WiesnWanderer

Your Guide to Urban Nature

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Nature is already on the map of our cities. However, in our increasingly urbanized and busy world, city dwellers are generally disconnected from it. Suburban forests are inaccessible and a stroll through the park hardly ever seems like a priority. At the same time, more and more individuals are realizing that being outdoors is a fundamental part of our wellbeing and have started to seek ways to engage with it. WiesnWanderer fulfills the growing need for tools that make it easier to integrate nature and ecology in 21st century lives. Our digital map-based platform brings nature back to the map, and to the city, with the threefold objective of encouraging residents and tourists to discover, protect and build community around the green spaces of Munich.

LITERATURE REVIEW

Urban green spaces are linked to improved mental and physical health, while also supporting biodiversity and ecosystem services [1]. The One Health concept, highlighted in the 2024 Sustainability Report by the German Federal Ministry of Health, emphasizes the interconnectedness of human, animal, and environmental health [2,3]. Digital tools, particularly those leveraging citizen science, are transforming access to urban nature. Initiatives like Nature Map and Nature in the City demonstrate how mapping technologies enhance community involvement and conservation efforts, serving as key inspirations for WiesnWanderer [4,5].

METHODOLOGY

WiesnWanderer was developed using biodiversity data from the Munich City Portal and GBIF (Global Biodiversity Information Facility) [6, 7]. Observation data on native species from the past five years was gathered alongside information on sustainable urban locations such as veggie restaurants, recycling stations, second-hand and fair fashion stores, organic produce markets, and zero-waste markets.

Additionally, nature and biodiversity fun facts were curated to enrich the user experience.

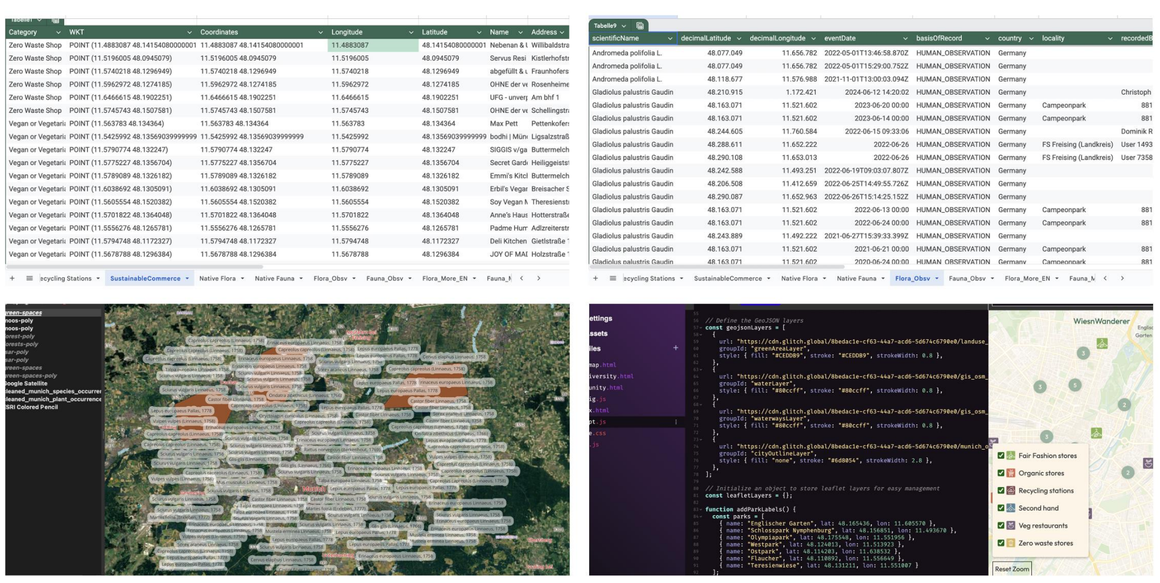

Figure 1: Our workflow in pictures. Building a database for species observations and sustainable locations, reading flyers and georeferencing the species observations, preliminary visualization and data formatting in QGIS + ArcGIS, webdesign and visualization on Glitch.

This database was used to create a web map application with two main maps, developed on Glitch. The first map displays sustainable locations and green routes to encourage urban nature exploration. The second, built with Mapbox, highlights biodiversity hotspots and fun facts. The Carto DB Voyager basemap (without labels) was chosen for minimal design, with park labels added for spatial reference. Custom icons for sustainable locations and flora species were designed in Pixelmator to enhance usability.

Limited coding experience posed challenges, leading to reliance on third-party integrations (Leaflet and Mapbox), which restricted flexibility in projection systems and custom basemap selection.

RESULTS

The output is a digital platform where users can interact with the three main features. The first is an interactive map, which shows the “green locations” and walking paths in the parks of Munich.

Users can click on the icons, as well as filter through them, to see what options they have in their desired district or area. Secondly, users can click on the paper plane icon in the top-right corner and access the recommendation submission feature.

Finally, a third feature is accessible from the main landing page, namely the story-map exploration of Munich’s flora, fauna and habitats.

This takes viewers beyond the urban borders of Munich and allows them to get inspired to explore different types of natural ecosystems in and around the city.

The final product achieves the objectives of integrating a large knowledge base into a user-friendly platform that can be used to explore and get informed, as well as interact with ecology and nature in Munich.

DISCUSSION

If refined and shared, the platform could serve as a “green guide” to Munich, benefiting both tourists and residents. The submission feature has the potential to evolve into a community forum for organizing park cleanups, hikes, and wildlife observation groups, while also facilitating volunteered geographic information (VGI) collection on biodiversity and ecosystem health.

Although development was constrained by limited time resources, these challenges do not hinder future improvements or potential expansion to other cities.

CONCLUSION

WiesnWanderer has reached the end of its development phase. After user testing and expansion on the community features, it should be further evaluated with respect to ist ability to reconnect urban dwellers with. Beyond its scientific performance, the project highlights the role citizen science and mapping can cover in the improvement urban sustainability. It therefore fulfills the objective of building new scalable models to foster environmental and community engagement.

IMPRINT

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LINK

WiesnWanderer Webpage

WiesnWanderer Demo (Video)

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