MILES TRACKER

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Parts of this document are in development and they are labeled so. Contents may change at any time and to any degree.

This document contains the technical specification for the "**Miles Tracker**" application

What is it?

Mile Tracker is a simple web application that helps me keep track of all my miles ridden on my bicycle or a stationary bike.

What will it do?

The aim of this application is to keep an overview of the total number of miles ridden on my bicycle. The information will be presented in a table separated by month. At the end of each month, a total of all miles ridden is displayed.

Title

The name of the ride will serve as a way for the user to associate a memory of whatever happened during the ride that could make it memorable. This input is not optional.

Miles

The first type of information collected is the number of miles ridden. This information is collected on a day by day basis. The user would be able to enter a decimal number of what their current number of miles ridden for the day was. This information is required.

Date

The date field is required for every ride. This is used to sort all the rides in a descending order. The date field is provided using the HTML date input.

Notes about the ride

The user can add notes of whatever to a particular ride if they wish to. This field is optional.

Images from the ride (Not Implemented)

The user can also upload images taken during the ride. This field is optional.

GPX file data (Not Implemented)

The application would allow the user to upload GPX files for the current ride.

This field is optional. A nice to have but not essential feature is the ability to create a map of the ride with the information in the gpx data.

Authentication

Basic authentication (email and password) is used to secure the application. Password resets are also possible using mailgun to send reset email to the user. Account verification through email is also enforced, without it the user cannot use other features of the application.

New user registration is turned off by default, the reason behind this decisions is because this is a personal application, only I should be able to access, add, and manipulate the data.

Password Reset

If a user forgets their password, there is the option to reset their password. A password reset email is sent to the users email that expires in five (5) minutes. The email contains a link token to reset their password.

Dashboard

The dashboard is password protected to a

Technology Stack

The entire application would be powered by the Laravel framework because it is easy to use, has a good community around it,h what I am most familiar with and this application is not entirely complex.

The datastore would be powered by SQLite because :
- this is not an entirely complex application
- it has to be cost effective to run on a server ($5 a month).
- A RDBMS is way outrageous because the application would be use almost exclusively by me.
- SQLite is easy to set up.

For the view, Tailwind CSS would be used because it is super easy and I don't have to write any dreaded CSS which is what persuades me away from web applications anyway.

For the map data information that would be gotten from the GPX file, a javascript library called leaflet.js would be used for the maps and a for processing GPX data with leaflet.js a plugin called leaflet-gpx would be used.

Deployment

For the web server, since the application would be built using the Laravel framework, NGinx would be used as the webserver.

Before the application is ready for deployment into a production environment, the following optimizations have to be done to ensure security of data, best performance.

Tailwindcss

Before a project that uses tailwindcss can be deployed into production, the [documentation](#) has information on things that need to be done to ensure the css is as lightweight as possible.

Laravel

To deploy Laravel to production, some optimization techniques have to be put in place, the [documentation](#) has detailed information on how to go about it.

Nginx

Server

The project would be hosted on digitalocean $5 server, the documentation for getting the server into a secure state can be found [here](#)