Playmobil Enterprise BLE Controller

A replacement for the official **Playmobil Star Trek Enterprise AR** app—which has been crashing on launch—and an integration guide for Home Assistant. Use your Android phone or an ESP32 to control the U.S.S. Enterprise bridge via BLE with one-tap buttons or Home Assistant switches.

📖 Background

The original Playmobil AR app (com.playmobil.ar.startrekenterprise) was designed to showcase the iconic U.S.S. Enterprise model in augmented reality and wirelessly trigger sounds, lights, and effects on the Playmobil bridge. Unfortunately, the app has become unstable and crashes on startup.

This repository provides two replacement solutions:

1. **App Inventor Android App**: A simple MIT App Inventor project with big buttons and a custom background to send five-byte command packets over BLE, to control your enterprise.
2. **Home Assistant Integration**: Use an ESP32 flashed with ESPHome (`ble.yaml`) to expose each command as a momentary switch in Home Assistant.

📁 Repository Contents

- `NCC_1701_Playmobil.aia`
  MIT App Inventor project archive. Import into the web editor.
- `background.psd`
  Photoshop source for the app's background. Edit and export as a PNG.
- `ble.yaml`
  ESPHome configuration for ESP32 to connect to the Playmobil bridge and expose Home Assistant switches.
- `README.pdf`
  This document.
- `LICENSE`
  MIT License.

🚀 Features

App Inventor App

- **Crash-proof App**: No AR engine and no —just a simple button interface.
- **Custom Background**: Use the included PSD for branding or theming.
- **BLE Commands**: Leverages App Inventor's BLE component to send raw 5-byte packets.

Home Assistant Integration

- **ESP32 as BLE Client**: Automatically scans and connects to the bridge.
- **Momentary Switches**: Each command appears as a switch in HA, firing the packet and resetting instantly.
- **Out-of-the-box YAML**: Drop `ble.yaml` into your ESPHome projects.

🔧 Prerequisites

App Inventor App

- Android device (OS 5.0+) with BLE support.
- MIT App Inventor account.

Home Assistant Integration

- ESP32 development board (e.g. NodeMCU-32S).
- Home Assistant with ESPHome addon or standalone ESPHome tool.
- Wi-Fi network credentials.

📥 Installation & Setup

1. App Inventor Replacement App

1. Clone or download this repo.
2. Open MIT App Inventor.
3. **Projects** → **Import project (.aia)** → select `NCC_1701_Playmobil.aia`.
4. **Media** → **Upload File** → add your exported PNG from `background.psd`.
5. Connect via AI2 Companion or **Build** the APK:
    - **Connect** → **AI2 Companion**, scan QR code.
    - Or **Build** → **App (save .apk)** and sideload on your device.

2. Home Assistant & ESPHome

1. Install the ESPHome addon in Home Assistant or set up ESPHome CLI.
2. Copy `ble.yaml` into your ESPHome configuration folder.

Update your Wi-Fi and `!secret` entries:

```
wifi:
  ssid: !secret wifi_ssid
  password: !secret wifi_password
ota:
```

3. password: !secret esphome_ota_password
4. (Optional) Pin by MAC instead of UUID by replacing `service_uuid` with `mac_address` under `ble_client`.
5. Compile & upload to your ESP32:
    - In HA: ESPHome → + → Upload.
    - CLI: `esphome run ble.yaml`.

Once online, Home Assistant will discover a device named **NCC1701** with a series of momentary switches.

📱 Usage

App Inventor App

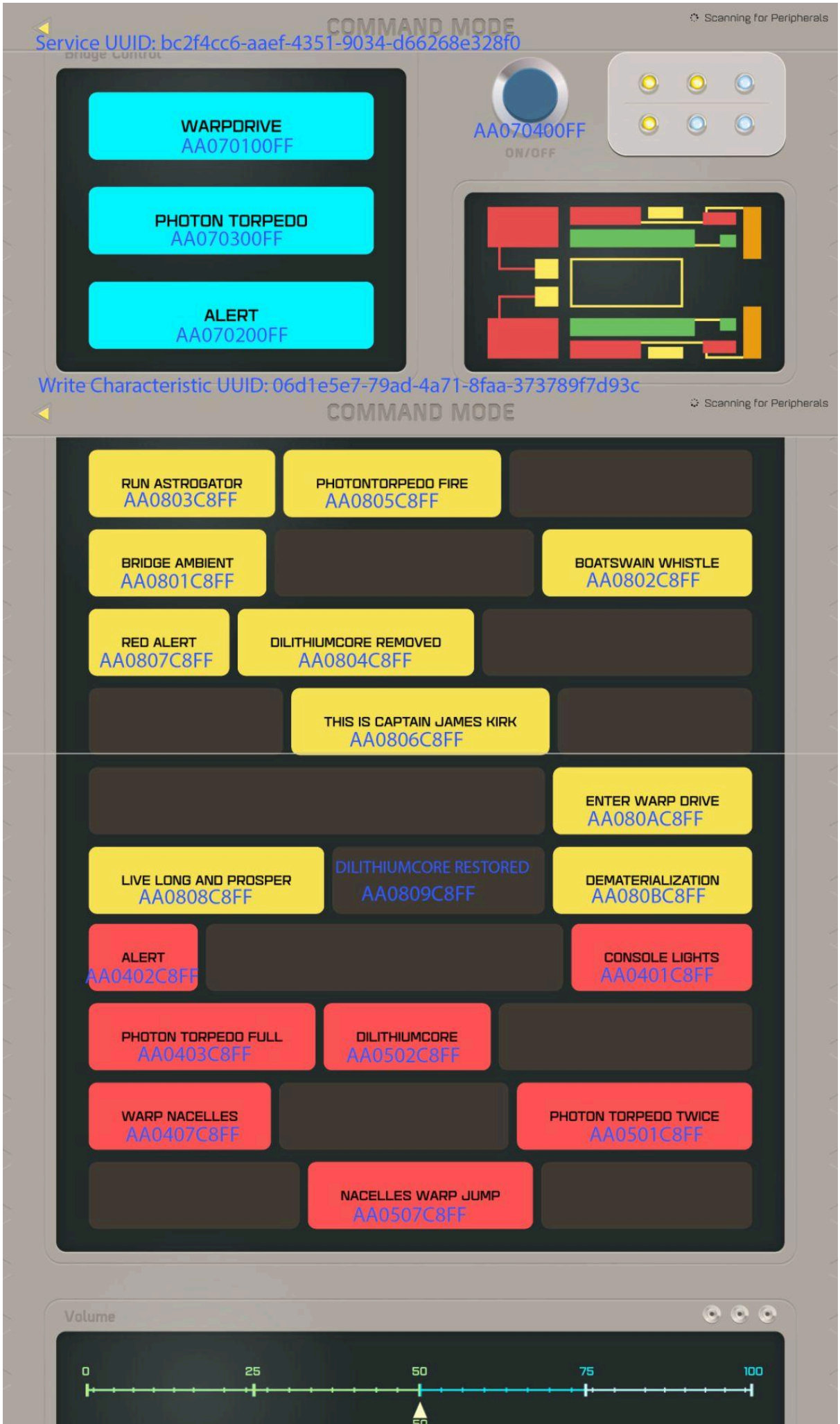
1. Launch the app on your Android device.
2. it will automatically **SCAN BLE DEVICES**, then connect to your **“U.S.S. Enterprise”**.
3. Tap any command button to trigger the effect on your Playmobil starship.

Home Assistant

1. Go to your HA dashboard.
2. Locate the **NCC1701** integrations or devices section.
3. Each command (Warp Drive, Red Alert, etc.) appears as a switch.
4. Toggle a switch to send that command and watch it automatically reset.

🛠️ Command Reference

All commands use the packet structure:


COMMAND MODE
Scanning for Peripherals
Service UUID: bc2f4cc6-aaef-4351-9034-d66268e328f0
WARPDRIVE
AA070100FF
PHOTON TORPEDO
AA070300FF
ALERT
AA070200FF
AA070400FF
ON/OFF
Write Characteristic UUID: 06d1e5e7-79ad-4a71-8faa-373789f7d93c
COMMAND MODE
Scanning for Peripherals
RUN ASTROGATOR
AA0803C8FF
PHOTONTORPEDO FIRE
AA0805C8FF
BRIDGE AMBIENT
AA0801C8FF
BOATSWAIN WHISTLE
AA0802C8FF
RED ALERT
AA0807C8FF
DILITHIUMCORE REMOVED
AA0804C8FF
THIS IS CAPTAIN JAMES KIRK
AA0806C8FF
ENTER WARP DRIVE
AA080AC8FF
LIVE LONG AND PROSPER
AA0808C8FF
DILITHIUMCORE RESTORED
AA0809C8FF
DEMATERIALIZATION
AA080BC8FF
ALERT
AA0402C8FF
CONSOLE LIGHTS
AA0401C8FF
PHOTON TORPEDO FULL
AA0403C8FF
DILITHIUMCORE
AA0502C8FF
WARP NACELLES
AA0407C8FF
PHOTON TORPEDO TWICE
AA0501C8FF
NACELLES WARP JUMP
AA0507C8FF
Volume
0
25
50
75
100

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