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    1: #include "LFSR.hpp"
    2: #include <SFML/System.hpp>
    3: #include <SFML/Window.hpp>
    4: #include <SFML/Graphics.hpp>
    5: #include <iostream>
    6: #include <string>
    7: #include <bitset>
    8: #include <cmath>
    9:
   10: int encrpyt(int value, int tap);
   11:
   12: int main(int argc, char *argv[])
   13: {
   14:         sf::Image image;
   15:         if(!image.loadFromFile(argv[1])){
   16:                 return -1;
   17:         }
   18:         sf::Image after = image;
   19:         LFSR lfsr(argv[3], atoi(argv[4]));
   20:         sf::Color p;
   21:
   22:         sf::Vector2u size = image.getSize();
   23:         sf::RenderWindow window1(sf::VideoMode(size.x, size.y), "Original
");
   24:         sf::RenderWindow window2(sf::VideoMode(size.x, size.y), "Encrypte
d");
   25:
   26:         int X = size.x;
   27:         int Y = size.y;
   28:
   29:         for (int x = 0; x < X; x++)
   30:         {
   31:                 for (int y = 0; y < Y; y++)
   32:                 {
   33:                         p = after.getPixel(x,y);
   34:                         p.r = encrpyt(p.r, lfsr.generate(8));
   35:                         p.g = encrpyt(p.g, lfsr.generate(8));
   36:                         p.b = encrpyt(p.b, lfsr.generate(8));
   37:                         after.setPixel(x, y, p);
   38:                 }
   39:         }
   40:
   41:         sf::Texture texture;
   42:         texture.loadFromImage(image);
   43:
   44:         sf::Texture texture2;
   45:         texture2.loadFromImage(after);
   46:
   47:         sf::Sprite sprite;
   48:         sprite.setTexture(texture);
   49:
   50:         sf::Sprite sprite2;
   51:         sprite2.setTexture(texture2);
   52:
   53:         while(window1.isOpen() && window2.isOpen())
   54:         {
   55:                 sf::Event event;
   56:                 while(window1.pollEvent(event))
   57:                 {
   58:                         if (event.type == sf::Event::Closed)
   59:                         {
   60:                                 window1.close();
   61:                         }
   62:                 }
   63:                 while(window2.pollEvent(event)){
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   64:                         if (event.type == sf::Event::Closed)
   65:                         {
   66:                                 window2.close();
   67:                         }
   68:                 }
   69:                 window1.clear(sf::Color::White);
   70:                 window1.draw(sprite);
   71:                 window1.display();
   72:                 window2.clear(sf::Color::White);
   73:                 window2.draw(sprite2);
   74:                 window2.display();
   75:         }
   76:
   77:         if (!after.saveToFile(argv[2]))
   78:         {
   79:                 return -1;
   80:         }
   81:         return 0;
   82:
   83: }
   84:
   85: int encrpyt(int value, int tap)
   86: {
   87:         std::bitset<8>V(value);
   88:         std::bitset<8>T(tap);
   89:         std::string Value = V.to_string();
   90:         std::string Tap = T.to_string();
   91:         int j = 7;
   92:         int x = 0;
   93:         for (int i = 0; i < 8; i++)
   94:         {
   95:                 if (Value[i] != Tap[i])
   96:                 {
   97:                         x = x+pow(2,j);
   98:                 }
   99:                 j--;
  100:         }
  101:         return x;
  102: }
  103:
```