L4 Strings

1 Week

GDS121 ***Intermediate Game Programming***

100 points

Problem

Developing functionality in a different project and then integrating it into the main (primary) project is done through a "code merge". This is commonly done with new features or experimental code. You were provided new code to create a dynamic 2D array and L3 worked toward merging that new code with your existing source. L4 completes the merge by adding string elements to the map.

Create a new console app project in VisualStudio, label it "yourname_L4", add a new file and copy in your L3 source code then work out the following problems/tasks:

1. **Room description strings:** Using STL strings, declare a 1D array of creative literal strings that briefly describe each unique tile or like group of tiles in your game space. Get creative - describe unique spots within each room. Usually about 15-20 strings are a good start. You're not being graded on what you put, however please make a basic effort to integrate some interesting strings.
2. **Assign strings to tiles:** This gets a little tricky, but it demonstrates something we've been discussing about C++. Every variable evaluates (or simplifies) to a specific type. First, add a STL string object to your Tile structure. Then declare another 2D array of ints that index your description strings as a Look-Up-Table (LUT). This 2D array should be the exact same number of rows and columns as your original map - use your constants when declaring it. By "looking up" an index using both a row and column, we can obtain one integer index value into a single string array. Modify theTile_construct function interface to take a string& (reference) parameter. The idea is to copy the string that's provided in a Tile_construct call as the string that's kept with the Tile which describes it.
3. **Finish merge:** When you call Tile_construct() function to initialize each tile in your nested for-loop, use the LUT to obtain the string and pass it in to complete Tile construction. Inside the Tile_construct(), copy the string& that's passed in from the call into the tile structure's string variable. Write a new Tile_describe(Tile& inTile) function which when called gives all literary details about the tile.
4. **User interface & prompts:** Clean up your prompts and information so the user knows what is happening. This is not a video game - it's a text adventure. As you move your player around and you land on a tile, be sure to call the Tile_describe() function to output the string from within the tile.

Use break points and code-stepping to see if everything is going correctly.

If you have any questions concerning this assignment - **ask**.

Deliverables

There is 1 deliverable for this assignment:

1) A VisualStudio .cpp source file (named *lastname*_L4.cpp), which contains your map in a 2D array form, and the modified code which allows you to traverse around your map using the tile array. ***This source must compile and be bug-free!***

Each deliverable must have your name on it. For source code based deliverables, only upload the .cpp.

Grading

Grading of source code will follow standard grading practices. See grading conventions found in the Syllabus folder.

Functionality

1. The functionality is outlined above.

Code

You should be able to write all the code modifications needed for your game at this point.