# Multi-Emulator Launcher

A custom frontend for libretro cores with PS4 controller support, automatic game scanning, ZIP handling, and multi-disk game management.

## Features

✅ **Automatic Platform Detection** - Scans your ROM folders and creates tabs automatically
✅ **ZIP Support** - Automatically extracts and caches ZIPped ROMs
✅ **Multi-Disk Games** - Intelligently groups and launches multi-disk games
✅ **PS4 Controller Support** - Full navigation with DualShock 4
✅ **BIOS Management** - Organized BIOS folder structure matching your platforms
✅ **Smart Caching** - Fast loading of previously extracted ZIPs
✅ **Clean UI** - Dark theme, easy navigation

## Project Structure

```
emulator-launcher/
├── main.py                 # Main entry point
├── requirements.txt        # Python dependencies
├── config/
│   ├── settings.json       # User configuration
│   └── platforms.json      # Platform definitions
├── src/
│   ├── game_scanner.py     # ROM scanning
│   ├── platform_config.py  # Platform management
│   ├── rom_loader.py       # ZIP handling
│   ├── core_launcher.py    # Game launching
│   └── gui_main.py         # GUI interface
├── cores/                  # Place libretro cores here
│   ├── puae_libretro.so
│   ├── hatari_libretro.so
│   ├── cap32_libretro.so
│   └── ...
├── bios/                   # BIOS files organized by platform
│   ├── Amiga/
│   │   ├── kick13.rom
│   │   └── kick31.rom
│   ├── Atari ST/
│   │   └── tos.img
│   └── ...
├── roms/                   # Your ROM collection
│   ├── Amiga/
│   ├── Atari ST/
│   ├── Amstrad CPC/
│   └── ...
├── saves/              # Save states and SRAM
└── cache/              # Extracted ZIP cache
```

## Installation

### Prerequisites

1. **Python 3.8+**

2. **RetroArch** installed and accessible in PATH

3. **Libretro cores** for your platforms

### Step 1: Install Python Dependencies

```bash
pip install -r requirements.txt
```

### Step 2: Install RetroArch

**Linux (Ubuntu/Debian):**

```bash
sudo add-apt-repository ppa:libretro/stable
sudo apt update
sudo apt install retroarch
```

**macOS:**

```bash
brew install retroarch
```

**Windows:** Download from https://www.retroarch.com/

### Step 3: Download Libretro Cores

**Option A: Via RetroArch**

1. Open RetroArch

2. Go to Main Menu → Online Updater → Core Downloader

3. Download cores for your platforms:
   - **Amiga**: P-UAE or PUAE

- **Atari ST**: Hatari
- **Amstrad CPC**: Caprice32
- **Atari 2600**: Stella
- **Atari 800**: Atari800
- etc.

#### Option B: Copy from RetroArch

Find your RetroArch cores directory:

- **Linux**: `~/.config/retroarch/cores/`
- **macOS**: `~/Library/Application Support/RetroArch/cores/`
- **Windows**: `%APPDATA%\RetroArch\cores\`

Copy the `.so` (Linux), `.dylib` (Mac), or `.dll` (Windows) files to the launcher's `cores/` directory.

### Step 4: Organize Your ROMs

Place your ROMs in the `roms/` directory with each platform in its own folder:

```
roms/
├── Amiga/
│   ├── Aladdin Disk 1.adf
│   ├── Aladdin Disk 2.adf
│   ├── Feud_Atari-8-bit_EN.zip
│   └── ...
├── Atari ST/
│   ├── Arkanoid.st
│   ├── Batman.st
│   └── ...
└── ...
```

**Supported folder names:**

- Acorn Electron
- Amiga
- Amstrad 464
- Amstrad 6128
- Amstrad CPC
- Apple-II

- Atari 2600
- Atari 800
- Atari-8-bit
- Atari ST

### Step 5: Add BIOS Files

Place BIOS files in `bios/` organized by platform:

```
bios/
├── Amiga/
│   ├── kick13.rom
│   ├── kick20.rom
│   └── kick31.rom
├── Atari ST/
│   └── tos.img
├── Atari 800/
│   ├── ATARIXL.ROM
│   └── ATARIBAS.ROM
└── ...
```

**Required BIOS files:**

| Platform | Files Needed |
|---|---|
| Amiga | kick13.rom, kick20.rom, kick31.rom |
| Atari ST | tos.img |
| Atari 800/8-bit | ATARIXL.ROM, ATARIBAS.ROM |

## Usage

### Starting the Launcher

```bash
python main.py
```

### Keyboard Controls

- **Arrow Keys** - Navigate game list
- **Enter** - Launch selected game
- **Left/Right Arrows** - Switch between platform tabs
- **Escape** - Exit launcher

## PS4 Controller Controls

- **D-Pad / Left Stick** - Navigate game list
- ✖️ **(Cross)** - Launch game
- ○ **(Circle)** - Exit
- **L1 / R1** - Switch between platform tabs
- **Options Button** - Open settings
- △ **(Triangle)** - Quick actions (future)

## Game Icons