Running Singkong on Android TV using Termux

Noprianto

singkong.dev

What You'll Need

- **An Android TV** (running Android 9 or higher)
- **A computer** (running any OS that supports the Android Debug Bridge)
- **A physical keyboard and mouse** that can connect to your TV
- **A local Wi-Fi network with internet access** (so your computer and TV can communicate)

Downloading the Required Tools and Apps

- **Termux:** termux-app_v0.118.3+github-debug_universal.apk (https://github.com/termux/termux-app/releases)
- **bVNC:** freebVNC-v6.3.9_0-final.apk (https://github.com/iiordanov/remote-desktop-clients/releases)
- Android SDK Platform Tools (**adb**): https://developer.android.com/tools/releases/platform-tools

Preparing Your Android TV

- Connect both your Android TV and computer to the same Wi-Fi network, ensuring that the network has active internet access.
- Navigate to Settings (the gear icon) on your Android TV:
  - Navigate to Device Preferences > About, then click the remote's center button seven times on "Android TV OS build" until the message "You are now a developer!" appears.
  - Navigate to Device Preferences > Developer options and enable "USB debugging”.
  - Navigate to Device Preferences > About > Status > IP address, and write it down.

Connecting Your Computer to the TV

- **Open your computer's terminal or command prompt** in the folder where ADB is located.

- **Run the connection command using your TV's IP address:**
  `adb connect <ip>:5555`
- **Allow USB debugging on your TV** when the prompt appears on your screen (be sure to check "Always allow from this computer”).

- **Verify the connection by running this command (your TV should now be listed as a "device")**
  `adb devices`

Installing APKs and Adjusting Verification Settings

Run all these commands from your computer's terminal or command prompt

- Disabling ADB App Verification
  ```
  adb shell settings put global verifier_verify_adb_installs 0
  ```
- Disabling Package Verification
  ```
  adb shell settings put global package_verifier_enable 0
  ```
- Installing the Termux APK
  ```
  adb install termux-app_v0.118.3+github-debug_universal.apk
  ```
- Installing the bVNC APK
  ```
  adb install freebVNC-v6.3.9_0-final.apk
  ```
- Increasing the maximum phantom process limit
  ```
  adb shell device_config put activity_manager max_phantom_processes 2147483647
  ```
- Re-enabling verification settings.
  ```
  adb shell settings put global verifier_verify_adb_installs 1
  adb shell settings put global package_verifier_enable 1
  ```

Configuring Termux

Run all these commands inside the Termux app on your TV.

- Run in termux:

```
pkg update

pkg upgrade

pkg install openjdk-17-x

pkg install x11-repo

pkg install fluxbox

pkg install tigervnc
```

For the best experience, connect a physical keyboard

Configuring the VNC Server

Run all these commands inside the Termux app on your TV.

- Create the default ~/.vnc/xstartup (and set the password):

```
vncserver -localhost

vncserver -kill :1
```

- Edit the xstartup file: `nano ~/.vnc/xstartup`

```
#!/data/data/com.termux/files/usr/bin/sh

fluxbox-generate_menu
fluxbox &
```

Save the file (Ctrl O), then exit nano (Ctrl X)

- Run the VNC Server: `vncserver -localhost` or `vncserver -localhost -geometry 960x540`

For the best experience, connect a physical keyboard

Connecting with the VNC Client

Run the bVNC app on your TV.

- Setting up and saving a new connection profile to 127.0.0.1:5901, then initiating the session (entering your VNC password).

Downloading and Running Singkong

Perform these actions inside the VNC Client Window.

- Right click on the Fluxbox desktop and select aterm to open a new terminal window.
- Downloading the Singkong interpreter (one-time setup):

```
curl -O https://nopri.github.io/Singkong.jar
```

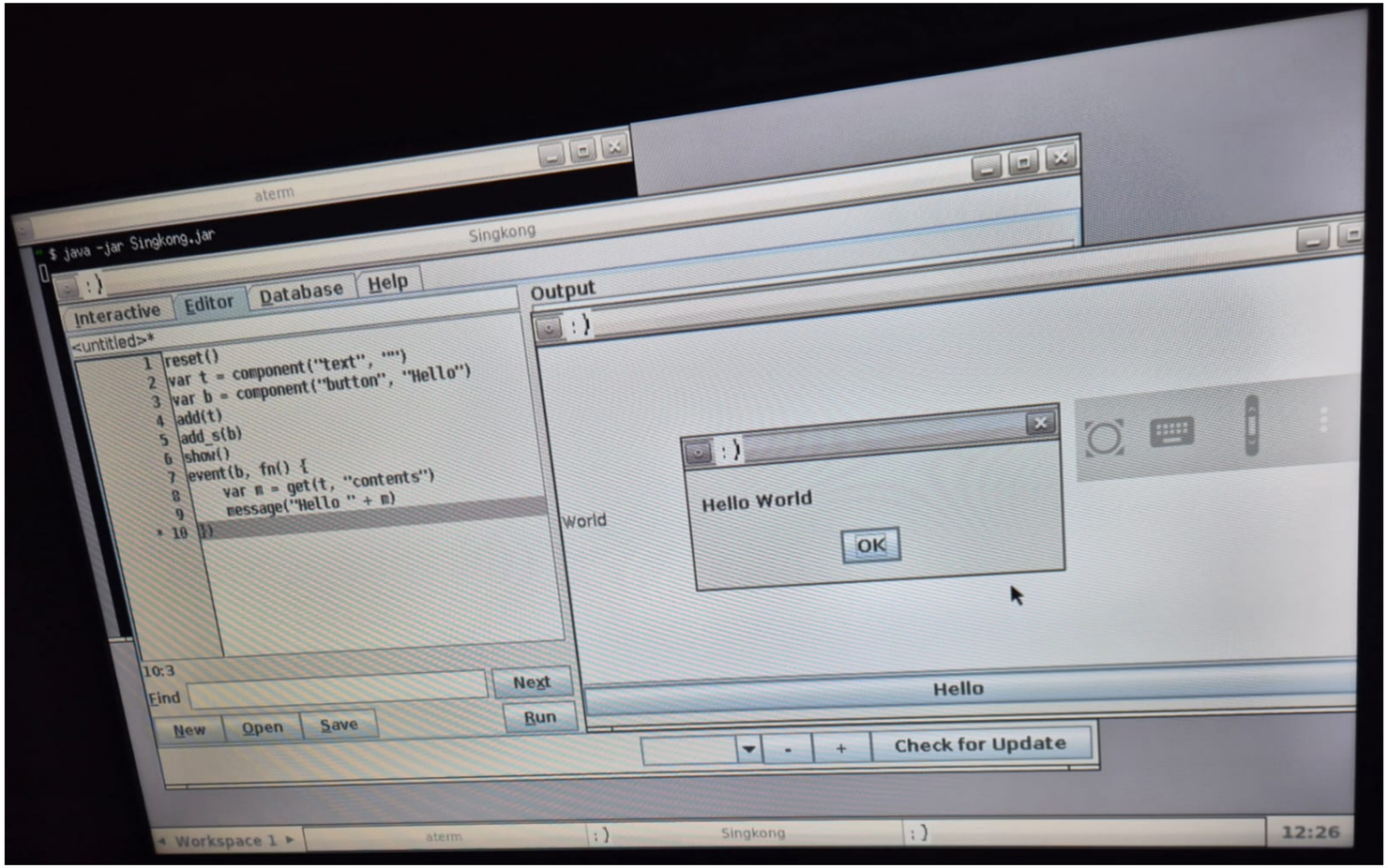
- Running the Singkong interpreter:

```
java -jar Singkong.jar
```

For the best experience, connect a physical keyboard and mouse

Singkong in Action

Your TV as a Development Machine, Fully Configured and Ready



Built in collaboration with **Google Gemini** for presentation polishing and editorial layout.