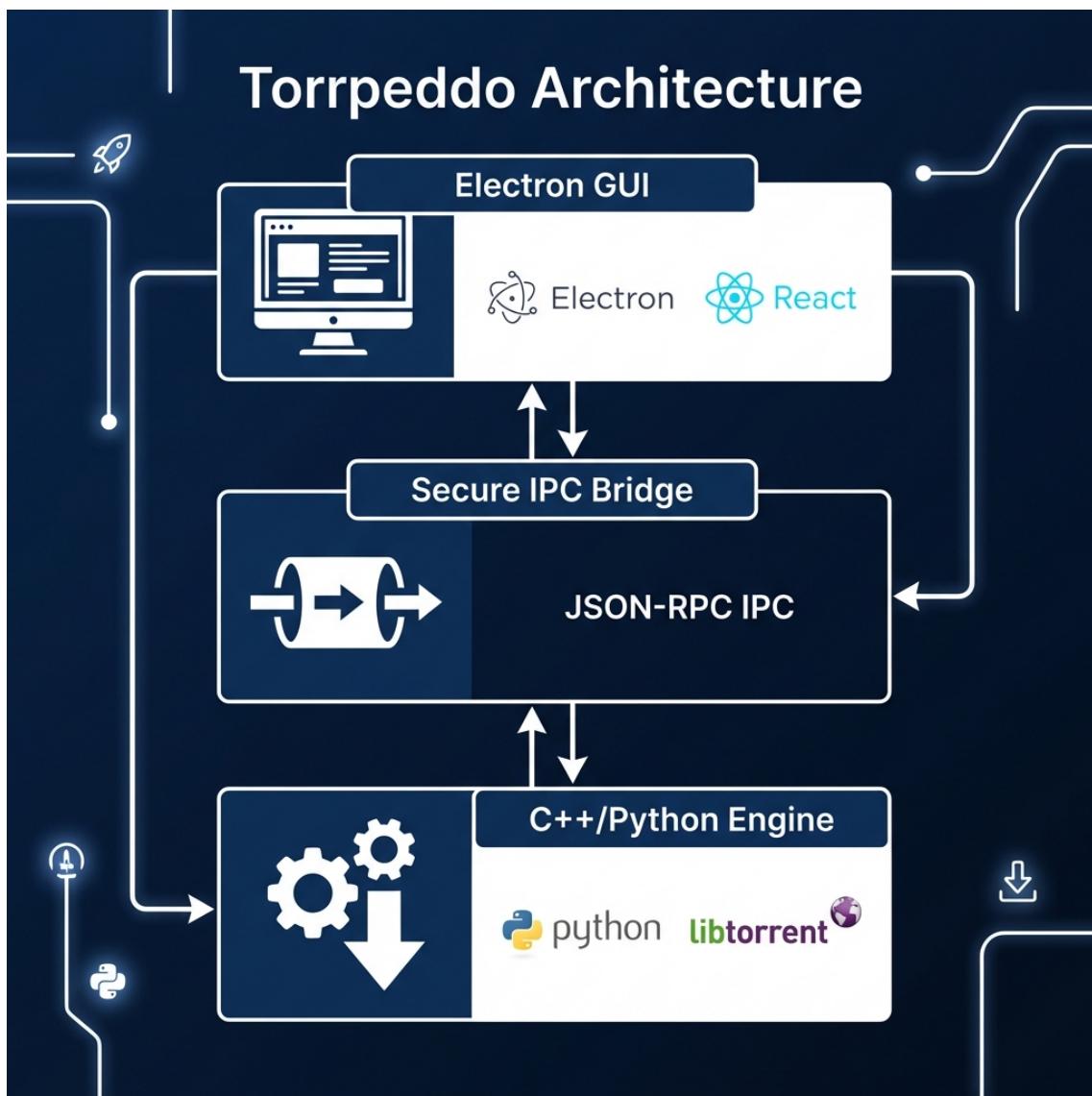


# TORRPEDDO PROJECT BOOK



## Executive Summary

## Architectural Deep Dive

Torpeddo follows a decoupled architectural pattern, separating the presentation layer from the core logic and network engine. This is achieved through three primary layers:

## **1. Frontend: Electron Framework**

Benefits for Torpeddo:  
and web components  
Cross-Platform Compatibility  
across Linux, Windows, and macOS  
OS features like file selection

## **2. The Bridge: IPC (Inter-Process Communication)**

Implementation:  
Protocol over std::string  
Python child processes  
converts data into JSON strings  
handles logic and returns results

Why this approach?  
- Decoupling: The engine can be updated, debugged, or even replaced without touching the UI.  
- Security: The backend runs as a separate process, providing a layer of isolation.  
- Performance: High-speed communication with minimal overhead compared to HTTP-based local servers.

## **3. Backend Engine: Python & libtorrent**

Multi-threaded Processing  
internal thread pool for parallel processing  
Python `TorrentManager`  
additions, ensuring data integrity  
from the DHT or peers

---

# **Development Process & Methodology**

---

(c) 2026 Torpeddo Team. All rights reserved.