THE BITCOIN CORPORATION

Bitcoin OS Integration Guide

Developer Integration & API Documentation

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Bitcoin OS Integration Guide

Overview

Bitcoin OS provides a unified desktop environment for all Bitcoin apps. Each app can run independently or within the Bitcoin OS shell, providing a seamless experience.

Architecture

```
Bitcoin OS (Main Shell)

├── TopMenuBar (Rainbow Bitcoin menu + app launcher)

├── Desktop (App icons)

├── AppLoader (iframe container for apps)

| ├── Bitcoin Wallet

| ├── Bitcoin Email

| ├── Bitcoin Music

| └── ... other apps

└── OSTaskbar (Bottom taskbar with open apps)
```

For App Developers

Quick Start

Each app needs to:

1. Continue working standalone (users can still visit your app directly)

2. Add Bitcoin OS bridge for enhanced integration when running inside OS

3. Handle theme/config messages from OS

Integration Steps

1. Install the Bridge (Option A - NPM Package)

```bash
npm install @bitcoin-os/bridge
```

2. Install the Bridge (Option B - Copy Files)

Copy these files from bitcoin-OS repo:

- `/lib/bitcoin-os-bridge.js` - Vanilla JS

- `/lib/useBitcoinOS.ts` - React Hook

  #### 3. React Integration

```tsx
import { useBitcoinOS } from '@bitcoin-os/bridge/react'
function App() {
const { isInOS, theme, navigateHome, openApp } = useBitcoinOS()
return (
{isInOS && (
Back to Desktop
)}
{/ Your app content /}
)
}
```

  #### 4. Vanilla JS Integration

```html
```

Styling Guidelines

1. **Remove duplicate taskbars** - When `isInOS` is true, hide your app's taskbar

2. **Respect OS theme** - Use the theme provided by OS

3. **Window controls** - OS handles window management, remove your controls when in OS

Example:

```css
css
/ Hide app taskbar when in OS /
[data-in-os="true"] .app-taskbar {
display: none;
}
/ Theme support /
[data-theme="dark"] {
--bg-color: #000;
--text-color: #fff;
}
[data-theme="light"] {
--bg-color: #fff;
--text-color: #000;
}
```

API Reference

bitcoinOS / useBitcoinOS

- `isInOS: boolean` - True when running inside Bitcoin OS

- `theme: 'light' | 'dark'` - Current OS theme

- `navigateHome()` - Close app and return to desktop

- `openApp(appName: string)` - Open another app

- `showNotification(title, message)` - Show OS notification

- `setTitle(title)` - Update window title in OS

Testing Your Integration

1. **Local Development**

```bash
# Run Bitcoin OS

cd bitcoin-OS

npm run dev # Runs on port 3000

# Run your app

cd bitcoin-wallet

npm run dev # Run on port 3001
```

2. **Update bitcoin-OS config** for local testing:

```ts
// bitcoin-OS/lib/apps.config.ts

{

id: 'bitcoin-wallet',

url: process.env.NODE_ENV === 'development'

? 'http://localhost:3001' // Your local app

: 'https://bitcoin-wallet.vercel.app'

}
```

3. **Test integration**:

- Open Bitcoin OS

- Click rainbow Bitcoin menu

- Select your app

- Verify it opens in AppLoader

- Test navigation back to desktop

For Bitcoin OS Maintainers

Adding New Apps

1. Update `/lib/apps.config.ts`:

```ts
export const bitcoinApps = [

// ... existing apps

{

id: 'bitcoin-newapp',

name: 'Bitcoin NewApp',

url: 'https://bitcoin-newapp.vercel.app',

color: '#color',

description: 'Description'

}

]
```

2. Apps will automatically appear in:

- Rainbow Bitcoin menu

- Apps menu in top bar

- Desktop (if icon configured)

CORS and Security

Apps must allow iframe embedding. Add to your app:

```js
// Next.js - next.config.js

module.exports = {

async headers() {

return [

{

source: '/:path*',
```

```
headers: [

{

key: 'X-Frame-Options',

value: 'SAMEORIGIN' // Or remove entirely

}

]

}

]

}

}
```

Migration Path for Existing Apps

Phase 1: Basic Integration (Current)

- Apps run in iframes

- Basic PostMessage communication

- Shared theme

Phase 2: Enhanced Integration

- Shared authentication

- Inter-app communication

- Unified notifications

Phase 3: Native Features

- File system access

- Bitcoin wallet integration

- Shared data storage

Example Implementations

See these apps for reference:

- `/components/AppLoader.tsx` - OS side implementation

- (To be added to each app repo)

Troubleshooting

App not loading in OS?

- Check CORS headers

- Verify URL in apps.config.ts

- Check browser console for errors

Theme not applying?

- Ensure bitcoinOS bridge is initialized

- Check data-theme attribute is set

- Verify CSS variables are defined

Can't navigate back to desktop?

- Confirm isInOS is true

- Check PostMessage is working

- Verify OS is listening for messages

Support

- GitHub Issues: [bitcoin-OS/issues](https://github.com/bitcoin-apps-suite/bitcoin-OS/issues)

- Documentation: This file

- Examples: Check individual app repos