

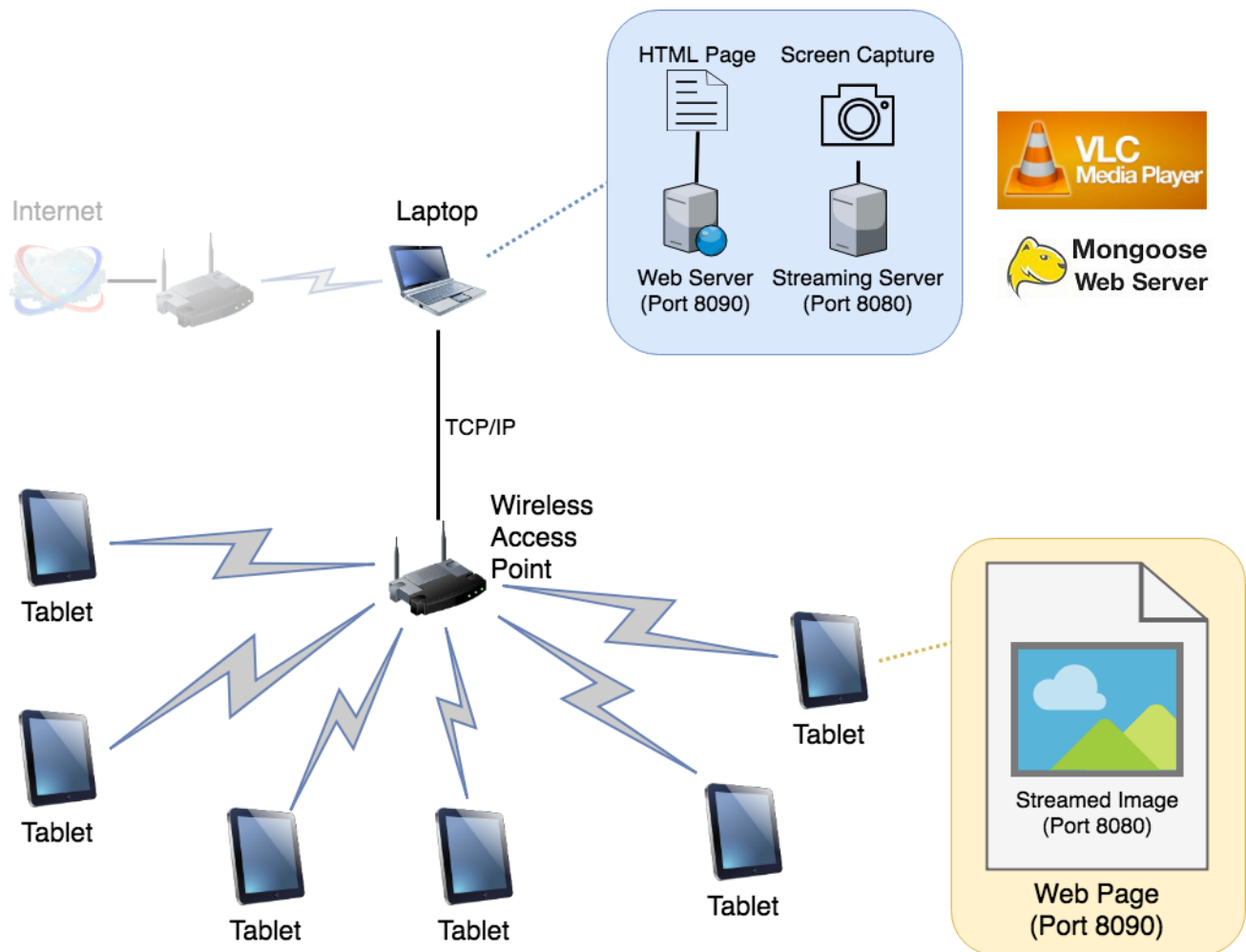
ScreenRepeat v3 – Install Guide

The hope is that this guide will help anyone set up ScreenRepeat v3 from scratch. It is only meant to be a guide – a level of knowledge is assumed and the information may be incomplete or inaccurate, be warned!

There is a blog at <https://pistontrain.wordpress.com/> and files, including this guide, can be downloaded from <https://sourceforge.net/projects/screenrepeat/>.

Overview

The main components of ScreenRepeat – hardware and software – are shown below.



Setting up the Laptop

These instructions are for Windows 10 but will probably be similar for other versions of Windows.

Preliminaries

1. Prepare the folders
 - Make a new directory on your PC on the top level of C: called screenrepeat, and another directory inside that called webpages, so that the webpages folder is at c:\screenrepeat\webpages\

2. Install Mongoose Web Server
 - Download Windows binary file for the free edition of Mongoose from <https://cesanta.com/binary.html>. You have to accept the license; note the free license is for personal use only – not commercial.
 - Move the downloaded file (e.g. mongoose-free-6.9.exe) into the folder you created above, i.e. c:\screenrepeat\webpages\
3. Install VLC Media Player
 - Download the installer for the **version 2.2.8, 32-bit** (i.e. not the latest version) from <https://www.videolan.org>
 - The link is currently <http://download.videolan.org/pub/videolan/vlc/2.2.8/win32/vlc-2.2.8-win32.exe>
 - Install VLC; it should be fine to accept the default settings.
4. Get the ScreenRepeat files
 - Go to <https://sourceforge.net/projects/screenrepeat> and click on Download.
 - Open the downloaded .zip file and extract the files as follows:
 - i. **index.html** to c:\screenrepeat\webpages
 - ii. **ScreenRepeat.bat** and **start_webserver.bat** to c:\screenrepeat.
 - Make a shortcut on the Desktop to c:\screenrepeat\ScreenRepeat.bat

Configure ScreenRepeat

ScreenRepeat may need to be configured with the width of the primary screen. It uses this to set the starting, top-left point of the secondary screen, which is the display to be streamed to the tablets.

1. Navigate to the folder c:\screenrepeat.
2. Right-click on **ScreenRepeat.bat** and click **Edit**. This should open the file in notepad.
3. Find the line starting
set primary_screen_width=
4. If necessary, change the value after the equals sign; the default is 1920.
5. To find the primary screen width, right-click on the desktop and select **Display settings**, then on the Settings that open, scroll down and select **Advanced display settings**.
6. Select screen 1, and read the Resolution – e.g. 1366 x 768, 1920 x 1080. The first number is the width. Enter this value in ScreenRepeat.bat after **set primary_screen_width=** then save the file in notepad.

If required, the IP address of the gateway, i.e. the wireless access point, can be changed by altering the setting of **set ipgateway=** in ScreenRepeat.bat. The default is 192.168.10.1. The port for the web page can be changed from the default 8090 by editing the line set **port=** in ScreenRepeat.bat. The port for the VLC streamed image can be changed from the default 8080 by editing the line starting **start /WAIT "VLC Server"**. You may need to make these changes if your Access Point can't be configured with an IP address starting 192.168.10.

Add a shortcut to your desktop to ScreenRepeat.bat by dragging the ScreenRepeat.bat file to the desktop using the *right* mouse button. Ours looks like this:



ScreenRepeat v3

Configure Windows

1. Configure Windows to use its WiFi connection for Internet, rather than the wired connection which now goes to ScreenRepeat – without doing this you will not have internet access on the PC while the ScreenRepeat wireless access point is connected:
 - Search for Network status, then Change adapter options. Right click on the Ethernet adapter and select Properties.
 - Go to IPv4 properties | Advanced, and set: Automatic metric=NO, interface metric=100.
2. Optional: add the mongoose and VLC executables as firewall exceptions, allow for private and public networks. You will probably be asked when you first run ScreenRepeat if you would like the firewall to allow these programs through – accept for both public and private networks. Alternatively the same effect could probably be achieved by opening ports 8080 and 8090 in the firewall settings.

Configure EasyWorship

Optional: Setup EasyWorship. Current Version 6 settings we use include:

1. Settings are in Edit | Options
2. In Live, set Alpha Channel to Disabled and Screen Margins all to 0.
3. In Live | Default font, set:
 - Font | Tahoma size 76 Bold
 - Outline | Colour black size 35
 - Shadow | None
 - Margins | Left/Right 70, Top/Bottom 11
4. Live | Song | “Used by Permission. CCL No. [insert CCL number].”
5. Live | Song | Song Font, should be as Default font
6. Live | Scripture, set Show verse numbers Off, Show Reference On, Location After Each Slide, Minimum font size before breaking slide 45
7. Live | Scripture | Scripture Font, set as Default font except: Font | size 65
8. Live | Presentation | [All fonts], set as Default font
9. Transitions | Slide None, all others Blend

Setting up the WiFi access point

- The WiFi access point (AP) currently in use is accessed by browsing to 192.168.10.1, with username “admin” and password “jesus”. If you are using a different access point, login with the admin username and password; sometimes the defaults are printed on the bottom of the unit.
- Setup the AP to act as DHCP server from 192.168.10.100 upwards.
- Don’t use 192.168.1.n, as that may be in use by the other (Internet) WiFi.
- Reserve the IP 192.168.10.100 for the laptop – this is the IP that the tablets will be set to connect to.

WiFi Signal Strength

Some experimentation will be needed to discover what hardware works for the environment it will be used in. We found that while the system might work well when tested with no one in church, on a Sunday morning with lots of people there the signal strength could be much different.

Setting up a Tablet

This needs to be performed only once on each tablet. The instructions are slightly different depending on the type of tablet; these instructions are for Android tablets only. An Internet connection is needed to download the app – **so this may need to be done before bringing the tablet to church.**

For best results, configure the tablets as follows:

- Brightness set to maximum;
- Lock display rotation to horizontal;
- Turn off all sounds, Bluetooth and screen lock.

Then install Touch Lock, to prevent the screen turning off and accidental operation of the touch screen, and add the icon on the desktop to start ScreenRepeat. Follow the below instructions.

Install Touch Lock

For example: Samsung Galaxy, Google Nexus, Amazon Fire.

1. Connect to the Internet
2. Open the Google **Play Store** app, which has an icon similar to this:



3. Search for “Touch Lock” and find the **Touch Lock** app by **KIDISCRAPPE PTE. LTD**, with the icon similar to:



4. Install then open Touch Lock.
5. Follow the instructions to test Touch Lock. You can set it up to lock the volume buttons too if you wish.

Add Shortcut to Start ScreenRepeat

1. Connect the tablet to the WiFi network “**ScreenRepeat**”. There is no password.
2. Open Google Chrome. Go to the address **192.168.10.100:8090**. If the IP hasn’t been reserved for the PC you are using, as described in the section “Setting up the WiFi access point” you will need to use the actual IP address of the PC instead. To find this:
 - a. Open a command prompt by pressing Windows key + R, type cmd then press enter.
 - b. Type **ipconfig** then press enter.
 - c. Look for the entry that starts “Ethernet adapter” and find the line in that section starting “IPv4 Address”.
 - d. Enter this address into the tablet browser, followed by **:8090**.
3. If everything has been set up correctly, you will see the same as the large screens connected to the laptop.
4. Add a shortcut to the desktop by clicking the three vertical dots to the right of the address bar and selecting **Add to home screen**.
5. That’s it! The tablet is set up.

Version History

V1.0	05/10/18	First version
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V1.1	16/10/18	Added ScreenRepeat shortcut on desktop, reason for changing AP IP.
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