

Retro Pong Remix

Presented by: The 3 Aggieters

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The Retro Trend & Our Inspiration

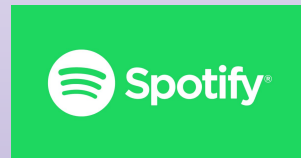
The Retro Revival: There is a powerful resurgence of retro culture across gaming, music, and design aesthetics.

The Enduring Appeal: Retro experiences resonate with a desire for simplicity, a sense of joy, and an authentic connection to the past.

Pong: A Timeless Classic: Introducing the iconic Pong, a universally recognized and beloved pioneer in video gaming history.

Our Inspiration: To use this classic game while integrating modern technology for a more captivating gaming experience.

Bridging The Past and The Future



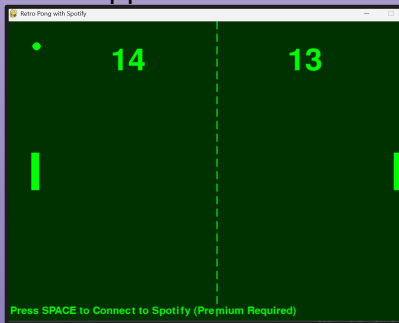
RETRO - THE CORE EXPERIENCE

Simple & Addictive Gameplay: Familiar back-and-forth action of Pong – two paddles, one ball, and the goal of scoring. Easy to pick up, challenging to master.

Nostalgic Visual Design: Intentionally minimalist graphics, a retro color palette (dark green background, bright green elements), and a classic font evoke the early days of video games.

Pure, Unadulterated Fun: The core mechanics offer a straightforward and enjoyable gaming experience, free from complex controls.

Universally Recognizable: Pong's iconic status allows a broad appeal and instant understanding of its gameplay.



MODERN TECH

Powered by the Spotify API

Seamless Music Integration: Connect your Spotify account to enhance your Pong experience with a retro soundtrack.

On-Demand Retro Vibes: Access and play curated selections of retro-inspired music directly within the game (or have it play automatically upon connection).

User-Friendly Authentication: A straightforward process to securely link your Spotify account using the public Spotify API.

The Future: Imagine dynamic playlists, music reacting to gameplay, and sharing your retro gaming soundtrack.

Nostalgia With A Modern Twist

The Power of Music: Music significantly amplifies engagement and enjoyment in games, making each match more dynamic and memorable.

Timeless Game: We can reintroduce the joy of Pong to a new generation while offering a fresh and sonically enriched experience for nostalgic players.

Seamless Blend of Old and New: Experience the best of both worlds – the intuitive fun of retro gaming combined with the vast music library and convenience of Spotify.

Personalized Audio Backdrop: Imagine the possibility of the game soundtracking your session with your favorite retro-inspired artists or playlists

Simple Access, Enhanced Fun: Easy to connect to Spotify and instantly start enjoying a more engaging and personalized retro gaming session.

Bringing the Vision to Life: Our Prototype

- **TECHNOLOGY FOUNDATIONS:**

Built using Python and the Pygame library for the classic game interface and logic.

```
pong.py x spotify_auth.py
1 import pygame #Create the visual game
2 import spotipy #Communicate with the Spotify se
3 from spotipy.oauth2 import SpotifyOAuth
4 import os # Handle secure user authorization
5 import webbrowser # To open the auth URL
```

SPOTIFY API INTEGRATION VIA SPOTIPY:

- Leveraged the Spotipy library to interact with the public Spotify API for seamless music functionality.

```
pong.py x spotify_auth.py x
1 from flask import Flask, request, redirect, url_for, session #core class we use
2 # to create our web application instance.
3 import spotipy #This object allows us to access incoming data from web requests
4 from spotipy.oauth2 import SpotifyOAuth #Specifically handles
5 # the OAuth 2.0 authorization process
6 import os #Access environment variables where we would securely store
7 # sensitive information like our Spotify Client ID and Client Secret
8
```

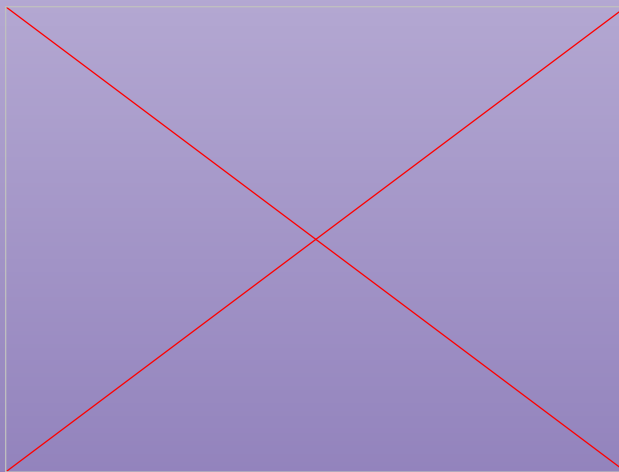
KEY IMPLEMENTED FEATURES:

Functional Pong Gameplay: Demonstrates the core retro experience with working paddles, ball physics, and scoring.

User Authentication Flow: Implemented a secure OAuth 2.0 flow allowing users to connect their Spotify accounts.

Automated Retro Music Playback: Upon successful authentication, a selection of retro-themed tracks begins playing automatically,

Clear User Guidance: In-game and console instructions guide users through the Spotify connection process.



Challenges & Lessons Learned

Initial Authentication Problems:

- The Spotify API authentication process, while ultimately successful, required careful implementation and clear user instructions to navigate the browser-based authorization flow.

User Experience of Authentication:

- **Challenge:** The initial process of connecting a Spotify account can feel disruptive to the game flow if not handled smoothly. Users might be hesitant to grant permissions.
- **Overcoming:** Provide clear and concise instructions to the user about why Spotify access is needed and the benefits it provides. Make the authentication trigger easy (pressing the SPACE bar). Give positive feedback upon successful authentication.

Lesson Learned:

- API are powerful for extending functionality.
- Can encounter issues beyond your direct control
- Help users navigate potential complexities or limitations arising from the API integration.

Potential PathWay: Music Game Bar

Here's what a full application could look like...

Increased Engagement & Time Spent: Integrating mini-games would give users another reason to open and spend more time within the Spotify app beyond just listening to music. This can lead to higher user retention and satisfaction.

Entertainment: Games themed around music genres (like 80s retro games for 80s playlists) would create a more immersive and relevant experience. It ties the visual and interactive elements directly to the audio content.

Discovery & Exploration: Mini-games could subtly introduce users to new artists or tracks within a genre. For example, achieving a high score in an 80s game might unlock a new 80s playlist.

Social Sharing & Competition: Leaderboards and sharing features within the game bar could foster a sense of community and friendly competition among users with similar musical tastes.

Unique Selling Proposition: This kind of integrated entertainment could differentiate Spotify (or any music app that implements it) from its competitors.

