

1 Read Me

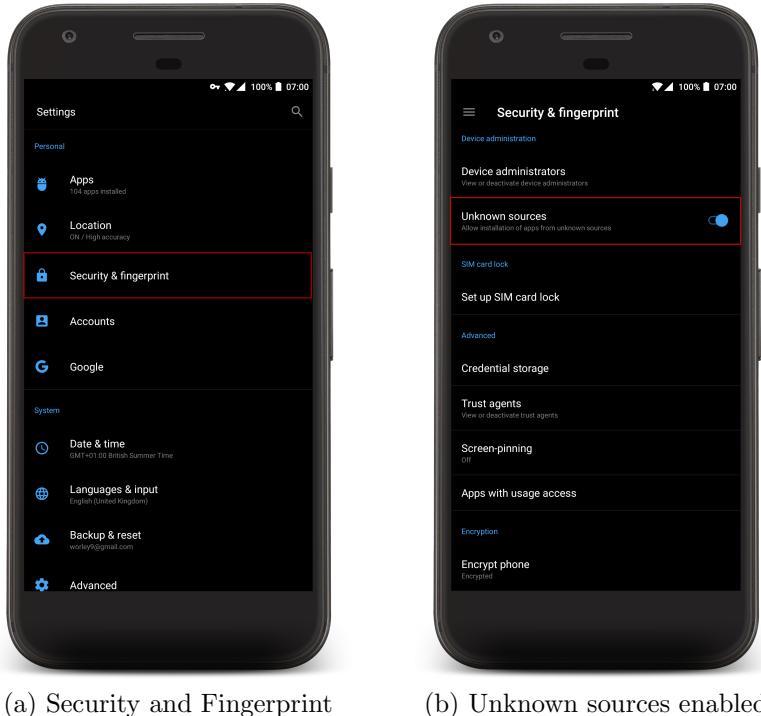
The following documentation provides instructions on how to install and use the application.

1.1 Installation

To install an Android application not available from the play store, there are several steps that are required to install the app.

1.1.1 Enable Unknown Sources

To install the application to a physical device it is necessary to enable the setting to allow for installation of apps from unknown sources; this is required as the application is not available from the play store. The setting to allow unknown sources can be found in: Settings → Security → Unknown sources:



(a) Security and Fingerprint (b) Unknown sources enabled

Figure 1: Enabling unknown sources

1.1.2 Copy APK to Device and install locally

Once installation from unknown sources has been enabled, copy the application APK to the device. On the device navigate to the location that APK was copied to within the file browser on the device. Tap on the APK and an installation prompt will be presented; accept the installation and wait for the app to be installed.

When installation has been completed the app will now be available from within the application draw or on the home-screen.

1.1.3 Alternative Installation

It is possible to install the application using the command line; in this example it shows doing so using Windows 10 and the command line.

Before being able to install the application it is not only necessary to enable unknown sources as above, but also to enable ADB debugging.

1.1.4 Enable ADB on Device (Alternative Installation)

Enabling ADB can be done by first enabling developer options, go to Settings → About phone. From here you will need to tap the *Build number* around 7 times in succession, after which a success message will show you have enabled developer settings.

| |
|---|
| Kernel version |
| 3.4.113-cyanogenmod-g82e38c7 blinky@cyanogenmod #1 Sat Dec 24 20:03:39 PST 2016 |
| Build date |
| Sat Dec 24 19:58:33 PST 2016 |
| Build number |
| You are now 3 steps away from enabling cm_find7-user.debug.Z11-NME260-S12b2fd1a6 test-keys |
| SELinux status |
| Enforcing |

(a) Enabling developer options

| |
|---|
| Kernel version |
| 3.4.113-cyanogenmod-g82e38c7 blinky@cyanogenmod #1 Sat Dec 24 20:03:39 PST 2016 |
| Build date |
| Sat Dec 24 19:58:33 PST 2016 |
| Build number |
| cm_find7-user.debug.Z11-NME260-S12b2fd1a6 test-keys You have enabled development settings! |
| SELinux status |
| Enforcing |

(b) Developer options enabled message

Figure 2: Enabling developer options

Developer settings are now available from within the settings menu as shown in figure 3a. Enter this option and scroll to the option *Android debugging* as shown in figure 4, when toggled a warning message will appear (figure 3b); read and accept the warning to enable ADB.

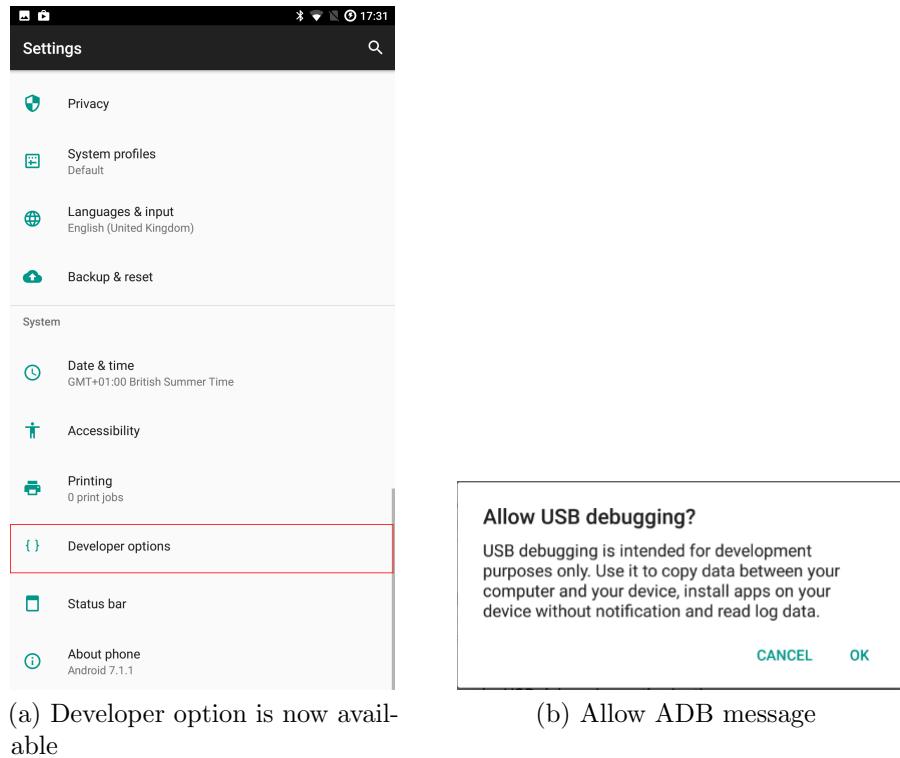


Figure 3: Enabling ADB on device

1.1.5 Install ADB - *Windows 10* (Alternative Installation)

The installation of ADB will often be included with Android studio, however to install ADB alone the easiest method would be to download and use the ADB installer tool found on XDA-Developers Snoop05 2013.

Once installed running `adb devices` will show all devices connected to the computer with ADB enabled as shown in figure 5.

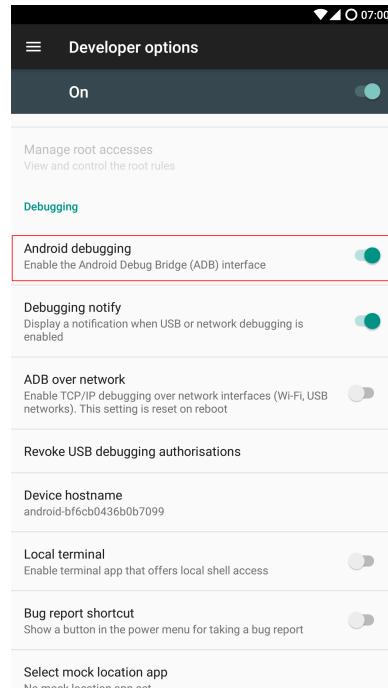


Figure 4: ADB option in developer menu

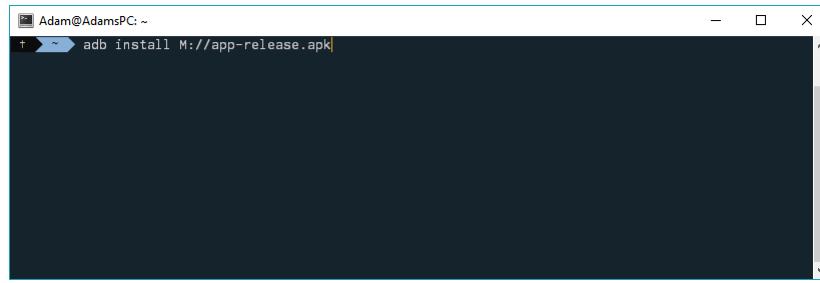
```
Adam@AdamsPC: ~
+ ➔ adb devices
List of devices attached
4a9252ee    device
```

A screenshot of a terminal window titled 'Adam@AdamsPC: ~'. It displays the output of the 'adb devices' command, which shows a single device connected with the identifier '4a9252ee' and the status 'device'.

Figure 5: Results of running ADB devices command

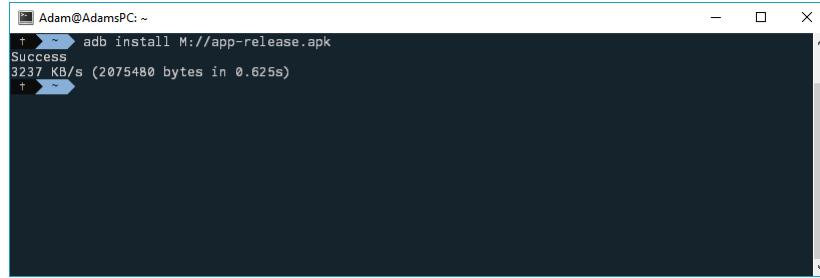
1.1.6 Installation via ADB (Alternative Installation)

Now that ADB is enabled on the device and installed on the computer it is possible to run the command `adb install *apk file location*` passing in the location to the apk file. If successful an installation success message will be displayed as shown in figure 6.



```
Adam@AdamsPC: ~
+ ➤ ~ adb install M://app-release.apk
```

(a) ADB install command



```
Adam@AdamsPC: ~
+ ➤ ~ adb install M://app-release.apk
Success
3237 KB/s (2075480 bytes in 0.625s)
+ ➤ ~
```

(b) Results of application installation success

Figure 6: Installing APK using ADB

1.2 Alarms

This section will provide instructions for the functionality of the alarm functionality.

1.2.1 Create

By clicking on the alarm create button at the bottom of the screen (as seen in figure 7) a time picker dialog will appear.

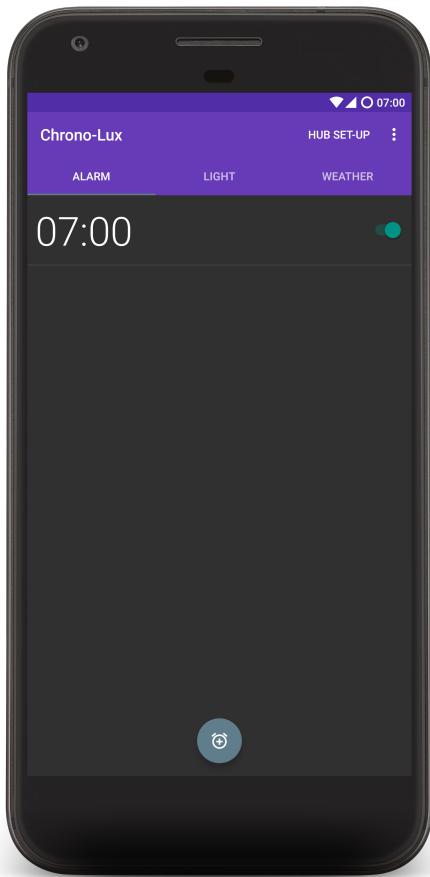


Figure 7: Create alarm button

First the hour will be selected, to select the hour desired for the alarm either tap on time or for more precision, press and drag the *hand* of the clock to the desired time. When released the picker will now allow for the selection of the minutes; repeat the same action as for the hour to select the chosen time.

1.2.2 Rename

Renaming an alarm is simple, by tapping the alarm that needs renaming an edit text pop-up will appear (as seen in figure 8); enter the new label desired and confirm the change, the alarm is now called something else.

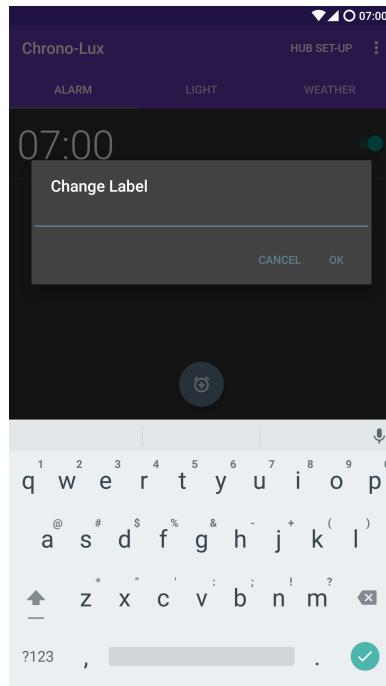


Figure 8: Change label edit text

The label provided to the alarm will appear when the alarm goes off and be displayed in the alarm notification.

1.2.3 Turning Off/On an Alarm

By pressing the switch on the right hand side of the screen, it is possible to toggle the alarm on or off.

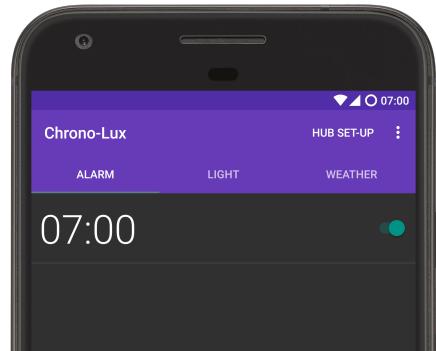


Figure 9: Toggle alarm switch

1.2.4 Delete

To delete an existing alarm, simply press and hold the alarm to be deleted, a prompt will appear asking to confirm the action.

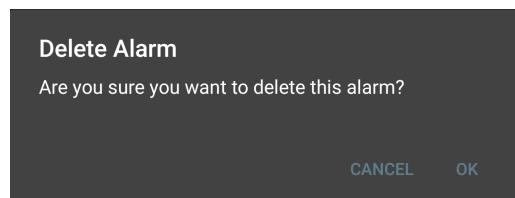


Figure 10: Delete alarm dialog box

1.3 Lights

It is required to connect the application to a lighting bridge to be able to enable the lighting functionality within the application. The alarms and weather will work without the lighting being configured.

1.3.1 Connecting to the Bridge

To be able to use the smart-light functionality it is necessary to pair the application with the bridge prior to use, this allows the application to be *white-listed* and provide access to the lighting interface.

When navigating to the lighting tab, if no bridge has been configured a text prompt will appear and at the press of the button will take you to the set-up activity. If the activity does not automatically begin searching for a bridge, pressing the search for bridge button will begin a search.

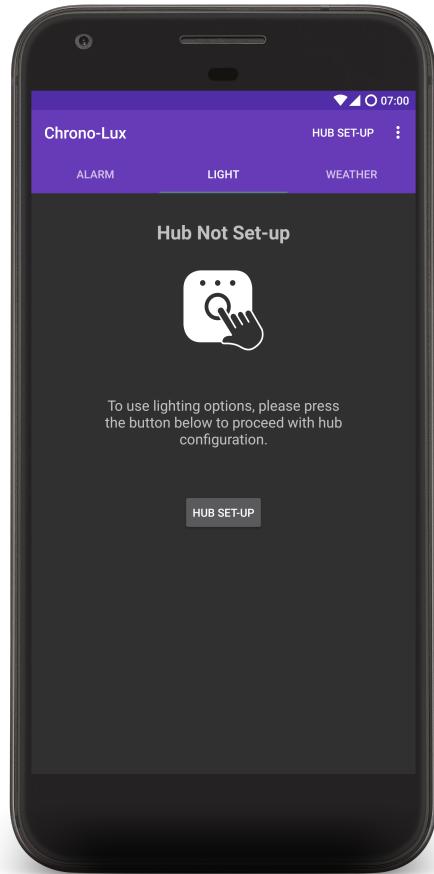


Figure 11: Bridge set-up prompt screen

If no bridges are returned please ensure you are on the same local network as the bridge and there are no firewalls, VPNs or other potential network configuration that could be blocking communications. If no bridges are found or you would like to search again, simply press the search button again.

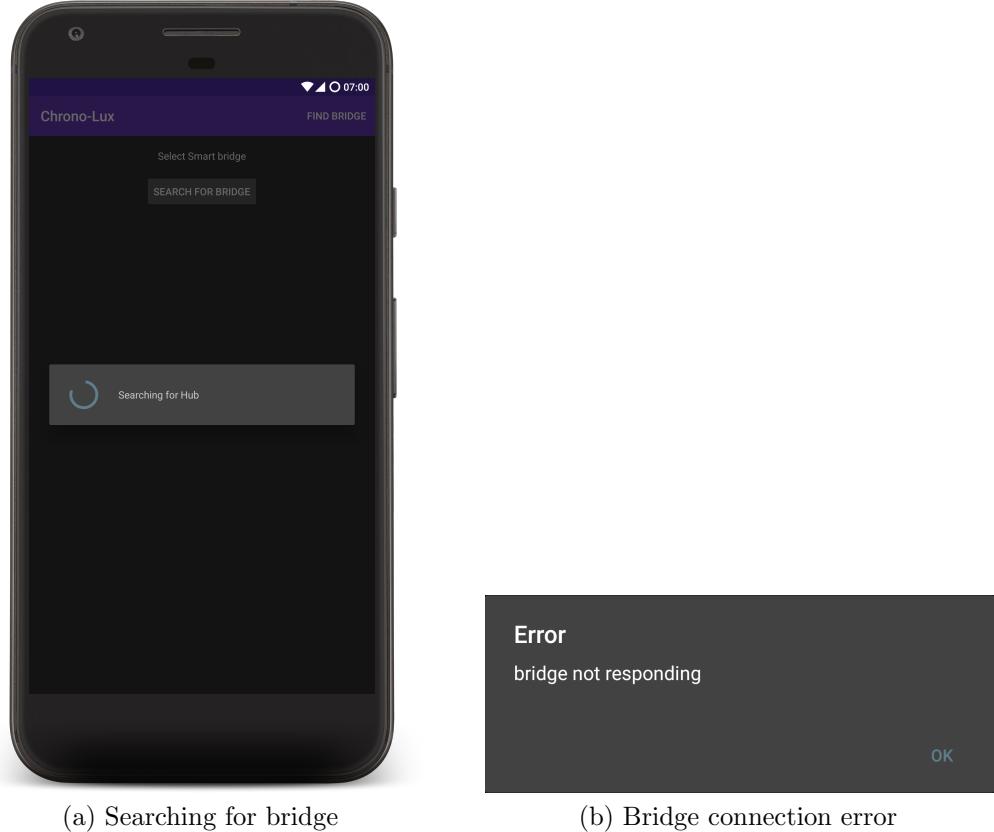
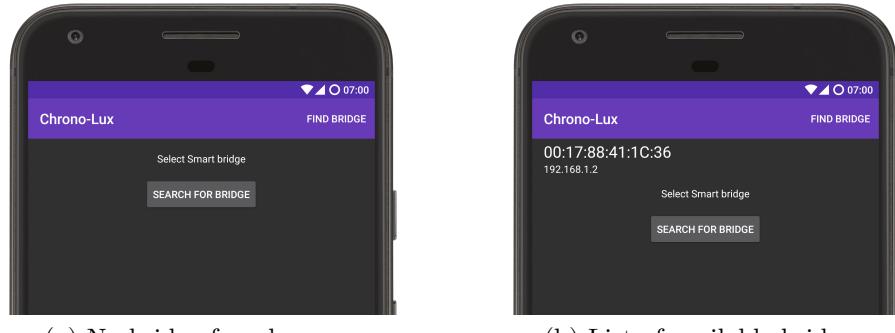


Figure 12: Finding available bridges

When the search is completed a list of all found bridges will be displayed, to select one tap on it to begin the authentication process.



(a) No bridge found screen

(b) List of available bridges

Figure 13: Finding available bridges

On selecting a bridge the push-button authentication will occur, please press the large push-link button on the front/top of the bridge. This action is to ensure that there is physical access to the bridge as a security measure to prevent un-authorised applications or intruders on the network gaining access to the lighting interface.



Figure 14: The push-link prompt and countdown

On successful authentication you shall be returned back to the main application, now when navigating to the lighting tab any connected lights shall be displayed similar to that shown in figure 15.

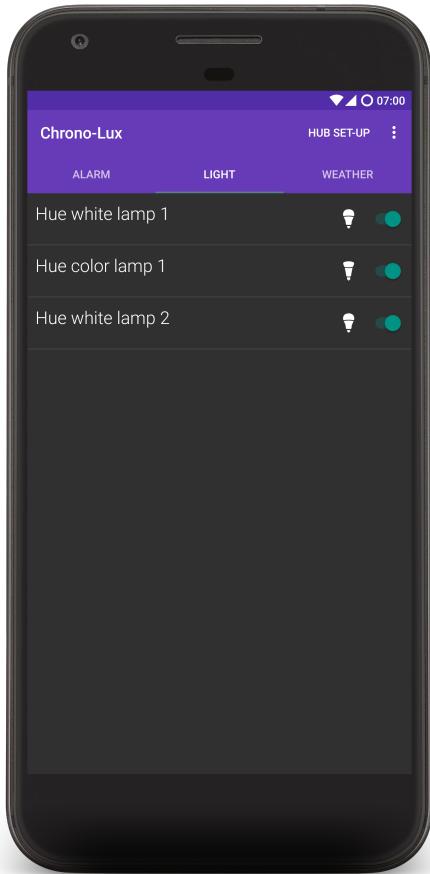


Figure 15: List of available lights

1.3.2 Toggling the lights

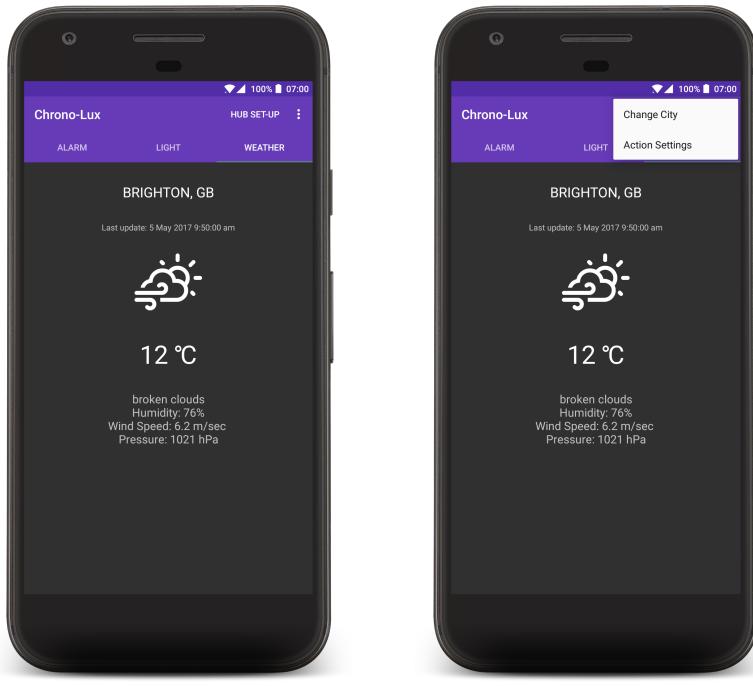
Any lights assigned to the bridge will be displayed in a list, displaying their name and an icon indicating the light type.

Each alarm can be turned on/off easily by tapping the switch on the right hand side of the screen.

It should be noted that if a light is turned off at the wall/switch the last known light state will be displayed within the application when displayed.

1.4 Weather

Weather will be displayed on the weather tab. To change the location of the weather being displayed, press on the menu expansion button from anywhere within the application as seen in figure 16, this will display the option to change the city stored.



(a) The options menu is in the top right

(b) Change city option

Figure 16: The city selection option

when the change city option is selected a text dialog will appear allowing for the entry of a different city, simply type in the name of the city desired and accept the change, the weather will be updated when the weather tab is loaded next.