Process name	Stakeholders	Concerns (Problems)	Analysis (Reason of the problem)	Proposed solution
1.Data entry and validation	A. Data Collector	1. Data collector collects Datas from the data sources, which is mostly done by manually, and there is possibility to get faulty datas. At the same time this is very time consuming.	1.The existing system gets the datas in two steps from the data sources ,it makes the procedure lengthy and it might be faulty in some cases. Firstly the data collectors collect datas and then give it to the data entry manager then they push it to the system. 2. There is no direct procedure for data collectors where they can entry datas directly to the system 3. They collect data in manual form which causes faulty datas.	1. Re-built the AQM system data entry modules as per need of the system , where data manager will get the datas from the data source as csv file and will enter the datas to the system. 2. Data providers from the data sources can also enter datas directly to the AQM system. 3, There will be no manual data collection, everything will happen in an automated version.
	B. Data entry manager	1. This is a lengthy procedure and time consuming as they have to wait for data collectors. And there is no activity for faulty	1. In the existing AQM system Data entry managers first get the data from data collectors and then have to format it in a file	1. Re-built the AQM system data entry modules as per need of the system , where the data manager will get the datas from data sources in a csv file

		datas(after the data analyst analyzes datas).	from manual pdf of data. This is time consuming and more possible to get faulty datas.	and then they can directly push the datas to the system. 2. 1. Re-built the AQM system data entry modules as per need of the system , where data providers from different data sources can enter data directly to the system.
2. Data verification and update	A. Data Entry Manager	1. The communication done about the faulty data(Data Analyst to Data Entry Manager and From Data Entry Manager to Data Source) is done via phone calls, email etc which is very inefficient as this delays the process of instant verification of the data in the system. 2. Next, he manually compares the informed faulty data with the physical document.He will search for that particular faulty data from the datasheet which consists of thousands of data records. Also the worst situation is that he can even lose the physical document. Hence, this is time consuming and very inefficient as no human can easily detect where the problem lies. 3. Upon receiving a new datasheet from the	1. The existing AQM system does not have any function which can directly notify/inform the users. 2.Data Entry Manager did not have any visual representation of the faulty data in a particular timestamp. Manually Searching and accumulating faulty data is a huge task. The AQM system did not play any role in detecting that particular faulty data. 3.Entering thousands of data	1. There is an in-built function in the AQM system which will directly notify users of concerns about the problem without any delay. 2. The faulty data in a particular timestamp will automatically be flagged/ marked which will be easily identified by the user. 3. AQM system will directly convert the

		Data Source, he will again enter the thousands of data from the datasheet via a form manually. This is tedious, inefficient process	records manually requires a lot of time and unnecessary labour work.Also, AQM system is not validating, verifying the new data being entered as a result there is no surety of the new data being fetched into the system.	CSV file(which consists of data) provided by the Data Entry Manager and the system will automatically update the particular timestamp where data was found faulty. Additionally, the AQM system will immediately show error and not let unvalidated data get into the database.Hence, data will always be validated.
	B. Data Analyst	1. Identifies and manually jots down the particular timestamp in a physical document where data is found faulty and manually informs Data Entry Manager.	1. Unable to directly indicate the problematic timestamp.Manua lly informing Data Entry Manager slows down the process of verification. Again, manually jotting down each faulty data is a tedious process.	1. Able to directly flag/ mark the particular timestamp in the data trends / graphs where data is found faulty. This is a much faster and efficient way of indication of the faulty data.
		2. Upon receiving a message about the new changes made to the faulty data, he will again search for his physical document, manually compare each timestamp listed earlier with the new updated data trend.Hence, slower and insignificant way of verification of data.	2. The whole process of manually searching and comparing for the particular timestamp from the updated data trend/ graph is time consuming. He can easily miss a particular timestamp as a result data particularly there will still remain	2. AQM system using its in-built function will automatically update the particular timestamp where data was found faulty. As a result, when Data Analyst observes the absence of flags in the updated datatrend/ graphs, it simply means that the system is updated, validated

			unchecked and unverified.	and verified.
	C. Data Source/ Data Collector	1. Collecting data from multiple sources is time consuming and very tedious. 2. Data is not available all the time. 3. Data source organizations are at times unhelpful, uncooperative to share data.	1. Data searching and gathering from multiple data sources is a tedious process. Stuff limitation also makes the process slower. .Additionally, data collectors are always receiving data from the data sources in a compiled physical document which is not a validated, verified process as there remains a high possibility of corrupted data.	1. AQM system's in-built function allows Smart weather stations like IQ air, AirNow(data sources) to directly input data in the AQM system.As a result, the role of data collector is not required. This is both faster and beneficial for all the stakeholders. Also, there is no risk of inputting unvalidated data by data source as AQM immediately bounces back unvalidated data by showing error/warnings. Other data sources also provide the data in a CSV form which is a much faster way rather than physically documenting it.
3.Report Generation	A. Executives	1. Report generation was lengthy procedure 2. No records of previous data reports	1. Report generation purpose they have to call the assistance and then they work on the report generation and they talk to the software developers for making changes. 2. There is no record of previous datas in	1. Re-built AQM system has a direct option for executives to download the report;they have access to the system . 2. Executives can search the report by the date also, it helps to find the previous records as well.

			the existing system.	
	B. Software developers	1. Time consuming and lengthy procedure as they have to go through one more step to contact and getting confirmation from the executives.	1. In an exciting system software developers get the review of data reports from assistant executives which is time consuming and it's all done in a manual process. 2. They have to wait for the confirmation about changes they made before applying to the system,which is a very lengthy process.	1. So in the rebuilt system there will be no assistant executive , software developers will have direct connection with the executive and they will have the list of changes they might need in the system from the executives and they will have direct contact to the executives . 2. And after confirmation from the executives the software developers can directly implement the changes in the system.
4. Viewing	A. Executive	1.Upon viewing the data trends and graphs online, he will manually check in the AQM system whether data was provided in each timestamp or not by the	1. Manually data searching in specific timestamps is a tedious process.	1. Whenever Executive enters in his dashboard to check weekly data input, AQM system will automatically give alert to those

		Data Entry Manager.		specific timestamps where data was not inputted. This is convenient as the Executive will have a direct visualization of the missing timestamp and he can simply inform the Data Entry Manager without any further delay.