BSc Project Laboratory Task Description

**Liubov Rukhlina**

Development of React based budget tracking web application

**Topic introduction:**

This project will focus on creating a web application that will allow users to record their personal expenses and track how much money they spend. Moreover, the user will be able to have a better understanding on which categories they spend the most money (expenses are categorized), and which share of their budget is left to be spent for the current month.

**Planned technologies, architectures, main libraries:**

The following technologies are planned to be researched and implemented during the project course:

Frontend:

* JavaScript
* HTML5, CSS

Backend:

* NodeJS
* MongoDB

A budget-tracking application called “Greedy Gorilla” is a React single-page web application that communicates with the NodeJS microservice which uses MongoDB to store data. The following design patterns will be used as best-practices in building React application: stateless and controlled components, react hooks[[1]](#footnote-1).

The following libraries are intended to be used:

Frontend:

* React
* Bootstrap

Backend:

* Express

**Planned features and use-cases:**

Frontend:

* Add, edit, remove expense,
* Sort by categories
* Calculating the percentage of spent and remaining budget.
* Display on a graph spending by categories and by months.

Backend:

* registration, sign in
* CRUD (Create, Read, Update, Delete) user data

**Expected results and experience of the Project Laboratory:**

By the end of the semester the technologies listed above should be learnt from zero to the level that will allow to create a functioning application. The finished product should be easy to understand and ready to use. An example user can be created to demonstrate the work of the application. Moreover, a documentation and presentation should be created to illustrate the use of the application.

**Online address(es) of the repository:**

https://github.com/LiubovRukhlina/Budget-Tracker

**Supervisor at the department:** David Sik, assistant lecturer

Budapest, 20 February 2022

Diagram

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Ever since I worked in Logistics, communicating with 20 different local branches across 7 time zones, the favorite part of my job was to develop automation tools (like an automatic transport order placement tool) and teaching my colleagues how to use them. I enjoyed seeing how much time it has freed for them, leaving space for more creative tasks. I am passionate about finding interesting features of the software we use and showing it to my colleagues, or developing tools that everyone can further use in an efficient way. That is why I joined Prezi - a company that is doing innovative software products for presentations and video conferences. I have gained an invaluable experience there, working as quality assurance automation engineer, writing automated tests and evaluating the product from user perspective. I understood the importance of maintaining the high quality of the code, which transfers to the final product eventually. Also, being the only female in the team, I would like to contribute to the success of other female developers and leaders, to change the current balance. My experience of living in different countries, gave me the opportunity to meet different people and to adapt quickly to any situation. Although my primary goal is to advance my knowledge in technical domain and gain new skills, I am excited about sharing ideas with both engineers and with non-technical fellows. I believe I have the potential to fully participate in the Fellowship and make the difference.

I am a CS student from the top Hungarian technical university, that switched my career completely from Logistics. I decided to take this challenge and become an MLH Fellow because ever since I started learning how to code, I’ve been asking the same question –what’s next? Obviously, I never got any clear answers and eventually realized that it’s not okay for me to wait for someone to give me a plan because this is my career and I need to take it in my own hands and make some choices. After reading through the application call, the possibility of being mentored by engineers working at companies like Meta or Amazon caught my attention. It would be extremely beneficial for me to actually know what the next step is. Even if I don’t end up getting accepted into MLH Fellowship, just going through this whole process will already help me gain clarity on where I want to go from here and the steps that must be taken to get there. I would like to become a part of MLH because I am passionate about open source and learning from a great community. I currently work in Automation Testing but would love to move into software development so would like to take the opportunity to meet people with the same passion and get involved in projects. I have been practicing with my own projects (Game of Thrones encyclopedia and Budget Tracker), Git, and working in a team with my classmates.

The Greedy Gorilla is a full-stack React App with MongoDB that helps people track their expenses and set budgets. This allows them to stay on track and save money.

The app was created as a way to help people save money in the face of rising consumer world inflation. The features of the app are: tracking expenses for multiple users, categorizing expenses, and setting budgets for each user. I decided to use Fastify framework with protected routes with JSON web token for expense management and authentication because it provided security and fast operability for such sensitive data as money spendings. The app also allows an easy way to add new users and manage permissions.This project focuses on creating a web application that will allow users to record their personal expenses and track how much money they spend. Moreover, the user will be able to have a better understanding on which categories they spend the most money (visually presented on pie chat) and which share of their budget is left to be spent for the current month.

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Building web application with React Framework, Building backend server with REST API, CRUD operations, MongoDB, user authentication with protected routes and jwt

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As a senior student, I am mentoring new-coming foreign students helping them to integrate. This year I started volunteering teaching English to Ukrainian refugees and helping them to settle in Hungary.

Graphical user interface, website

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Graphical user interface, website

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Graphical user interface

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Graphical user interface, application, table

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1. https://www.uxpin.com/studio/blog/react-design-patterns/ [↑](#footnote-ref-1)