

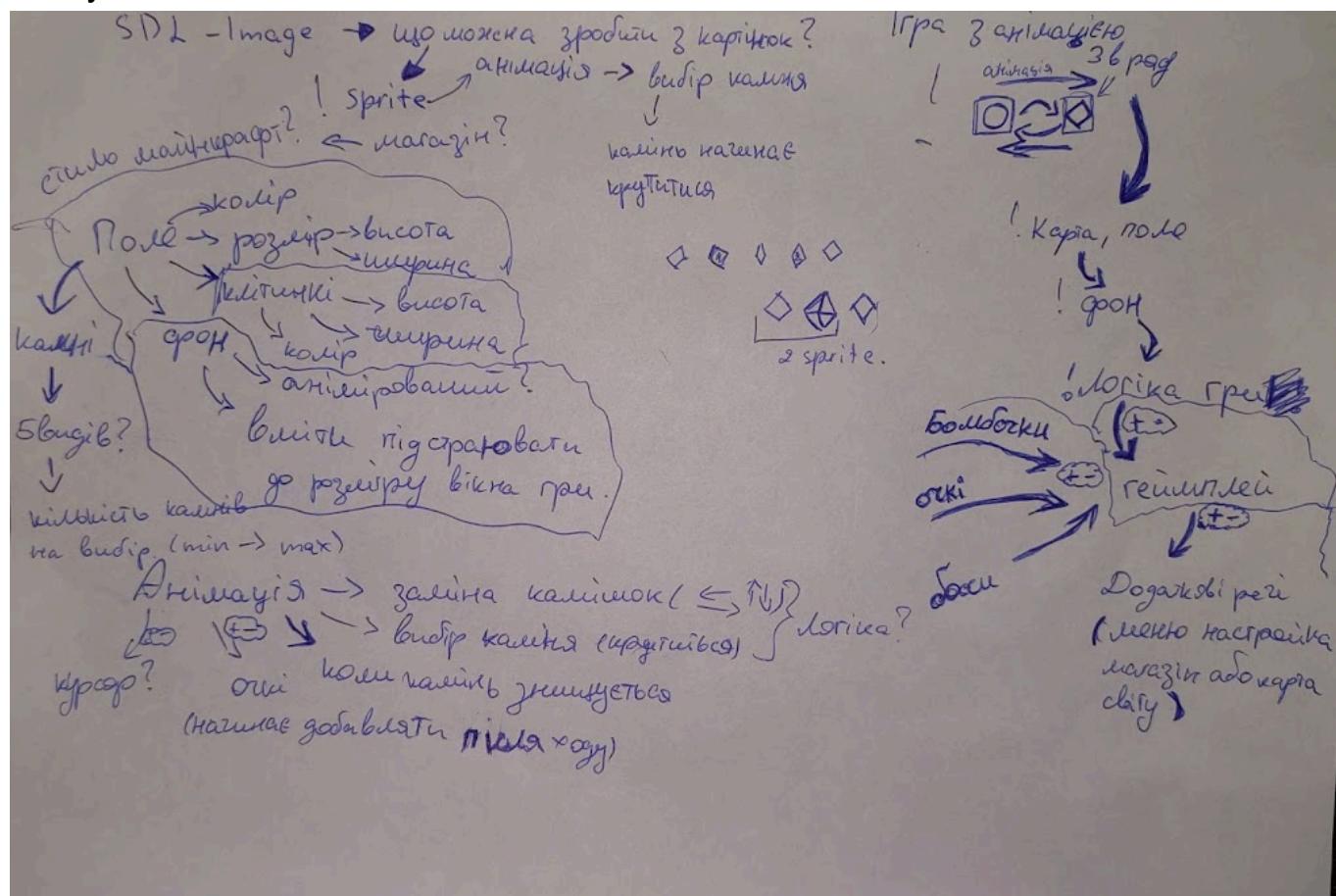
01/11/2022 11:52pm

I make game in genre "3 to match". Now i create more logical and simple plan of development than before. Think that i will not have problems in future how unpossibility using time for project or all that sort of thing.

I made typical logic of game. Game is canning delete combos of squares now.

I must next time make sliding of squares and add all operations in field of game.

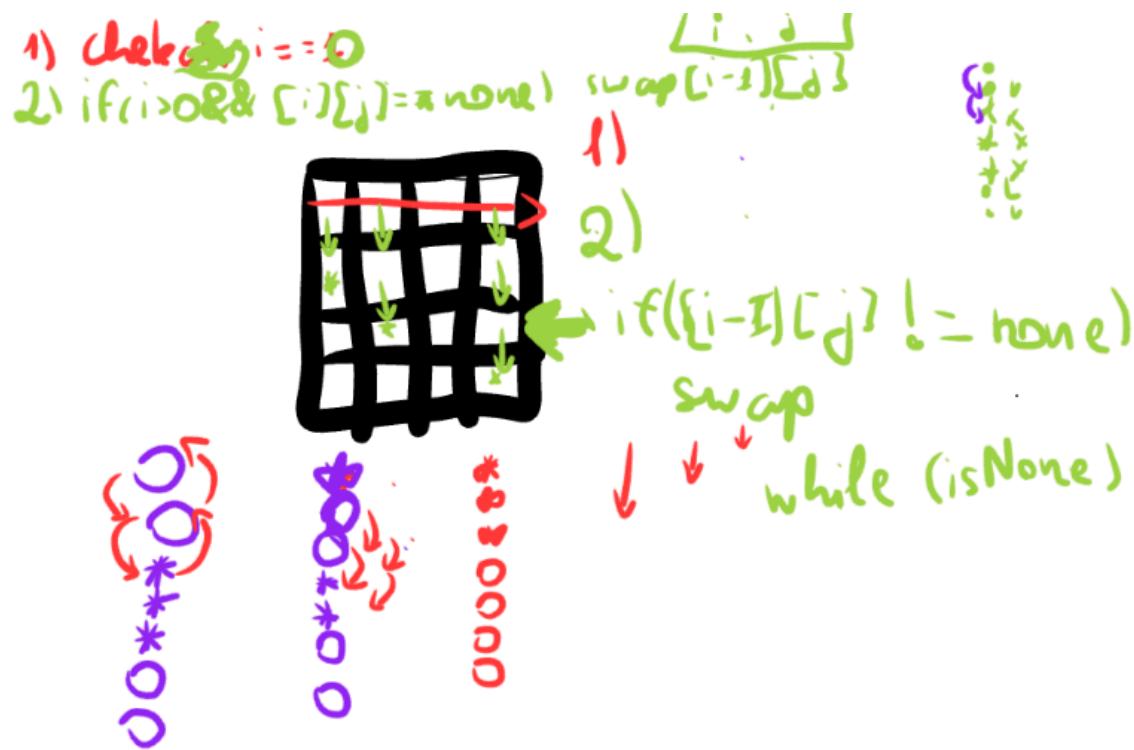
Today, i used 3-4 hours



02/11/2022 11:45pm

Today fixed checking combos. Now all right.

And i create new algorythm for adding squares.



12:01pm

I make code with this algorythm. I am not seeing errors from my side now.

```
//new squares
bool isNone = true;
while (isNone)
{
    isNone = false;
    //checking i = 0 and adding new squares
    for (int j = 0; j < column; ++j)
        if (field[0][j] == NONE)
    {
        field[0][j] = rand() % FIGURES;
    }
    for (int i = 1; i < row; ++i)
        for (int j = 0; j < column; ++j)
            if (field[i][j] == NONE)
            {
                isNone = true;
                std::swap(&field[i-1][j], &field[i][j]);
            }
    //output field
    for (int i = 0; i < row; ++i){ ... }
    std::cout << std::endl;
}
```

So, main logic parts of game created and I only need:

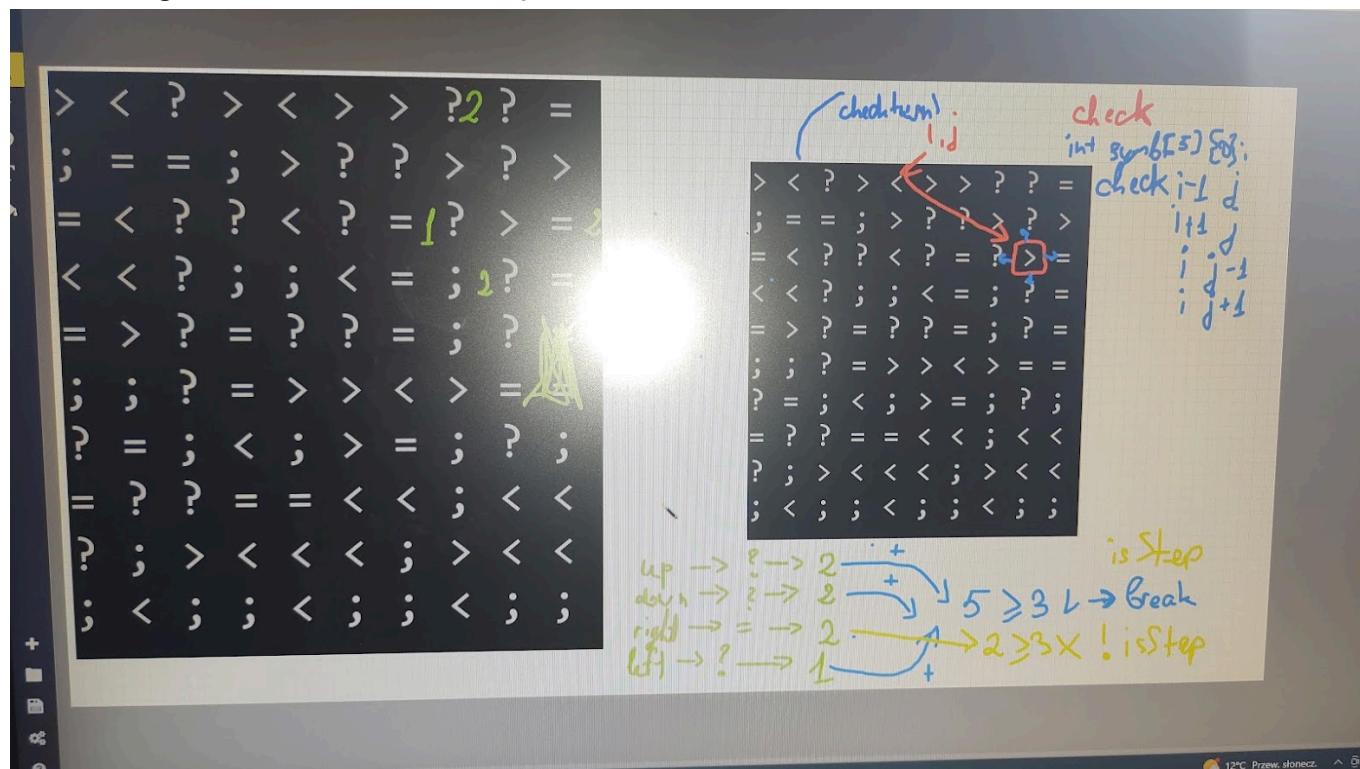
1. paint sprites (or download)

2. add function of choosing squares and swapping their
3. create class for field
4. add various interface (graphical).

I think after all the goals I can show my project for other people and start beta test after alpha.

04/11/2022 11:53pm

I make algorithm for check a steps.



I write code of this algorithm.

Now I have problem with function and arrays. I think that just add dynamic array in class and make function for create and delete array.

07/11/2022 12:50am

I make more comfortable code and make one class for field of game.

Now I'm caning use it for any interface. Next time I need create graphic interface for game.

08/11/2022 11:52pm

I remember SDL. I make initialization and deinitialization, body of events, cycle of game.

It not over. I create preview my sprites and vision how my game will to look like.

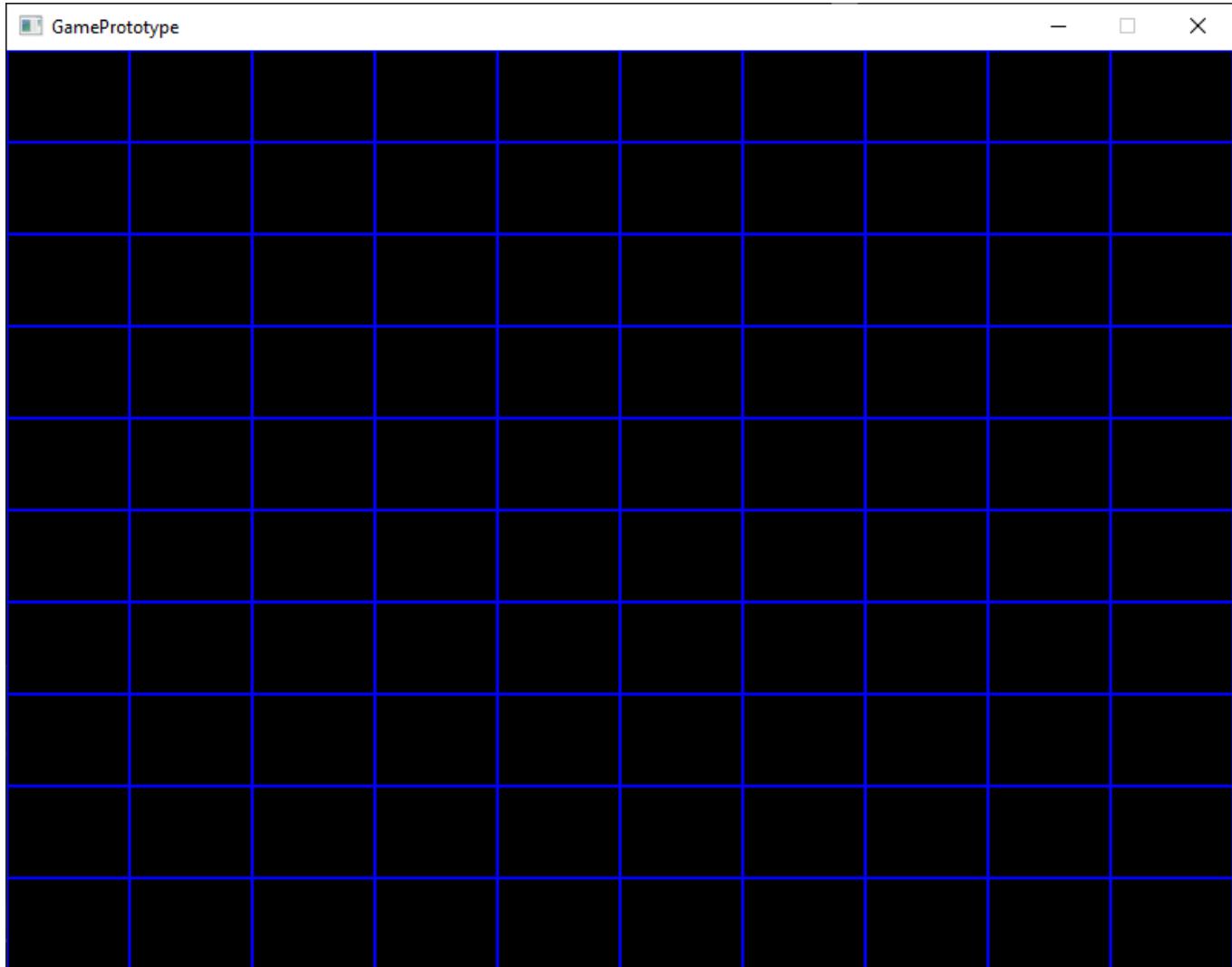


Next time, I need make event for mouse and keyboard. After, add library SDL_Image and if i will have time do anything with image, for example graphic showing all field.

09/11/2022 12:20am

I make events for mouse and keyboard, create separation of field.

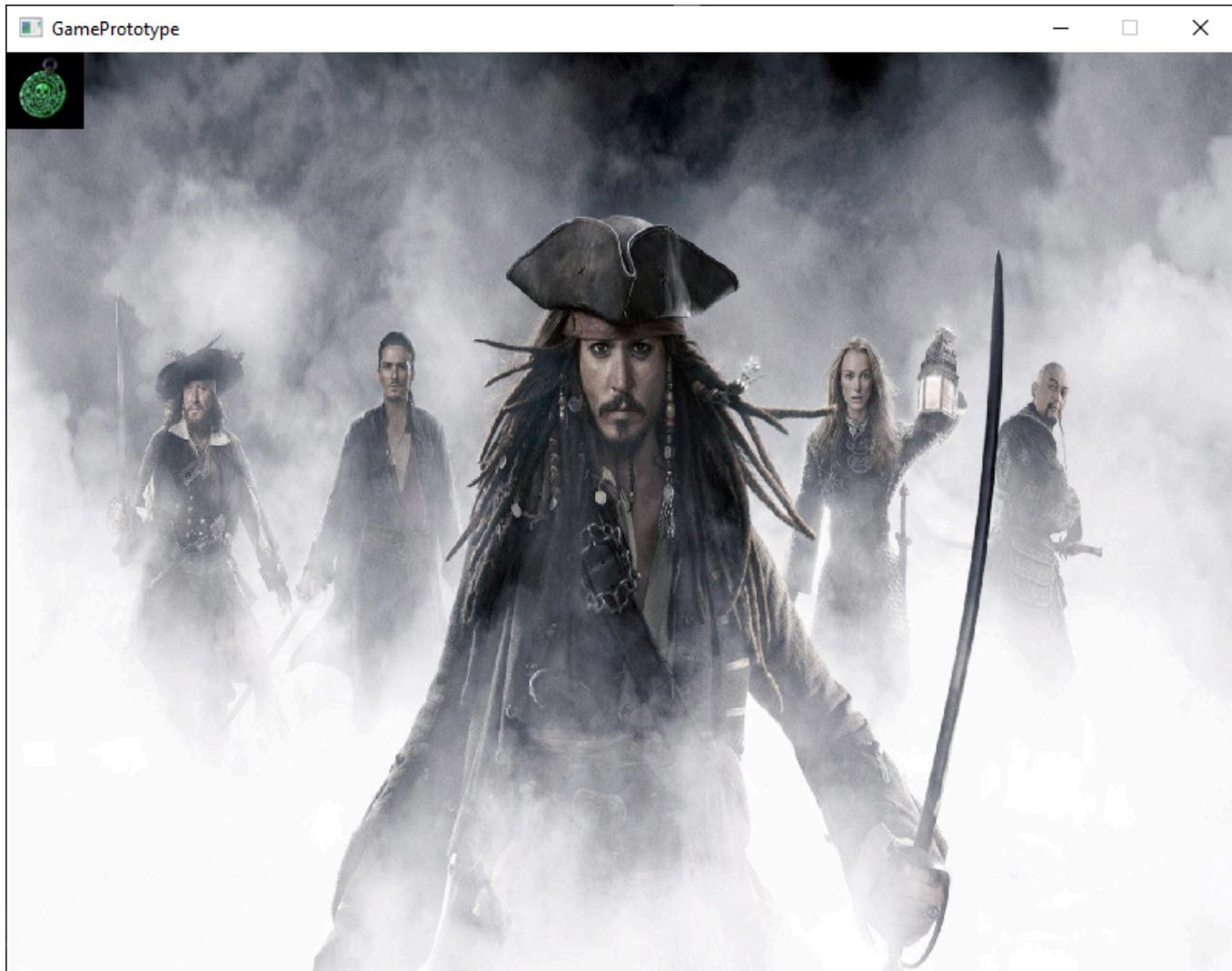
Next time I need add pictures in game and background.



11/11/2022 12:23am

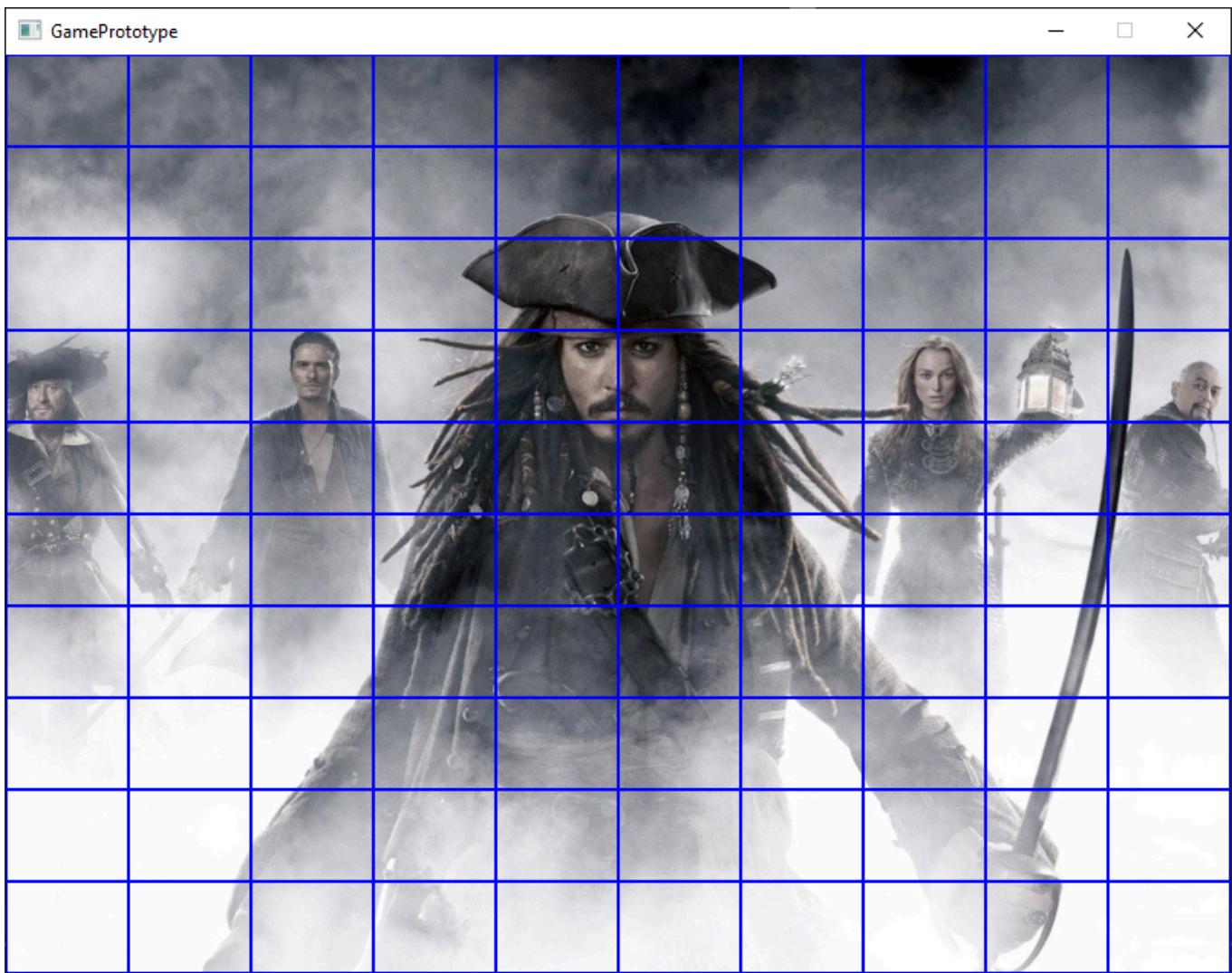
I add some pictures, but with help surface. It is bad, because surface dont give full control. I need all do with render because it create more functions for programm and

more productive work of programm. Next time I need create images in render.

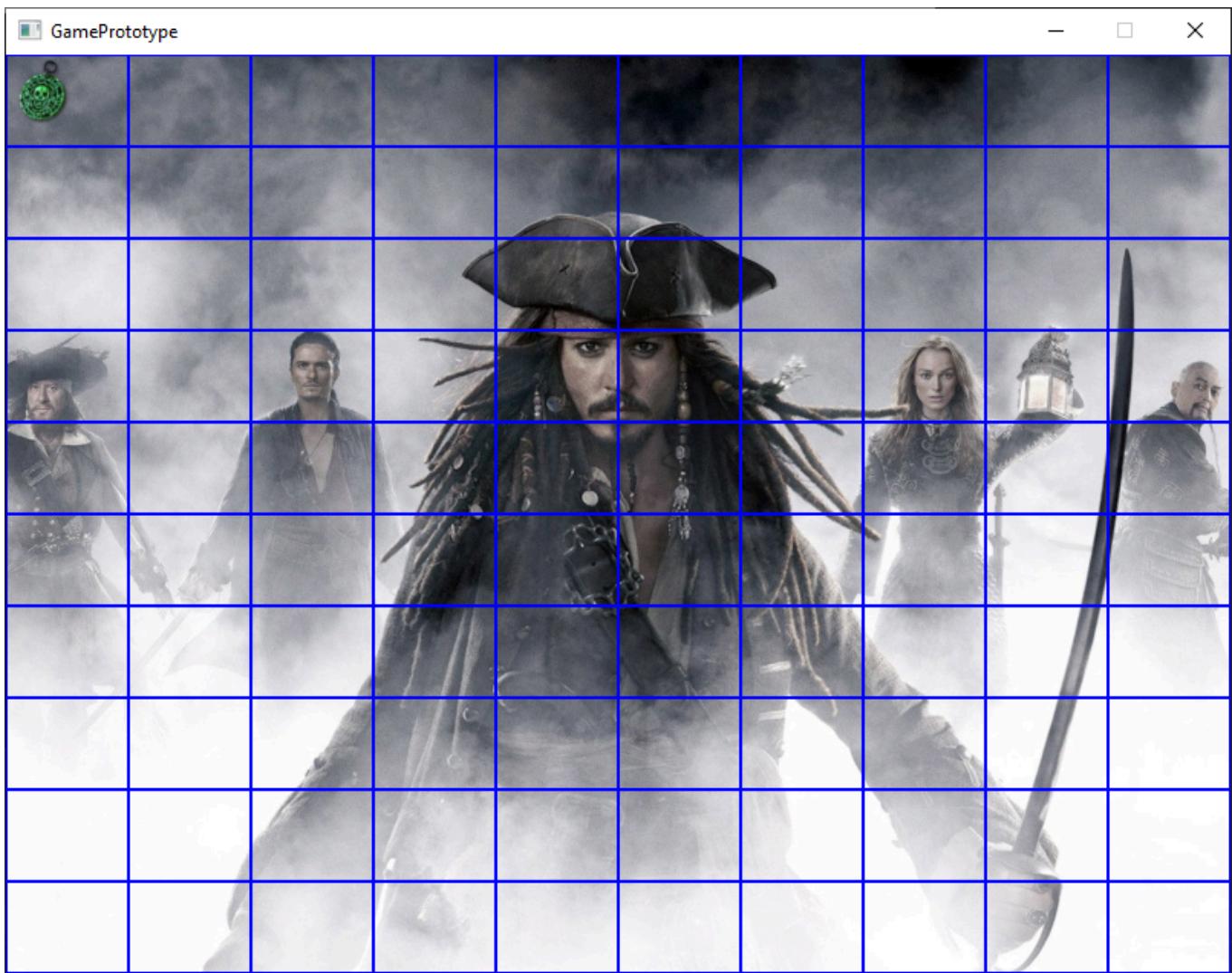


13/11/2022 11:06pm

I create realization of render picture now it look like it.



And medal renders correct.



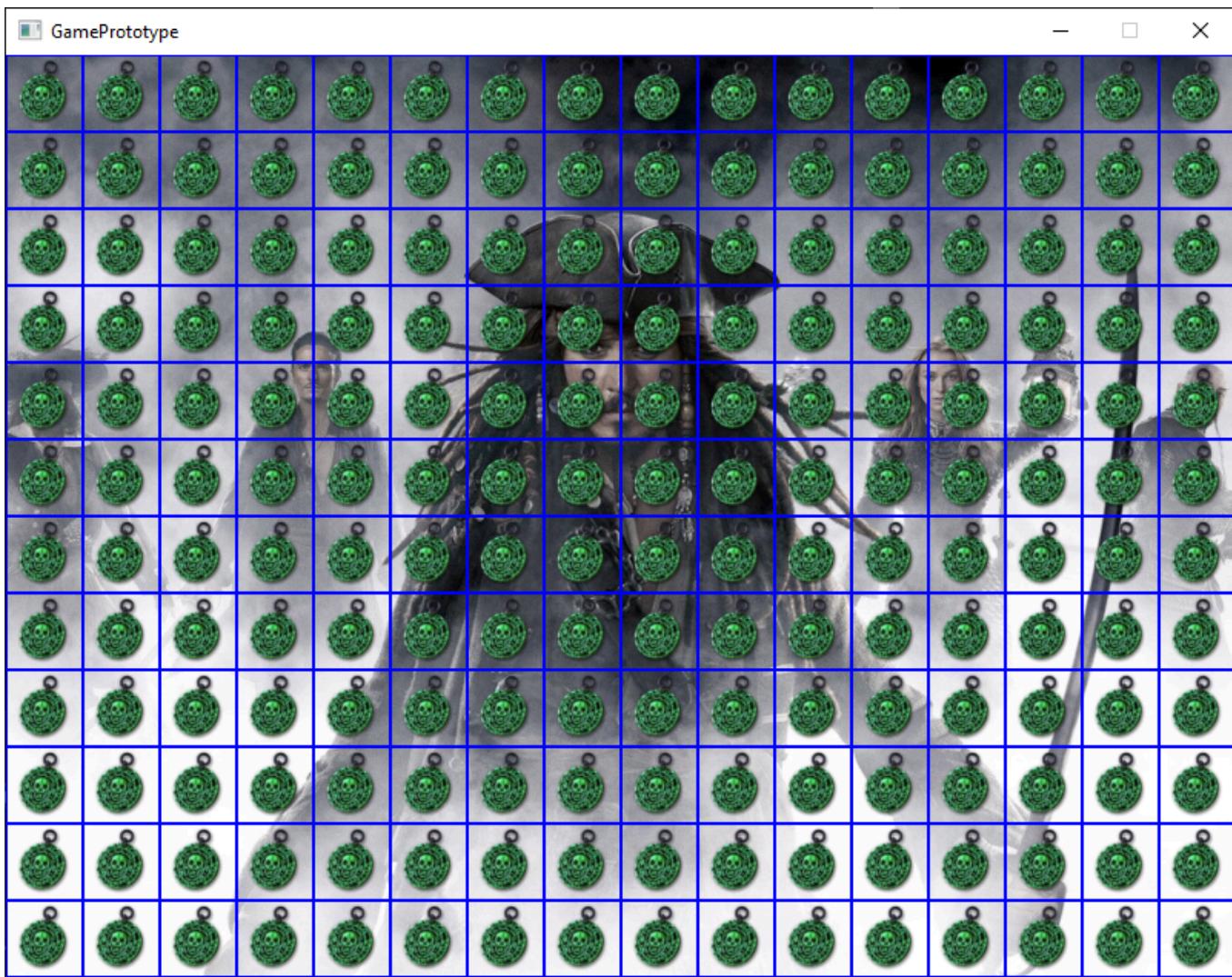
Just I need medal's height and width.

Next time I need create field (1, 0[bool]), which give possibility to shwow more medals.

And I need create reaction on mouse in field

18/11/2022 10:43pm

I create code which show full field of medals from array "field". I very proud from me.)



19/11/2022 3:46am

I work about 2 hours. This time I optimized code and program, add new class, functions.

Functions:

ShowSquares()

```
void showSquares(SDL_Rect& bg_background)
{
    SDL_Texture* image = nullptr;

    for (int i = 0; i < row; ++i)
        for (int j = 0; j < column; ++j)
    {
        Square square;

        SDL_Rect square_rect;
        square_rect.x = j * square.width;
        square_rect.y = i * square.height;
        square_rect.w = square.width;
        square_rect.h = square.height;
        square.LoadDoblon(&image, index:field[i][j]);
        SDL_RenderCopy(renderer: ren, texture:image, srcrect:&bg_background, dstrect:&square_rect);
        deLoad(&image);
    }
}
```

ShowGraphic()

```

void showGraphic()
{
    Square square;
    SDL_Texture* image;

    //showBackground();
    SDL_Rect bg_background;
    [ { ... } ]
    Load(&image, path:"background.png");
    SDL_RenderCopy(renderer:ren, texture:image, srcrect:&bg_background, dstrect:&bg_background);

    //borders
    SDL_SetRenderDrawColor(renderer:ren, r:0, g:0, b:0, a:255);
    for (int i = 0; i < row; ++i)
        for (int j = 0; j < column; ++j) { ... }

    //choose
    SDL_SetRenderDrawColor(renderer:ren, r:0, g:0, b:0, a:255);
    if (choosedSquare1.x + choosedSquare1.y >= 0) { ... }
    SDL_SetRenderDrawColor(renderer:ren, r:255, g:255, b:0, a:255);
    if (choosedSquare2.x + choosedSquare2.y >= 0) { ... }

    //squares
    square.showSquares(&bg_background);
}

};


```

CheckChoose()

```

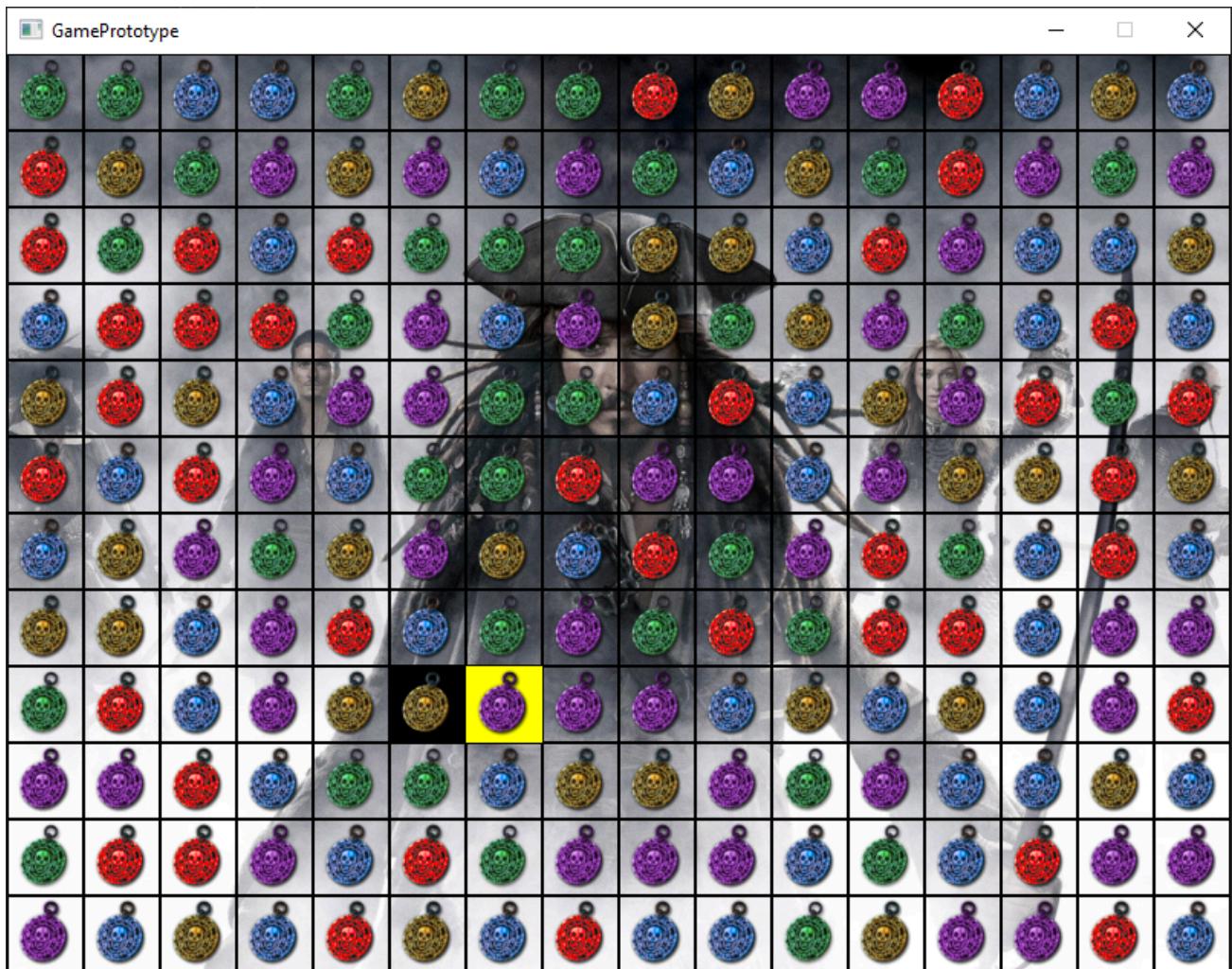
//CHECK CHOOSE
if (choosedSquare1.y >= 0 && choosedSquare1.x >= 0)
{
    if (choosedSquare2.y >= 0 && choosedSquare2.x >= 0)
    {
        choosedSquare1.x = (int)(mx / squareWidth);
        choosedSquare1.y = (int)(my / squareHeight);
        choosedSquare2.x = -1;
        choosedSquare2.y = -1;
    }
    else
    {
        choosedSquare2.x = (int)(mx / squareWidth);
        choosedSquare2.y = (int)(my / squareHeight);
        std::swap(&field[choosedSquare1.y][choosedSquare1.x], &field[choosedSquare2.y][choosedSquare2.x]);
    }
}
else
{
    choosedSquare1.x = (int)(mx / squareWidth);
    choosedSquare1.y = (int)(my / squareHeight);
}
std::cout << "choosedSquare1.x :" << choosedSquare1.x << " choosedSquare1.y :" << choosedSquare1.y << "\n";
std::cout << "choosedSquare2.x :" << choosedSquare2.x << " choosedSquare2.y :" << choosedSquare2.y << "\n";

```

After my work, I dont need use more textures because function ShowGraphic has one texture for more textures. But next time i need add:

1. additional logic with move of square
2. keyboard event for checkfield
3. edit choose of square

Now game look like



I think that I did very many tasks and need go to sleep.

21/11/2022 12:22am

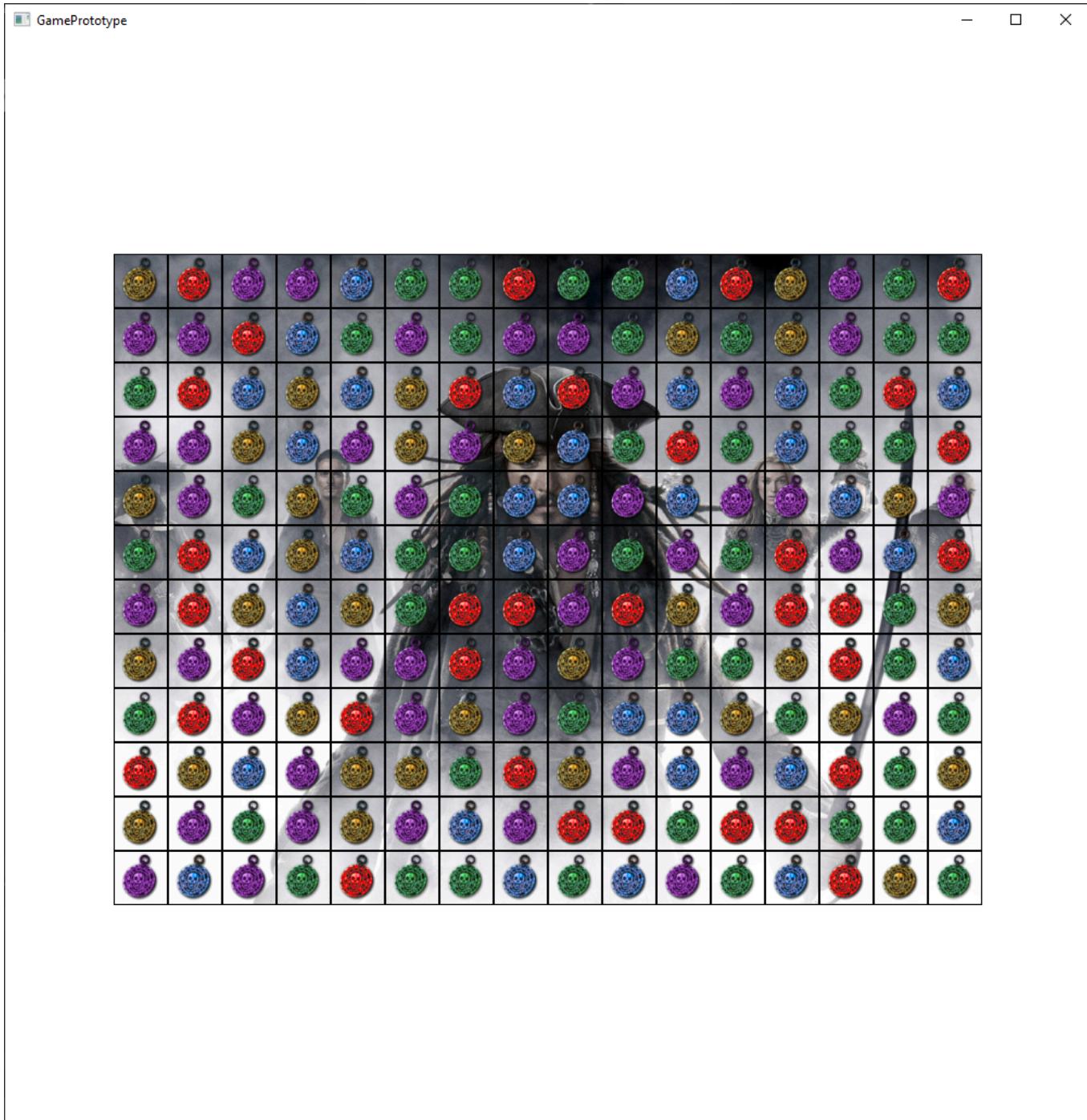
I over process of choose square and keyboard event for checkfield and over of turn.

Next time I need make 4 side control.

23/11/2022 1:03am

I fixed some bugs, but I have new bug with coordinates. I think that later, I need

rebuild algorythm of getting position. Now window size can be changed.



24/11/2022 5:52pm

I over my first version of game. Game got 0.1 alpha version, I think that all is logical.
Bugs and problems in version 0.1a are:

1. Bug in start game, when you choose first square, program draw rect in -1 column
-1 row.
2. Square swap when it not over game.

Think when I solved it, game will get version 0.2a. This version will be more comfortable. But there are problems, one main problem without all problems it's animation. User doesn't understand how square shows up and for it I need add animation. AFTER, I can peacefully add new gameplay functions, but before it, I need clear code.

Total days for 0.1a version - 23 days but work only 12 days. I work with 50/50 time for program and time for relax.

I think that I can start developing, after animations.

01/12/2022 2:46am

I fixed bug with changed size of background.

I was thinking about problems in code and I tried to fix them but can only part of him. And more, I was thinking about bugs and problems in the global situation with the game (I did it for better understanding of problems)

1. **Bug double choose in start (DONE)**
2. **Checking combo in square after trying of user over turn or permute squares. (DONE)**
3. **Checking over game when no is combo. (DONE)**
4. Don't care about window (not required)
5. **Optimization (DONE)**
6. Game doesn't have:

Animations (I can't do it yet, because I need more information about animation in SDL (DONE))

Menu (I can do now)

- PLAY
- RECORDS
- SHOP (not required)
- SETTINGS music, sfx, size of window, modes
- QUIT

Map (I can do now BUT very hard to realize)

Quests (I can do now BUT very hard to realize)

Music (I can do now)

SFX (I can do now)

Special squares (I can do now)

Now, the code is more comfortable to read.

03/12/2022 12:54am

Version 0.11a:

I optimized the program. (-7% CPU)

5. COMPLETE (**no**)

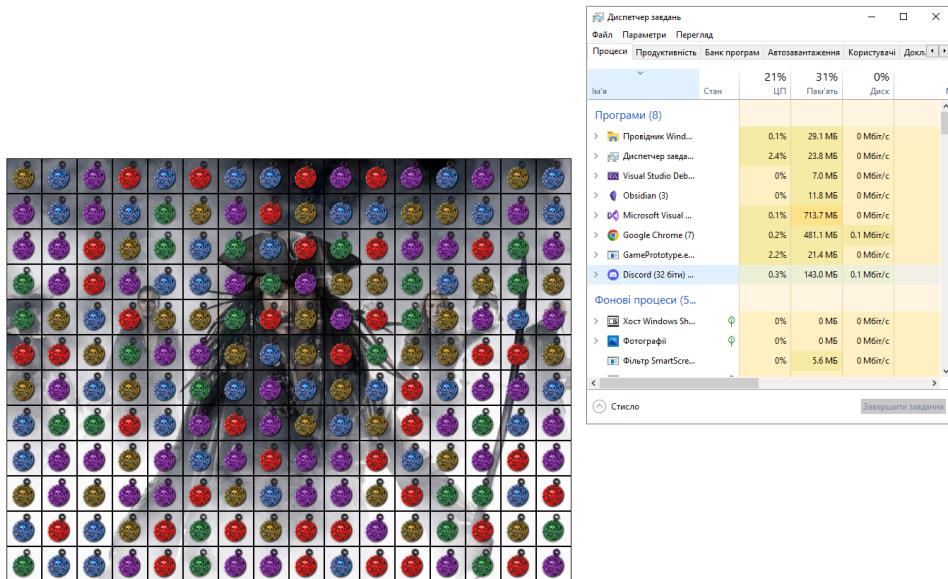
I need read about save or creating a copies of source code.

03/12/2022 4:34pm

Version 0.11a:

1. COMPLETE

04/12/2022 2:00am



Just wow. I dont have words. I created class "Sprites" and do one initialization of squares and background.

Version 0.2a:

2. COMPLETE

5. COMPLETE

3. COMPLETE

Today, I created class "Button". Next time I download sprites for buttons, write rects for their.

```
class Button
{
public:
    void setButton(SDL_Texture* sprite, SDL_Rect rect)
    {
        buttonSprite = sprite;
        buttonRect = rect;
    }
private:
    SDL_Rect buttonRect;
    SDL_Texture* buttonSprite;
};
```

```
void setButtons()
{
    Engine engine;

    SDL_Texture* menuStart;
    SDL_Texture* menuRecord;
    SDL_Texture* menuSettings;
    SDL_Texture* menuQuit;

    engine.Load(&image:menuStart, path: "background.png");
    SDL_Rect rectStart{ 0,0,0,0 };
    btStart.setButton(sprite:menuStart, rectStart);

    engine.Load(&image:menuRecord, path: "background.png");
    SDL_Rect rectRecord{ 0,0,0,0 };
    btRecord.setButton(sprite:menuRecord, rectRecord);

    engine.Load(&image:menuSettings, path: "background.png");
    SDL_Rect rectSettings{ 0,0,0,0 };
    btSettings.setButton(sprite:menuSettings, rectSettings);

    engine.Load(&image:menuQuit, path: "background.png");
    SDL_Rect rectQuit{ 0,0,0,0 };
    btQuit.setButton(sprite:menuQuit, rectQuit);
}
```

05/12/2022 8:45am

I created model of menu.

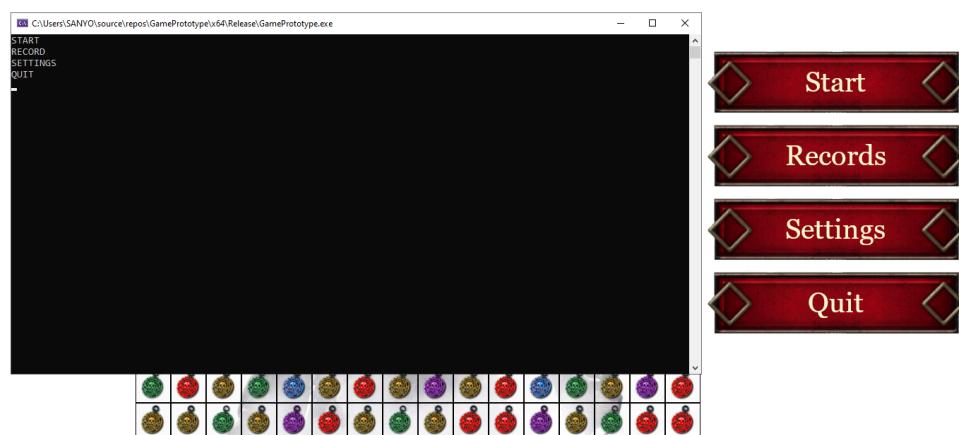


Buttons don't have animation when cursor to trigger.

06/12/2022 10:00pm

I add buttons to game, but i forget about count of steps.

SCORES: 0



I created menu's events.



I created menu. Buttons which working now it's "Start" and "Quit"

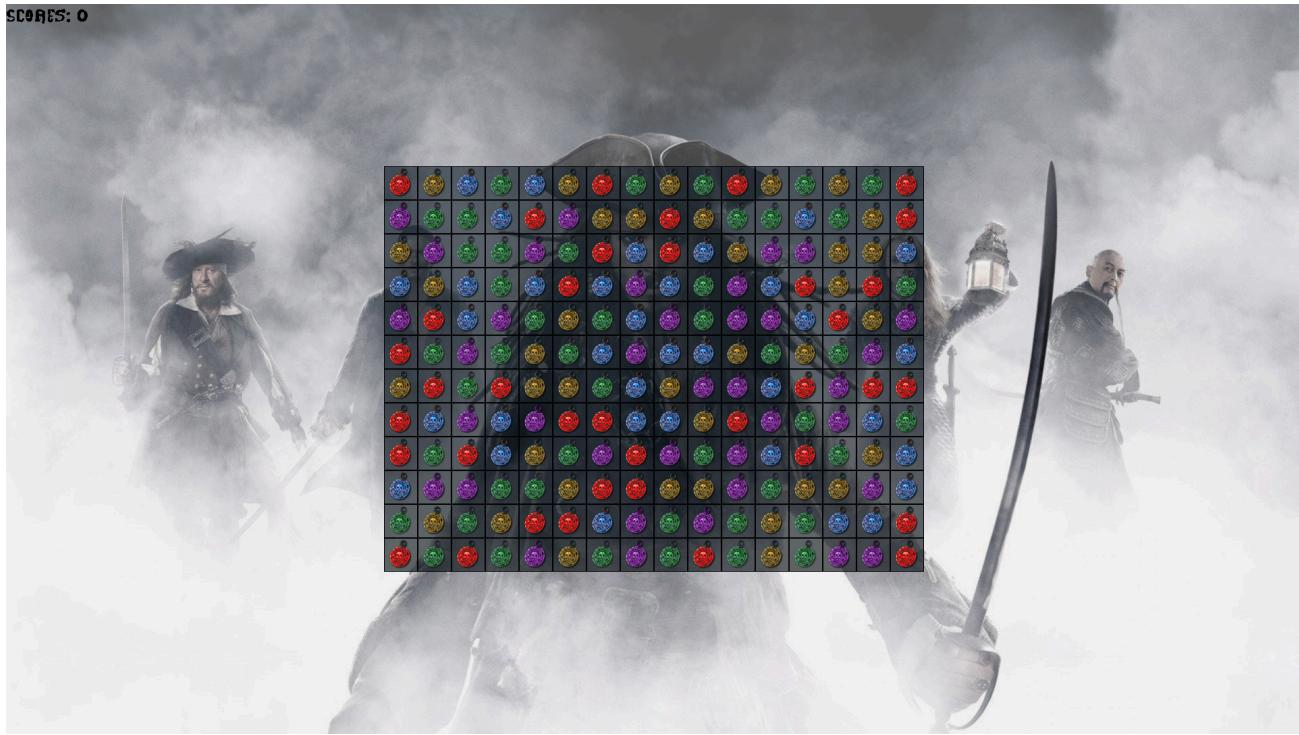
Menu

- **PLAY (DONE)**
- RECORDS
- SHOP (not required)
- SETTINGS *music, sfx., size of window, modes*
- **QUIT (DONE)**
- ANIMATIONS**

Version 0.3a:

- Add menu
- Add menu events
- Create events for "Start" and "Quit"

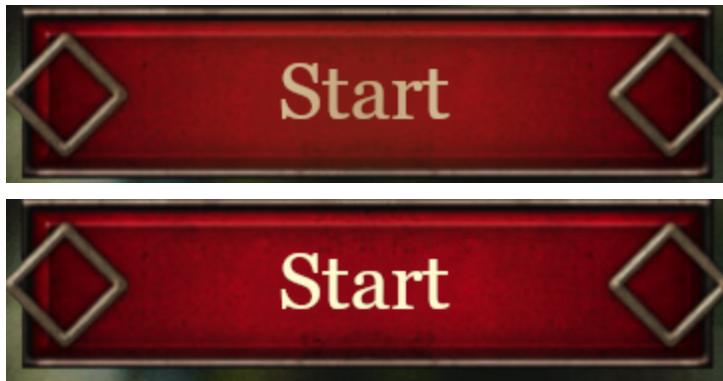
- Change backgrounds in game



08/12/2022 5:46pm

Version 0.31a:

- Add animations in menu



- Changed location of resources to "resources/"

11/12/2022 4:27am

Version 0.4a

- Add animations in game
overStep()

```

bool isOverStep = false;
while (!isOverStep)
{
    isOverStep = true;
    comboCheck(scores);

    if (isProccessGame)
    {
        showGraphic(sprite);
        Engine engine;
        engine.Timer(250);
    }

    newSquares(sprite);

    comboCheck(scores);

    if (isProccessGame)
    {
        showGraphic(sprite);
        Engine engine;
        engine.Timer(250);
    }

    for (int i = 0; i < row; ++i)
        for (int j = 0; j < column; ++j)
            if (field[i][j] == NONE)
                isOverStep = false;
}

```

newSquares()

```

//new squares
bool isNone = true;
while (isNone)
{
    isNone = false;

    //checking i = 0 and adding new squares
    for (int j = 0; j < column; ++j)
        if (field[0][j] == NONE)
    {
        field[0][j] = rand() % (COLORS - 1) + 1;
    }

    for (int i = 1; i < row; ++i)
    {
        bool animation = false;
        for (int j = 0; j < column; ++j)
            if (field[i][j] == NONE)
        {
            isNone = true;
            std::swap(field[i - 1][j], field[i][j]);
            animation = true;
        }
    }

    if (isProccessGame && animation)
    {
        showGraphic(sprite);
        Engine engine;
        engine.Timer(10);
    }
}

```

- Fixed bug with sprites when window doesn't have width 1920 and height 1080

- Create Timer()

```
void Timer(int milliseconds)
{
    int time = SDL_GetTicks();
    int timeout = SDL_GetTicks() + milliseconds;
    while (time <= timeout)
    {
        time = SDL_GetTicks();
        /*TEST
        std::cout << "TIME:" << time << " TIMEOUT:" << timeout << "\n";
        */
    }
}
```

- Remake show of functions showMenu and showField (Now, RenderPresent() doing in functions)

FINAL ALPHA VERSION:

- More comfortable code
- Add steps
- Record and Settings removed

I will not support this program.