

MapRunF



Short Story:

I have a new version of MapRun available for Beta Testing. Give it a try and let me know if you have any issues or suggestions.

See the installation instructions at the bottom of this message.

Long Story:

The new version is a **complete rebuild of MapRun**, so at least initially, it has a different name (MapRunF) and can co-exist with the existing MapRun version until it is proven. I expect I will ultimately retire the existing MapRun versions (iOS and Android) and rename MapRunF to be MapRun.

I am actively working on this version and **so would appreciate feedback** (good and bad), and suggestions, feature requests, bug reports.

What it doesn't do currently:

- Allow the user to rotate the map (ie no two-finger rotate gesture)
- Upload to Strava (instead you need to email your track to yourself and use Strava's function to import a track)
- ScoreB and ScoreW
- Prompt new users to accept Terms and Conditions

Advantages of MapRunF:

Built in the latest development tools meaning there is only one version of the code across Android and iOS (easier and faster to debug, maintain and enhance) and should still run on all versions of Android from 4.3.x (the last version of Lollipop) and iOS versions from iOS 8+:

- It still doesn't need Internet access to perform its core functions, and
- It still has a Resume feature, so if it all goes bad, you can kill the App and restart it with the option to resume an uncompleted event.
- A simple dashboard view is available when running. Generally runners are running with a printed map, so this screen may provide a more appropriate display in such circumstances. The main run screen has 3 tabs – Map, Dashboard, Listing of Location Events (for diagnostics).
- More Options and Settings:

- There are many more options and settings, which can be:
 - Set by the developer as fixed in various circumstances (eg for a ScoreQ event, you can't change it to be a line course); or
 - Set by the organiser for each event:
 - Further to the existing settings: line/scatter, score, etc that are determined by the event name, the Admin tool will be enhanced to have all options and settings set by a menu system that will create a settings file for each event. Ultimately we will be able to move away from cryptic codes in the event names and reduce the impacts of typo's.
 - All options and settings are currently available from a new button on the MapRunF home screen and include:
 - Punching tolerance
 - Live tracking during an event
 - Display of present location
 - Display of track
 - Colour and thickness of track
 - Etc
 - Organisers will be able to set these settings per Event and determine whether runners have the ability to change the setting (or not). For example an organiser may allow the runner to change the settings they have chosen for the alert sound (beep) and live tracking , but not allow change to punching tolerance, or display of current location.
 - Some of the settings relate to future features (and are locked on the current setting) eg option for auto align map with North, non-GPS punching methods (eg QRcodes, RFID)
 - The map KMZ can be larger than 1.5MB. Exactly how large needs some more investigation on a range of devices... Tiling of KMZ's is still recommended. The system will also allow events without a Map. In such cases, the display will just show the Satellite imagery (if accessible). Some more work needs to be done on the backend to enable creation of map-less events and for RouteGadget to work displaying results.
 - The enhancements to the Admin system are being worked on, but in the meantime, the settings are generally unlocked and available for experimentation in the Beta version of MapRunF
- Live Tracking
 - A **MapRunView** App has been developed which allows real-time tracking of runners in an event. This is intended to be useful for safety and/or spectator purposes.
 - If live tracking is turned on, the runner's location is sent to the server, provided that an Internet data connection is available. (Data is queued on the phone until a connection is available and sent in batches as and when this is possible). The volume of data sent is quite small, so it shouldn't have an impact on user's data plans.
 - The MapRunView App would only be available to organisers (and needs more work before a Beta version is available).

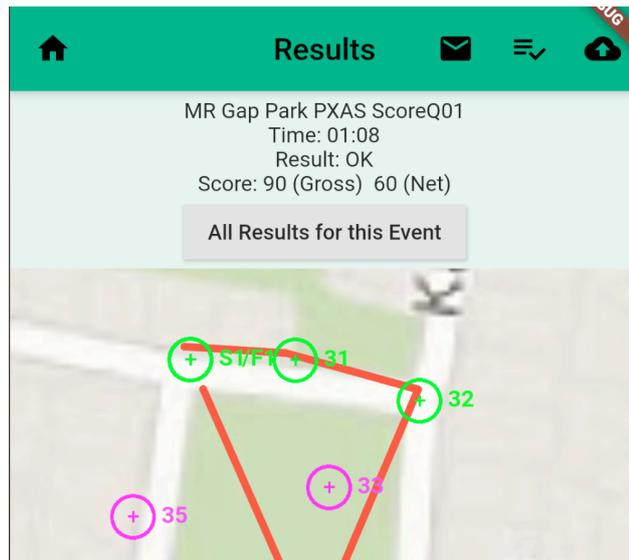
- Diagnostics
 - MapRunF is built on a robust commercially-supported location tracking system, but given the variety of phones and situations, and that no software is bug-free, MapRunF has enhanced logging and diagnostics.
 - Software errors or crashes are reported to a crash reporting service (when the phone is connected to the Internet or later when it reconnects to the Internet)
 - User actions (eg select an event, change a setting, resume a run) and events (eg start punched, auto upload of results failed) are logged and can be uploaded for review
 - The underlying geo-location service has logging eg user started moving, stopped, GPS accuracy, battery level and this log can be uploaded for review
 - In this beta version these logs are automatically uploaded when a result is uploaded (automatically at Finish or manually). The level of detail of the data is controlled by settings:
 - Level of Reporting
 - 0 to 3 – recommended to be left on 3 currently, but if this means uploads are too slow, set it to a lower number (at least whilst on mobile data)
 - Level of Logging (Geolocation system)
 - None to Verbose – recommended to be at “Info” level currently. Warning: If set to higher levels of logging, the data volume can be very large and uploads are consequently slow. The log is meant to auto delete, based on age, but there is a menu option to delete the log as well.
- Changes the User will notice.
 - It is intended that users will be able to transition to this version without any surprises or problems, but there are some changes.
 - It is simpler to get “Started”
 - The existing: “Goto Start” then “Start the GPS”, has been replaced with simply “Goto Start”
 - The GPS is switched on automatically when the user displays the main run screen (and stays on while this screen is in use)
 - There is no “Waiting for GPS” banner
 - The runner’s location and track are shown on the screen before they punch Start, so the runner can see if their GPS is working. Also, in the footer of the screen is shown:
 - GPS accuracy, and
 - A button to centre the screen on the current location
 - This is all aimed at informing the user of what their GPS is doing before they approach the Start. The track recorded before the Start punch is removed from the results upload. This has the added advantage that in RouteGadget, replays of all runners’ tracks now commence at the Start (not from where they otherwise had tapped “Start the GPS”).

- The practice of having the Start Location some 30-50metres from the Assembly Location is still the recommended practice, so that the GPS has the chance to lock on and settle before the runner approaches the Start. The idea is, people assemble at the assembly area, then tap “Goto Start” and then walk to the Start... checking that their GPS has a good fix.
- In the footer of the screen is also:
 - the distance since start (ie start of the track and reset to zero on punching S1)
 - also there is an indicator of the activity type derived from the motion sensors in the device – eg walking, running, or in a vehicle. This may be useful in the future to confirm walking in a “walk-only” event, or to identify riding (or scooter) in a running event.
- Runner’s details now include optional additions of:
 - Phone number and “Club or Team”
- There is no map rotation (at least at this stage)
- The punching tolerance is set to be a bit lax at the moment (nominally 15m). I’ll fine tune this as we get some more experience. (Any feedback on comparisons with the existing version would be appreciated). I’ve left the setting unlocked, so you experiment with it.
- There is a Run dashboard display, selected by the middle tab on the main run screen:



This dashboard is very basic at this stage, but I expect to add things like the runner’s pace.

- Control punches are displayed as “local notifications” on both iOS and Android, so if you have a watch paired to your phone, notifications can be viewed on your watch. For score events, notifications include the time remaining in the event.
- The screens leading into a Mass Start (at a fixed time) have been simplified and made less prone to accidental exiting. A consequence of this, is that for an early start in a Mass Start event, the process is:
 - Select the Event
 - In Options and Settings, turn on “Mass Start – early start with lock code”
 - Goto Start, and the runner will be asked to enter the “lock code” (aka PIN)
- The App uses Icons for many buttons. Hopefully these are pretty self explanatory, but if not, the user can “long-press” on icons to get a brief description (ie a tooltip).
- Results. A snippet from the result screen is shown below:



From the top-right the buttons are:

- Manual upload (the user should have received a message if the auto-upload at finish didn't succeed, and they can then use this button to upload. Re-uploading the same results multiple times doesn't cause any problems)
- Show the splits table
- Email the GPX track file (as a convenient way of exporting the track)

In the middle of the screen is a button "All Results for this Event" which goes directly to the leaderboard for this event. This avoids the step of having to select the event you are looking for results in. (and it obviously requires an Internet data connection).

Summary

This is a completely new build of the system. So it will have different nuances/issues to the existing version. (ie new bugs!!). It currently closely mirrors the functionality of the existing MapRun version, but gives us a better platform for future developments.

The two versions (MapRun and MapRunF) can co-exist, and there should be no issues with runners in the one event using either version.

I am particularly interested in:

- Any bugs you find,
- Any compatibility issues with any device types (I haven't been able to test on a wide range of devices as yet)
- It would be useful to compare the existing MapRun with MapRunF. It is possible to run both on the one phone concurrently, although that can be a bit confusing knowing which App is beeping/buzzing. Better still is to have some testers carry two phones. The setting for punching tolerance will be relevant in this case... maybe set it back to 10m (rather than the default 15m).
- Any suggestions for features

Installation Instructions

The latest version of MapRunF is available from the App Stores:

Android:

<https://play.google.com/store/apps/details?id=au.com.fne.maprunf>

iOS:

<https://apps.apple.com/au/app/maprunf/id1468994114>

Release Notes:

4.1.1+16 – Initial beta release

4.1.2+17 – **WARNING: IF YOU HAVE INSTALLED A PREVIOUS VERSION, DELETE IT BEFORE INSTALLING THIS OR LATER VERSIONS**

Features:

- Allows dropping a location pin at current location (this option only shows if present location is being displayed) – Targetted at mappers who use MapRun

Fixes:

- Shortened the filename of the GPX track attached to an email (to avoid a Windows10 issue in handling the received email)
- Uses a more precise distance calculation to test if the runner is within the specified tolerance for a control punch
- Latest version of flutter_local_notifications – but still issues with notifications to watches from the iPhone version
- Fixed error in displaying times > 1 hour

Known Issues:

- Punch notifications:
 - Notifications of punches are OK on both iPhone and Android phones with the App in foreground and background
 - Android to Garmin Watch alerts Ok
 - iPhone to Garmin Watch and Apple Watch not working correctly
- As per previous version – missing functions:
 - Allow the user to rotate the map (ie no two-finger rotate gesture)
 - Upload to Strava (instead you need to email your track to yourself and use Strava's function to import a track)
 - ScoreB and ScoreW
 - Prompt new users to accept Terms and Conditions

4.1.4+20

Now needs min Android version 4.3.x (the last version of Lollipop)

Support Bluetooth-connected GPS – for Android (and in theory also iOS – but there are iOS restrictions on the devices that can be bluetooth connected)

Fixes to ScoreM and ScoreG

Better progressing status updates on uploads

4.3.0+25

Fixes

- Handles Galileo Satellites on the Bluetooth GPS
- Track naming if no event is selected
- Fixed some screen that were not suitable for devices with smaller (lower-resolution) screens

Additional Features

- Import an event from your SD card for use on that device only (Android only)
- Deletion of local events (by swipe)
- Deletion of local results (by swipe)
- QuickStart – Create a quick event by dropping pins on a map on the phone
 - o Shuffle the order of the controls (drag and drop)
 - o Delete unwanted controls by swiping
 - o Show control lines (or not)
- CheckSites – A new feature to allow anyone (not just MapRun Administrators) to publish a confidential copy of a Map (and optionally a course) for a defined time, for the purpose of control site checking for “conventional” orienteering events. Go to www.maprunners.com.au/checksites to publish a map/event.