Goldsmiths UNIVERSITY OF LONDON & compair

A variety of data analysis and reporting task optimizations for air monitoring at construction sites

Background & Introduction

As society becomes more conscious of air quality, and the government adopts stricter regulations on air pollution, construction companies need to monitor the air quality on-site at all times and respond to pollution immediately. This app has three main functions: pollution data dashboard, data analysis, and report. It aims to help site managers better understand pollution data, find out the source of pollution, and respond quickly to pollution.

Design Goal:

1. Designing more comprehensive, detailed visualizations of data.
2. Help site managers better identify sources of pollution.
3. Reducing the workload of site managers.

Solutions:

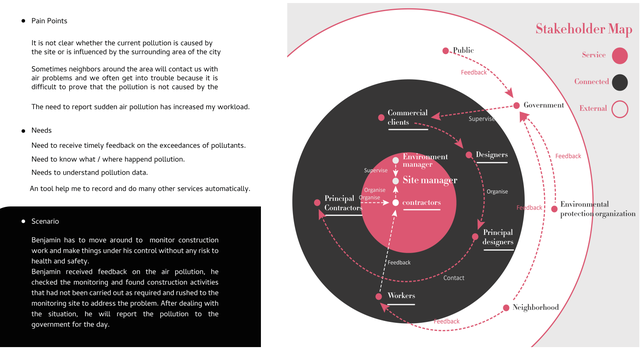
Use an easy-understanding data visualization to make a dashboard with detailed information.
Provides data analysis functions to help site managers better identify sources of pollution.
Provide a more automated reporting function.

Methodology

Feild study
-Basic information on pollutant
-Technology of monitoring & analysis & reduce pollution

Interview
Interview 3 participants major in Civil Engineering or participated in construction activity.
-for defining stakeholder and user
30-minute Interview with professor
-For knowing existing technology and data analysis
20-minute interview with site manager
-get to know user pain points, needs, and analysis task

Usability test, survey, interview, A/B tesing
-improve usability
-Increase the practicality and professionalism of the function
Improve User-friendly interface



Conclusion & Future work

This UX design encountered many barriers in the initial research. This was mainly due to the complex structure of the personnel on the construction site, the different divisions of work. The air monitoring itself is professional and is difficult to access by people from non-related industries. Particularly, the target users,which were site managers, were hard to reach, also made the research more challenging.
The interviews helped a lot in this research. Especially for the interviews with the target users and experts.
My further work will look at the analytical modeling of pollutant data, which will help site managers to better understand the data, then respond more quickly to pollution.