**Final Deliverables:**

The final deliverable will be an implementation of the proposed solution (Code repositories) and a 8-15 page paper written in the format of a conference paper submission. Template can be found at this [page](https://chi2018.acm.org/chi-proceedings-format/) and it is **required** to use this template.  There is no length restriction, feel free to use as much space as you need for images. 

The **written report** is expected at the end of the project, that include:

* Introduction: An explanation of the problem and the motivation for solving it.

Research and popularization about Air-pollution meteorology is a vital assignment for China, as the country is facing

**Initial questions:**

**RQ1:** Which season has the best air quality?

**RQ2:** Which factor affects API (Air pollution Index) most?

**RQ3:** Which period among the day has the best air quality?

**RQ4:** Does the air-quality of Beijing improves from 2013 to 2017?

**RQ5:** How do human activity influences air quality?

* Related work: A description of previous papers related to your project.

[Cautionary tales on air-quality improvement in Beijing](https://royalsocietypublishing.org/doi/full/10.1098/rspa.2017.0457#d3e496)

The authors conducted several statistical analyses with the PRSA dataset, especially PM2.5, to argue the official statement that the Beijing’s air quality had improvement in 2016 as the 9.9% reduction in PM2.5. On the contrary, they detected a non-significant increase in the seasonal year average PM2.5 in 2016. They also discovered the underlying reason for this situation was that 2016 was the start of an economic recovery. Based on this paper, I got an intuition for solving the initial question RQ5.

* Methods/Design (storyboard, etc.): A detailed explanation of the techniques and algorithms you used to solve the problem.
* Implementation (must include specifics of what other components/libraries you built upon): A detailed explanations on how you implement the visualization.
* Results: detailed description of your visualizations
* Evaluation (e.g. user study or reflections/discussion of your system): The visualizations your system produces and data to help evaluate your approach. For example you may include running times, or the time users typically spend generating a visualization using your system.
* Discussions: What has the audience learned from your work? What new insights or practices has your system enabled? A full blown user study is not expected, but informal observations of use that help evaluate your system are encouraged.
* Conclusions and Future Work: A recap of take-aways and detailed description of how your system could be extended or refined.
* Bibliography