**Gearbook**

*Save your Quick Change Gear Ratio at every track*

*Remember all your Quick Change Gear Settings*

**Goal**

Godgart Ventures (the Client) wants to develop Gearbook:

Whether you are getting ready for a race or if you are going to a new track, GearBook has the information you need to pick the right Quick Change Gear or analyze how to make a change.

The Gearbook Dashboard shows you each Track and Gear combination along with attributes for track size, surface quality, engine, RPM and even notes on performance. Build multiple entries per track to understand how surface affects gear change as the night goes on; then highlight your favorite Gear Set / Track combinations so they are easy to find.

Best of all, if you are going to a new track, you can pick a gear set based on similar tracks. Not in the right RPM range? GearBook has tools to understand how gear change affects RPM change. GearBook also includes a handy gear chart for Winters, PEM and DMI Gears with a checklist of all the sets you own.

**Scope**

The graphic design is provided by Godgart Ventures. The following documents will be used to develop the app:

Baseline documents

- Figma document Gearbook page (frozen copy as of Dec 28, 2023)

<https://www.figma.com/file/6mM8m2kTeXRWixqVAzy85w/20231228-copy-GearBook-_-SmashBook>

- Gearbook Sheet

https://docs.google.com/spreadsheets/d/1kxctbCJstbosHUPMStFpI1Q7xfDUWOLn9Zmsj7oCyt8/

Google material design 3 will be used as the design framework.

Both documents will evolve during the project, but these are frozen copies which form a baseline for this quotation

**Functional description:**

Overview

All information is kept locally on the device using a sqLite database. There is a (simple) backend that is only used for registering email addresses and validation of these. A user data backup mechanism is optional (see Cost overview). The main menu is on the bottom with 4 views: Gearbook, RPM calc, Chart and Apps.

Account

There is no password for authorization, just (a validated) email address is enough. The email address is for marketing and (optionally) restoring a system backup.

Registering can be done with Google or Apple or by supplying an email address which will be validated by an email containing a validation link send to the address.

The user attributes are email and race class only. Race class is just a text entry without any data consequence (like filtering or selecting gears)

Once the user is authorized, the credentials are saved and never to be entered again (single user app)

Gear Setups

A number of gear setups can be entered and will be stored locally. Each entry has the following attributes:

● date (datepicker)

● track name (free text)

● track size (fixed lookup field)

● track condition (fixed lookup field

● favorite (bool Y/N)

● engine name (free text)

● Max RPM (slider max rpm 5000-9000 step 50)

● Ring and Pinion (fixed list)

● Gear set and Gear Ratio (dynamic list) -> link to list

● Notes (free multiline)

Items can be added, removed, updated and cloned

Filtering can be done on

● multifield text search (track name, engine name, notes)

● Favorites (all or favorites)

● Date (specific date)

● Track (list filled with tracknames of all entered items)

● Track size (fixed list)

● Track condition (fixed list)

● Gear ratio (complex list with selection of 1 item or all of 1 manufacturer or all and check which you own)

● Engine (list filled with engines of all entered items)

Initially one (fixed) "demo" item will be added to the list after registration.

Gear Sets

A fixed list with the following attributes (provided by Client)

● Manufacturer

● Gear set code

● Teeth info

● ring and pinion value

● ratio value (same gear set has different ratio for each ring/pinion)

● owned bool Y/N

The "chart" view allows selection of

● manufacturer (fixed list) and shows all gear sets for each (3) ring-and-pinion ratio (4.11, 4.56, 4.86). The user can Select and check which sets are owned.

RPM calculator

The "RPM calc" view has 2 versions: Calculate a gearset based on a target RPM and calculate the RPM based on a gearset (only Winters gearsets)

● Target RPM:.

○ enter RIng-and-pinion, original gear set (same list as for gear setups), current RPM, target RPM

○ Calculates ratio and shows a gearset above and one below the calculated ratio that matches the ratio the closest.

○ Indication which shown gearsets are owned

○ Save option -> Saves a skeleton gear setup without trackname etc.

● Gear analysis:.

○ enter RIng-and-pinion, original gear set (same list as for gear setups), current RPM, new gear set

(same list as for gear setups)

○ Calculator the new RPM based on the new gear and the delta (+/- RPM)

Other apps by raceyear

Fixed page with other apps and links to appstore/playstore of the apps (different for ios and android)

Profile (via appbar icon)

Settings page with email/Raceclass of user, white/dark theme switch and a link to start the tutorial again

Tutorial/Caroussel

After registration a carousel with multiple images (fixed) is shown. Provided by Client.

Intellectual property and source code

The Parties acknowledge and agree that the Client will hold all intellectual property rights in the Software including, but not limited to, copyright and trademark rights. The Developer agrees not to claim any such ownership in the Software’s intellectual property at any time after the completion and delivery of the Software to the Client and payment in full..

All source code will be provided after completion and delivery of the software to the Client and after payment in full. Source code will be provided by changing ownership to the private Gitlab repository of the project.

In case Developer can not finish the project for whatever reason, the repository can always be accessed and ownership transferred to client.

Technical architecture and tools

● For mobile app development, the Google Flutter framework (open source) will be used. This framework allows for hybrid development on Android and iOS generating native apps on both platforms.

● The (basic) backend system will provide the database, API for interaction with the app, and admin dashboard. The laravel framework (open source) will be used for the admin dashboard, and MariaDB (mySQL) (open source) will be used as database. The backend is only for collecting email addresses of users and exporting an email-address table.

● The primary development languages are Dart (flutter) and PHP (Laravel)

● All sources will be maintained using a git repository on gitlab (free, private repositories).

● As CDN proxy service, cloudflare (free) will be used for API and backend-website if necessary. For HTTPS/SSL encryption, cloudflare free certificates will be used.

● The Laravel and flutter integrated testing environments for unit and functional testing will be used.

● Developer will select platform to describe and Admin database tables etc.

● For design and definition, the Google docs suite (docs, sheets, presentation, drawing) will be used together with Figma for graphic design.

● For issue tracking and change management, Developer will choose their platform of choice.

Backup and Security

● A daily backup will be made of the development system including all data. All sources will be synced with a gitlab repository.

App stores

Apple App store account (Apple developer account) and Google Play store account is created and paid for by Client.

Domain names

Client is responsible for domain registration (backend host) including costs. Nameserver DNS is hosted at Cloudflare.