Arcade

Implementing a new game library

A game library class inherits from the AGameModule abstract class. You can find this class in the A*GameModule.hpp* header located in *src/interface*.
To implement your graphics library, in your class, you need to override the following functions :

void initGame()
This function is used to initiate your graphics library. It does not return anything, and does not take any parameter. This function first need to call the _initScreen() function and then set all the variables you need. It does not return anything and does not take any parameter.

void drawGame()
This function is used to display the text and shapes created using _drawText and _drawSquare functions. In order to display correctly it first needs to call the _clearScreen() function and then call the _refreshScreen() function. It does not return anything and does not take any parameter.

int gameLoop(char input, float time, int graphId)
This function is used as the main loop of the game. It does not return an int (-100 when you need to restart the clock inside the core, the score, higher or equals to 0, when the player dies, otherwise -1) and it takes multiple parameters:

- a char input, which is the user input key
- a float time, which corresponds to the elapsed time since the restart of the core clock. This clock should be used to limit the calls to the drawGame function and avoid the game being to fast. When you need the clock to be restarted the gameLoop function need to return -100 to the core.

int getScore()
This function is used to return the current score. It returns an int, and does not take any parameter.

You game library can interact with the graphical library using the lambdas of the AGameModule. Theses functions are :

- *void _initScreen();*
- *void _clearScreen();*
- *void _refreshScreen();*
- *void _endScreen();*
- *std::tuple<int, int> _getWinSize();*
- *void _drawSquare(std::tuple<float, float> position, std::tuple<int, int> rectSize, int color)*
- *void _drawText(std::tuple<float, float> position, float size, int color)*

Next, in your *class.cpp* file you will need to create the **IDisplayModule *create_object()** function, using the extern “C” keyword. This function is used by the Arcade core at library opening to retrieve a new object of your class. This function should look like this :

```
extern "C" AGameModule *create_object() {
    return new yourClassName;
}
```

Finally, you need to compile your graphical library using the *-shared -fpic* flags and put the .so file inside the *lib/* folder.