

# CA326 Third Year Project - User Manual

Squid Proxy for Safe Browsing

Completed: 23/02/23

**Project Title:** Squid proxy and Android app for safe browsing

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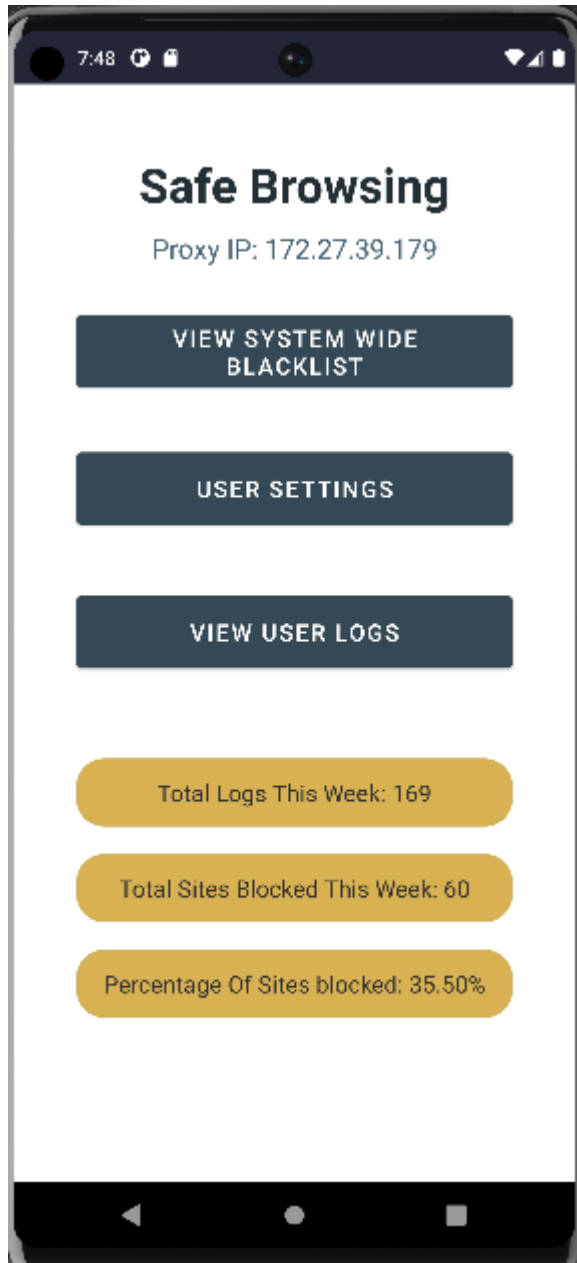
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## 1.1 Home Page

On the Home page you will be met by three buttons that will allow you to interact with the squid proxy that is stored on your Raspberry Pi. These buttons include “View System Wide Blacklist”, “User Settings” and “View User Logs” and can be seen below.



Selecting the “View System Wide Blacklist” button will bring you to the page where you can add or remove websites or words that all users connected to the squid proxy will not be able to access. Selecting “User Settings” will bring you to a screen where you can see every user account that has been made. Here you can create a new user or select a

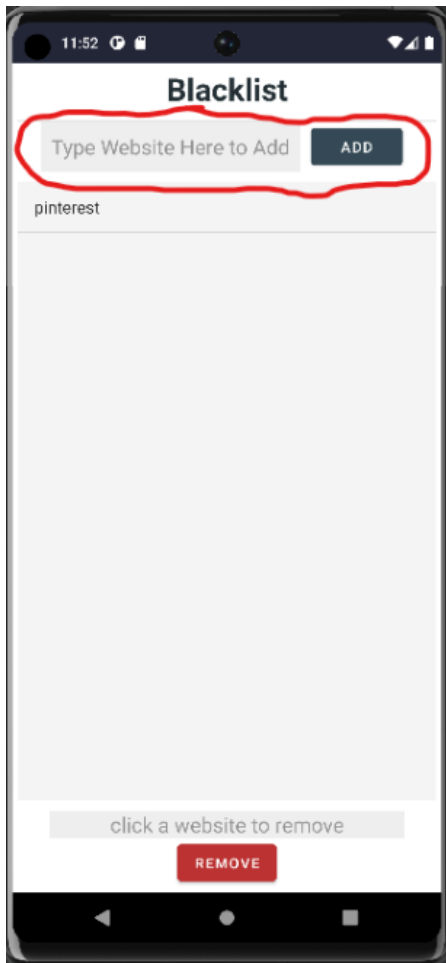
user to add specific restrictions to them. Selecting “View User Logs” will bring you to a page where you can select a user and see all their activity in the last week or day. The additional information seen on the home page shows information on the activity of the proxy in the past week such as the total number of queries the proxy has received from users, the amount of these queries that the proxy has blocked and then the percentage of the queries blocked in the past week.

## 2.1 System Wide Blacklist

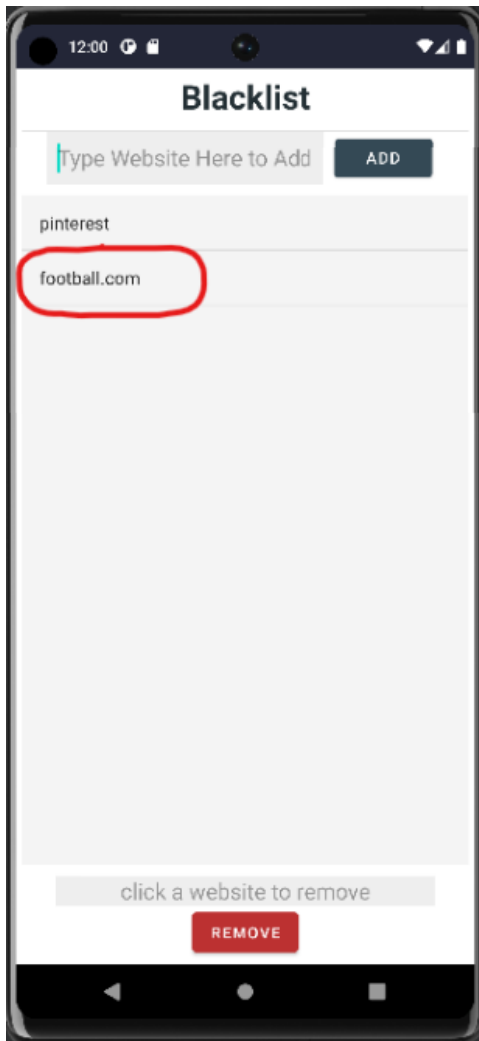
The system wide blacklist contains all the websites and words that are currently being blocked from users that are connected to the proxy. Here a user can also add and remove words or websites they would like to be blocked from all connected users.

## 2.2 Blocking A Website

Blocking websites network wide can be done by selecting the text box circle below



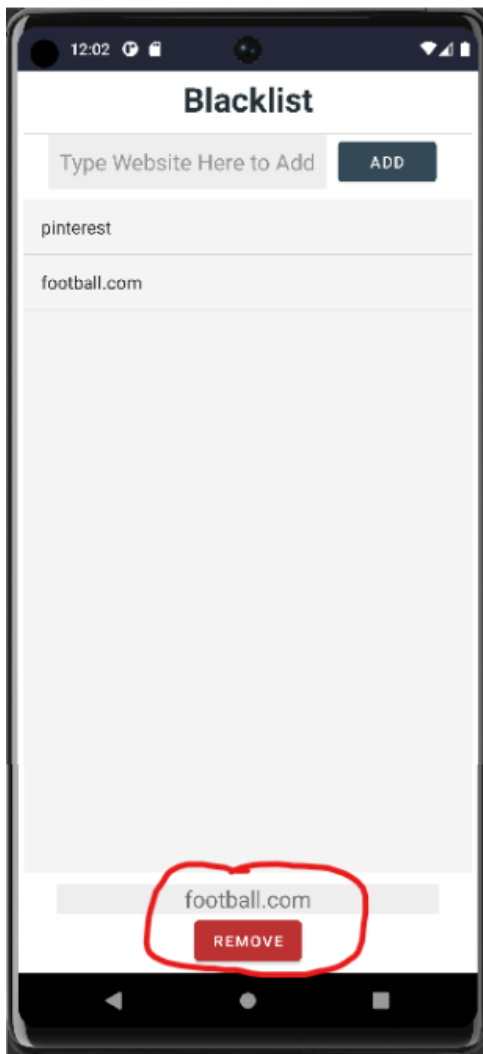
After clicking a keyboard will rise from the bottom of the screen and you will be allowed to enter the name of a website to be blocked. Once you have done so click "ADD" and the website will join the list shown below and users will no longer be able to access it.



Be specific matters as websites are blocked on if they contain the word in the domain e.g. if you would like to block the website football.com but not footballScores.com entering the word football will block both. So to only block football.com you must enter the full domain name football.com. However if you would like all domains containing the word football to be blocked then entering the word football will suffice.

## 2.3 Unblocking A Website

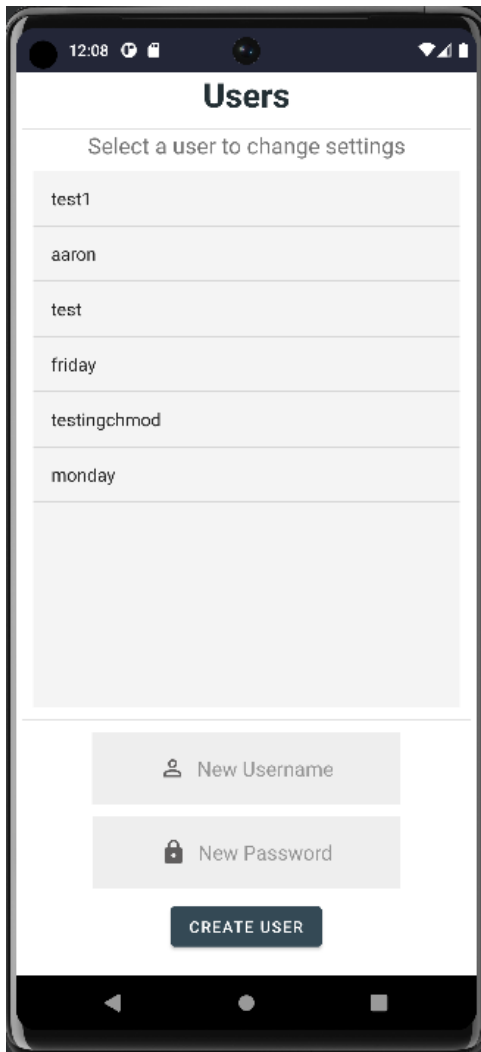
To unblock a website that you have already added to the network wide blacklist simply select the website that you wish to remove, this will automatically enter it in the text box on the bottom of the screen.



Then simply click on the “REMOVE” button and this will remove the website from the list above and reconfigure the proxy on your raspberry pi to no longer block this site.

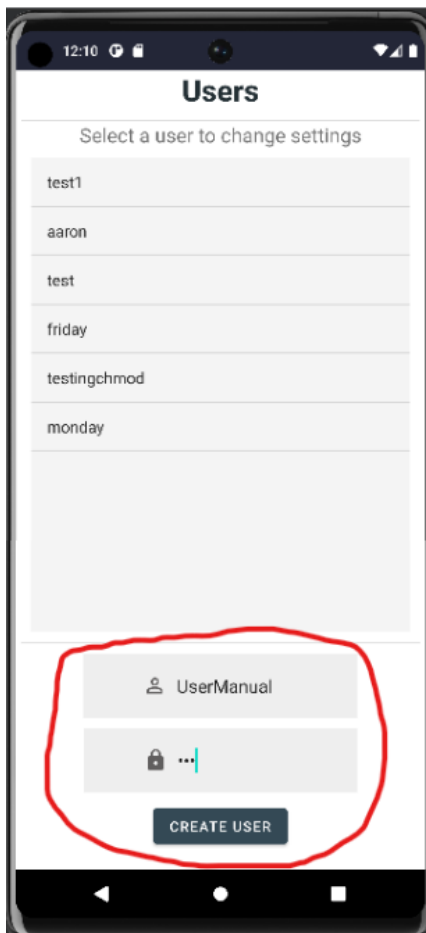
### 3.1 User Settings

The user settings page will allow you to see the list of all users created on the proxy. You can create new users here and also select a user to set specific permissions to that user such as time restrictions and add websites that will only be blocked to this user.



### 3.2 Creating A User

Creating a user on the squid proxy stored on your raspberry pi is simple, all you must do is enter their name and password into the text boxes at the bottom of the page and when finished select "CREATE USER".

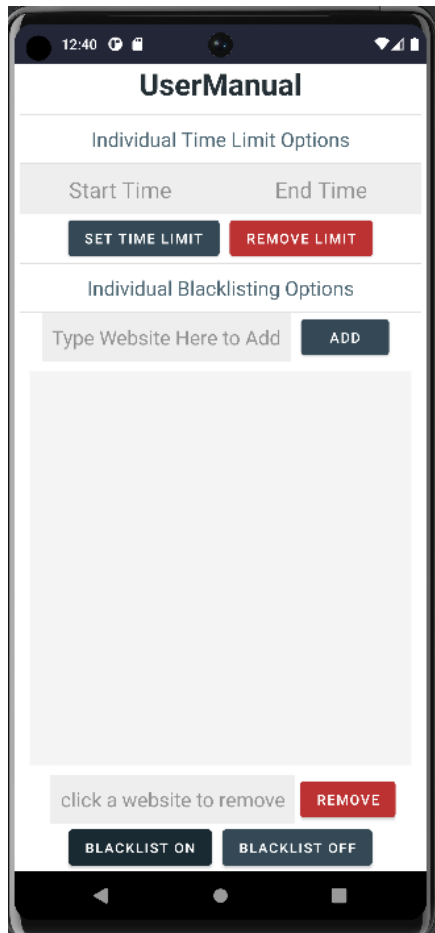


Once you have created this new user they will be added to the list of users above and you can now click on their name to add specific restrictions to them.

### 3.3 Individual User Restrictions

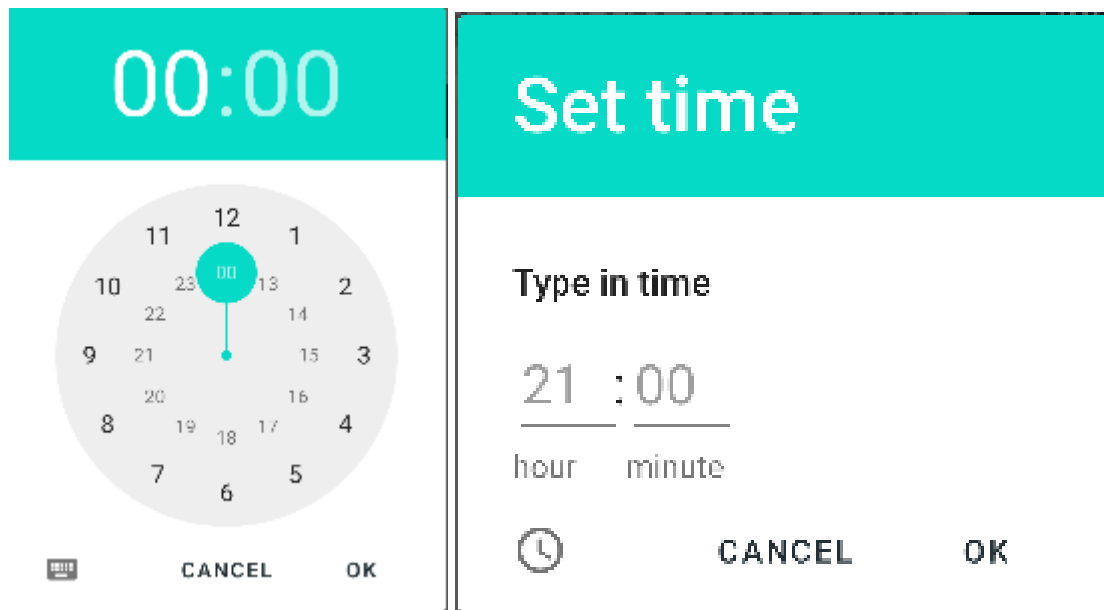
Once you have selected a user you will now be brought to the page where you can set restrictions that will only effect this user, such as their blacklist and set a time where they can only access the internet in between.





### 3.3.1 Setting Time Limits

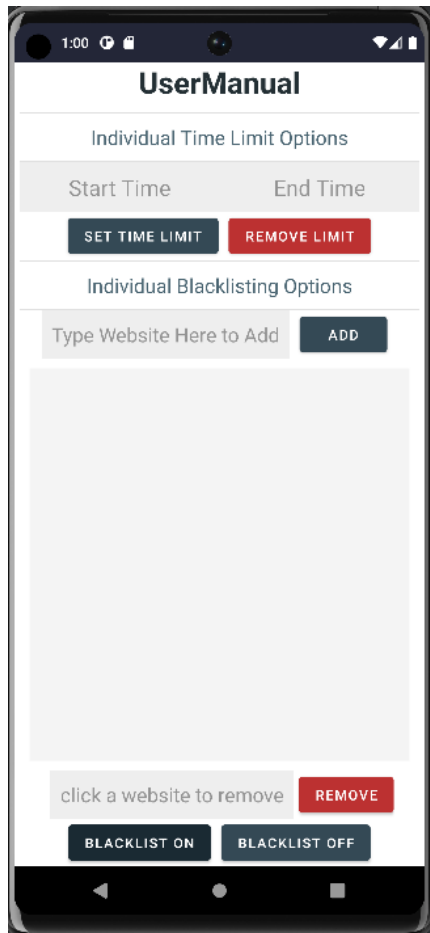
You can set time limits on each user you have made so that they can only access the internet inside this time period. First you select the start time at which they can access the internet. This is bring a pop up where you can either use a clock to select the time by dragging the hands or select to enter the time manually. Switching between these two interfaces works by clicking on the button on the bottom left of the pop up prompt



Once you have chosen the start time, select the end time that you would like and click the “Set Time Limit” button to activate this time limit on this user. You can remove the time limit at any time by selecting the “REMOVE LIMIT” button

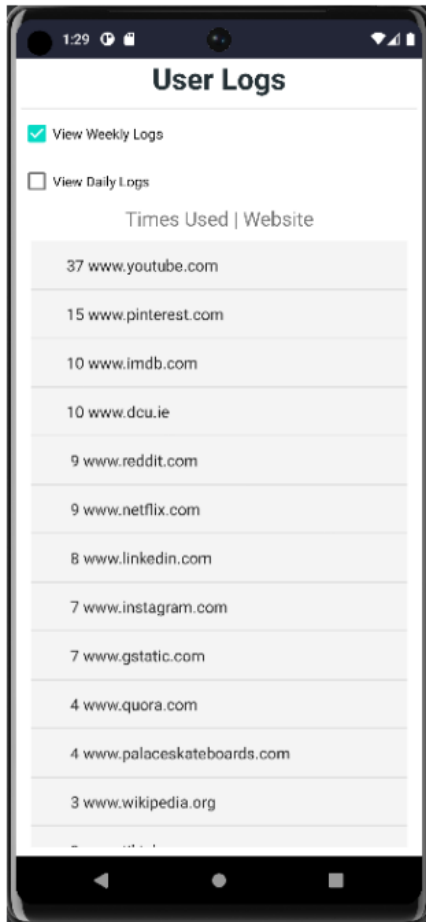
### 3.3.2 Individual User Blacklist

Setting websites that will be blocked only for a specific user works the same way as the network wide blacklist (see 2.1 System Wide Blacklist). However the individual user blacklist will be set to be turned off once a user is made and must be turned on to come into effect. To do this select the “BLACKLIST ON” button on the bottom of the screen. Once done a pop up will appear informing you that you have turned on this users blacklist (similarly, for turning off the users blacklist a pop up will appear informing you that you have done so). You will also know whether a user’s blacklist is turned on or off on the shade of the button. If their blacklist is turned on then the button will have a darker shade while the turn off button will be a lighter shade, as seen below, and the opposite will occur if their blacklist is turned off.



## 4.1 User Logs

The User logs page will first show you a list of all users on the proxy. To see a specific user's logs select that user, then you will see that users weekly logs of their activity and you can switch to daily logs by clicking the check box.

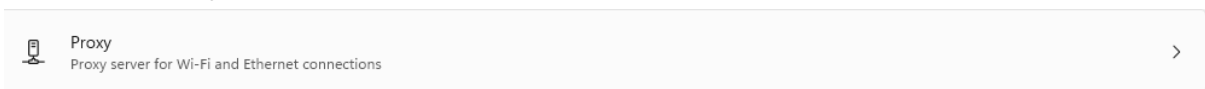


## 5.1 Connecting to the Proxy

Using the IP located at the top of the home page a user can connect to the proxy.

## 5.2 Connecting on Windows

First open up your settings and go to “Networks & internet”. After this click on proxy



And after that choose “Set up” on the use a proxy server option.

**Automatic proxy setup**

Automatically detect settings On

Use setup script Off Set up

**Manual proxy setup**

Use a proxy server Off Set up

After this a pop will appear, type in the IP that is displayed on the homepage of your app and for port type in “3128” as seen below. After that hit save and the device is now connected to the proxy.

**Edit proxy server**

Use a proxy server On

Proxy IP address 192.168.1.7 Port 3128

Use the proxy server except for addresses that start with the following entries.  
Use semicolons (;) to separate entries.

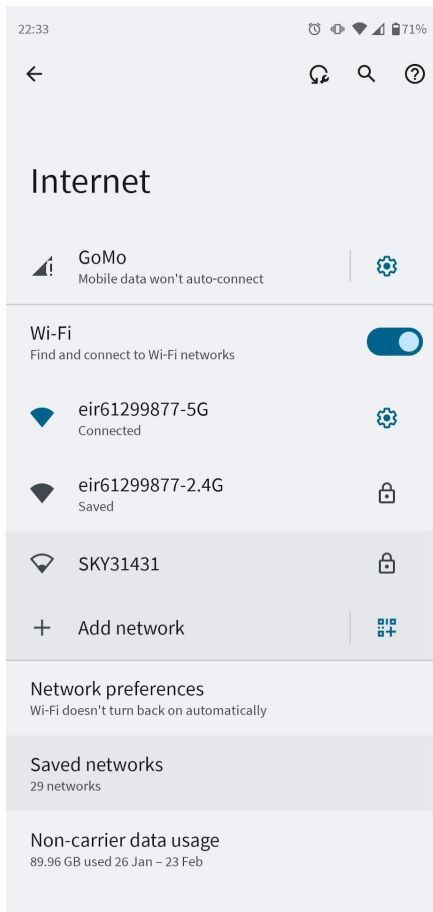
☐ Don't use the proxy server for local (intranet) addresses

Save Cancel

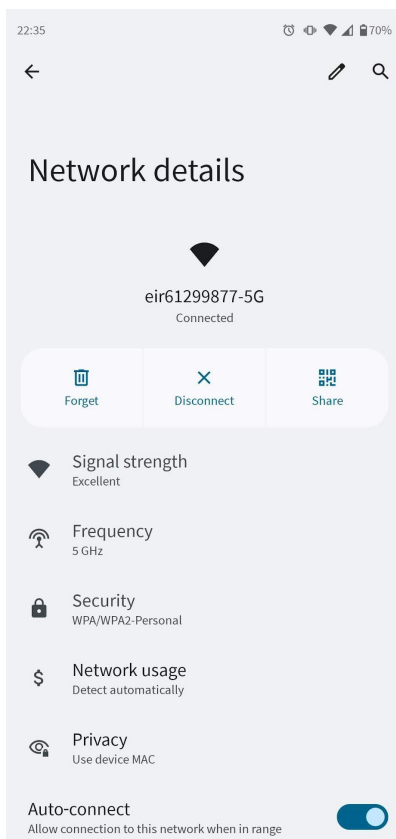
### 5.3 Connecting on Android device

First open the settings app, navigate to Settings > Network & internet > Internet.

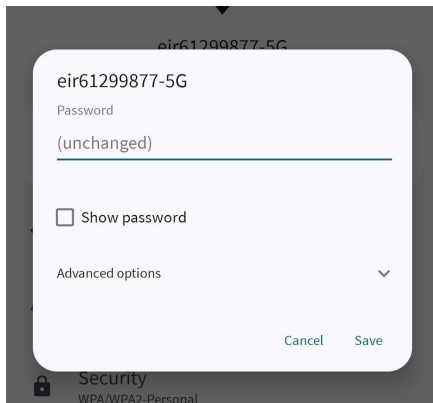
Tap your wifi network name.



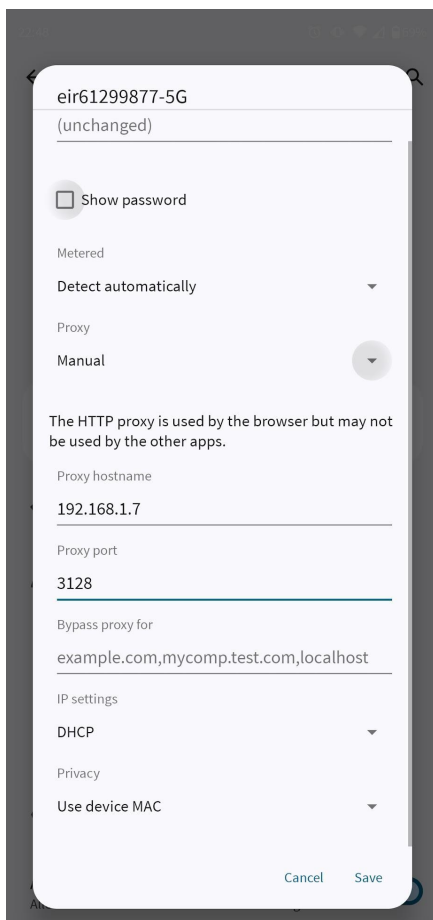
Select Modify Network (may be represented as a pencil icon).



Click Advanced options.  
Under Proxy, select Manual.



Change your proxy settings. The hostname should be the ip of the raspberry pi. (hostname="192.168.1.7", port="3128")



Finally tap Save.