Emotion Map:
a guide to your well-being

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The different emotions people experience daily, such as happiness or sadness, significantly impact mental health and determine people's behaviour. People often associate places with emotions, but there are only a few comprehensive assessments of the emotional side of different places in a city. The "Emotion Map" (Fig.1) is an interactive map illustrating the results of a pilot study on emotions in Munich, as well as a guide designed to help people navigate the city and experience or avoid certain emotions. In this project, we considered six basic emotions: happiness, sadness, surprise, disgust, anger, and fear.
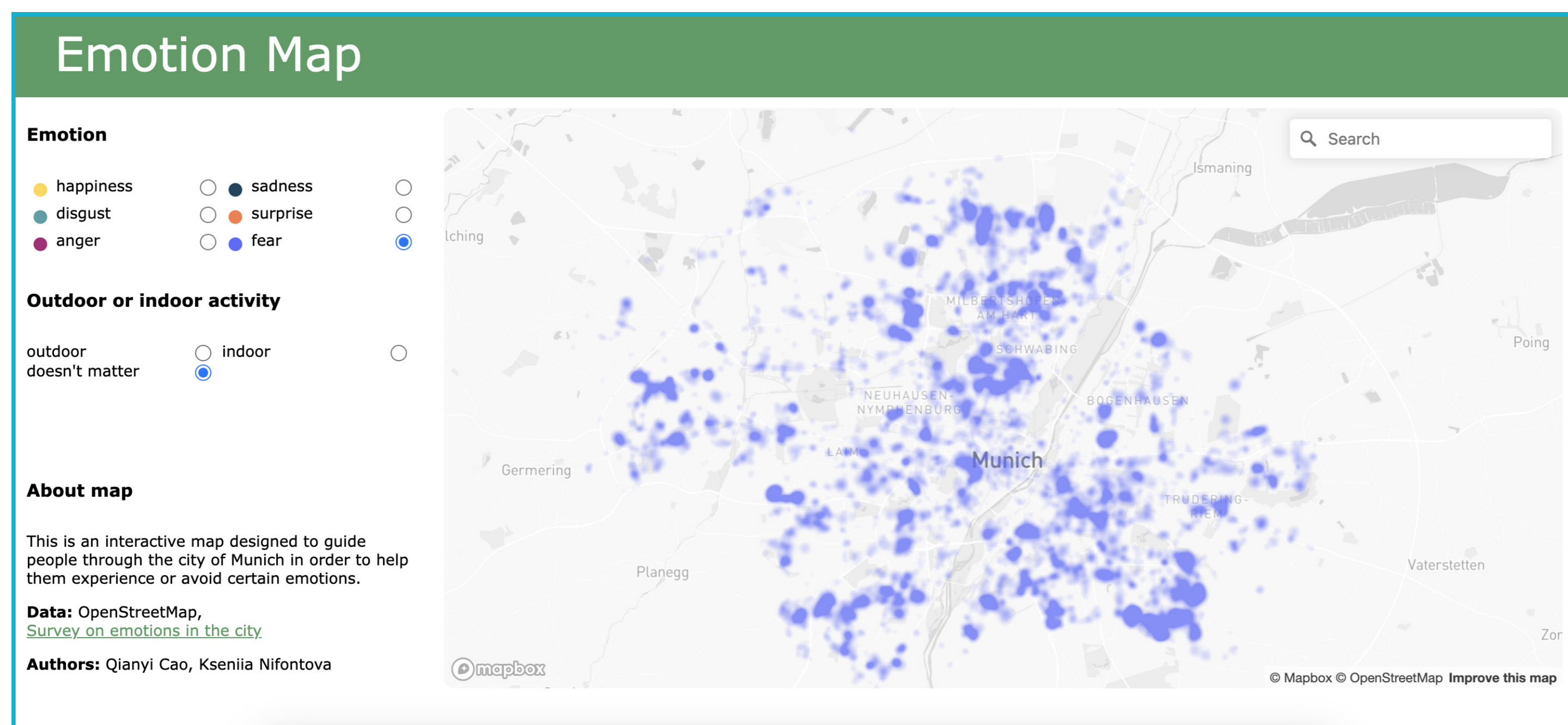

Fig.1. The screenshot of the map with the "fear" emotion mode. The main filter is the choice of emotion. An additional filter is whether the place is for indoor/outdoor activity; other filters based on place characteristics may be added in the future.

DATA & METHODOLOGY

Driven by our aim to map the emotional side of places, we used the spatial datasets of POIs, land use, and other places from OpenStreetMap, which is free and has high-quality data for Munich. Then, we created a survey to collect data about how people connect emotions with particular characteristics of places. We matched and analysed the survey results with the spatial datasets and developed our emotional map.

SURVEY

Our topic, emotions, is fuzzy and vague, only existing in people's minds and can not be physically measured. We designed the survey on the city's emotions to better
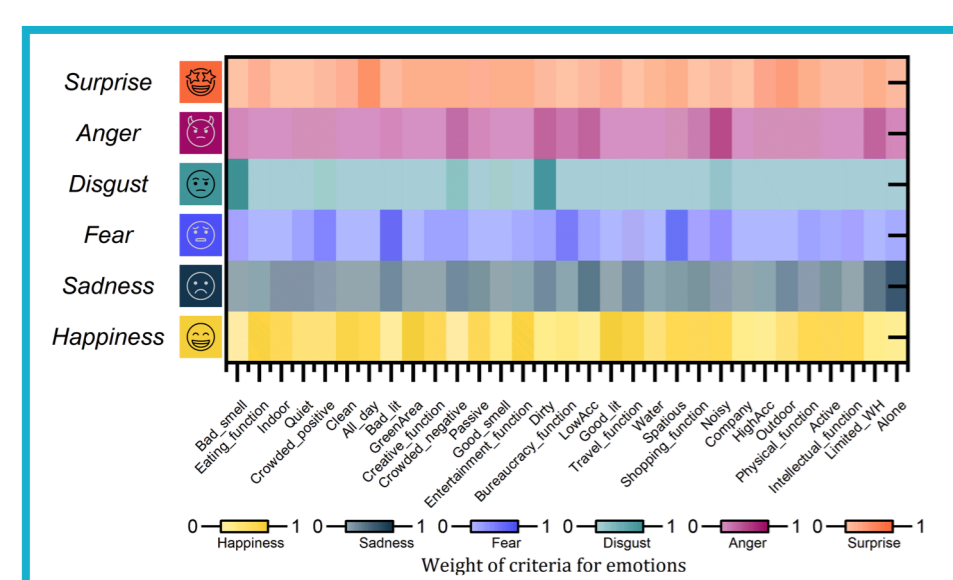
and more objectively organise our data. In the survey, we listed 31 characteristics of places and asked people to decide the relevance of their six basic emotions with the descriptions of the characteristics.
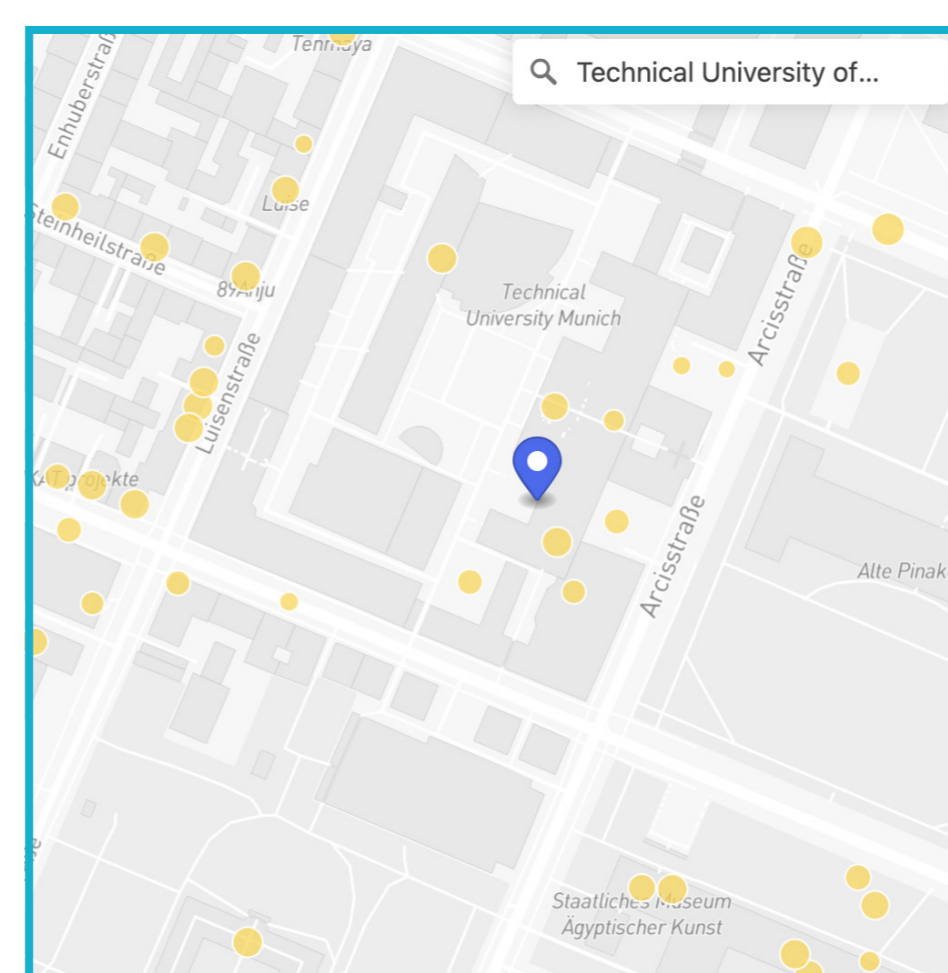

Fig.3. Map on a larger scale.

We received 28 answers and employed the percentage of the votes as the weight of emotion for different characteristics of places. Once the characteristics of each place were classified, the final assessment for each emotion for each place was calculated. The results from the survey suggest that there are various influential characteristics for different emotions (Fig.2).

Fig.2. The weights of 31 criteria for six emotions. Each emotion corresponds to a specific colour.

MAP DEVELOPMENT

We created an interactive map for users to search for places in the city corresponding to particular emotions or check the emotional side of familiar places. It has two levels: a heatmap illustrating an aggregated picture of emotions for areas in the city and symbols of every place proportional to the final assessment of emotion to this place (Fig.3). The map was built using HTML, CSS, JS, and Mapbox GL JS library. Munich's place data and survey results were prepared using ArcGIS Pro software.

CONCLUSION

Our result is a successful emotion map demo for city places. In our review of related work, we found that mapping emotions is uncommon, with a primary reliance on mental map tools where people draw their emotions on maps [1, 2]. Our map comprehensively evaluates Munich's emotional aspect in a creative way. In the future, we aim to refine the map, modify the survey, gather diverse responses, and assess place characteristics differently. We also seek code optimisation and improved map design, including emotion-colour choices [3].

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