

Manual: Lichtschanke.Lichtbarrier 2.0

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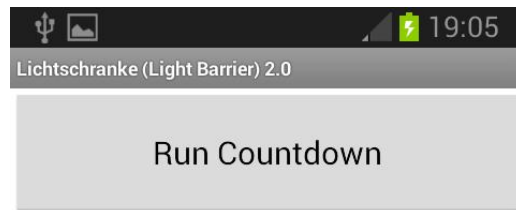
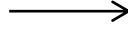
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This manual should provide an assistance for the usage of the app and an understanding of the setting possibilities.

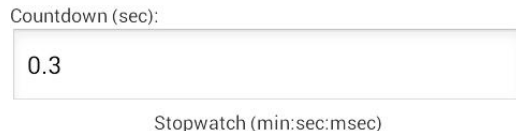
Basically all functions were tested. The App is developed for Android and iOS operating systems. The test were performed with Android devices (Samsung S2 und Samsung Ace) and iOS (Iphone 4). We hope that with the development of OS in the future the functionality is not going to change. Nevertheless it might happen the the function or options may become incorrect. **So please test in advance the functionality of the app by using the free demo version of the app!**

1. The App

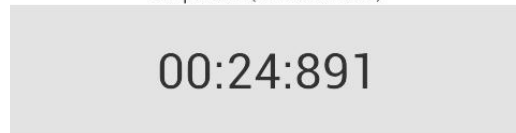
Starts the countdown. If countdown finished the stopwatch starts.



Enter you own **countdown** time.



Stopwatch (min:sec:msec)



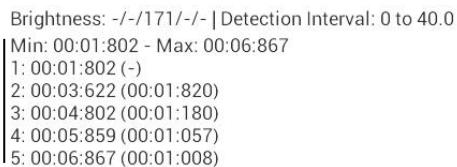
If the app is used on one device so use the local IP ,127.0.0.1'.
In case of two devices enter the IP ,127.0.0.2' or the IP of the device with stopwatch running, respectively. (see examples below)



Starts the **camera**. The camera detects the brightness of the surrounding.



Brightness = 171 (0-255).
Detection Intervall = 0-40



Times



Diverse information



2. The Options

Type/Modus:

Shows app elements on/off. Just to get a better overview of the app.

Finish Time at (only wifi):

If the stopwatch run on at the start check ‚Signal‘. If the stopwatch run at the light barrier check ‚LS/LB‘.

Random Countdown:

To make the countdown randomly activate the checkbox. Afterwards you can enter an interval. ! Is not activated in the demo version.

Sensibility of Lichtschanke (0-255):

At a walkthrough of the light barrier the camera picture get darker. If the pixel value of the brightness enter the detection interval of 0-... the stopwatch stops.

HTTP request:

You can enter an internet address URL which will be called if a walkthrough is detected.

Points of walkthrough:

Points of the camera where you can detect a walkthrough. Multiple points can be selected simultaneously. As soon as a value enters the detection interval a walkthrough is detected.

1=above left

2=above center

3=above right

4=left center

5=left below

10=all 5 points

11=all 3 points above

12=all 3 points left

The screenshot shows the 'Settings' screen of the app. The settings are as follows:

- Type/Modus: LS/LB Signal
- Finish Time at (only wifi): LS/LB Signal
- Random Countdown:
- Sensibility of Lichtschanke (0-255):
- HTTP request:
- Points of walkthrough:
- Stopover Continuous time:
- Walkthrough sound (Trumpet): 1=Trumpet 2=Speech
- Photo Finish:
- Counter:

At the bottom, there are two buttons: 'OK' and 'Dismiss'.

Stopover/Continuous time:

If the stopwatch could not stop/run continuously activate the option.

Walkthrough sound (Trumpet):

Sound if a walkthrough is detected.

1=Trumpet

2=Speech

0=nothing

Photo Finish:

If a walkthrough is detected the app can take a picture with the camera.

Counter:

Counts the number of walkthroughs. The counter is displayed on the stopwatch.

! Is not available in the demo version.

3. The Menu

By using the Menu-Button of your smartphone a menu is displayed.

Settings:

Here you can enter option possibilities.
See point 2.

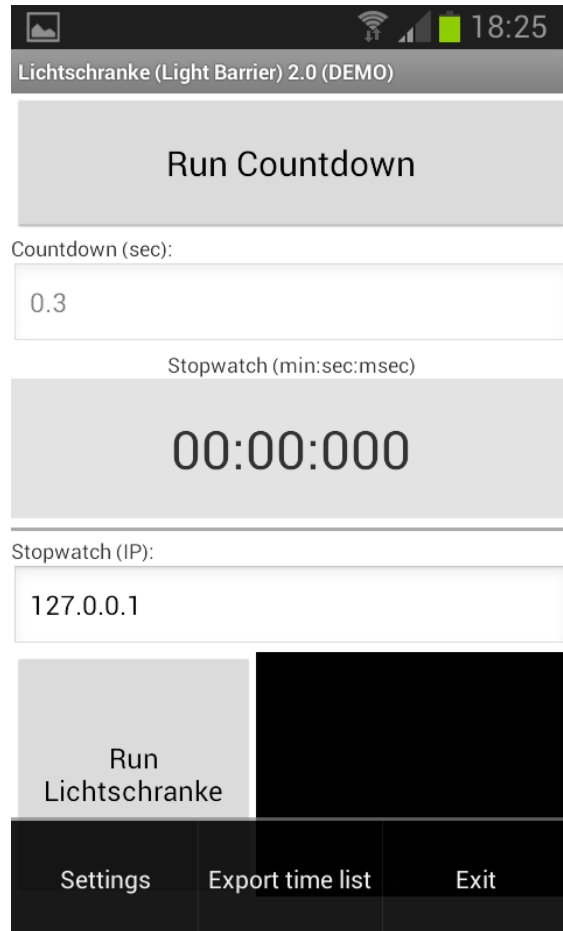
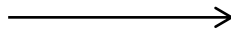
Export time list:

You can export the list of times on your smartphone for further analysis.

Exit:

Exit the app clearly.

The menu



4. Setting possibilities

4.1 Single mode/1 device:

If you use only on device you have to enter in the field IP ,127.0.0.1'. In this case the app detects that the start signal and the stopwatch runs locally.

In this setting the app can be used in a stadium running rounds.

4.2 Multiple mode/2 devices:

(1) If you use two devices you have to activate the hotspot on the device with camera/light barrier. The device without using the camera has to connect to the hotspot. So the connection is established via hotspot.

(2) If you use two devices, e.g. start signal and light barrier you have to setup both devices to ensure the communication among the two devices.

#,,x“ = any number

(A) Stopwatch runs a the finish line

Start device (IP: 192.168.43.x)

IP: 192.168.43.1

Option: Finish time at: LS/LB

(IP of finish line dev.)

Finish line device (IP: 192.168.43.1)

IP: 127.0.0.2

Option: Finish time at: LS/LB

(B) Stopwatch runs at the start

Start device (IP: 192.168.43.x)

IP: 127.0.0.2

Option: Finish time at: Signal

Finish line device (IP: 192.168.1.2)

IP: 192.168.43.x *(IP of start dev.)*

Option: Finish time at: Signal

5. Sources of the app

Currently the app is available for Android devices in the Google Play Store and Iphone devices in Itunes.