**Mission Statement:**

AirTime is an application focused on environmental determinants of health, connecting real-time air pollution data with the general public and industry leaders, allowing people to make informed decisions regarding their health.

**Background**

As the threat from fossil fuel combustion and environmental pollution increases, and cities continue to densify, air quality is a growing concern for Canadians (Jacobson, 2008). With the increasing health concerns from air pollution and an aging population estimated to cause 7700 premature deaths in Canada and costing 36 Billion dollars, providing warnings to the citizens is a priority (Rabson, 2017). Among Canadian cities, Halifax was ranked 9th on the list of worst overall air quality scores (Dimon, 2019). As the climate crisis continues, the threat of summer forest fire smoke-induced smog and heat wave-induced ground ozone spikes threatens air quality across the Maritimes (Jacobson, 2008). Increased air pollution carries an increased risk of heart disease, stroke, lung cancer, and respiratory distress such as asthma (WHO, 2018).

**Social Impact**

AirTime provides simple and straightforward access to air quality data for the general public. Enabling those who are vulnerable to poor air quality or institutions concerned with health such as schools, hospitals, and eldercare facilities, to easily understand when there is a health risk.​ Medically, this allows those who suffer from low air quality to modify their exposure based on real-time data from their area and potentially drastically improve their quality of life. Economically, the personal and governmental costs associated with the treatment of air quality-related health problems reduce when people have the information available to self-select their level of exposure to pollutants.​

**AirTime Function**

AirTime monitors and maps air quality data from National Air Pollution Surveillance (NAPS) monitoring stations across Atlantic Canada and provides a web interface for public use. The web application houses an interactive web map displaying the current air quality conditions along with widgets showing air quality predictions for the next 48 hrs hours. AirTime will also allow users to look at  historic pollutant concentrations for each area.

By demonstrating the utility of this data for public health and highlighting spatial gaps throughout the region, AirTime users can advocate for policies that increase the number and density of air quality monitoring stations throughout Atlantic Canada. The app is a powerful tool in building the case for clean energy by highlighting the adverse health effects of fossil fuel combustion, and industrial pollution through easily accessible and understandable real-time air quality data.

**Future Possibilities**

AirTime can easily be scaled to cover the entirety of Canadia using the current NAPS network of air quality monitoring stations. Based on its underlying architecture, AirTime can display other types of environmental data such as UV radiation, urban heat island, flooding/fire risk, or water quality.

The next step for this app is to integrate the ESRI's GeoEvent Server. GeoEvent will allowAirTime to send SMS text messages to subscribers warning them when the air quality in their area exceeds safe thresholds.

**Target Audience**

AirTime's target audience is anyone looking to make informed choices about their health concerning air quality. This includes people suffering from respiratory illness, compromised immunity or chemical sensitivity, the elderly, children, and pregnant women. All of these at-risk populations can benefit significantly from AirTime's accurate and early warning, allowing them to self-manage their risk of exposure (Ferrante, 2014).AirTime is also a valuable tool for institutions looking to make science-based health decisions for their employees or clients

**Other Users**

* Health advocates and politicians looking to make an argument for increased the number and density of monitoring stations.
* Climate change researchers can also use AirTime when looking at the increased threat from warming – especially for ground ozone (Jacobson, 2008)
* Planners and researchers looking at the impact of changing land uses and densification in Canada cities, especially the health effect of vehicles and industrial pollutants.
* Health care providers attempting to reduce the burden on the hospital system can use AirTime to advise their patients on better self-care.
* Anyone in the general population, looking for an enhanced feeling of safety through accurate and up to date air quality information in Atlantic Canada (Morreale et al., 2010).

**Application Link**

<https://dalspatial.maps.arcgis.com/home/item.html?id=e3205194bfa84568a3e1e09ba1632f61>

**Reference:**

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