Documentation &

Project Diary

Innovation Lab 2

Year 2023

Project: Living Quality

1. General Information

**Project name:** Living Quality

**Supervisor:** Harald Wahl

Innovation Lab 2 - 2023

**Projectteam:**

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**Management Summary of the Project**

The "Living Quality" project prioritizes the enhancement of life quality by evaluating the proximity of essential facilities, such as hospitals, schools, universities, parks, and police stations, from a user-defined address. Leveraging technologies such as JS, Node.js, and MapQuest API, it dynamically converts addresses to coordinates, calculates distances, and generates a unique score representing the living quality based on specific user profiles like students, families, or pensionists.

**Framework Conditions and Project Environment**

The project integrates various technologies:

* Frontend: HTML, CSS, Bootstrap
* Backend: Node.js
* Programming Language: JavaScript
* IDE: VS Code
* External APIs: MapQuest for address to coordinate conversion

**Collaboration & Tooling**

* **Version Control**: GitHub
* **Project Management and Collaboration**: Trello
* **Code Editor**: VS Code

**Remarks**

*< Other important remarks fort he project >*

1. **Brief Description of the Project**

The "Living Quality" project is designed to evaluate the quality of living in a specific location based on its proximity to essential facilities. Users input an address, and the system, using MapQuest API, converts it to coordinates. It then calculates the distance to various essential facilities and, based on weighted scores tailored for different user profiles (e.g., student, family, pensionist), provides a quality of living score. The primary challenge lies in accurate distance calculation and efficient data retrieval. The project's greatest value is its personalized, user-centric approach to gauging living quality.

1. **Specification of the Solution**

* **System environment**: Web-based application accessible via browsers.
* **Features**:
  + Address input: Allows users to specify their address.
  + Distance Calculation: Computes distance to essential facilities.
  + Living Quality Score: Personalized score generation based on user profile.
* **Interfaces**: MapQuest API for address to coordinate conversion.
* **Quality characteristics**:
  + Scalability to incorporate more facility types.
  + High usability with a user-friendly interface.
* **Other essential features**: Custom weighting system for user profiles.

1. **Effort Estimation**

estimated effort: 13 + 11 + 21 +16 = 61 h

real effort: 19,5+13+34+21 = 87,5 h

1. **Delivery**

* **Final solution components**: Source code, including JS, HTML, Node.js, CSS, and Bootstrap components.
* **System architecture**: Web-based application with Node.js backend.
* **Installation**: Node.js environment setup, dependency installations via npm, API key setup for MapQuest.

1. **Our Project Diary**

Ein Bild, das Text, Screenshot, Zahl enthält.

Automatisch generierte Beschreibung

Here I tried some formels to calculate living quality based on the numbers of the hospitls in each district in Vienna

* I also had some problem with getting distance between the user’s and the addresses of hospitals and other factors, because I used firstly mapquest api to get the distance and it worked well at the begging but I had limit of using the services of mapquest api like 15000 transactions monthly and I has a a lot of addresses so I had to exchange the user address into coordinates then used the formel of “haversine” to get the distance between to points and it works so easy