**User Profiles/ Personas**

**Sarah - Paediatrician Specializing in Pulmonary Diseases**

1. **Background Information:**
   * **Occupation:** Paediatrician specialized in pulmonary diseases, focusing on diagnosing, treating, and monitoring children with asthma and respiratory conditions.
2. **Demographics:**
   * **Age:** 38
   * **Gender:** Female
   * **Culture:** British
   * **Lifestyle Preferences:** Active lifestyle, enjoys morning jogging, follows a vegetarian diet.
   * **Income:** Middle to upper class.
   * **Educational Status:** MD with a specialization in paediatric pulmonary conditions.
3. **Personality Traits:**
   * Analytical, empathetic, health-conscious.
4. **Task Domain:**
   * Possesses high expertise in asthma management and prevention, with over 10 years of experience treating paediatric asthma patients.
5. **Technological Proficiency:**
   * Very comfortable with technology, regularly utilizes medical databases and tools in daily practice.
   * Owns the latest smartphone and is well-versed in using wearable devices.
6. **Human Factors & Accessibility:**
   * No vision, hearing, mobility, or cognitive impairments. Proactively maintains a healthy lifestyle.
7. **Information Needs and Preferences:**
   * **Must-Have:**
     + Real-time air quality data for immediate monitoring.
     + Access to historical data logs for comprehensive analysis.
   * **Should-Have:**
     + Location-based alerts to receive notifications based on current position.
     + Seamless synchronization with mobile devices for convenience.
   * **Could-Have:**
     + Monthly air quality reports offering insights into long-term trends.
     + Recommendations for areas with better air quality for potential relocation.
   * **Would-Have:**
     + Integration with other health apps to consolidate health data.
     + Community sharing features to engage and contribute to collective insights.

**Brian - Retired Coal Miner**

1. **Background Information:**
   * **Occupation:** Retired coal miner with over 35 years of experience working in mines.
2. **Demographics:**
   * **Age:** 65
   * **Gender:** Male
   * **Culture:** American, from a rural background.
   * **Lifestyle Preferences:** Leads a sedentary lifestyle, occasionally smokes.
   * **Income:** Lower middle class.
   * **Educational Status:** High school graduate.
3. **Personality Traits:**
   * Resistant to change, skeptical of new technology.
4. **Task Domain:**
   * Limited knowledge of asthma, diagnosed due to prolonged exposure in the mines.
5. **Technological Proficiency:**
   * Limited experience with technology, uses a basic cell phone, and has never used a smart device or wearable.
6. **Human Factors & Accessibility:**
   * Mild vision impairment, hearing difficulties, beginning stages of osteoarthritis in the knees.
7. **Information Needs and Preferences:**
   * **Must-Have:**
     + Clear and prominent alerts for dangerous air quality to ensure immediate awareness.
   * **Should-Have:**
     + Simple and easy-to-understand readings without much technical jargon for straightforward comprehension.
   * **Could-Have:**
     + Reminders to use inhaler or medication for asthma management.
   * **Would-Have:**
     + Easy tutorials or guides on how to use the device to facilitate a smooth learning curve given limited tech experience.

**Michael - Middle School Teacher**

1. **Background Information:**
   * **Occupation:** Middle school teacher actively engaged in outdoor activities with students.
2. **Demographics:**
   * **Age:** 45
   * **Gender:** Male
   * **Culture:** Canadian
   * **Lifestyle Preferences:** Semi-active, occasional sports enthusiast, non-smoker.
   * **Income:** Middle class.
   * **Educational Status:** Bachelor's in Education.
3. **Personality Traits:**
   * Open to new experiences, somewhat tech-savvy.
4. **Task Domain:**
   * Diagnosed with asthma at a young age, carries an inhaler, possesses basic knowledge about triggers and management.
5. **Technological Proficiency:**
   * Comfortable using smartphones, computers, and basic tech gadgets for both work and leisure.
6. **Human Factors & Accessibility:**
   * Mild short-sightedness requiring glasses, no significant impairments.
7. **Information Needs and Preferences:**
   * **Must-Have:**
     + Instant alerts for harmful environments to ensure prompt action.
   * **Should-Have:**
     + Ability to review data over time for comprehensive tracking and analysis.
   * **Could-Have:**
     + Tips for managing asthma based on collected data to enhance asthma management practices.
   * **Would-Have:**
     + Integration with calendar or daily planner apps for seamless incorporation into daily routines.