

■■ 7-Day SFML Learning Roadmap for C++ Beginners

This roadmap helps you go from C++ basics to building interactive games using the SFML library in 7 days.

Day 1 — Setup + First Window

- Goal: Get SFML running smoothly.
- Learn: Create an SFML project, include and link libraries, understand the main game loop.
- Mini Project: Display a blank window titled 'Hello SFML!'.

Day 2 — Drawing Shapes & Colors

- Goal: Learn to draw on screen.
- Learn: `sf::CircleShape`, `sf::RectangleShape`, `sf::Color`, `sf::Vector2f`, `setFillColor`, `setPosition`, `setRotation`.
- Mini Project: Draw a colorful flag (3 rectangles). Optional: Animate movement.

Day 3 — Handling Keyboard & Mouse

- Goal: Learn player control.
- Learn: Detect key presses/releases, read mouse clicks, move shapes with keyboard.
- Mini Project: Create a circle that moves with arrow keys and changes color when clicked.

Day 4 — Game Loop & Timing

- Goal: Make smooth movement (frame-independent).
- Learn: `sf::Clock`, `sf::Time`, `deltaTime`, fixed vs variable updates.
- Mini Project: Moving ball that bounces off window edges.

Day 5 — Textures, Sprites, and Fonts

- Goal: Add real images and text.
- Learn: Load textures (`sf::Texture`, `sf::Sprite`), draw text with fonts (`sf::Font`, `sf::Text`).
- Mini Project: Display a bouncing logo or text.

Day 6 — Sound & Simple Effects

- Goal: Add sound effects.
- Learn: `sf::SoundBuffer`, `sf::Sound`, `sf::Music` for background music.
- Mini Project: Add sound when the ball hits a wall.

Day 7 — First Game: Pong / Snake / Game of Life

- Goal: Combine everything.
- Learn: Organize code with classes, handle game states, implement collision logic.

- Mini Project: Create Pong, Snake, or Conway's Game of Life.

■ After Day 7 — Level Up Ideas

- Add menus and buttons using `sf::Text` and mouse detection.
- Save scores using files.
- Learn `sf::View` for camera and zoom control.
- Try making small games like Breakout, Flappy Bird, or a top-down car game.

■ Tip for Practice

Save each mini-project separately. Each one adds to your portfolio of small SFML games.