**Alert Engine Design Document**

Created by: Mohit, Date: 07/11/2020

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| **Target Release** | - | **Background**  Suppose that the user does not want to be bothered with the monitoring of the changing ambience inside the office, as she/he wants to focus on work. The aim of the alert engine is to handle the problem for the user efficiently by continuously monitoring the indoor air and thermal quality and sending alerts and warnings in case the air quality and thermal indexes go below or above recommended thresholds. |
| Document Owner | Mohit |
| Engineer/Developer | Mohit |
| QA | Mohit, Jean-Francois |
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**Feature requirements**

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| **#** | **Title** | **Feature Description** | **Priority** | **Notes** |
| 1 | Air quality Index Classifier | The air quality index (AQI) classifier monitors the basic metrics being updated from the SafeWir device and computes the  AQI index value.  It then classifies the value into the following categories:   1. Good 2. Moderate 3. Unhealthy 4. Hazardous   (This is applicable to index 1-5 below.) | Must Have | Resource: Sina’s Slides - <https://drive.google.com/file/d/1-XypO_Dp6N25YeitRtk9HTj0Qn17vaCp/view?usp=sharing>   * Need input from JF and Sina. * Need to communicate with backend engineers who will integrate it into the app   Open Issue: Could the classification of thermal index be done in standard 4 categories as the rest or does it need to be in the 9 categories as described? |
| 2 | Thermal Comfort Classifier | The thermal comfort index (TCI) classifier monitors the basic metrics being updated from the SafeWir device and computes the  AQI index value. It then classifies the value into the following categories:   1. Cold and dry 2. Cold 3. Cold and humid 4. Humid 5. Comfort Zone 6. Hot and Dry 7. Hot 8. Hot and Humid 9. Dry | Must Have |
| 3 | Indoor Environment Classifier | Computes the indoor environment index and classifies into:   1. Good 2. Moderate 3. Unhealthy 4. Hazardous | Must Have |
| 4 | Wellbeing Index classifier | Computes the wellbeing index and classifies into:   1. Good 2. Moderate 3. Unhealthy 4. Hazardous | Must have |
| 5 | Health Index classifier | Computes the health index and classifies into:   1. Good 2. Moderate 3. Unhealthy 4. Hazardous | Must have |
| 6 | Alert-Message Mapping | Maps the alerts generated from the output of the classifiers to an to messages (containing relevant statistics) and any potential actionable steps. | Must have | * Need to discuss and design with Sina |