

Technical University of Košice
Department of Computers and Informatics

Problem Set 6
FireHouse

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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 than the sample programs, with an adequate level of difficulty.

Game logic

The code consists of 5 functions:

- `int main(void)` – function that contains menu and connections with functions
- `void dispMap(int x, int y, char map[R][LEN])` – draws level maps
- `void key_management(char map[R][LEN])` – setting correct binds
- `void level1()` – contains map and parameters for lvl
- `void level2()` – contains map and parameters for lvl

The game data are stored in a 3-D array, where the first two dimensions represent game world data and the 3rd dimension represents snake's direction. The array contains:

- `' '` - empty position w/o fire
- `'~'` - player
- `'*'` - item to pick
- `'@'` - fire

Gameplay

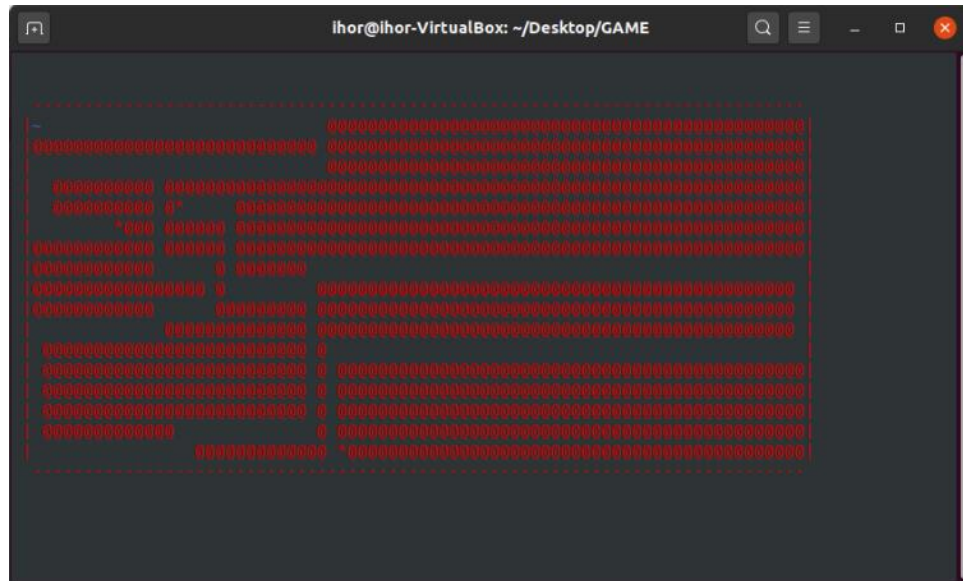
The idea of the game is that you are in a burning house and you need to find all the valuables to save them from fire. You also have a life counter, if you step on fire 3 times, you will lose.

As launching the game, the start screen appears. As indicated, you can press keys:

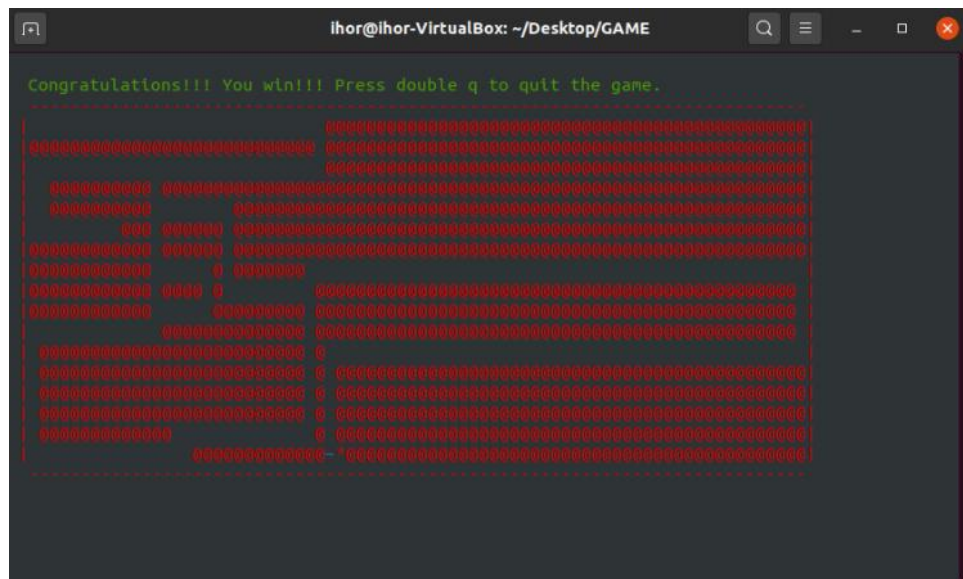
- 1 – to start LVL1
- 2 – to start LVL2
- 3 – to read information about the game(story and controls)
- 4 – to quit



After choosing the level, the game begins.




If you take all items and your life counter not 0 – you win and program will write “WIN” into new output file after game.



Else if you step into fire 3 times, life counter will be 0 and game will be ended with msg and output file, that tells you about lose.

What you can see after clicking “3” from menu:



```
ihor@ihor-VirtualBox: ~/Desktop/GAME
LVL1(1)—LVL2(2)—About(3)—Quit(4)

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and you need to find all the valuables to save them from fire.
You also have a life counter, if you step on fire 3 times, you will lose.

Controls:
(W/Upwards Arrow) move to the up.
(S/Downwards Arrow) move to the down.
(A/Leftwards Arrow) move to the left.
(D/Rightwards Arrow) move to the right.

FireHouse game was maded by student TUKE, FEI: Rabin Ihor 1.bc

FireHouse
```

Conclusion

The solution deals with life and valuables. If your life not 0 and valuables taken, you win, if life is 0, you lose. Result can be stored in a file. The extension would require new timer for life, function for making windows can be still accesible after results of the game.