



# Main Menu

Come here to find all you need to know about the MedEasy Kit: Android MedEasy App, MedEasy kit & Iris Scanner

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## 3 Categories



At the slums



Preparing for the slums



Troubleshooting



# Preparing for the slums

Come here to find all the steps necessary to prepare your MedEasy kit before going to the slums.

 Create a Guide

## 1 Installation Guide

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MedEasy Kit Preparation Check



## 1 How-to Guide

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Important Notes



# MedEasy

## Important Notes

Look at how the different components are adequately placed inside the MedEasy case and beware of the do's and don'ts.

Written By: Admin MedEasy

## INTRODUCTION

Look at how the different components are adequately placed inside the MedEasy case and beware of the do's and don'ts.

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### PARTS:

- [MedEasy Case \(1\)](#)
  - [Powerbank \(1\)](#)
  - [Raspberry Pi \(1\)](#)
  - [Iris Scanner \(1\)](#)
  - [On-The-Go micro to micro USB Cable \(1\)](#)
  - [Ethernet Cable \(1\)](#)
  - [Power Cable \(2\)](#)
  - [Plastic Iris Scanner Goggle \(1\)](#)
-

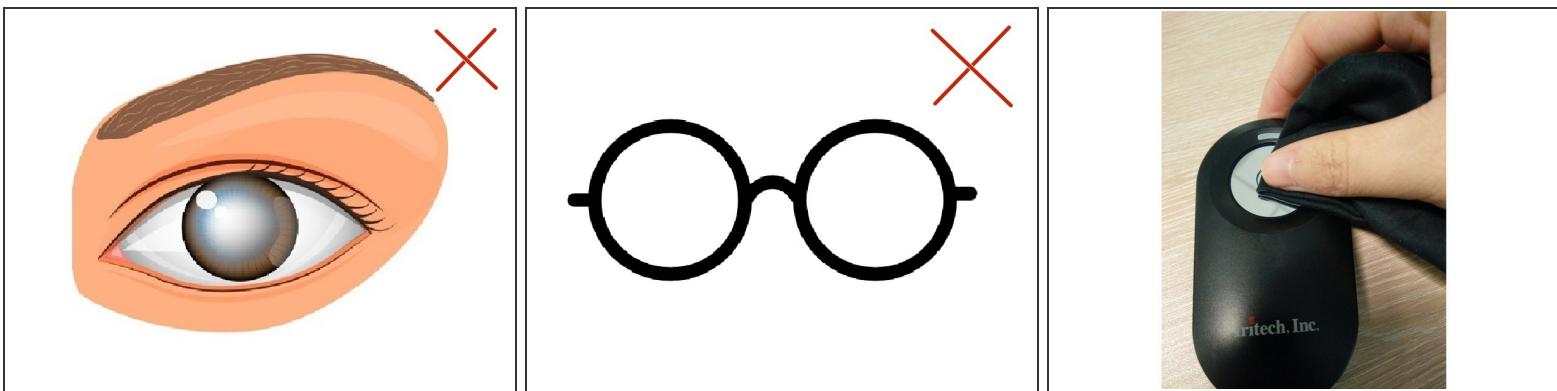
## Step 1 — Component placement



ⓘ There is a total of three major components inside the MedEasy case:

- Raspberry Pi in the blue box.
- Router in the green box.
- Powerbank in the red box
- All of them must be carefully secured in the MedEasy case as shown in the image.

## Step 2 — Iris Scanner: Use notes



- ⚠️** The iris scanner can be used with all patients except those suffering from **blindness** or **Amblyopia** (Lazy Eye).
- ⭐** Patients should remove their spectacles and contact lenses prior to scanning.
- ⚠️** **ALWAYS SCAN THE PATIENT'S RIGHT EYE.** Only scan the left eye when the patient's right eye has a disease or there's no right eye.
- ⭐** If you do scan the left eye, you have to record this in triage remarks.
- Always clean the camera (mirror-looking surface) of the iris scanner with an optic cloth both when dirty and when dismantling the equipment prior to leaving the slum.
- ⚠️** DO NOT clean the iris scanner with any type of cleaning solution!

### Step 3 — Iris scanner: Components



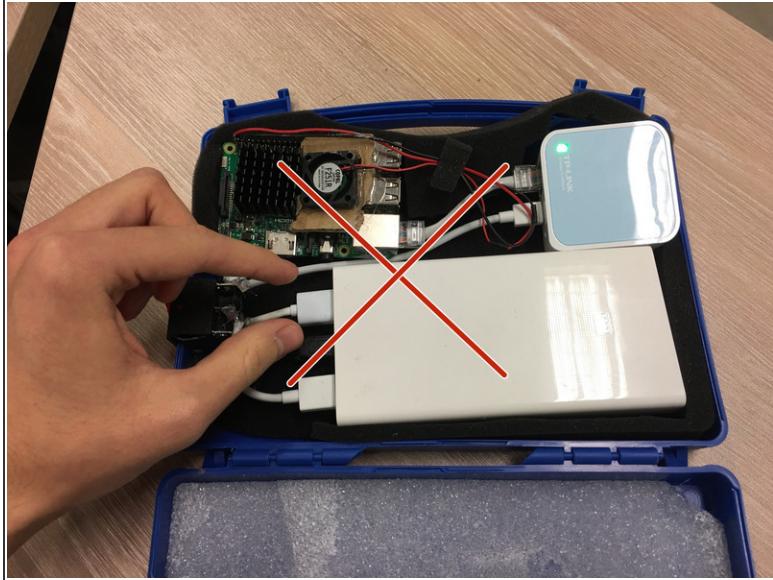
- ⓘ The OTG micro to micro USB cable is used to connect the iris scanner to the smartphone.
  - ⚡ You may only use the original OTG cable from IriTech (as shown in the picture, characterised by a red section in one end).
  - For smartphones with ports other than micro USB, please use an adapter in order to connect with the iris scanner.

## Step 4 — Warnings and Precautions



- ⓘ The MedEasy kit and the iris scanner contain sensitive electronics. Proper care must be taken to maintain the maximum functioning capacity of the system.
- Observe the adequate temperature and humidity range during operation and storage:
  - Temperature: -20°C to +60°C (storage); 0°C to +50°C (operation)
  - Humidity: 10% to 90%

## Step 5 — Don'ts



⚠ Do not:

- Allow water to enter the MedEasy kit and the iris scanner.
- Place the system next to heating equipment.
- Place magnets near the system.
- Drop the iris scanner or submit it to sudden impact or mechanical stress.

⚠ Never disassemble the components from the boards or the iris scanner. Only disassemble when highly necessary or as a last resort.

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# MedEasy

## Setup of the MedEasy Kit before departure

Go over this guide to check that MedEasy Kit is functional prior to departing for the slums

Written By: Admin MedEasy

### INTRODUCTION

Go over this guide to check that MedEasy Kit is functional **prior** to departing for the slums

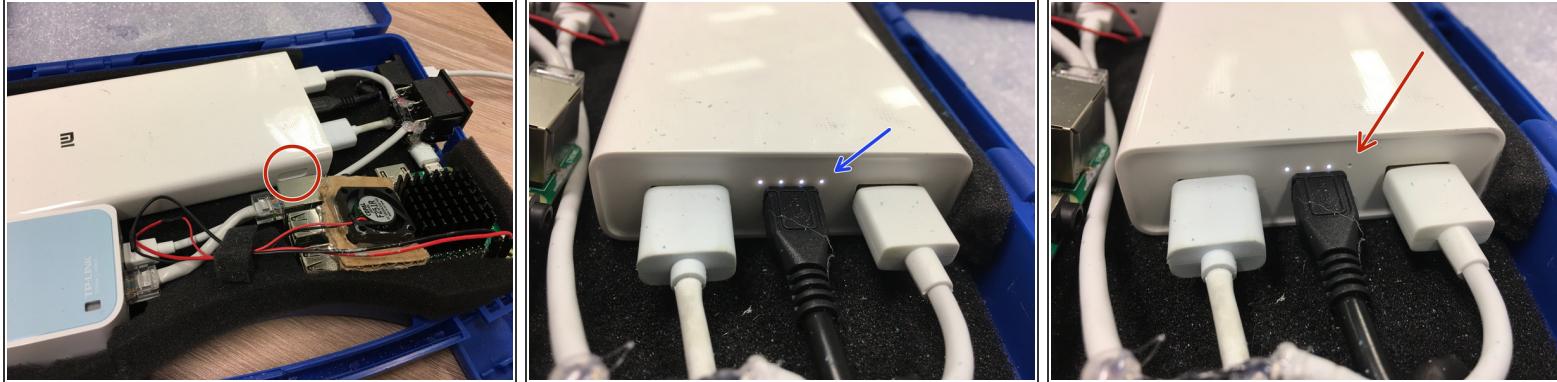
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### PARTS:

- MedEasy Case (1)
  - Powerbank (1)
  - Raspberry Pi (1)
  - Iris Scanner (1)
  - On-The-Go micro to micro USB Cable (1)
  - Ethernet Cable (1)
  - Power Cable (2)
  - Plastic Iris Scanner Goggle (1)
  - Router (1)
-

## Step 1 — Powerbank check



**i** The Xiaomi powerbank should be fully charged.

- Open the kit and press the button on the side of the powerbank to see if all four battery-indicator lights are turned on.
  - If they are all light up, you're ready!
  - If some lights are missing, it might still be ok to go ahead, but you must be aware that the system will not be able to run for as long as it usually would.
- ★** As a general rule, you should take the kit with a **minimum of three lights**, which indicates a total battery life of about **three hours**.

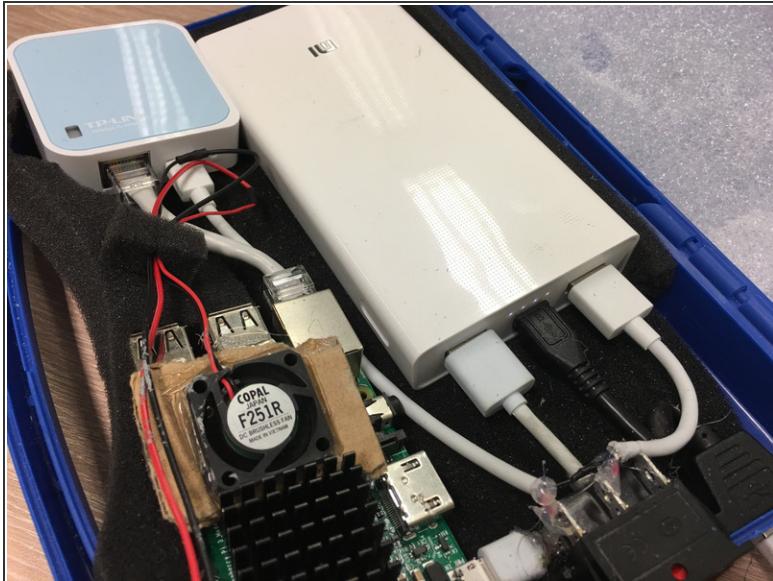
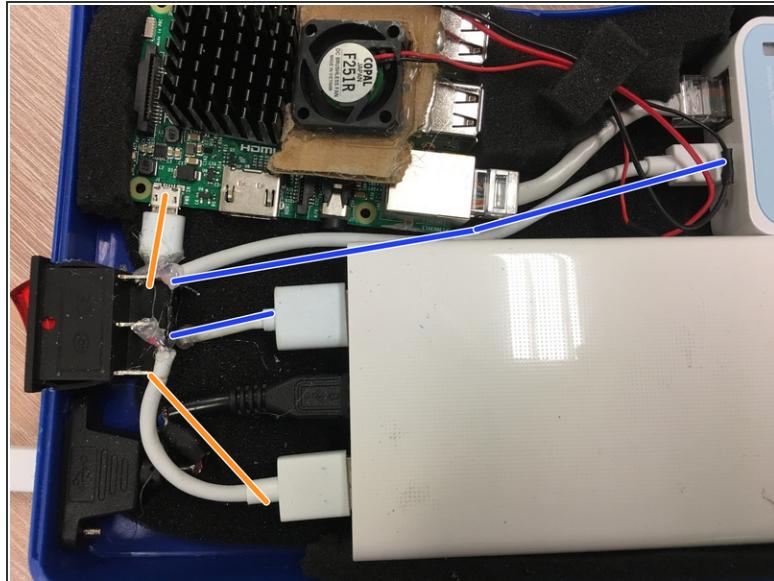
## Step 2 — Phone & Keyboard Battery Check



**i** Both the phones and the keyboards should be fully charged before departing for the slums.

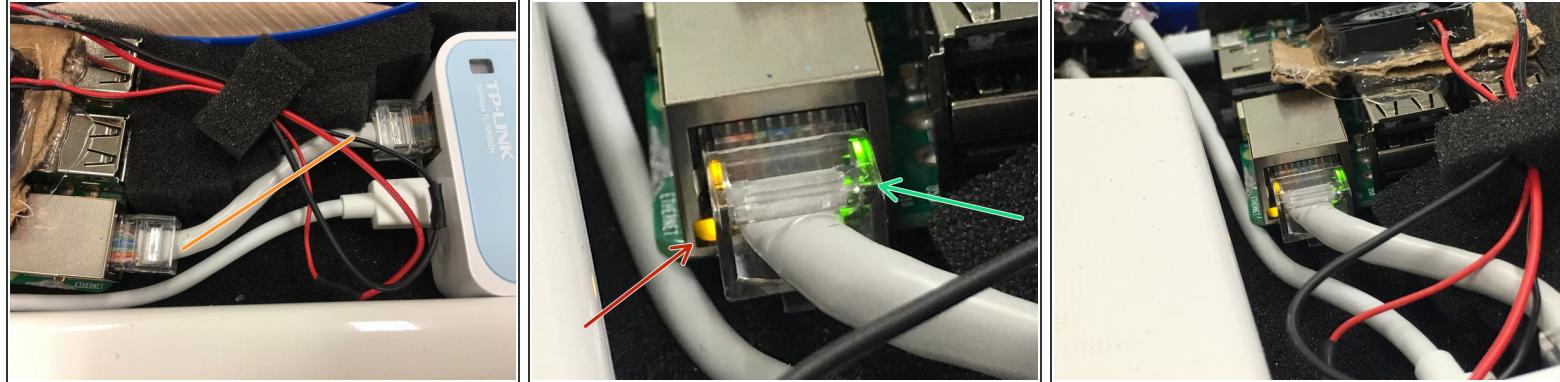
- To check the phone's battery, look at the screen's top right corner battery indicator.
- ★ As a general rule, the phone's battery should be at least 70% in order to be able to use the phone reliably in the slums.
- You are not able to check the keyboard's battery. Therefore, we recommend you to charge it overnight in order to ensure its battery is at full capacity in the morning.
  - However, a \_\_\_\_\_ indicator light will appear when the keyboard is low on battery.
  - When charging you will see a red indicator light.
  - When fully charged, you will see a green indicator light.

### Step 3 — Power cables check



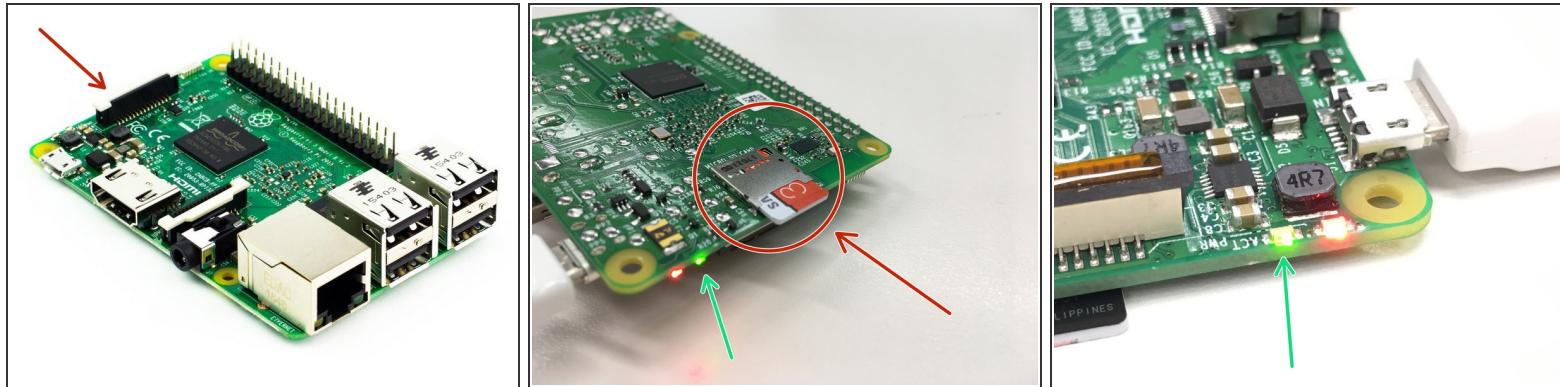
- ⓘ The router and the Raspberry Pi must be connected to the Xioami powerbank using the power cables.
- Check whether the cable between the router and the powerbank is connected properly (labelled in blue).
- Check whether the cable between the Raspberry Pi and the powerbank is connected properly (labelled in orange).
- If everything is working correctly, you are ready to go!
- If the cables are not correctly connected, unplug them and plug them in again, then check them all again.

## Step 4 — Ethernet cable check



- ⓘ The router must be connected to the Raspberry Pi via an Ethernet Cable (labelled in orange).
- Check if the cable between both is connected correctly. The Ethernet connection input should show:
  - A yellow light on the left side (indicating that a 100Mbit (LAN) is connected).
  - A green light on the right side (indicating that there is Link/Activity (LAN)).
- If the lights show those colours, you are ready to go!
- If there are no lights, or if the lights are in another colour, unplug the cable from both ends and plug it in again. Check the lights again.

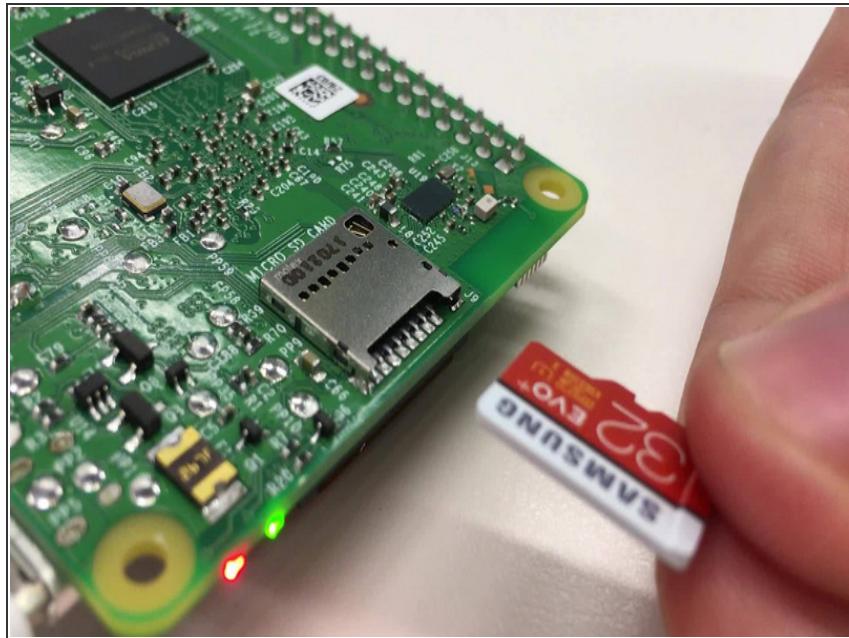
## Step 5 — MicroSD card check



*(i)* The Raspberry Pi must be equipped with an 8GB microSD card.

- Check if the microSD card is inserted inside the Raspberry Pi. It is located on the underside of the motherboard, where the red arrow is pointing.
- If correctly inserted, you should see a flashing green light on the side near the the power input (as shown by the green arrow). If so, you're good to go!

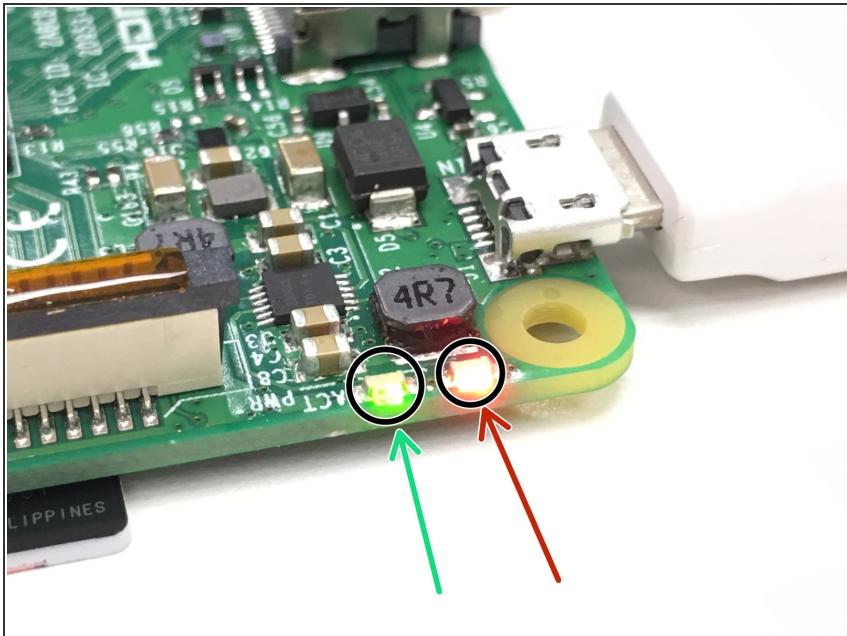
## Step 6 — Inserting the microSD Card



 If you don't see this light, or if this light is in another colour, remove the microSD by pushing it in, and then allowing it to move out. Then, reinsert it and check the lights again.

 If the light doesn't flash, or if you can't boot the Pi, refer to [this troubleshooting section](#).

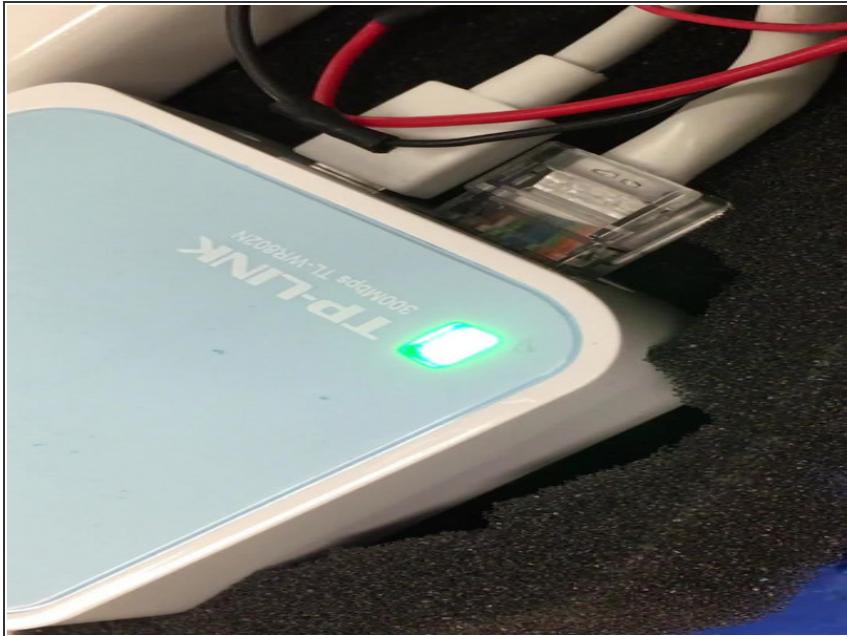
## Step 7 — Raspberry Pi power supply check



*(i)* The Raspberry Pi needs to be supplied with a constant electric current from the powerbank in order to function.

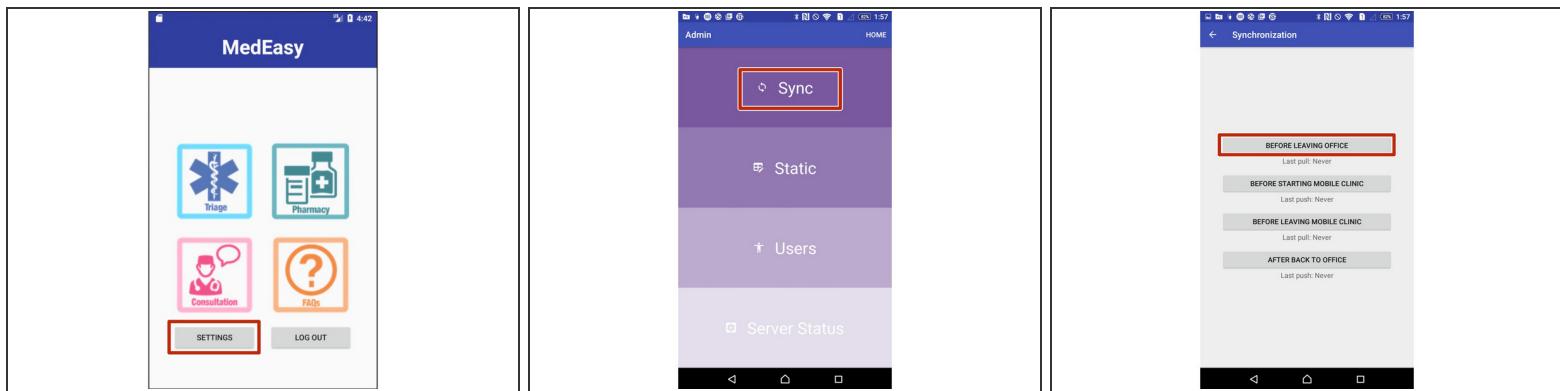
- Check whether the Raspberry Pi is receiving energy from the powerbank by looking at the power indicator light.
  - The green light next to the "ACT" label stands for microSD card activity. The red light next to it is the power indicator light.
  - The red power LEDs indicate that the Pi has an active power supply. It will stay on if the power supply is correct, but will start blinking if the voltage drops below 4.63V.
- If it starts blinking or isn't turned on, refer to [this troubleshooting section](#).

## Step 8 — Router power supply check



- ⓘ The router needs a constant energy supply from the powerbank in order to function correctly.
- Check whether the router is receiving energy by looking at the status indicator light.
  - ✅ The router will turn on automatically as soon as it is plugged to the powerbank.
  - If the router's power supply is stable, the status indicator light should be flashing green. If so, you're ready to go!
  - If there is no light, or if the light is in any other colour, unplug the power cable between the router and the powerbank from both ends. Then plug it in again and recheck the router's status indicator light.

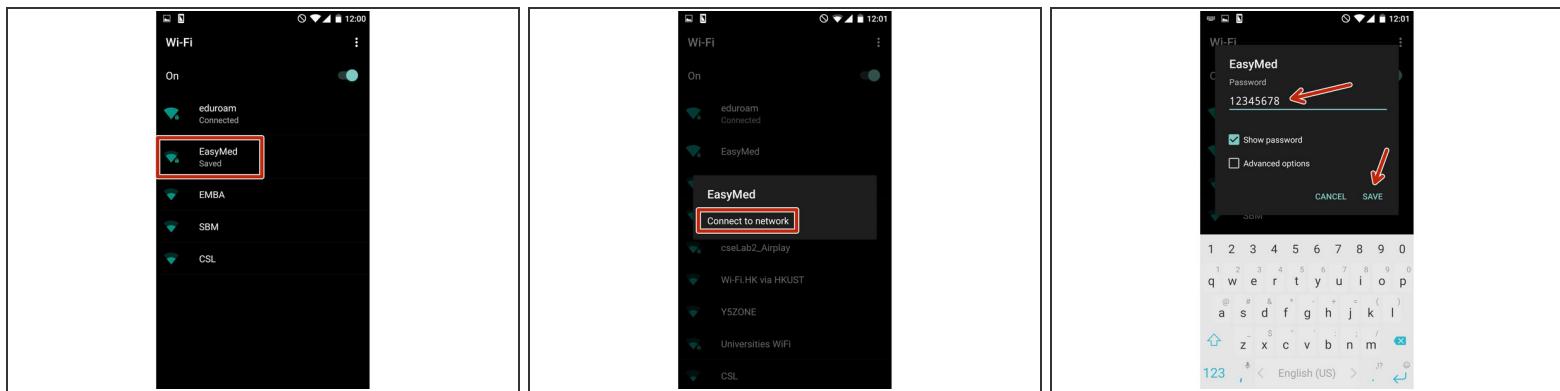
## Step 9 — Sync from the cloud database



⚠ This is a **very important** step!

- You must sync the data from the cloud database to the phone.
- To do so, go the main menu, and then into settings and sync subsection.
- Then press the button labelled "BEFORE LEAVING OFFICE"
- Allow it to synchronise.

## Step 10 — Wifi login

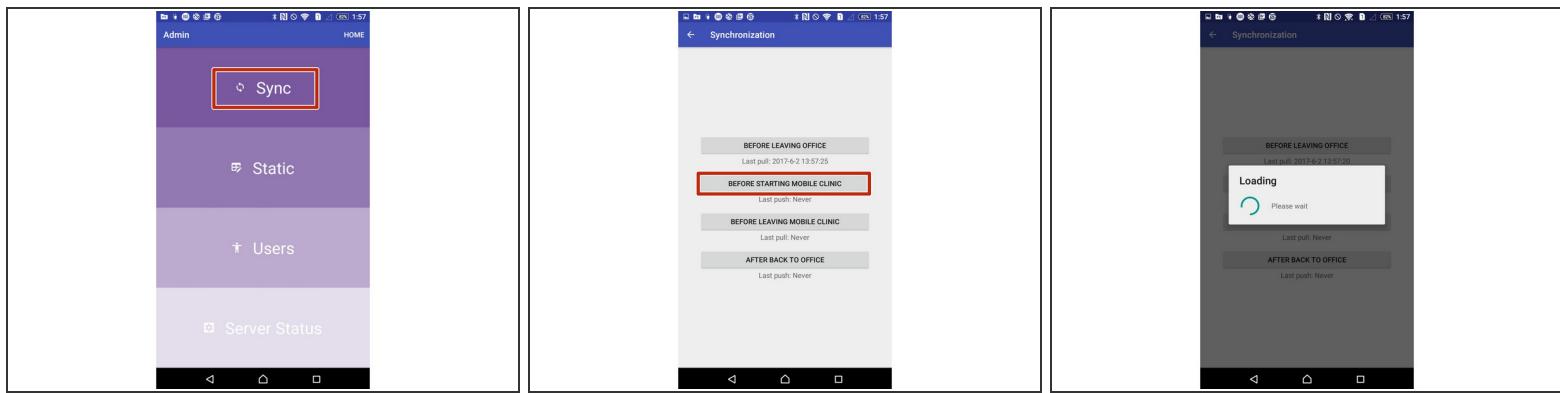


*(i)* At this stage, all components should be working properly. You must ensure that your mobile device can connect to the MedEasy's hotspot prior to syncing the data with the Pi.

**!** Before changing to the MedEasy Wifi, you must log out of the app first. You may find how to do so [here](#).

- Open your phone's settings app, then look for Wi-Fi settings.
- Look for the network named **EasyMed** and tap it. It should begin connecting, and will prompt you to give the network's password.
- Password: 12345678
- If your phone connected properly, you should see a Wi-Fi icon on the top status bar of your phone. Now, [log in again](#).
- If it didn't connect correctly, try again. If the problem persists, turn your device off and on and try again. If the problems still persists, turn the MedEasy kit off and on and try again.

## Step 11 — Sync the data from the phone to the Pi



⚠ This is a **very important** step!

- You must sync to the Pi the data that you had previously synced from the cloud database.
- To do so, access settings from the main menu as you had previously done. Select the sync subsection.
- Then press the second button, the one labelled "BEFORE STARTING MOBILE CLINIC"
- Allow it to sync.

## Step 12 — Component placement



ⓘ There is a total of three major components inside the MedEasy case:

- Raspberry Pi (in the blue box).
- Router (in the green box).
- Powerbank (in the red box).
- All of them must be carefully secured in the MedEasy case as shown in the image.

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## At the slums

Learn all the procedures to use the MedEasy kit at the slums.

[+ Create a Guide](#)

### 5 How-to Guides

1. How to log-in & log-out from the MedEasy App



2. Iris Scanning



3. Triage



4. Pharmacy



5. Consultation



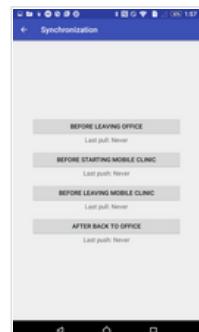
### Important Notice!

[Edit](#)

Before leaving the slums, make sure you sync the data back from the Pi to your phone.

To do so, access the settings from the main menu. Then, select sync and press the third button labelled "BEFORE LEAVING MOBILE CLINIC".

As soon as you get to the hospital, sync the new data from your phone to the online database. To do so, go to the sync subsection in the settings part of the app, then press the fourth button labelled "AFTER BACK TO OFFICE"



# MedEasy

## 1. How to log-in & log-out from the MedEasy App

You will have to login if it is the first time you have used the app on your phone, or after deleting and reinstalling the app.

Written By: Admin MedEasy

## Step 1 — Log-in



- Find the MedEasy app on your phone, then tap on it.
- You will be brought to the login page. Please enter the username and password as listed below:
  - Username: admin
  - Password: 993546
- Tap the "sign in" button to confirm.
- Once you sign in, you will automatically proceed to the landing page (main menu) the next time you use the app.

## Step 2 — Log-out



- To log out of the app, return to the main menu.
- Underneath the FAQs section you will see a grey button that says "LOG OUT".
- Press it. If you are thrown to the log in splash screen, you have logged out successfully!
- Remember that before changing to the MedEasy Wifi, you must log out of the app first, connect to the Wifi, then log in.

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# MedEasy

## 2. Iris Scanning

Learn how to use the Iris scanner to be able to use it at the Triage station.

Written By: Admin MedEasy

### TOOLS:

- Iris Scanner (1)

### PARTS:

- Plastic Iris Scanner Goggle (1)
- On-The-Go micro to micro USB Cable (1)

## Step 1 — Connect the Iris Scanner to the phone



- Connect the red end of the OTG micro to micro USB cable to your phone, and the black end to the iris scanner. Use an adapter if necessary.
- *(i)* Ensure that the iris scanner is successfully connected.
- Check if the scanner has a blue light on. It takes about 5 seconds for the connection to be established.
- If the scanner is not detected, unplug the scanner, close the app, reconnect the scanner, and reopen the app. Check again if the scanner has a blue light on when connected.

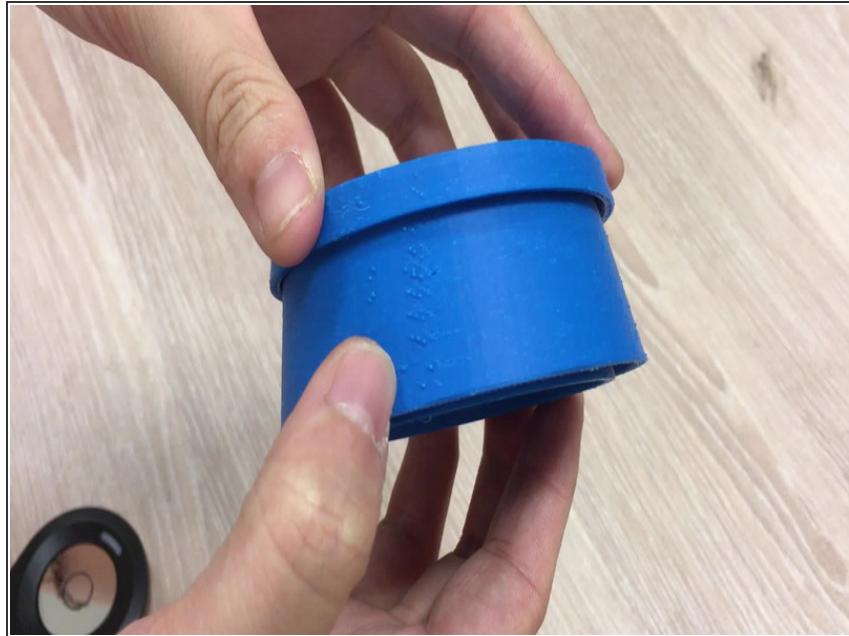
## Step 2 — Connecting the Iris Scanner to the phone for the first time



- The first time you connect the Iris Scanner to the phone, this pop-up message will show.

**⚠** You might have to wait a couple of seconds for this pop-up to appear.
- It asks you whether you would like the MedEasy app to be opened every time the Iris Scanner is plugged into the phone.
- Press "OK".
- From now on, every time you connect the Iris Scanner, the EasyMed app will automatically open itself and the Iris Scanner will be operational!

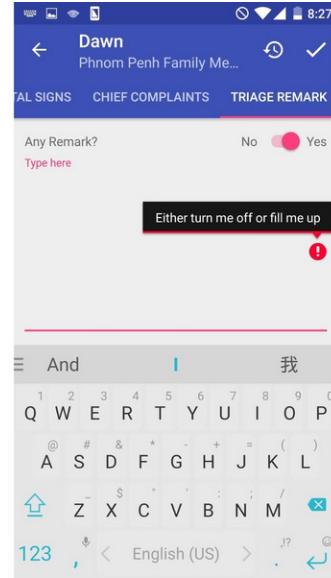
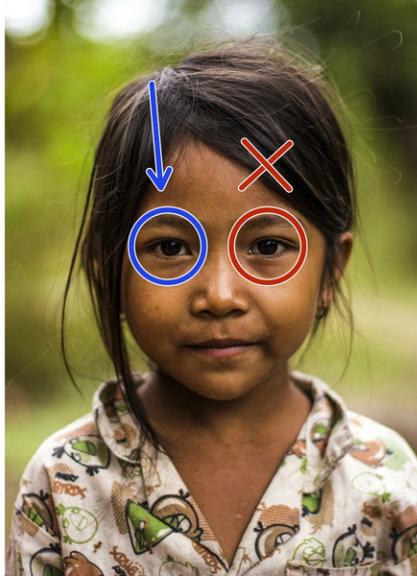
### Step 3 — Conducting Iris Scanning



! Carefully follow the steps listed below for a successful image capture and recognition of the iris.

- Ensure that the iris scanner is properly connected to your phone with the original OTG micro to micro USB cable.
- Slip the iris scanner into the opening of the plastic iris scanner goggle, and set it in place behind the pin.
- Once it is correctly placed, you are now ready to proceed to scan the patient's iris.

## Step 4 — IRIS SCANNING: WARNING



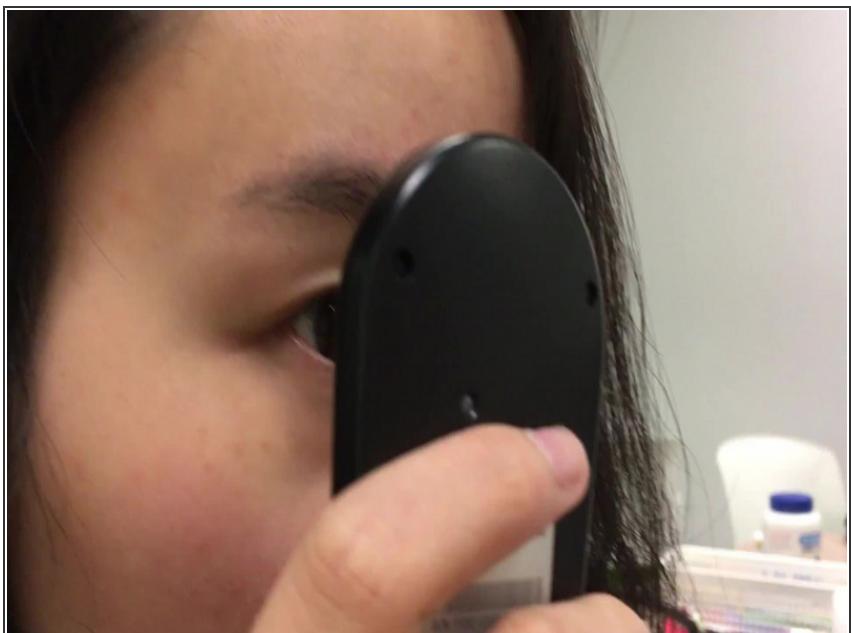
- The Iris Scanner detects the iris pattern of a patient's eye. Nevertheless, each person has different patterns for each eye.
- ⚠** Therefore, in order to make sure that no duplicates are created, **you must always scan the right eye of the patient.**
- ★** Whenever the right eye cannot be scanned (i.e. due to a disease, or no eye), you may scan the left eye. However, you **must note this down in patient remarks.**

## Step 5 — Alignment



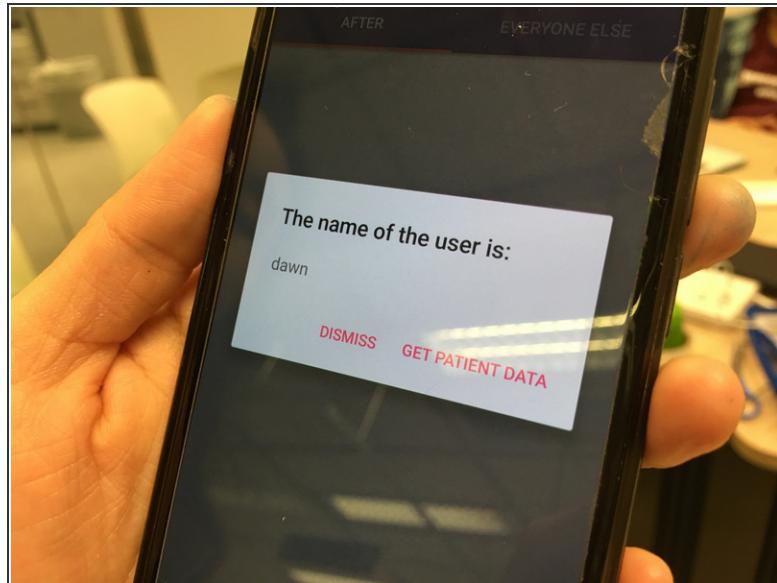
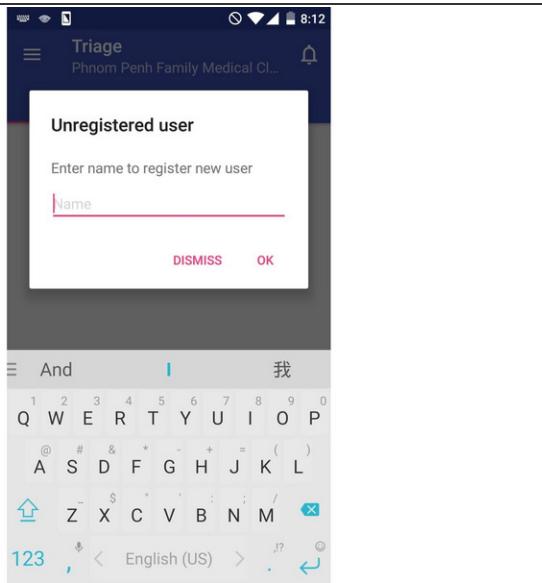
- Hold the bottom of the iris scanner and tell the patient to look straight into the small inner circle.
  - (i)* Use the plastic goggle to help achieve the proper alignment with the patient's eye.
- ⚠** The iris scanner should be position perpendicular to the ground. A severe slant of angle will render the image unqualified.
- (i)* You can check [this troubleshooting guide](#) for more information on unqualified iris images.
  - When the green light on the iris scanner blinks after approximately 1 or 2 seconds of proper alignment, it means the camera has successfully captured the iris image (shown in third picture).

## Step 6 — Demonstration of successful iris scanning



- (i)* This is a **demonstration** of how to use the iris scanner, therefore, we are not using the plastic goggle. **However**, you should use the plastic goggle whenever it is available.
- The green light blinking means the scanner is scanning.
  - Once the green light stops blinking it means that the scanning has been successful.

## Step 7 — Successful capture



- When the capture is successful, the phone screen will display either of the following content:
  - First image: when a new iris is identified
  - Second image: when the iris was enrolled before

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# MedEasy

## 3. Triage

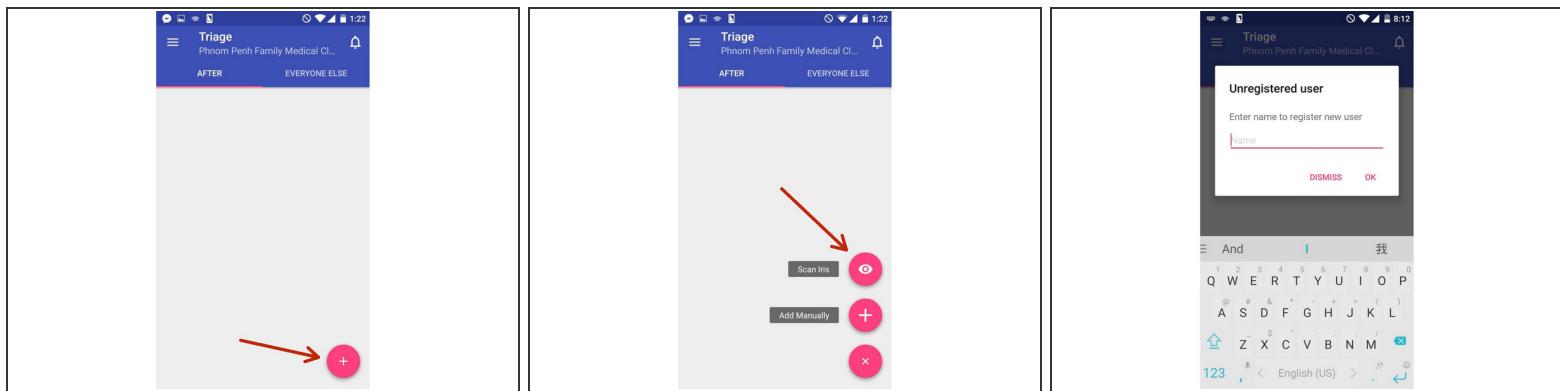
Follow the triage procedure from start to end using this guide.

Written By: Admin MedEasy

### INTRODUCTION

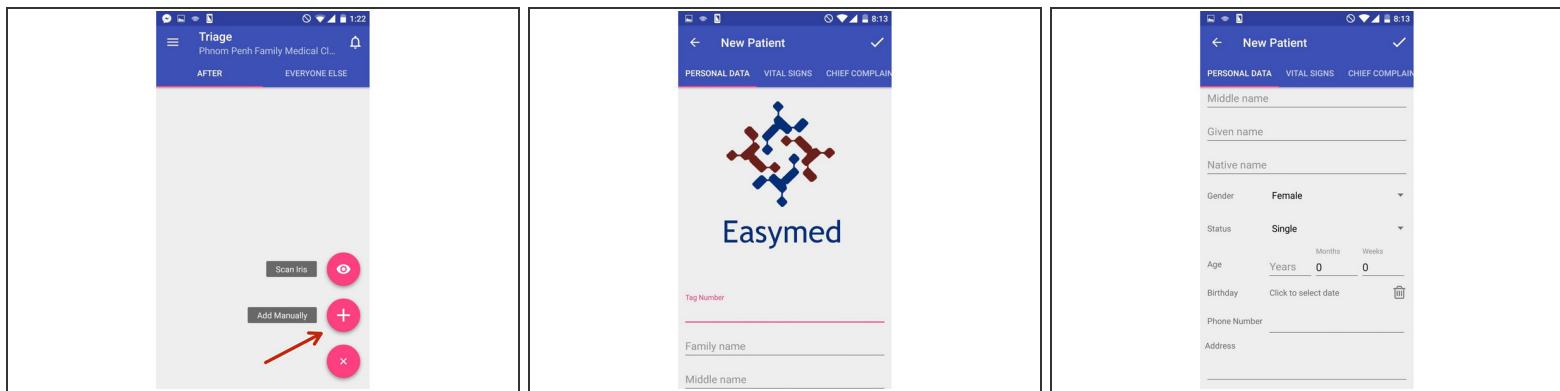
Follow the triage procedure from start to end using this guide.

## Step 1 — Registering a new patient's iris



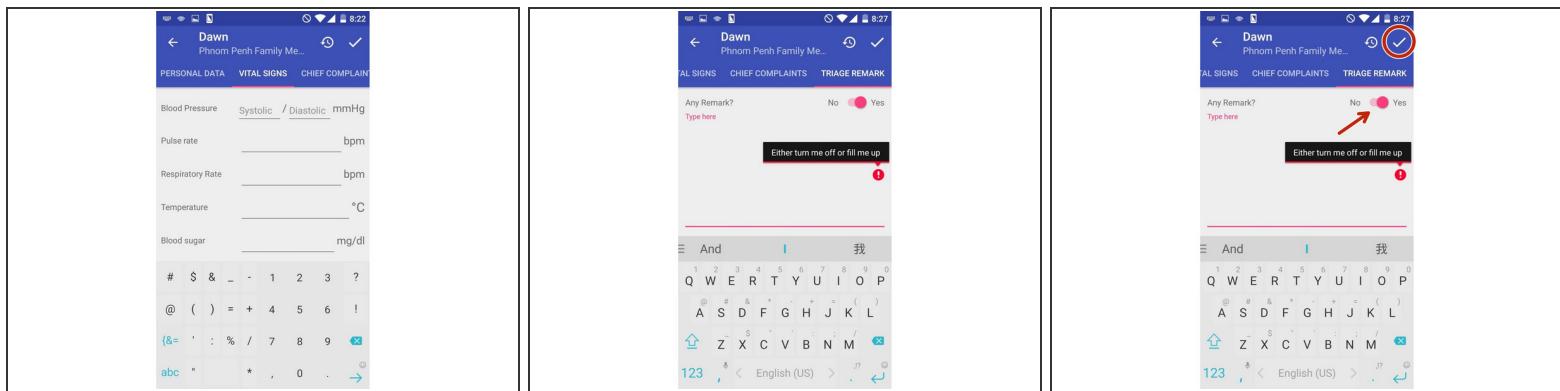
- Tap the "Triage" button on the landing page (main menu).
- Tap the "+" button.
- Tap "Scan Iris" to begin iris scanning.  
    (i) Refer to the [Iris Scanning Guide](#) to see the corresponding procedure.
- Enter the name of the patient after his/her iris has been successfully recorded. Before saving, copy this name.
- Now the patient has its iris' data recorded in the system, under his/her name.

## Step 2 — Registering a new patient



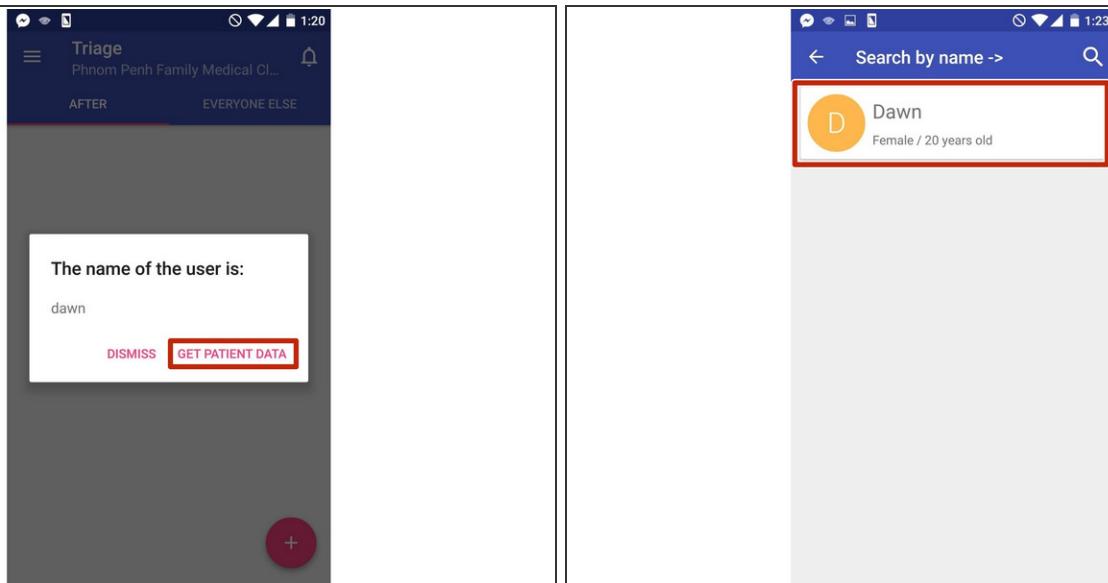
- Back in the landing page (main menu), tap "Add manually" and then tap "New Patient".
- Enter the patient's tag number and name. The name should be exactly the same as the one entered after the iris scanning procedure (you may paste what you had copied here).
- ⚠ Do NOT use too many digits in the tag number. Otherwise, the app may crash.**
- ⓘ The "Given Name" field is compulsory and must be filled out.**
- Fill in all other personal information of the patient as requested by the app.

## Step 3 — Inputting patient's data



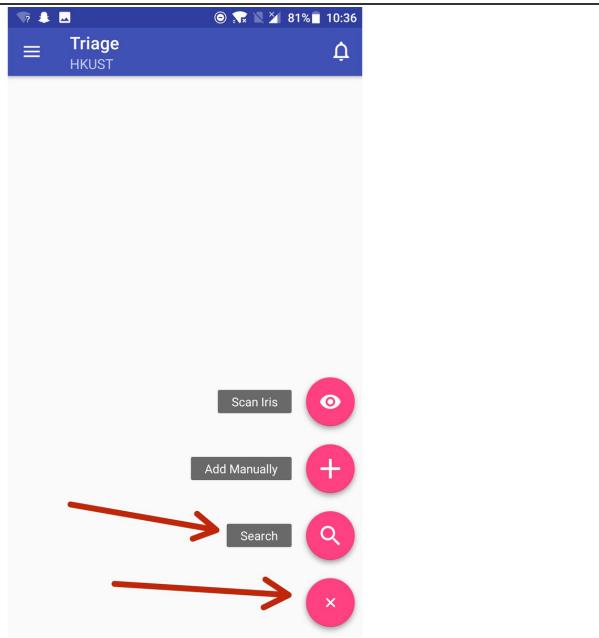
- Tap the "Vital Signs" button.
- Enter the vital signs of the patients, and then tap the ✓ symbol on the top right corner when done.
- Tap the "Triage Remark button"
- Enter any remark for the patient. Tap on the ✓ button on the top right corner when done.
  - ☒ If you have scanned the patient's left eye, you **must** indicate this here.
  - ☒ If no remark, tap on the slider to turn it off. Tap the ✓ button on the top right corner when done.
- Now, the patient's personal and medical information are stored with the iris data.

## Step 4 — Re-visiting Patient



- Scan either of the patient's irises by following the procedure listed in the [Iris Scanning Guide](#).
- If the patient's irises and information were enrolled before, his/her name will be displayed in a pop-up window.
- Tap on the "GET PATIENT DATA" button to proceed to the "Search by name" page.
- Tap on the patient's name to proceed to the personal and medical information page.

## Step 5 — Re-visiting patient [NO IRIS SCANNING AVAILABLE]



Whenever the iris scanner fails to function, the Medeeasy kit can still work. In this scenario, the patient's name will have to be input manually.

- In the Triage menu, tap on the "+" button.
- Then, tap on the "Search" button.
- You may now type the patient's name and find his/her file by hand.

# MedEasy

## 4. Consultation

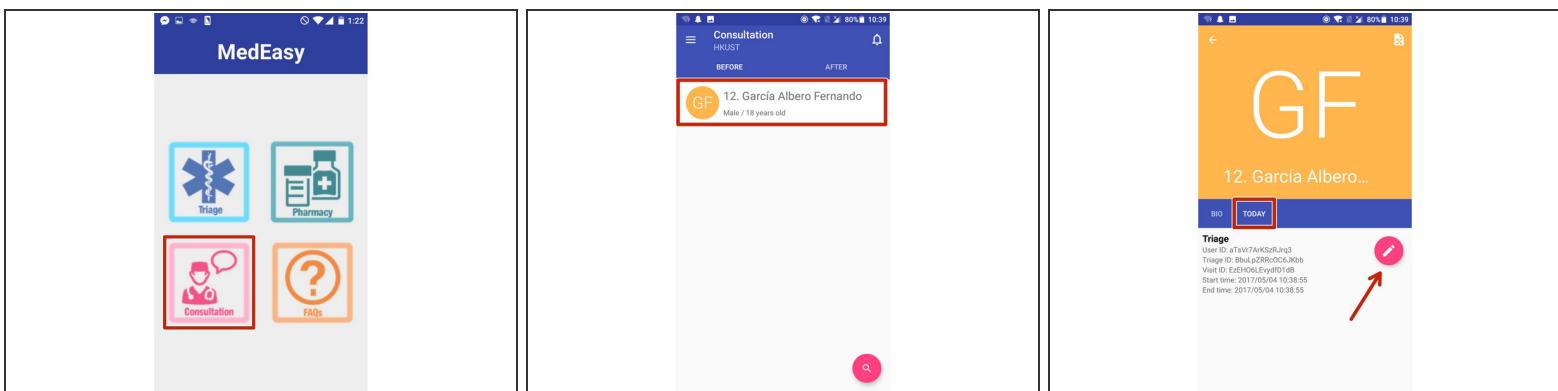
This guide will walk you through the Consultation stage from start to finish with step-by-step instructions.

Written By: Admin MedEasy

### INTRODUCTION

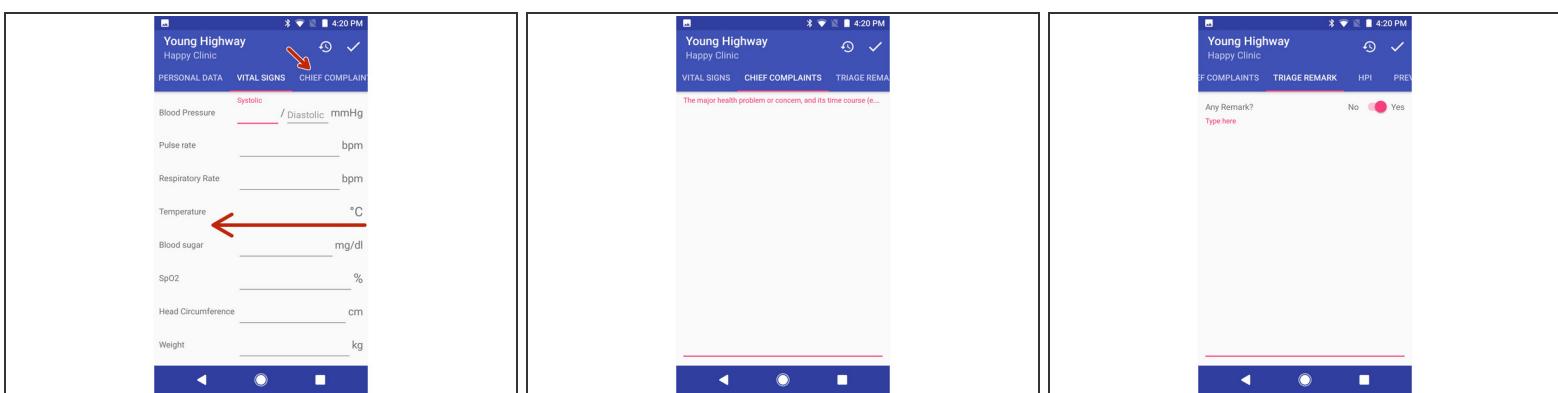
This guide will walk you through the Consultation stage from start to finish with step-by-step instructions.

## Step 1 — Consultation



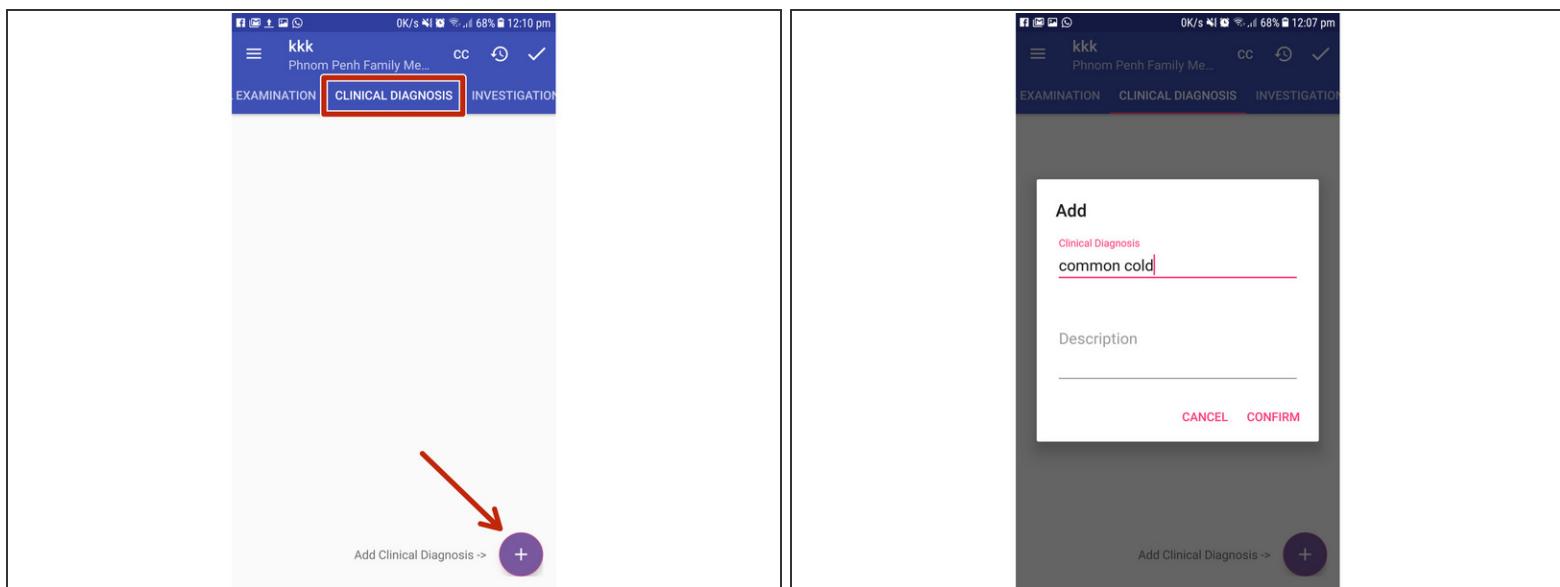
- Tap on "Consultation" on the landing page (main menu).
- The patients waiting from Triage are listed under the "Before" column in the "Consultation" section.  
Tap on a patient to open its file.
- Tap on the "TODAY" button.
- Tap on the pencil icon to start the consultation session.

## Step 2 — Consultation Process



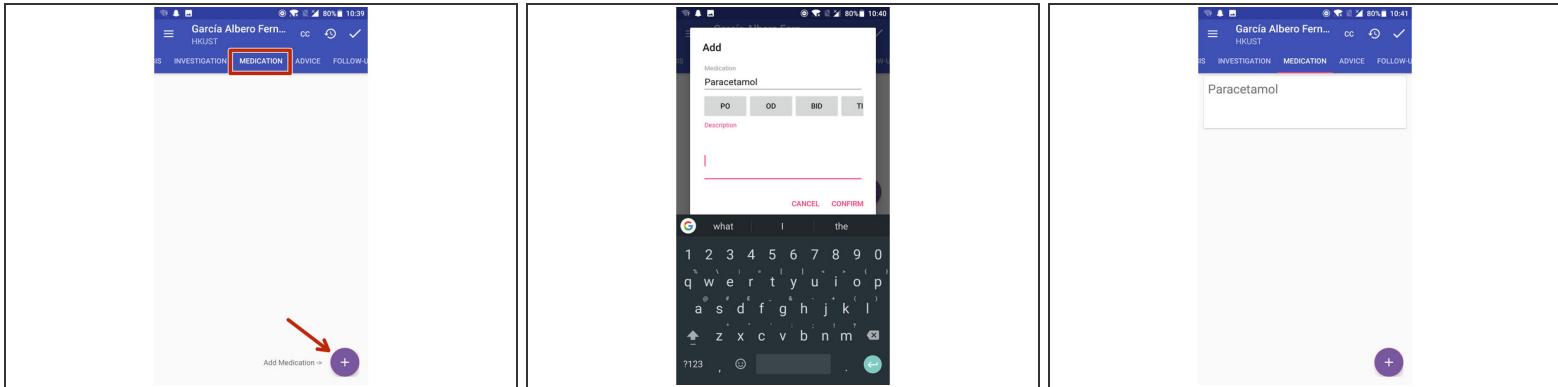
- Move through the different consultation sections by swiping the screen to the left.
- Alternative, you may also press the buttons on the top of the screen corresponding to the different sections.
- Fill these sections out as needed.

## Step 3 — Diagnosis



- Swipe to the "Clinical Diagnosis" to enter the pathologies and symptoms.
- Tap the ✓ icon on the top right hand corner once you are finished inputting information.

## Step 4 — Medication



- (i)* Doctors input the prescribed medication formulas under the "medication" section.
- Tap on the "+" button in the bottom right corner of the screen to add medication
  - Add any prescribed medication along with any notes and descriptions necessary.
    - This information will be displayed to the doctors at the Pharmacy station.
  - Tap the "CONFIRM" button and the medicine is inputted. Now you may continue with the other steps in Consultation.
  - Tap on the ✓ button at the top right hand corner of the screen once you are finished with this patient.

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# MedEasy

## 5. Pharmacy

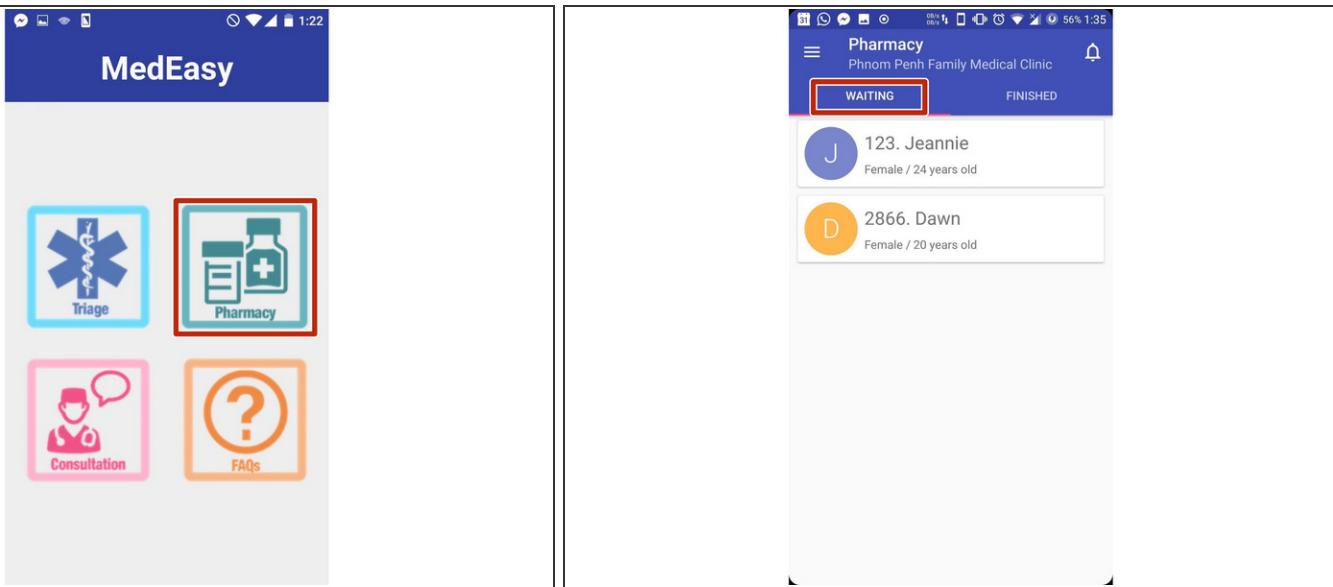
This guide will walk you through the Pharmacy stage step-by-step from start to finish.

Written By: Admin MedEasy

### INTRODUCTION

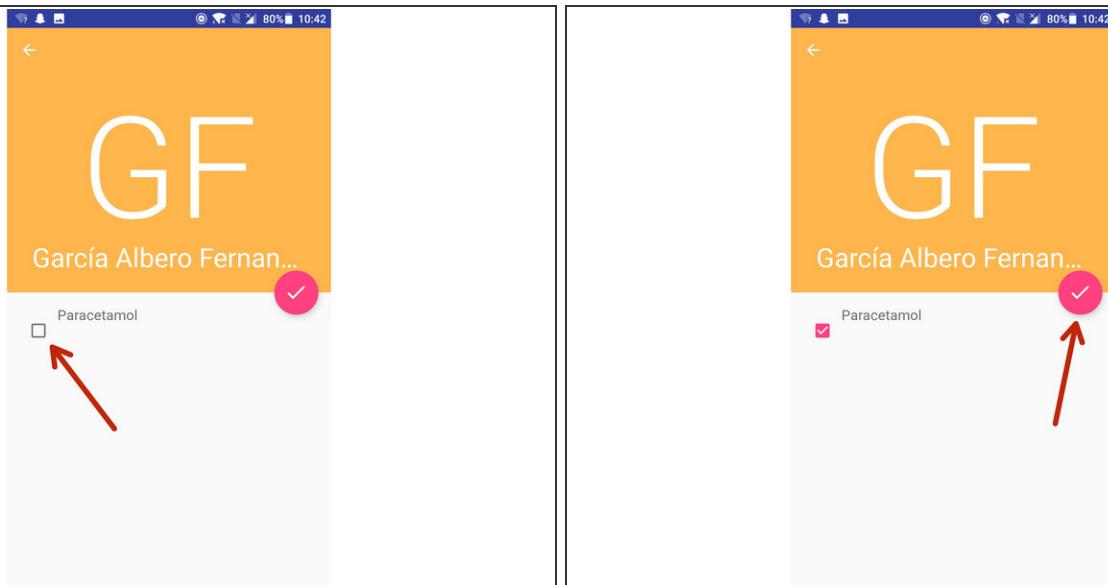
This guide will walk you through the Pharmacy stage step-by-step from start to finish.

## Step 1 — Pharmacy



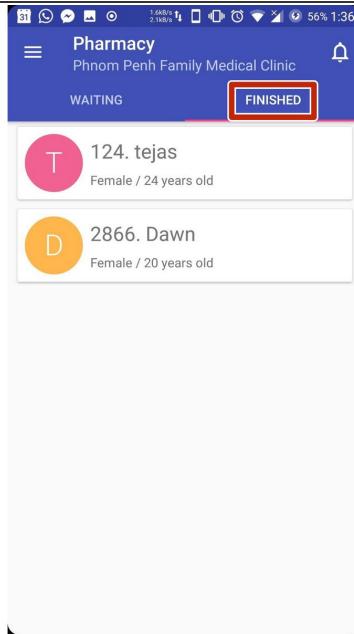
- Tap on the "Pharmacy" landing page (main menu).
- Tap on the "WAITING" button.
- The pathologies and symptoms are displayed under "Triage" and "Consultation".
- Tap on a patient's name to see any prescribed medication.

## Step 2 — Patients with prescribed medication



- If patients are prescribed medication, the patient's name will be listed under the "Before" section in the Pharmacy menu.
- Tap on the patient's name to continue.
- Then, check the corresponding boxes of the medicine once it is dispensed.
- Tap the ✓ button on the top right hand corner of the screen once you are finished.

## Step 3 — Patients with no prescribed medication



- The patient's name will appear under the "After" section in the Pharmacy menu.
- This means that the patient has already finished his/her session.
- And so have you!

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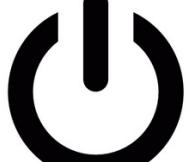
# Troubleshooting

This section will help you solve any issues related to the MedEasy Kit or app.

[+ Create a Guide](#)

## 4 Categories

[+ New Page](#)

 <b>MEDEASY</b> WHEN HEALTHCARE IS MADE EASY			
General	Networking	Power or Start-up	SD Cards

## 1 Troubleshooting Guide

Troubleshooting a  
bricked LGF320S



## 2 How-to Guides

How to re-equip the  
Raspberry Pi after a crash



How to upgrade to  
Android Nougat 7.1.1





# General

In this section, you will find troubleshooting guides to a number of different, for generic issues.

[+ Create a Guide](#)

## 5 Troubleshooting Guides

Troubleshooting app crash or freeze



Troubleshooting database issues



Troubleshooting functionality issues



Troubleshooting incorrect time



Troubleshooting unqualified iris images



These are some of the most common issues when handling the kit, specially the Raspberry Pi:

1. A part broke off: Most commonly, a silver cylinder near the microUSB power input tend to break off. This is a 220 uF capacitor ("C6" on schematic). It sticks up and due to the small surface-mount pads, it is easy to break off. If this is the part you have broken off, don't worry. The Pi can function without it. If you broke any other part off, probably the Pi won't turn on. Inform the MedEasy technical staff and use another Pi in the meanwhile.

# MedEasy

## Troubleshooting app crash or freeze

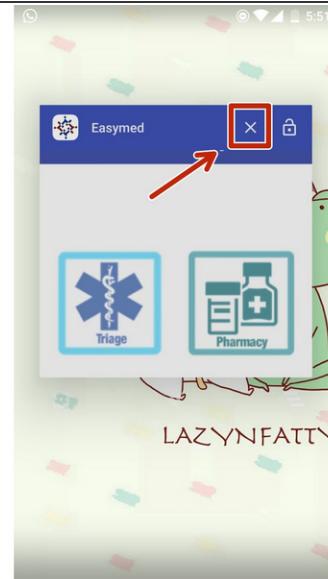
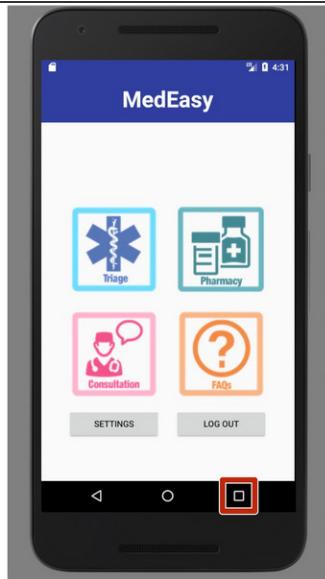
This troubleshooting guide will help you solve the issue of a crashing MedEasy app.

Written By: Admin MedEasy

### INTRODUCTION

This troubleshooting guide will help you solve the issue of a crashing MedEasy app.

## Step 1 — Force close the app



- Force close the app, then reopen it.
  - Each phone has a different way to do this, but generally, you should exit the app, then close it from the multitasking menu.
- *(i)* You access the multitasking menu usually by tapping the square button at one of the bottom corners of the phone.
- Then, force close the app by tapping on the corresponding button.
- If the problem persists, restart your smartphone.
- *(i)* You may do this by turning it off and on again, or by doing a hard reset.

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# MedEasy

## Troubleshooting database issues

Use this guide to find the standard procedure that will restore backup databases.

Written By: Admin MedEasy

### INTRODUCTION

By restoring a backup database, any problems associated with a corrupted database should be solved. Nevertheless, the most recent data is likely to have been lost. Therefore, it is encouraged to do backups as often as possible (i.e. every time the team returns to the HQ).

## Step 1 — Introducing restore code

```
C:\Users\ckylee>heroku pg:backups:restore b011 postgresql-vertical-8638 --app ehr-api
!   WARNING: Destructive Action
!   This command will affect the app ehr-api
!   To proceed, type ehr-api or re-run this command with --confirm ehr-api
> ehr-api
Starting restore of b011 to postgresql-vertical-8638... done
Use Ctrl-C at any time to stop monitoring progress; the backup will continue restoring.
Use heroku pg:backups to check progress.
Stop a running restore with heroku pg:backups:cancel.

Restoring... done
C:\Users\ckylee>
```

- Access the Raspberry Pi's command box.
- Introduce the following command:
  - heroku pg:backups:restore b011 postgresql-vertical-8638 --app ehr-api
-  This will restore backup databases on the heroku (internet) server.
- The Raspberry Pi will then warn you of the risks of the restoring process. Accept by typing in the following command:
  - ehr-api
- Wait until the process is done. If the backup has been restored successfully, you will see the following code:
  - Restoring... done

## Step 2 — Failed restoration attempt



- If the backup restoration has failed, contact the MedEasy technical team immediately.

# MedEasy

## Troubleshooting functionality issues

This is the recommended route to take when components malfunction.

Written By: Admin MedEasy

### INTRODUCTION

This is the recommended route to take when components malfunction.

## Step 1 — Functionality Issues



- ⓘ The best way to resolve a component's malfunction is to replace the components with the same, or at least similar, model.
- You may find the entire component list [here](#).
  - The microSD card, however, is the one containing all the information. If you have to switch between MedEasy kits, make sure you transfer the microSD from the old kit to the new one.
  - You may find out how to swap it out [here](#).

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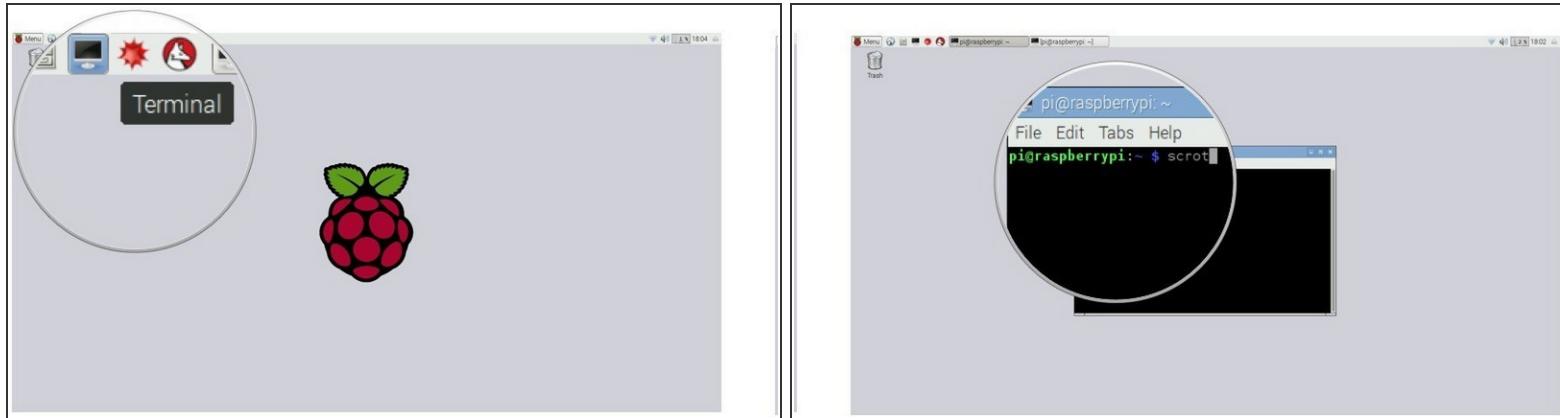
# MedEasy

## Troubleshooting incorrect time

In rare occasions, the Raspberry Pi's settings might reset, causing the time indicated to be wrong.  
Follow these steps to fix this.

Written By: Admin MedEasy

## Step 1 — Incorrect time



- After the Pi's settings reset, the time might become off by a couple hours.
  - Open terminal and type the following command:
    - sudo dpkg-reconfigure tzdata
- (i)* The Pi has no real-time clock, so unless it can access a timeserver over the network at boot, or time is manually entered by the user, the time/date will restart counting from the last logged time in the previous session.

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# MedEasy

## Troubleshooting unqualified iris images

The Iris Scanner may occasionally fail to scan an iris. This troubleshooting guide will help you fix this issue.

Written By: Admin MedEasy

### INTRODUCTION

The Iris Scanner may occasionally fail to scan an iris. This troubleshooting guide will help you fix this issue.

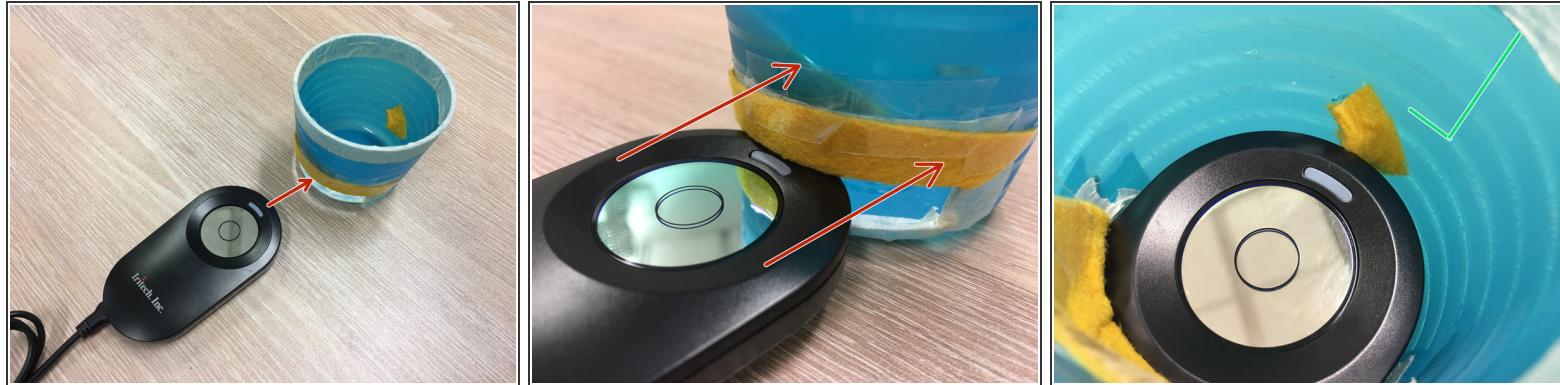
---



#### PARTS:

- [Iris Scanner](#) (1)
  - [Plastic Iris Scanner Goggle](#) (1)
-

## Step 1 — Lighting Conditions



ⓘ The iris scanner can operate both indoors and outdoors.

⚠ However, strong sunlight will be detrimental to the image quality!

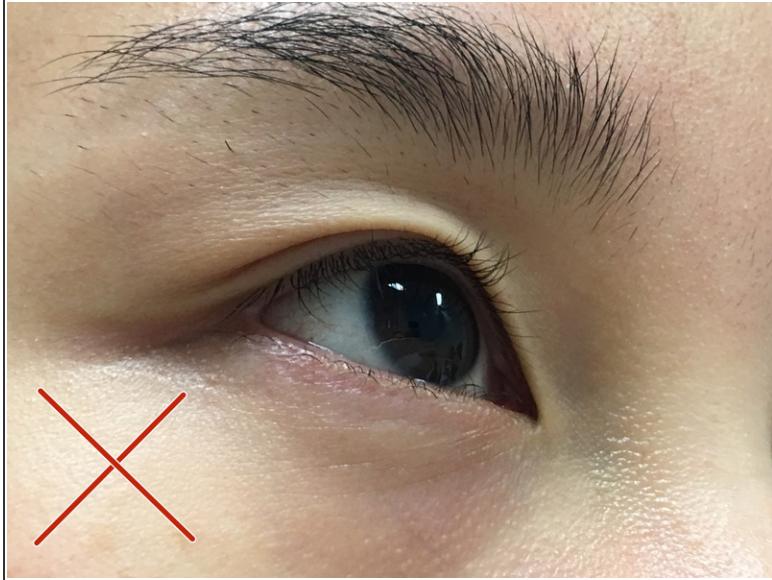
- The use of the plastic goggle is recommended in order to achieve the appropriate lighting conditions for the optimum image resolution.

## Step 2 — Unqualified iris images



- The scanner may fail to recognise an iris when:
  - The upper eyelid and eyelashes cover most of the iris pattern.
- To solve this, ask the user to keep his/her eye wide open so that most of the iris pattern is visible in the image.

## Step 3 — Unqualified iris images



- The scanner may fail to recognise an iris when:
  - The user's eye was not aligned properly with the camera.
  - The user was not looking at the inner circle of the camera.
- To fix this, use the plastic goggle to help the patient achieve the proper alignment.

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# Networking

This section will help you resolve any networking issues that prevent you from connecting to the server.

 Create a Guide

## 2 Troubleshooting Guides

---

Troubleshooting inability  
to connect to the Wi-Fi



Troubleshooting  
inaccessible server



Networking problems can generally be solved quite rapidly. These are some of the most common problems:

1. Ethernet connection is lost when a USB device is plugged in: This is often caused by inadequate power. Use a good power supply and a good power cable.
2. Network/USB chip gets too hot to touch: This is normal. In open air at 24 C, the LAN9512 Ethernet/USB chip reaches about 52 C after some time. This is too hot to touch for more than a few seconds, but it is not unusually hot for the chip. The [LAN9512 data sheet](#) in Table 4.1 on p.40 says it comes in two versions, rated for operation at an ambient temperature in still air (Ta) of 70 C (commercial) or 85 C (industrial). It uses 763 mW at 3.3V with maximum traffic on 100baseT and both USB ports (Table 4.3.4, p. 42).
3. Networking no longer works when changing SD card between two Raspberry Pis: In some distributions, /etc/udev/rules.d/70-persistent-net.rules remembers which MAC address is associated with eth0, so each new device will be assigned as a different interface (eth1, eth2, etc.) due to the different MAC addresses. Editing /etc/udev/rules.d/70-persistent-net.rules to remove the invalid rules and rebooting may help fix the problem. Contact the MedEasy technical staff to execute this fix.

# MedEasy

## Troubleshooting inability to connect to the Wi-Fi

This troubleshooting guide will help you fix issues with Wi-Fi connectivity.

Written By: Admin MedEasy

### INTRODUCTION

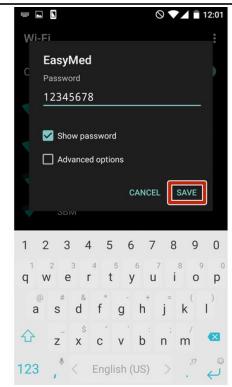
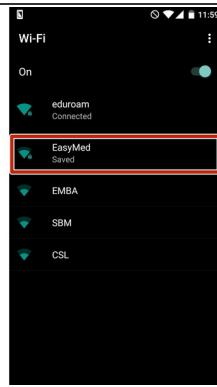
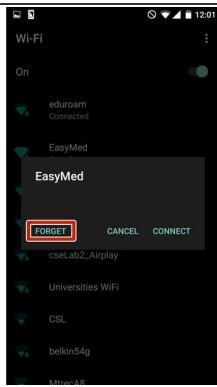
This troubleshooting guide will help you fix issues with Wi-Fi connectivity.



#### PARTS:

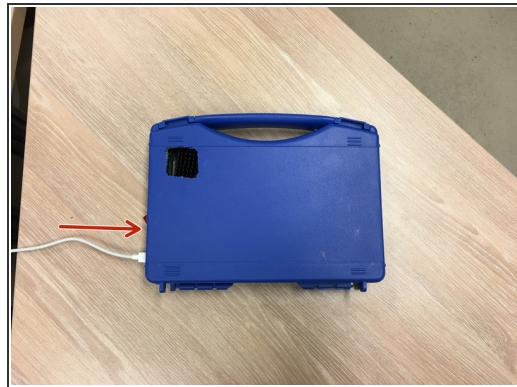
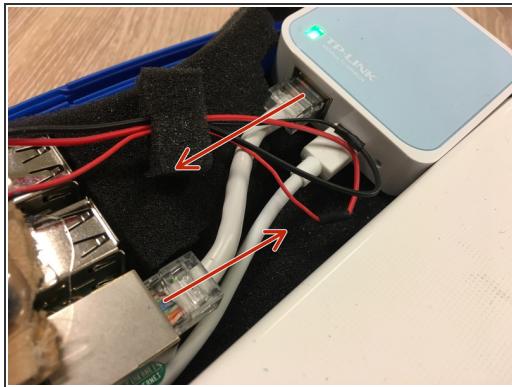
- Ethernet Cable (1)
- Raspberry Pi (1)
- Router (1)

## Step 1 — Check wireless connection



- If you have previously connected yourself to the Easymed network, go to your network settings on your phone and forget the network.
- Reconnect your phone to the WI-FI network.
  - Wi-Fi name: EasyMed
  - Password: 12345678
- Save the network settings, then attempt to connect.

## Step 2 — Check router connection



- If you connected to the network successfully, you will be signalled so by your phone. Test the connection.
- If the problem persists:
  - Unplug and replug the ethernet cable on both the Raspberry Pi and the router.
  - If this is unsuccessful, completely shut down the MedEasy kit and start it up again. Do the same with your phone.
- Everything should be back online! (But if it isn't, let your reliable IT team know so that we can fix it!)

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# MedEasy

## Troubleshooting inaccessible server

This troubleshooting guide will show you how to resolve the issue of an unresponsive server.

Written By: Admin MedEasy

### INTRODUCTION

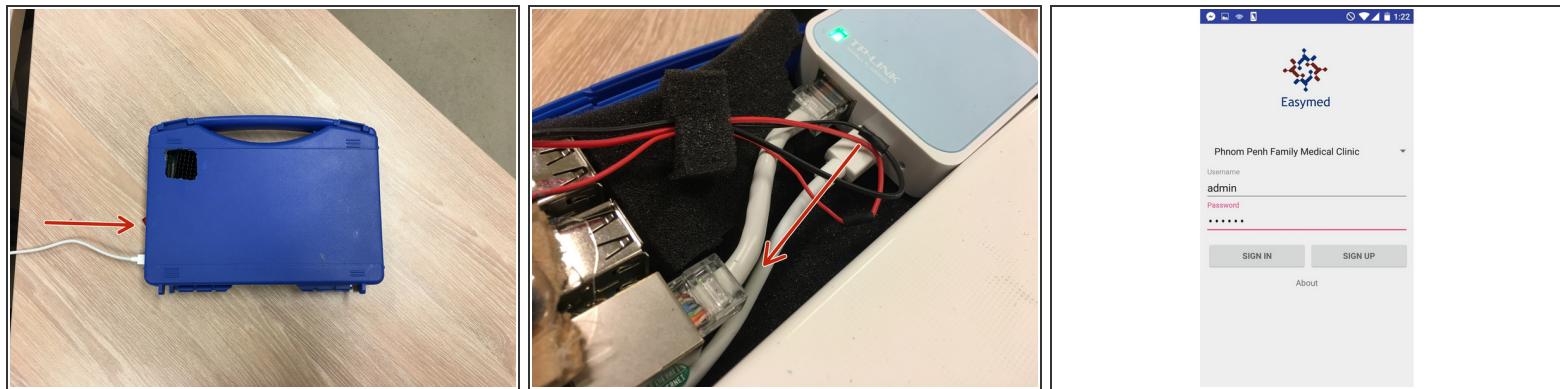
This troubleshooting guide will show you how to resolve the issue of an unresponsive server.



#### PARTS:

- Powerbank (1)
  - Router (1)
-

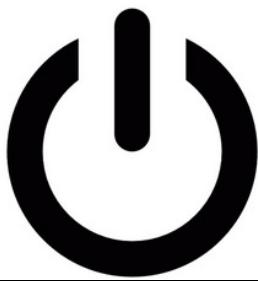
## Step 1 — Power supply



- Restart the router.
  - (i) You may do this by unplugging the power cable between the powerbank and the router or by turning the main power button off.
- If the problem persists, log out of the app and log in again. The log out button is located at the bottom of the side menu.
- The log-in credentials are:
  - Username: admin
  - Password: 993546

! If the problem still persists, please contact the MedEasy technicians.

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## Power or Start-up

A good power supply that will supply 5 volts and at least 1 amp (5V 1A) is vital. A 5 volt 2 amp power supply can help some wifi USB adapters run more stable.

[+ Create a Guide](#)

## 2 Troubleshooting Guides

Green LED blinks in a specific pattern



Red power LED is on, green LED does not flash, nothing on display



A good power supply that will supply 5 volts and at least 1 amp (5V 1A) is vital. A 5 volt 2 amp power supply can help some wifi USB adapters run more stable.

Note that the Pi has no BIOS, so nothing will be displayed on screen unless the Pi successfully boots!

### Normal LED status

There are 2 LEDs near the USB connector:

- ACT: green - card status- flashes during SD card activity
- PWR: red - power - a power good indicator that goes off when power drops below 4.65V

### Common Problems

1. Red power LED does not light, nothing on display: The power is not properly connected. Unplug and re-plug the cable from the power-bank, and check whether the power-bank has energy.
2. Red power LED is blinking: A blinking red power LED indicates problems with the power supply. The red power LED is wired to a voltage supervisor which kicks in when the 5V power supply drops below 4.63V. If it does, the LED will blink. Check your connections, cable, and power supply.
3. Pi shuts down (or restarts) soon after booting up: This is caused by a power supply producing too low voltage. Try swapping power cable and power bank.

### Rare Problems

1. Pi boots sometimes but not always: With a known good power supply and known good SD card, the R-Pi boots occasionally, but other times shows only a tiny green flicker from the "OK" LED and it fails to start, even with no USB devices and no Ethernet. Low voltage or an improper SD card can cause it. Some SD cards will work until they warm up slightly, and then fail. It may also be an issue related to the SD memory card not making proper contact. Try to work with another Pi and contact the MedEasy technical staff.
2. Kernel Panic on boot: Text appears on screen, but then hangs with debug messages. This can be caused by USB devices such as keyboards. Try again with nothing in the USB.

# MedEasy

## Green LED blinks in a specific pattern

Different flashing patterns have different meanings.

Written By: Admin MedEasy

### INTRODUCTION

- 1 Flash: Make sure you are using the provided SD card, or another with a capacity larger than 4Gb; a 2Gb card won't work.
- 2 Flashes: The SD Card cannot be read.

## Step 1 — 2 Flashes: the SD Card cannot be read



- In this scenario, the short-term solution would be to use another SD card from the others kits.
- If you have time, inform the MedEasy Team. We will guide you through the process of formatting the SD card and flashing Raspbian with Pi Installer from Terminal.

 Beware! All the information stored in the SD Card has been lost. You should have made a backup stored in the cloud; you may retrieve this later using this [guide](#).

## Step 2 — Download the SD Formatter software

**SD Association**

ENGLISH | 日本語 | 繁体中文 | 简體字  
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**RayVlijoen / Raspberry-PI-SD-Installer-OS-X**

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Code Issues 2 Pull requests 3 Projects 0 Pulse Graphs

Shell Script for creating Raspberry PI SD card on OS X.

12 commits 1 branch 0 releases 4 contributors

Branch: master New pull request Find file Clone or download

RayVlijoen committed on GitHub Merge pull request #8 from bryant1410/master Latest commit 201ff5b on 17 Apr

.gitignore Initial Commit 5 years ago

README.md Fix broken Markdown headings a month ago

install Use the raw disk device for better performance. 4 years ago

README.md

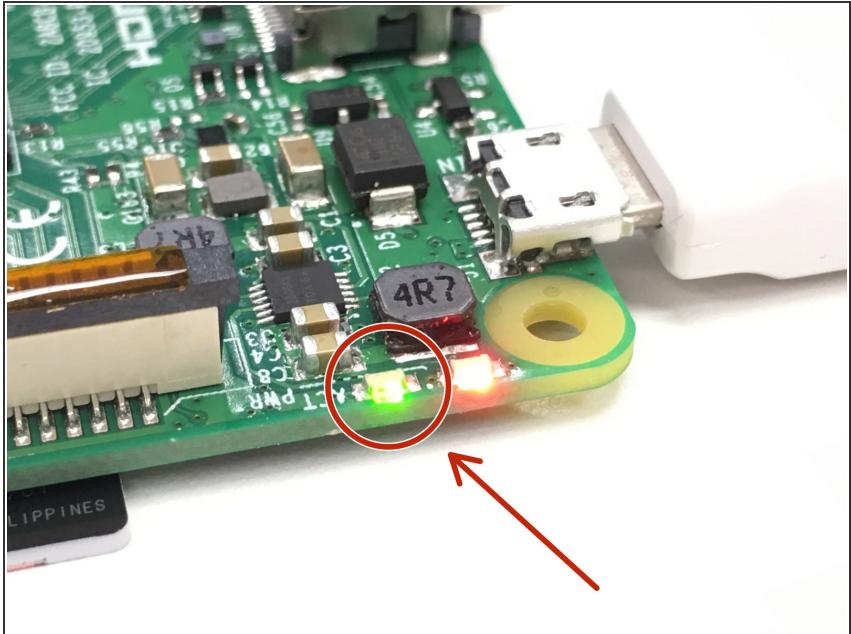
**Raspberry PI SD Installer OS X**

Shell Script for creating Raspberry PI SD card on OS X.

Usage:

- You may download the SD Formatter software from this [link](#) for both Mac and Windows.
- You may download the Pi SD Installer from [this link](#).
- Download the content as indicated, format the SD card following the instructions. Then, execute the install script as indicated.

## Step 3 — Flashes: Meaning



*(i)* If the system still doesn't work, please let the MedEasy Team know how many times does the green light flash now:

- 3 flashes: start.elf not found
- 4 flashes: start.elf not launched
  - If start.elf won't launch, it may be corrupt. It may also point to a defective SD-card holder. Do let the team know if you suspect this could be the problem
- 7 flashes: kernel.img not found
- 8 flashes: SDRAM not recognised. You need newer bootcode.bin/start.elf firmware. Let the team know about this.

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# MedEasy

## **Red power LED is on, green LED does not flash, nothing on display**

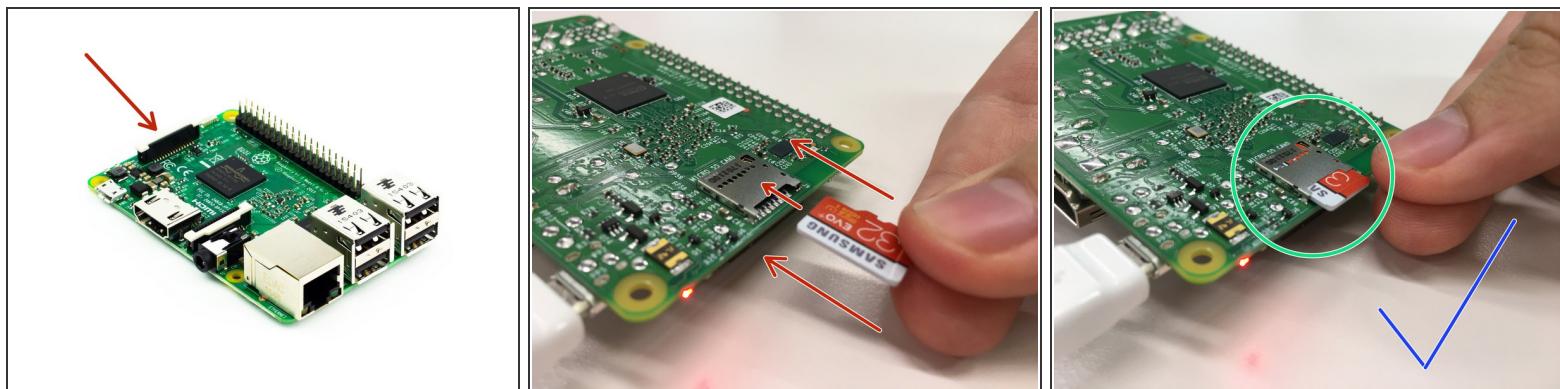
Written By: Admin MedEasy

### **INTRODUCTION**

This indicates one (or more) of the following:

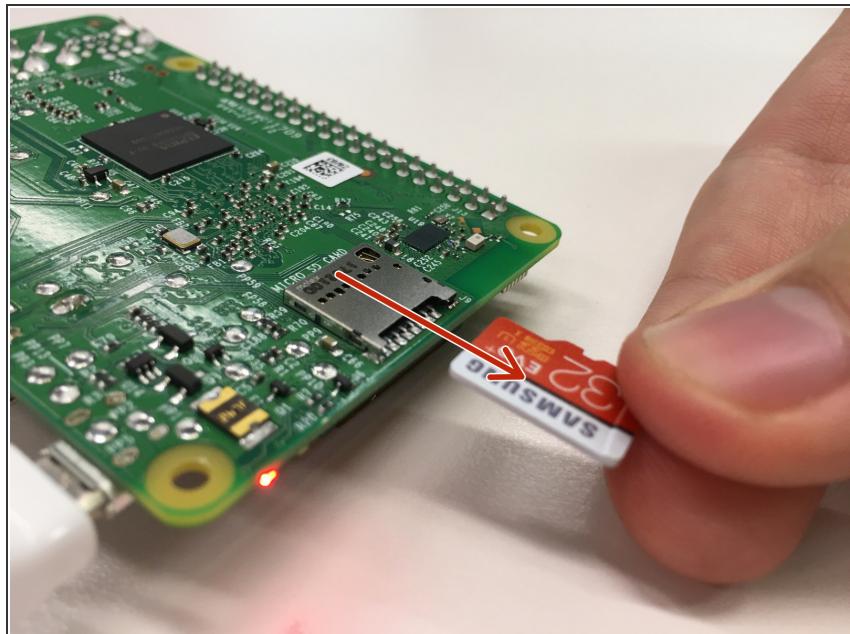
- The Raspberry Pi cannot find a valid image on the SD card.
- The SD card may itself have an issue.
- Other cables may be interfering with the boot.
- The SD card holder may be damaged.
- The voltage may be too low.
- (Unlikely) Hardware abuse.
- Overheating.

## Step 1 — Pi can't find a valid image on the SD card



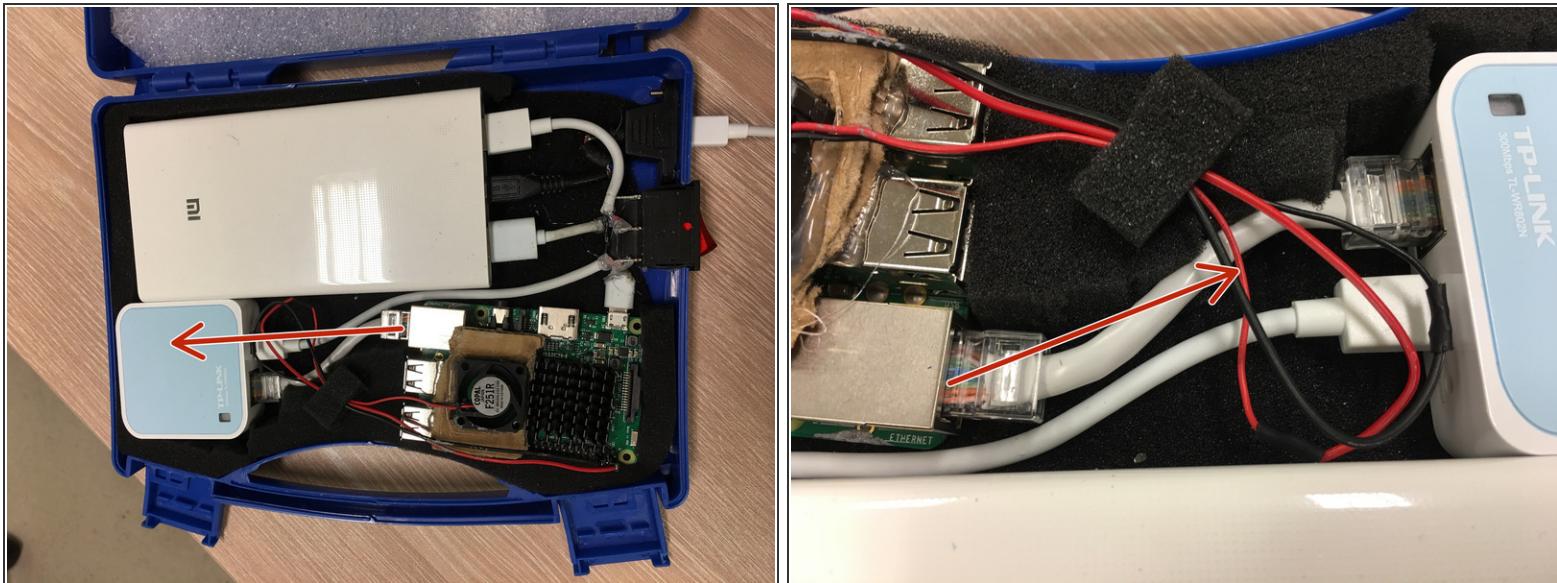
- The Raspberry Pi cannot find a valid image on the SD card.
- Turn the board over to check that the card is inserted correctly; the insertion force is much larger than for some laptops.

## Step 2 — Card itself may have an issue



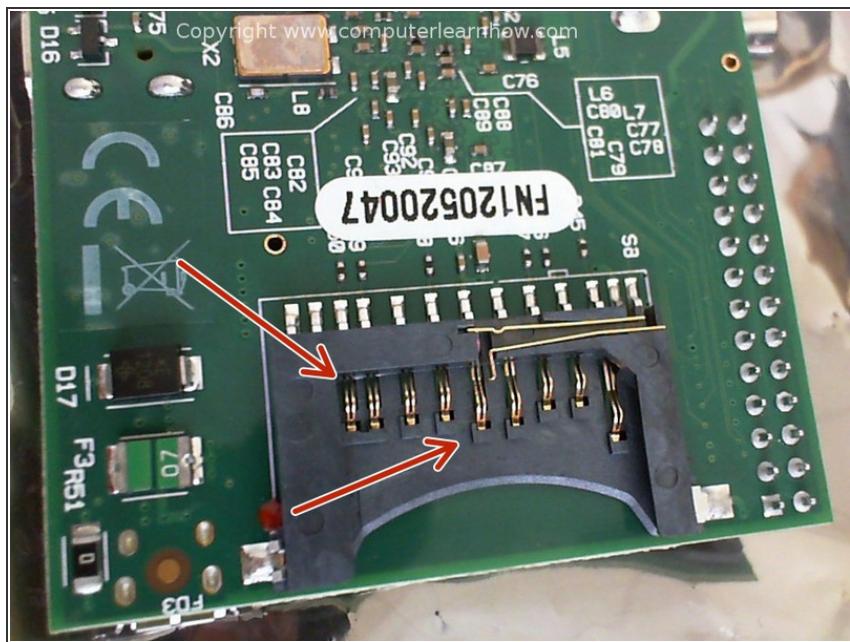
- Card itself may have an issue.
  - The SD cards included in the kit by the MedEasy team have been tested and should be working in proper condition. However, like everything, they could fail.
  - Try swapping them with one another.
- ★ You may also check our SD cards section [here](#) if the other solutions don't work.

## Step 3 — Interfering with boot



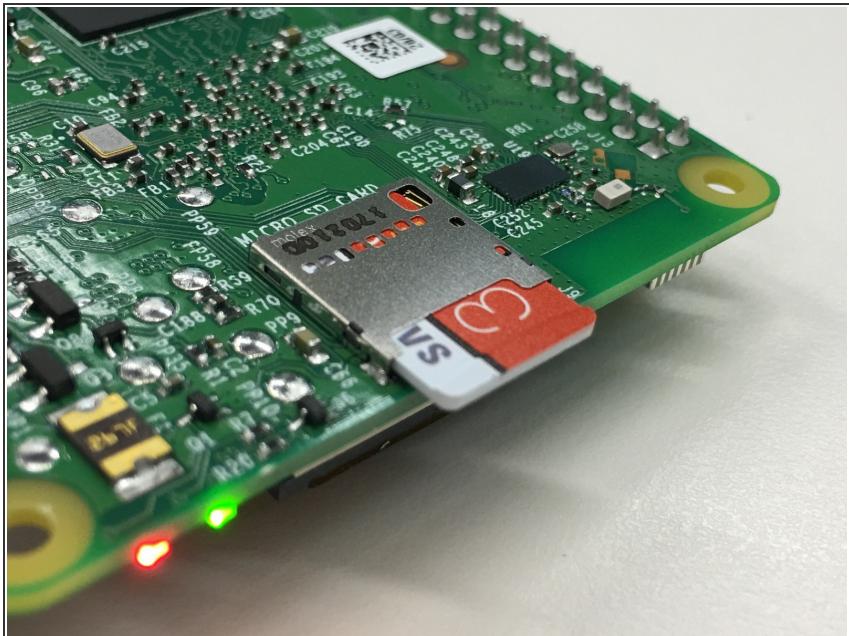
- In rare occasions, peripherals connected to the Pi can interfere with this booting properly.
- Try with no cables connected except the USB power lead (the cable coming from the power bank), and SD card inserted.
- You should see flashing of the light for about 20 seconds. If that helps, plug in the other cables on at a time to identify which is interfering with the boot.
- If a cable is indeed interfering, inform the MedEasy Team asap.

## Step 4 — Damaged SD Card holder



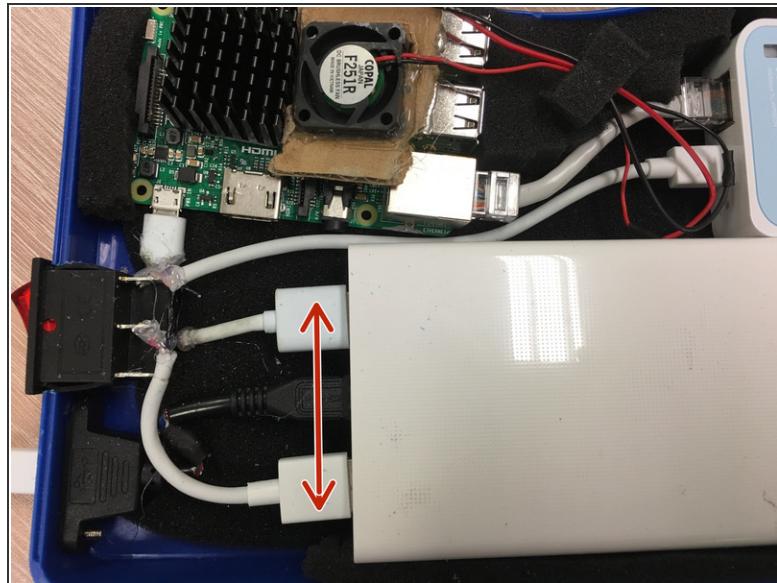
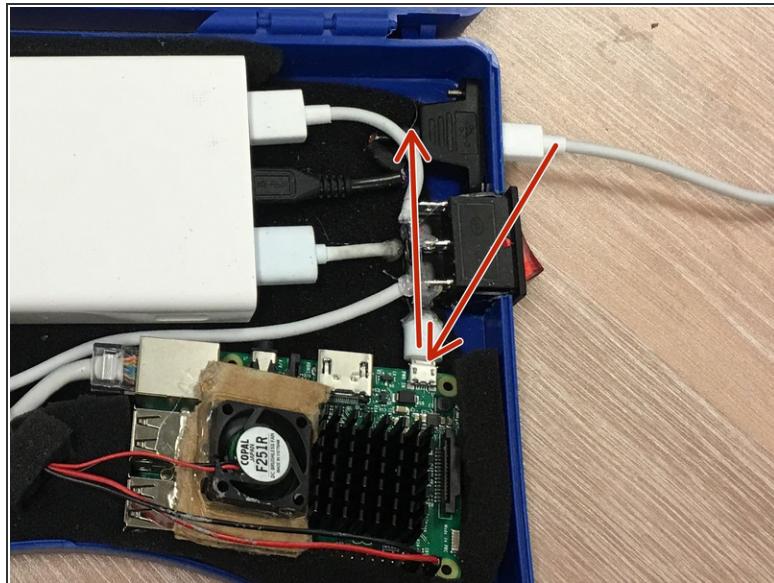
- Look at the SD card holder on the Pi. At first glance, it may look fine, but the contacts must be springy and they must protrude at least 2mm as measured from the lower edge of the holder to the top of the contact bulge.
  - You may also compare the Pi with the other Pis you have available.
- ⚠** If you see a significant difference, report to the MedEasy team immediately.

## Step 5 — Damaged SD Card Holder



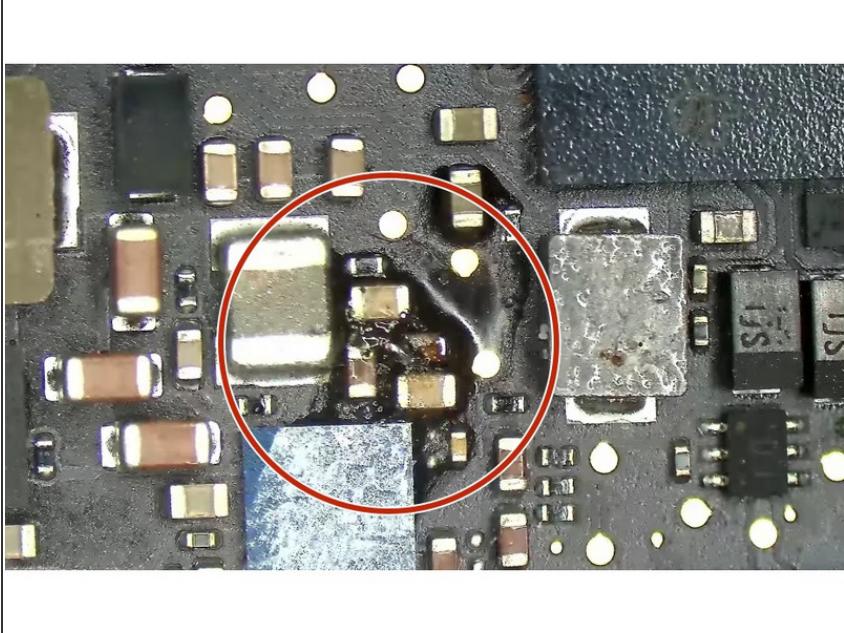
- Ensure that when your SD Card is fully inserted that the longer metal spring contacts (one clearly visible on the end of the slot, and one hidden in the side nearest the power connector) are closed.
  - ⓘ These are used to detect the presence of an SD Card therefore if no contact is made then the Raspberry Pi won't attempt to access the the card.
- Check carefully for any cracks or damage to the SD Card slot, if the sides are damaged then the card may not be making proper contact with the pins.
  - ⓘ You may confirm this by checking if if the Raspberry Pi boots if you manually hold the SD Card in position.
  - If so, switch to use another kit and inform the MedEasy Team immediately.

## Step 6 — Low voltage



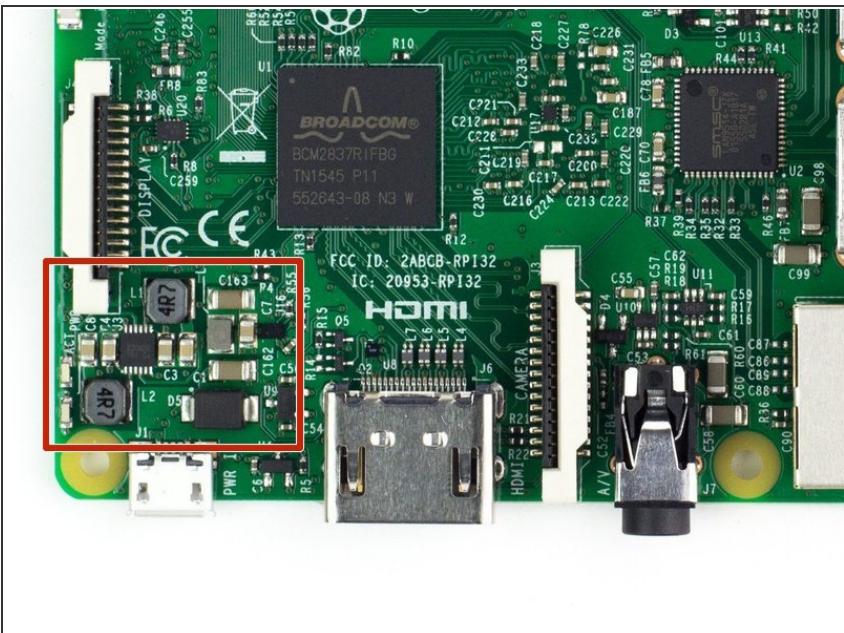
- If the voltage is too low (below 5V), the Pi might not boot as expected.
- Try a different power supply and cable. For example, you may try to connect the Pi directly to the power source used to charge the power bank.
- You may also try switching between the USB ports on the power bank.
- If it keeps failing, try switching the power bank with another from another kit.

## Step 7 — (Unlikely) Hardware abuse



- Although very improbable, if a power supply was connected to the Pi with an excessive voltage (i.e. 7V supply), there might be some shorts in the board.
- If there is any possibility of this, inform the MedEasy team immediately.

## Step 8 — Overheating



- If due to normal operation conditions the Pi has overheated, it may happen that it hasn't completely recovered.
- In this case, if you turn the Pi on, a considerable amount of energy from the power supply is lost in the fuse and doesn't reach the Pi.
- Carefully touch the area shown in the picture to see if it feels specially hot. Try letting the Pi rest for a while, then retry.



## SD Cards

A broken or malfunctioning SD card can cause the entire system to fail. Follow these recommendations to check whether the SD card is operative.

 Create a Guide

Most commonly, you should keep your firmware version up to date. However, this is something the MedEasy team will take care of. However, if there were a need to update the device's firmware, you may learn how to this [here](#).

Some SD cards do not work with the Raspberry Pi. Therefore, only use the cards that were given to you with the kit by the technical staff. If the card breaks, however, you may find a list of known-to-work SD cards [here](#).

# MedEasy

## Troubleshooting a bricked LGF320S

Learn how to recover a bricked LGF320S in order to make it operable once again.

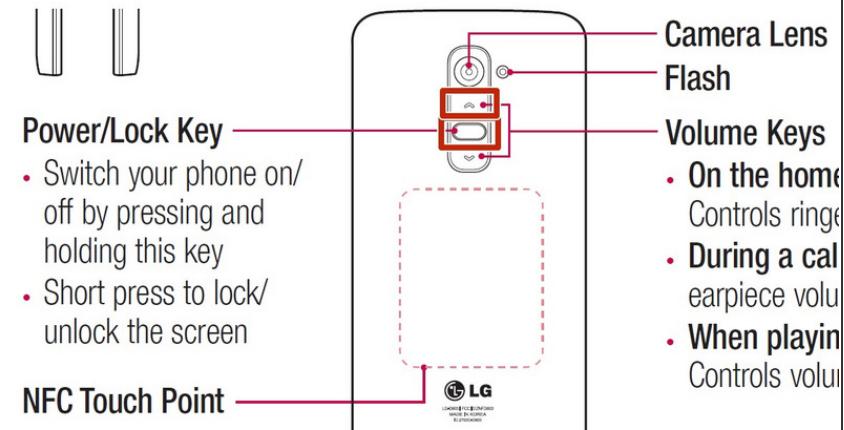
Written By: Admin MedEasy

### INTRODUCTION

Sometimes the smartphone LGF320S might become bricked (unusable) for several reasons. This troubleshooting will guide you through those possibilities in order to help you bring the phone back to life!

The first three steps four steps are general tips on how to access the different recuperation modes on the phone. You may begin at step 5 instead and come back afterwards.

## Step 1 — Enter recovery mode



### Power/Lock Key

- Switch your phone on/off by pressing and holding this key
- Short press to lock/unlock the screen

### NFC Touch Point

### Camera Lens

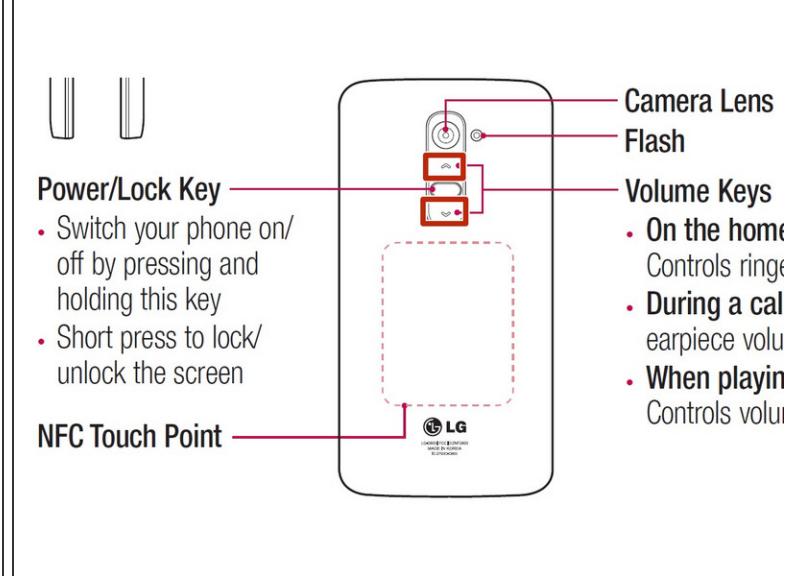
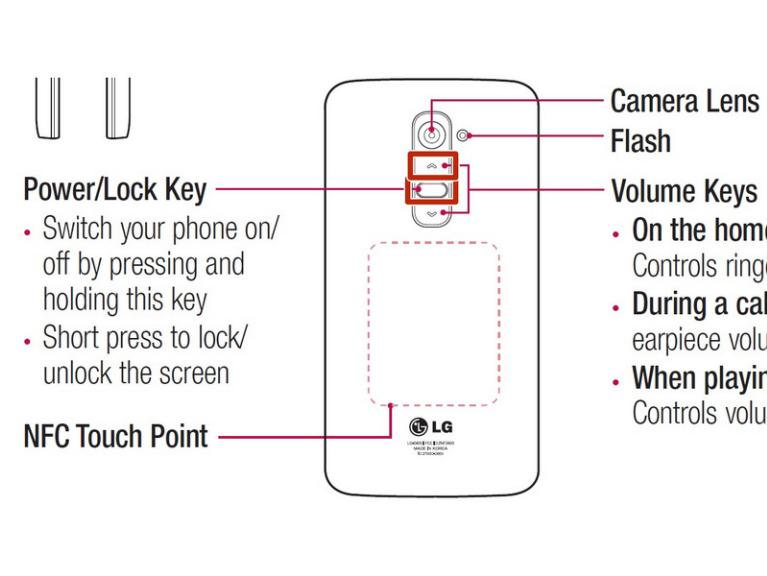
### Flash

### Volume Keys

- On the home screen: Controls ringer volume
- During a call: Controls earpiece volume
- When playing music: Controls volume

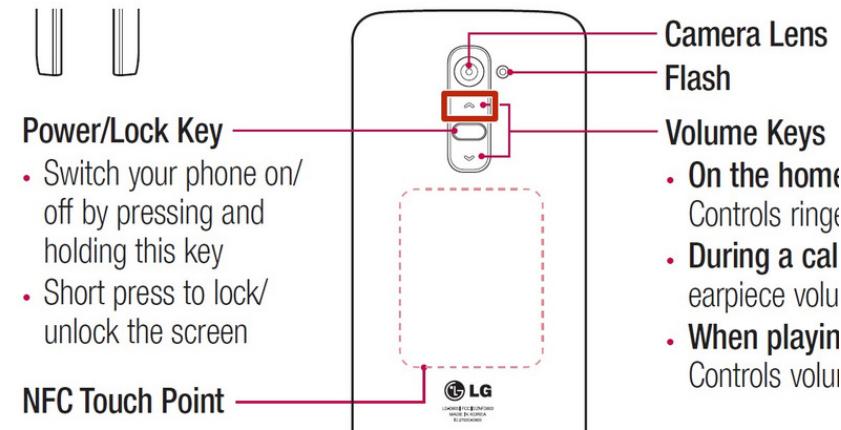
- Turn off the phone and wait five seconds.
  - Hold the "Volume Up" button and the "Power" button at the same time.
  - Keep holding these buttons simultaneously until this "복구모드" message appears on a black screen.
- !** Immediately let go of both buttons.
- Wait for 3-5 seconds for the recovery mode menu to appear.
- i** If you have tried this unsuccessfully, try again. If you fail again, go to step .

## Step 2 — Enter factory reset mode



- Turn off the phone and wait five seconds.
- Hold the "Volume Up" button and the "Power" button at the same time.
- Let go of both buttons when the LG splash screen comes up.
- Immediately hold the "Volume Up" and the "Volume Down" buttons simultaneously for 3-5 seconds until the factory reset menu comes up.

## Step 3 — Enter download mode



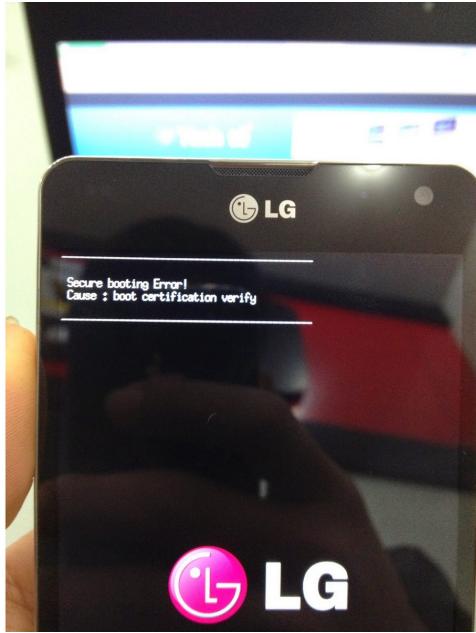
- Turn off the phone and wait five seconds.
- Press the "Volume Up" button and, while holding it down, connect the phone to a PC via a USB cable.
- Then, you may release the "Volume Up" button. Now, turn the phone on.

## Step 4 — Enter test mode



- Access the phone dialing screen (i.e. if you were to make a phone call).
  - Input the following code into the dialing screen: 3845#\*320#
  - Make sure Developer mode (tap Build number/version 7 times) & USB Debugging is always on!
- (i)** You may learn how to do this [here](#).

## Step 5 — What's bricked?



! Make sure the phone is fully charged before beginning this process.

- If you can't enter recovery mode, see tiny "secure booting error" during the booting process
- Alternatively, you may see many partition drives when you plug the phone into a PC.
- On Windows, you may see this by checking "device manager" -> "Other ports".
- If it has qualcomm xx, it's probably been bricked because when the PC can't access the phone, the latter goes to firmware by default.
- This pretty much means the phone is bricked.

## Step 6 — Prepare unbricking tools



- Download the SRKTool from [here](#).
- ⚠ You must have enabled USB Debugging mode in order to use this tool!
- Double click the srktool21.exe
- ⚠ Be careful when selecting disk number!
- Reboot afterwards, it should have been factory reset and partition cleaned, so the phone will connect normally to PC.

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# MedEasy

## How to re-equip the Raspberry Pi after a crash

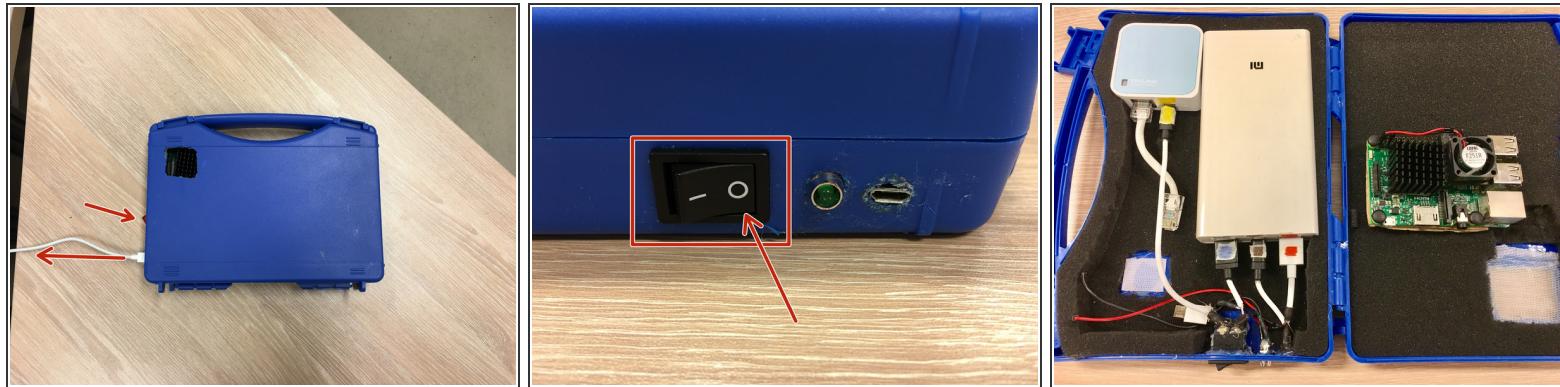
This guide will show you the steps to follow to prepare the Raspberry Pi to get back to work after a crash.

Written By: Admin MedEasy

### INTRODUCTION

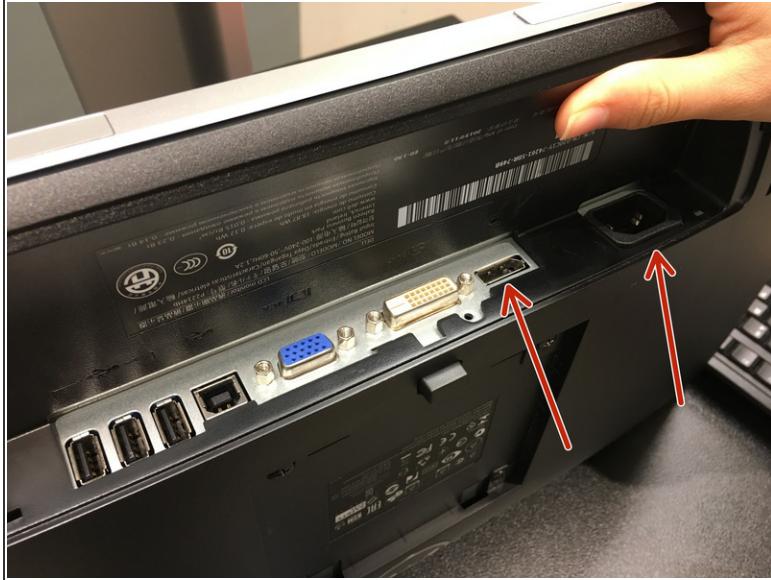
This guide will show you the steps to follow to prepare the Raspberry Pi to get back to work after a crash.

## Step 1 — Hardware connections



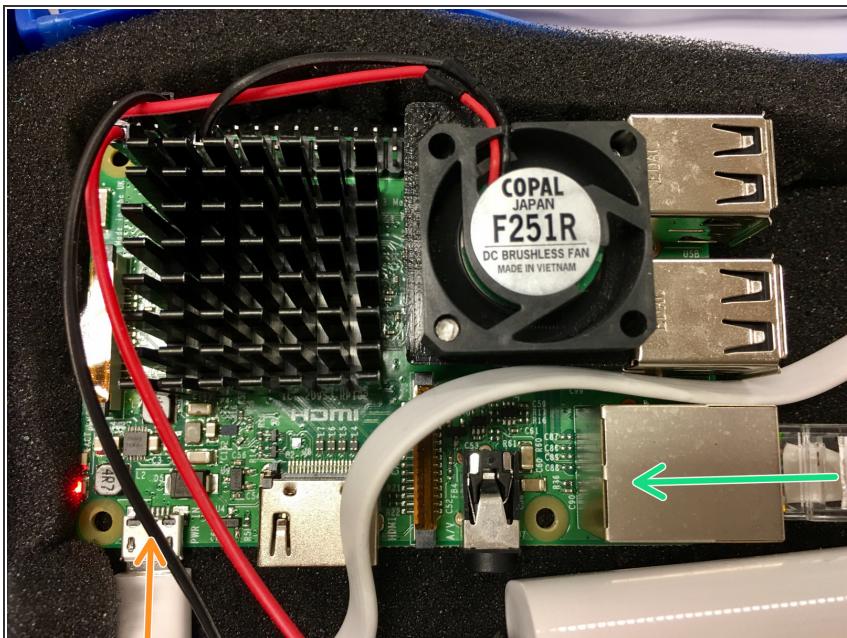
- Unplug everything from the Raspberry Pi and make sure it's not powered (turn the power button on the side off).
- Connect the following to the Raspberry Pi, one by one:
  - MicroSD Card
  - USB Keyboard and mouse
  - HDMI or VGA Cable
  - Power supply (using a power cable connected to the powerbank)
  - Ethernet cable (or connect to a Wi-Fi hotspot if available)

## Step 2 — Monitor connections



- Connect the following to the monitor:
  - HDMI Cable
  - Power supply (from normal wall socket)

## Step 3 — Router connections



- Connect the following to the Pi:
  - Ethernet cable (or connect to the same Wi-Fi hotspot that you used for the Raspberry Pi)
  - Power supply (using a power cable to the powerbank)
- If you cannot connect the Raspberry Pi to the internet via ethernet, use the network icon on the top right corner to connect to the internet.
- You may learn more about this procedure [here](#).

# MedEasy

## How to upgrade to Android Nougat 7.1.1

After unbricking a phone, it might be necessary to update it back to the Android version that works with the MedEasy app. To do so, follow these steps.

Written By: Admin MedEasy

### INTRODUCTION

You are going to need to download several tools first:

1) LG G2 Driver for PC:

- You may download them from the LG Official Website:

1. [LG G2 Driver for PC](#)

- Or #[here](#) if you want it from our Google Drive).

1. [LG One-Click Root Program](#)

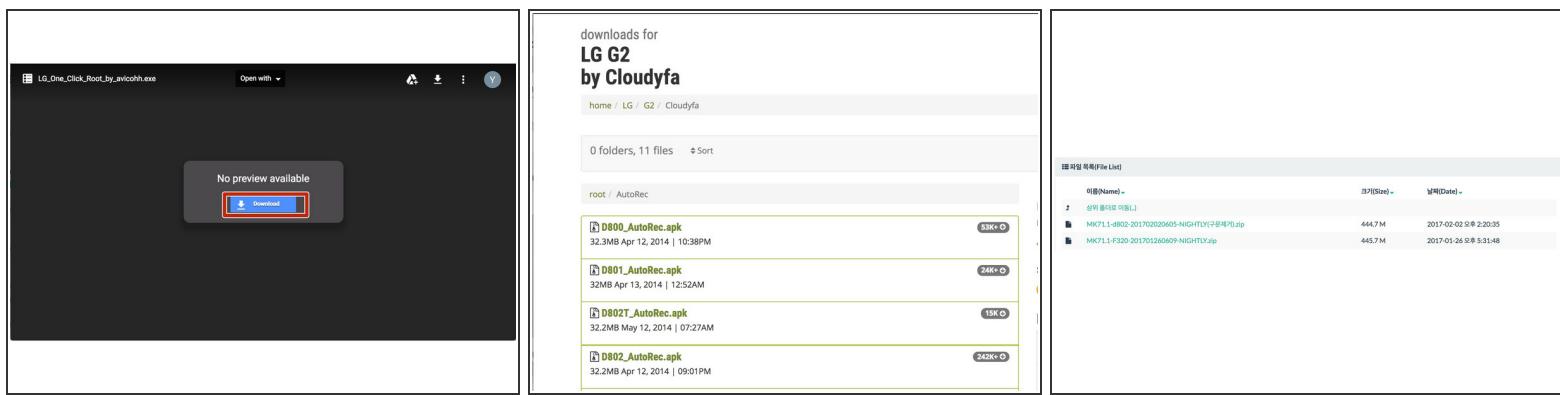
2. [AutoRec](#)

3. [Bootloader](#)

4. [MOKEE Android 7.1.1 ROM](#)

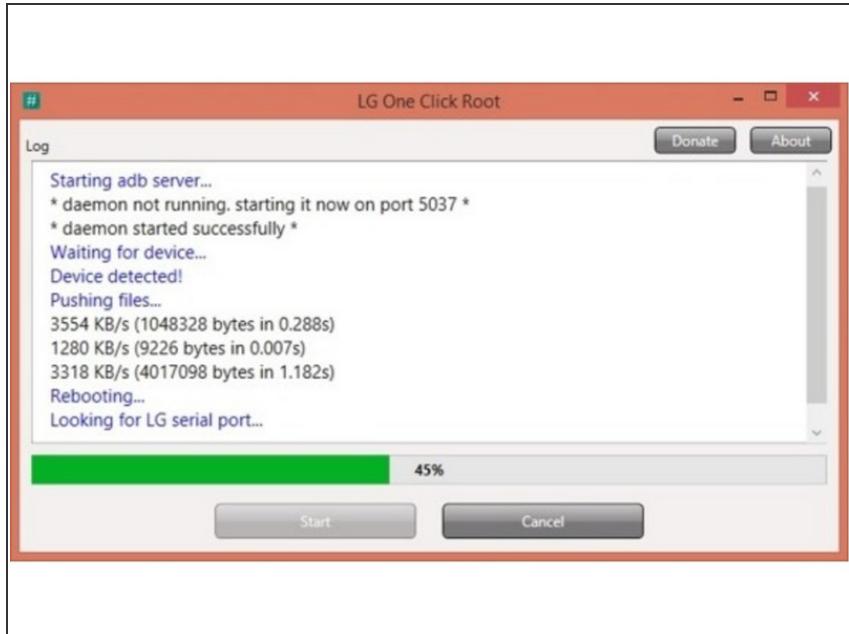
5. [Lambda kernel](#)

## Step 1 — Part 1: Setting up your PC



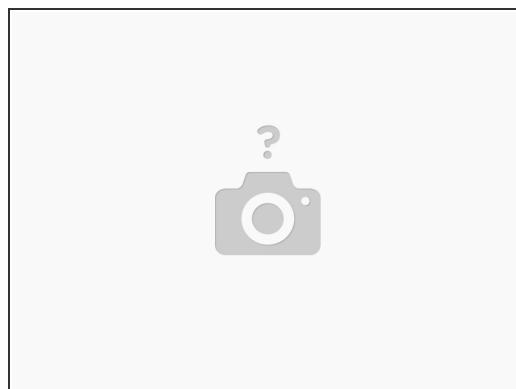
- Install the LG G2 Driver (and [download](#) it first if you haven't done so already).
- Install the LG Once-Click Root Program (and [download](#) it first if you haven't done so already).
- Download the [AutoRec](#) apk file, the [bootloader](#), the [MOKEE ROM](#) and the[Lambda kernel](#) (of the appropriate phone model) if you haven't done so already.
  - ★ There is no need to unzip these files .
  - ★ Download all of the files from the link.
- Connect the phone to the PC. Move all those files into the /Downloads folder (or any other of your choosing).
  - i The location is not too important, as long as you remember where you left them!

## Step 2 — Part 2: Rooting Phone



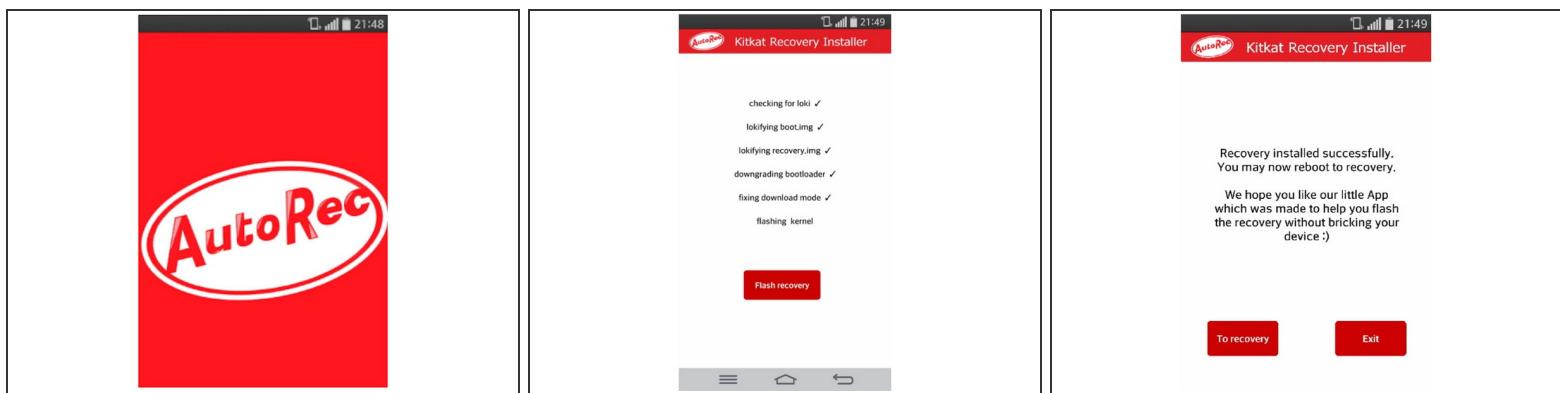
- Open LG One-Click Root Program
- Click start
- Plug in phone to PC, make sure USB debugging is on and click OK if the phone asks for permission to share keys etc.
- The phone will reboot at around 45%, make sure the phone USB debugging allows the PC to connect. The phone will reboot again at 90%.
- If it's stuck at 90% while the phone screen shows firmware update (펌웨어 업데이트), wait for about 3-5 minutes then unplug. If it's unplugged too early there may be a chance of bricking the phone.

## Step 3 — Part 3: I F@#\$ED UP



- (i) If the phone gets bricked in any stage of rooting or upgrading process, follow the "What's bricked" section of General Tips section.

## Step 4 — Part 4 (I): Flushing from TWRP Recovery Mode



### ★ Perform the following steps on the phone

- Go to File Manager / File explorer (download any file exploration app from Google Apps if there isn't default one) and find AutoRec apk in /Downloads.
- Adjust security settings to allow for installation from 3rd parties.
- Click "Flash recovery"
- Click "To recovery"

## Step 5 — Part 4 (II) : "Flashing from TWRP Recovery Mode"



- The phone will boot into recovery mode and start TWRP.
- Install bootloader. Install > Load bootloader zip file (something like F320L\_KK\_bootloader\_plus\_LP\_bootstack.zip) > Swipe to flash. \*Don't check "check for md5" or other security settings\*
- Go back to TWRP Menu.
- Fullwipe ▶ Wipe - Advanced Wipe - Dalvik cache, System, Data, Cache
- Go back to TWRP Menu.

## Step 6 — Part 4 (III): "Flashing from TWRP Recovery Mode"



- Install MOKEE ROM. Install > Load MOKEE ROM zip file > Swipe to flash. \*Don't check "check for md5" or other security settings\*
- Go back to TWRP Menu.
- Install Lambda Kernel. Install > Load Lambda Kernel zip file > Swipe to flash. \*Don't check "check for md5" or other security settings\*.
- Go back to TWRP Menu.
- Reboot > Power off.

## Step 7 — Part 5: Android 7.1.1



- Turn on the phone....wait for about 5-7 minutes. It will show MOKEE logo, then seemingly reboot into LG logo, then MOKEE logo with 3 loading dots. It takes long on this loading screen.
- Fill in initial settings for the phone.
- Done!