mediaopt.

1 Introduction

We have prepared a task so that you can showcase your abilities, including understanding a (possibly ambiguous) problem and describing a sensible solution. At best you have a working prototype at the end of the week. Even if you did not finish the prototype, we would be glad to see any code you have written.

If you have any questions regarding the task, please do not hesitate to contact us using the following e-mail address: russia@mediaopt.de. We will answer your questions by no later than Friday.

2 Task

For efficiency's sake, a company wants to introduce time tracking. You are responsible to facilitate this endeavor by developing a RESTful web service to automate time tracking. For a first prototype, the management considered a few uses cases to be critical. Authentication and authorization are out of scope for the prototype.

2.1 Tracking entering and leaving the office

When an employee logs in into her workstation, the workstation transmits the employee number and the current time to the web service. Likewise, the workstation transmits the employee number and the current time to the web service when the employee logs out. This relieves the employee of the burden of tracking time manually.

Task: Implement two operations, "login" and "logout", that tracks the time when an employee logs in and logs out, respectively.

2.2 Uploading bulk records

An employee works on site for a customer, where she reliably tracks her time (e.g., in a spreadsheet). For the accounting to bill the work, the employee has to demonstrate how much she has worked for the customer. To simplify the employee's life, she should be able to submit her spreadsheet, a CSV file for simplicity, to the web service.

Task: Extend the web service so that an employee can submit a CSV file containing her tracked time.

2.3 Projects

Currently, an employee works on one project at a time. Hence any time tracked has to be associated with the project the employee is currently assigned to.

Task: When tracking time, consider the project that an employee is currently assigned to. Note: You do not need to implement CRUD operations for projects.

2.4 Billable hours

Since the company can charge customers on some projects, the accounting department must be able to assess how many hours can be charged for any given project.

Task: Given a project, implement an operation that returns the number of hours that were tracked on that project.

2.5 Peak Time

For statistical reasons, the management wants to know the peak time of work performed on a single day and a single project.

Task: Given a day and project, implement an operation that determines a time period (on the given day) in which most people were working on the given project.

3 Recommendations

Since we expect the prototype to be quite small, we recommend using a SQLite database for persistence. For the implementation we suggest using a microframework such as Slim Framework (PHP) or Spark (Java). However, you can choose any technology you deem appropriate.