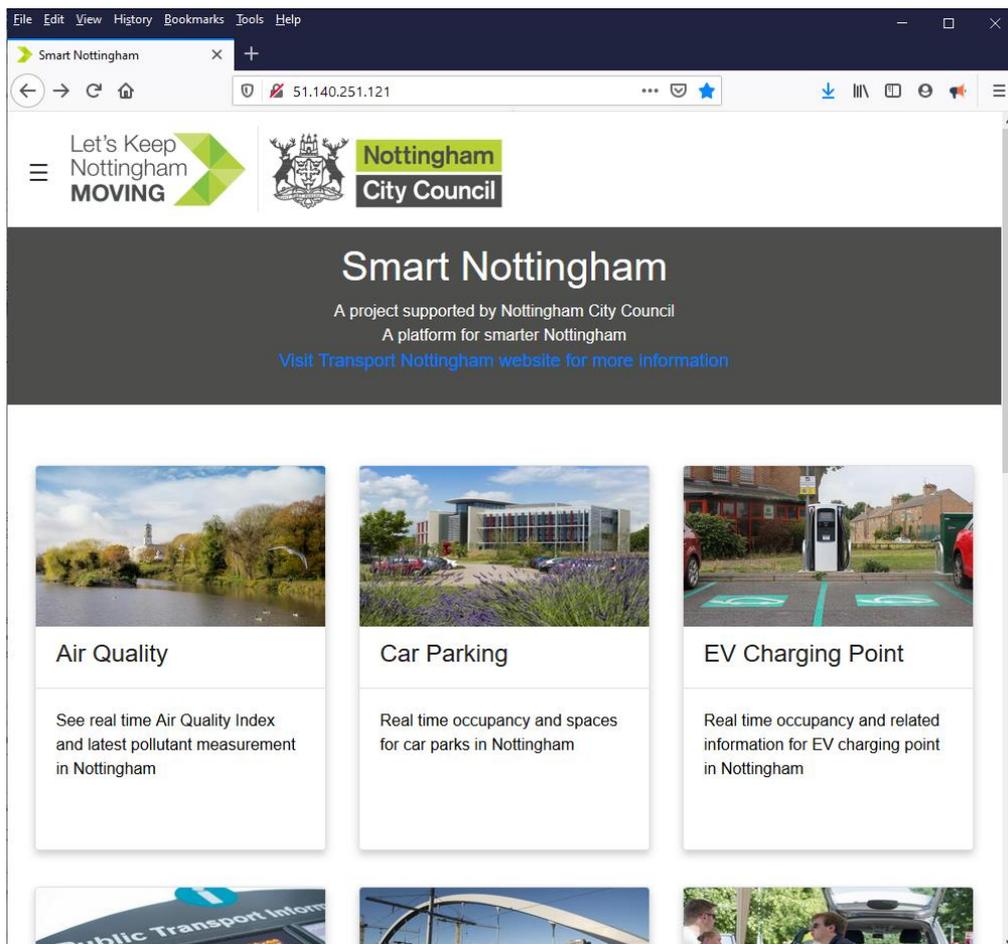# Development of the "Smarter Travel - Nottingham" Platform

"Smarter Travel - Nottingham" is a collaboration project between the Nottingham City Council (NCC) Transport Strategy Department and the University of Nottingham (UoN) and is part of the NCC Open Data System project. It provides a data hub for collecting, integrating and visualizing transport and air quality data to assist with data representation for the public. It delivers a real time informative website for the benefit of commuters and visitors. Furthermore, it supports NCC to store and analyse the collected data for doing future city projections.

The prototype is available at http://51.140.251.121/. Below is a screenshot of it.

Our platform generates information feeds using the latest real-time data collection technologies. The information feeds currently supported include parking spaces, electric vehicle charging points, air quality, bus times, tram times, train times, car journey planning, traffic counts, and road works. The platform has been designed in a modular fashion to support extensions. Therefore, new information feeds can be easily added in the future.

The website backend uses the Vertex architecture, which employs a lightweight and event driven approach to optimise memory use and consequently robustness. Thanks to this modern technology, response times are very fast. In addition, the event driven approach allows the system to work with huge amounts of data in real time. The website frontend uses Bootstrap and the Google Maps API to provide a neat and responsive GUI. It is automatically optimised for different devices, ranging from a

smart phone to a large monitor display screen. We provide advanced visualisations of the information feeds provided by the backend.

The platform is deployed using Azure and has been designed to be easy to maintain to support our aim of keeping it up-to-date to always provides the latest information available.

Realisation:
- NCC management
  - James Ashton (james.ashton@nottinghamcity.gov.uk)
  - Simon Dale; Alistair McGrady
- UoN consultancy management
  - Peer-Olaf Siebers (peer-olaf.siebers@nottingham.ac.uk)
  - Grazziela Figueredo
- UoN head platform developer
  - Meng Wu

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