

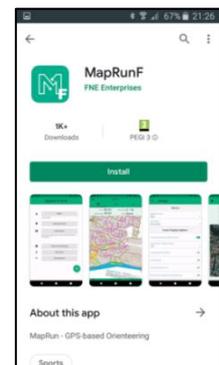
# Smartphone Orienteering

## Virtual Controls

When we are orienteering, we are normally looking for a control positioned on the ground which matches the location marked on the map - these may be permanent controls or orienteering kites placed for an event. This enables us to check that we have gone to the correct location - and by recording codes or timestamps for others to check that we really did go to the correct place. Smartphone orienteering allows us to place “virtual controls” that are detected by the GPS on your phone and means that we don’t need physical controls to be placed.

## MapRunF

MapRunF is a free app which you can download and install on your phone. You can select an orienteering course to undertake and your phone will “beep” when you get to the correct location of each control. It will also record information about the route you took and the time taken.



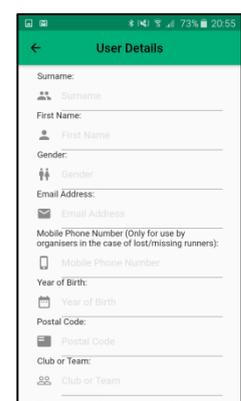
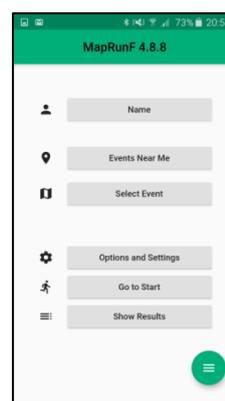
## Using MapRunF

The easiest way to use MapRunF is to also have a paper copy of the map with the course shown. The app will beep and record your locations, but you can use the paper copy of the map to navigate from, as this is much easier. You can then carry your phone safely in a pocket and just listen for the “beep” when you are at the control site. The app does show which control you have just visited if you are not sure, but it does not show where you are - you need to do the navigation and orienteering for yourself!

## Installing and Setting Up MapRunF

Step 1: Download MapRunF from your app store and install it on your phone. It works on Apple or Android devices

Step 2: Open the app. The 1<sup>st</sup> time you use it you are required to complete your personal details. Click on the “NAME” and you will then be prompted to enter your details. It will save this information.



## Selecting a Course

You will need a wifi connection or access to Data to download the map and course for the event you wish to undertake. However, this can be downloaded at home before you set off. When you are actually completing the course no wifi access/data is required.

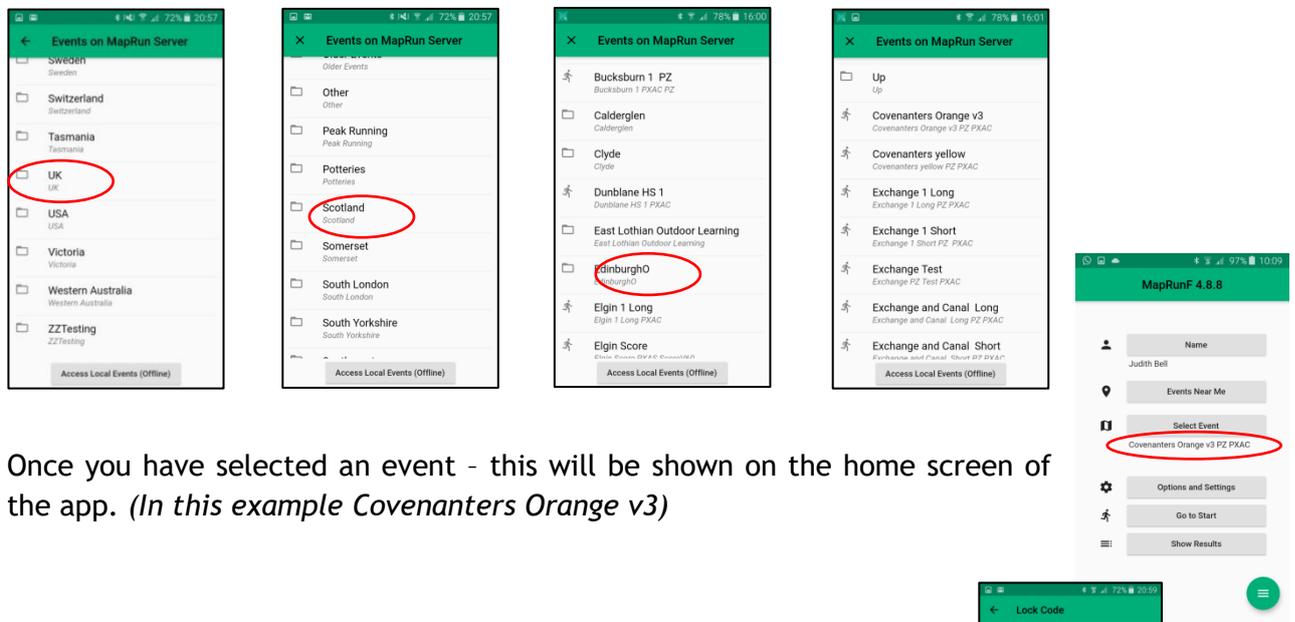
There is a list of all the available events in Scotland at <https://www.scottish-orienteering.org/get-involved/pocs/#MapRun-jump>

## Events Near Me

The easiest way to select a local course is to select “EVENTS NEAR ME”. It will then display all the events within a radius of a couple of kilometres from your current position. You can then select the course you wish to run.

## Select an Event

If the course you want to run is not local or not shown on this list, you can still download it before you start. You simply select “SELECT EVENT” and it will then display folders of events. You need to select the folder for UK. Then the folder “Scotland” and then the folder or course you require. If you are in Edinburgh all the Edinburgh events are in the folder “EdinburghO”.



Once you have selected an event - this will be shown on the home screen of the app. (In this example Covenanters Orange v3)

## Starting your Course

When you are ready to begin, you simply need to select “GO TO START”. For some courses you may be asked to enter a PIN. The person organising the event will be able to tell you this PIN.

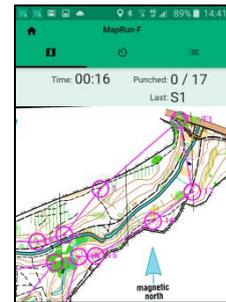


The map will then appear on your screen (overlaid over the satellite imagery) with the course shown. You can move around and zoom in and out of the map.



When you are physically at the location shown as the Start on the map (Start Triangle) the phone's GPS will detect this and the app will "beep" to acknowledge you are at the start - the screen will also show that the last control "punched" is S1 - the Start.

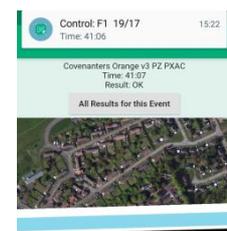
You will see that the start triangle is now shown in green rather than purple to indicate that it has been visited.



You can then start your course - at any pace you want - visiting each control in turn. When you have successfully visited the control site, the phone will beep and the number of the last control you have visited will be shown. If you are unsure if you are at the correct control, you can compare this number to the control description on your map to check that you are at the correct place. The controls you have already visited will be shown in green.

It will also show the elapsed time since you started your course.

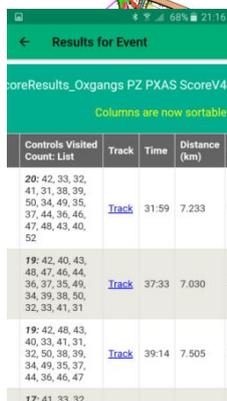
You will continue until you have visited all the marked controls. You then need to go the Finish(☉). When the phone detects that you are at the finish, it will stop the clock, and stop tracking your route. It will indicate if you have completed the course correctly and the time taken.



## Results

Once you have completed your course, it will then upload your results to the server. If you do not have wifi/data, it will give an error message saying it couldn't upload but it will then allow you to upload once you do have internet access.

You can then select to view all the results for the event and even see the GPS track showing the actual route which you took.



## Accuracy and GPS

Sometimes you may notice that the phone beeps before you are exactly at the location of the control shown on the map - or you may need to go past the location. The accuracy of system is related to the accuracy of the GPS and the environment will affect this - for example in steep valleys, or beside tall buildings or with dense tree cover the satellite signal for the GPS may not work as well. The signal is also affected by external factors, such as the number of overhead satellites at that time and weather and atmospheric conditions.

Normally you should expect the phone to detect the control and beep if you are somewhere within the control circle drawn on the map (somewhere within a radius of about 10m from the location of the feature.)

## Types of Course

### Linear

This is a traditional event where you must visit all the controls in the order listed - if you visit them in the wrong order or miss one out, the phone will still beep at all the control sites - but at the end will indicate that you did not complete the course correctly. On your map the controls will be linked by lines and numbered sequentially to show the order they must be visited.

### Scatter

You can visit the controls in any order you want. The app will record how long it took you to visit all of the controls. The map will show all the controls but no lines between them. Sometimes the event will be set up so that you only need to visit a certain number of controls and not them all - for example you must visit at least 10 out of the 20 controls.

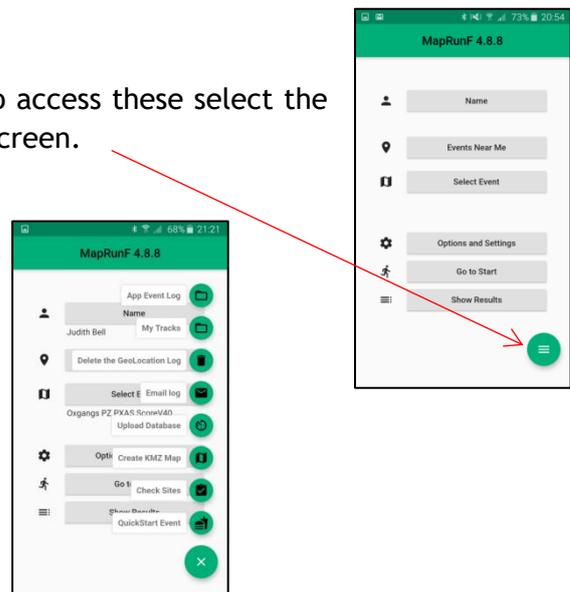
### Score

You have to visit as many controls as possible within a certain time - but you can visit the controls in any order you want. You will get points for each control you visit - but it will detect points if you take over the time limit. The map will show all the controls but no lines between them.

## Additional Features

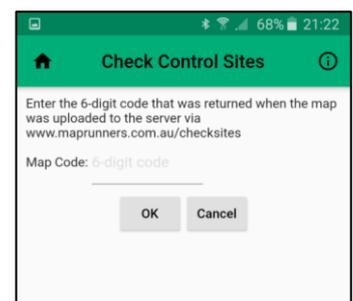
MapRunF has a number of additional features. To access these select the circular green button at the bottom right of the screen.

This will bring up an additional menu which will permit you to access additional features including CheckSites and QuickStart.



### Check Sites

**Check Sites** is used when someone wants to test a course before it is uploaded onto the main server for anyone to use. If someone has setup a course in **Check Sites** and wants you to be able to use it, they will need to provide you with a 6 digit Pin Number. Courses set up in this way are normally only available for a week. Once you have entered this Pin, it simply loads the course and map as



normal.

## QuickStart

You can also create your very own event, starting from your current location by using **QuickStart**. A satellite map showing your current location will be shown and you can simply place “Pins” where you want your start, controls and a finish site to be - and then go and run the course. The GPS will detect when you reach these controls. You don’t even need a map.



## Creating Your Own Events

There are also other options to GeoReference your own maps and then you can start creating your own courses for yourself and others to use. There is more information about this at <https://www.scottish-orienteeing.org/get-involved/pocs/#MapRun-info-jump> or contact [judy@scottish-orienteeing.org](mailto:judy@scottish-orienteeing.org) if you need more help to get started.