USD Development Environment Setup

Working Configuration

- **Platform**: macOS 15.5 ARM64 (Apple Silicon)
- **Python**: 3.10.13 in virtual environment
- **USD**: usd-core 25.5.1 (pip-installed)
- **TBB Fix**: oneTBB 2021.9.0 for compatibility

USD Environment Setup

Quick Start

1. **Create virtual environment:**

```
python3 -m venv .usd_env
source .usd_env/bin/activate
```

2. **Install Python dependencies:**

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

3. **Fix TBB compatibility (ARM Mac only):**

```
# Download compatible TBB version
wget
https://github.com/uxlfoundation/oneTBB/releases/download/v2021.9.0/on
eapi-tbb-2021.9.0-mac.tgz
tar -xzf oneapi-tbb-2021.9.0-mac.tgz
sudo cp -r oneapi-tbb-2021.9.0/lib/* /opt/homebrew/lib/

# Set library path (add to your shell profile)
export DYLD_LIBRARY_PATH="/opt/homebrew/lib:$DYLD_LIBRARY_PATH"
```

4. **Verify installation:**

```
python test_usd_fix.py
```

5. **Start developing:**

```
source start_usd_artist.sh
python create_geometry.py
```

Troubleshooting

If you get TBB symbol errors, ensure the library path is set:

```
export DYLD_LIBRARY_PATH="/opt/homebrew/lib:$DYLD_LIBRARY_PATH"
```

System Requirements

- macOS with Apple Silicon (ARM64)
- Python 3.10+
- Homebrew installed
- Git for repository management

File Structure

After setup, your project should look like:

```
USD_v03/
├── .usd_env/                # Virtual environment
├── my_usd_files/            # Generated USD geometry files
├── src/                     # Source code
├── create_geometry.py       # Geometry creation tool
├── test_usd_fix.py          # USD installation validator
├── start_usd_artist.sh      # Daily workflow script
├── requirements.txt         # Python dependencies
└── SETUP.md                 # This file
```