Technical University of Košice

Department of Computers and Informatics

Problem Set 6

The Skywitcher

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2020/2021

Assignment

Using the ncurses library, create a program (game, presentation or other artistic work), with the following minimal requirements:

• Project contains 2D world.

• Project meets at least 3 challenges:

  – *Work with colors*

  – *Keyboard control (no Enter needed)*

  – *Multiple levels*

  – *Work in time (in the time the program is changed)*

  – *Work with command-line arguments*

  – *Work with files*

• Project must be more complicated then the sample programs, with an adequate level of difficulty.

Game logic

The code consists of 5 functions:

• *void painting ()* - colors for painting

• *void text ()* - text for levels

• *void MakeScreen ()* - a screen for the program (game)

• *void WelcomeMessage ()* - the initial screen of the game

• *void EndMessage ()* - the final game screen

• *void MakeLevel (int level)* - creation of level and visual component

• *void moving (int input)* - movement for the character

• *int Gameplay (int input, int level)* - gameplay

• *void MapSetUp (int *sirina, int *visota, int *massive, int PervoyePolozenie, int VtoroyePolozenie, int nomerKari, chtype cvet)* - generating code for each map

Function *void MapSetUp()* creates map code using two-dimensional arrays using numbers (0 - 3) as array elements. Function *void MakeLevel()* decodes the elements of a two-dimensional array and turns them into:

• ’ @ ’ – a barrel of whiskey

• ’ # ’ – a wall

• ’ D ’ – a character

• ’ x ’ – doors

• ’ - ’ – a floor

Game play

The game is entirely coded inside the *program.c* file. To start the program, you also need to specify an additional empty file (moves.txt), into which information about the character's movement will be entered. From which we will read information in the future. You can move the character using the *WASD keys* and *Key Up, Key Left, Key Down, Key Right*. The variable "*moves*" reads the amount of movement of the main character and enters the data into the file "*moves.txt*". The main task is to move the barrels of whiskey ' @ ' to the doors ' x '. As launching the game, the start screen appears. As indicated, you can press *Enter* to continue.

After pressing *ENTER*, the main screen is activated.

The main name " *The Skywitcher* " of the game constantly changes its color (yellow, blue and green) over time using probability. Changing cards is possible after pressing these keys: *'r', 't', 'y', 'u', 'i '*. Level restart is possible after pressing the key responsible for the card number.

- *'r'* – **first room**

- *'t'* – **second room**

- *'y'* – **third room**

- *'u'* – **fourth room**

- *‘i ‘* – **fifth room**

The game history can be read to the right of the map. You can press *‘q’* to exit the game. After clicking, the last screen appears, which shows the results of the game (the number of steps and the number of map changes).

By pressing *‘q’* again, you will finally close the game.

Conclusion

The game code has its drawbacks. When you enter *Key Up, Key Left, Key Down, Key Right*, the variable does not count your movements. The error exists due to the inability to translate *Keys Up, Left, Down, Right* into the system **ASCII**. The second error exists when entering any non-English keyboard keys. My code can be supplemented with a timer that counts the time of the passage of the game.