LILA Backend Developer Test

Please try to give an approximate time it took to solve each portion of the problem. We run the submission via the test suite to check its production quality. So make sure that it compiles and works as expected. State your assumptions when you solve a problem.

Just keep in mind that there could be multiple ways to solve a problem.

Language to use

- Golang

Problem Statement

You have a very popular mobile game that supports a variety of multiplayer modes. You and your players want to know which modes are being played the most at any moment of the day in their local area, which they provide as a three-digit area code. Design and create a web service that the mobile game communicates with to get this information.

Delivery should include

- Documentation of the web service protocol.
- The code for the web service.
- And a document explaining the design choices you made when creating the web service, including how your service scales to more than a million concurrent gamers.
- Below are some preferred technologies to use that give brownie points to the solution:
  - Using Protobuf for model generation and DTO (data transfer objects).
  - Using a No-SQL database for persistence storage.
  - Loading sensitive information from environment variables.
  - Adding a logical cache layer (may use in-memory structs or Redis).
  - Adding a Makefile.

- Creating separate logical layers for handlers, business logic, cache, and storage.
- Writing unit-tests.
- A single docker-compose file to start all services including database, cache, etc.

Submission

- This test is confidential. Please don't upload it to GitHub or any public website.
- Please send a zip file/google drive/dropbox