

Sanigear Kiosk App - Technical Documentation

1. Overview

Sanigear Kiosk is a purpose-built Android application designed for secure and controlled access to a single web application. It operates in kiosk mode, supports remote auto-updates via GitHub, and includes a watchdog service to monitor and restrict unauthorized app usage. Admin override, PDF viewing/printing, and silent updates are also supported.

2. System Requirements

- Minimum Android Version: 7.0 (API 24)

- Target Android Version: 13 (API 34)

- Required Permissions:

 - * INTERNET

 - * ACCESS_NETWORK_STATE

 - * MANAGE_DEVICE_ADMINS

 - * RECEIVE_BOOT_COMPLETED

 - * FOREGROUND_SERVICE

 - * PACKAGE_USAGE_STATS

 - * REQUEST_INSTALL_PACKAGES

3. Installation & Deployment

1. Install APK using adb:

```
adb install path/to/apk
```

2. Set as Device Owner:

```
adb shell dpm set-device-owner com.sanigear.kioskapp/.MyDeviceAdminReceiver
```

3. Launch the app. Kiosk mode and watchdog will activate automatically.

4. Admin Controls

- Exit kiosk mode: Tap volume up 5x in sequence

- Admin PIN will prompt and unlock kiosk and disable watchdog
- Returning to kiosk: Restart app or use shortcut

5. Watchdog Service

Continuously monitors the foreground app every 2 seconds. If the app is not whitelisted, it brings the kiosk app back to front. The admin override temporarily disables this watchdog.

6. Auto-Update System

- Checks GitHub Releases weekly
- If newer version detected, APK is downloaded and installation is triggered
- Manual update button available in the About screen
- After install, app auto-restarts using broadcast receiver

7. Printing Support

Whitelisted print services:

- com.adobe.reader
- com.android.printspooler
- com.android.bips
- com.google.android.printservice.recommendation

8. Boot & Recovery Behavior

On device boot:

- BootReceiver launches MainActivity and Watchdog
- Kiosk mode is re-entered automatically if Device Owner

9. Customization

- Homepage URL: Hardcoded into WebView within MainActivity
- Logo/Splash screen: Update splash screen resource files
- Admin PIN: Defined in code for now (can be secured further)

10. Troubleshooting

Logcat tags to monitor:

- UpdateUtils

- AppWatchdogService

If update popup fails:

- Ensure 'Install unknown apps' is allowed
- Ensure package installer is whitelisted in LockTask
- Manually bump versionCode/versionName in build.gradle before building