AIR Quality Monitoring System

(AQMS)

**final project report**

**gROUP – 01**

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# Chapter 1: Introduction

Air quality is an important aspect of our daily lives, as we breathe it every day. More and more people have to be aware of exactly how safe or unsafe the air they are breathing is. The purpose of this report is to analyze an existing Air Quality Index project titled CASE (Clean Air & Sustainable Environment) and conduct necessary problem analysis on its existing processes.

After that, we are going to propose a new and improved system with the aim of reducing system errors, conduct the necessary data analysis, report and chart generation easily for all its stakeholders.

The first section will give a brief overview of the organization in issue along with the project. The second section will primarily focus on the existing CASE system and its flaws, as well as an introduction to the proposed system that is going to replace it.

The third and fourth sections will be highly technical, focusing mainly on our implementation of the proposed system.

As per our analysis and investigations of the CASE system, we have identified several places where some important modifications are necessary to make the system more efficient and facilitate communication among stakeholders. In addition to that, the modifications will eliminate the possibility of human mistake and data duplication, and stakeholders will be able to access a vast AQI (Air Quality Index) reports and review valuable information through our system instead of manually reading through documents.

As we progress through the report, we will take a look at how the current Air Quality Monitoring system works, the business processes involved, where there are concerns and difficulties with data management, and how we can create a better system to remedy and enhance these problems.

## Background of the organization

CASE was developed by government with the hopes of creating a clean air and sustainable environment. The main organizations involved in the project are:

* Ministry of Environment and Forest
* Department of Environment
* Dhaka South City Corporation
* Dhaka North City Corporation
* Dhaka Transport Coordination Authority
* The World Bank

The World Bank is an international financial institution that provides loans and grants to the governments of low- and middle-income countries to pursue capital projects. The World Bank was a major contributor to the CASE project.

The Ministry of Environment, Forest and Climate Change is a ministry of the government of the People’s Republic of Bangladesh whose role is ensuring the sustainable environment and optimum forest coverage.

Dhaka South City Corporation (DSCC) and Dhaka North City Corporation are two municipal corporations in Dhaka created on 29 November 2011. DNCC governs 54 northern wards of Dhaka. Both these are responsible for administering and providing basic infrastructure to the city.

Dhaka Transport Coordination Authority is the main government agency responsible for public transport in Dhaka, and it moderates negotiations between transport labor unions and transport owners.

## Background of the PROJECT

The goal of the project is to develop a website for stakeholders and institutional bodies to retrieve Air Quality index and generate appropriate reports and charts as per the user’s requirements.

The system will also allow some stakeholders with administrative rights to converse with other users and make decisions through the system.

## Objectives of the project

To meet the purpose of the project several requirements must be met.

Our system AQMS will provide the users with the requested analysis and allow them to view it on the website in the form of charts directly on the website or request downloadable pdf reports.

The stakeholders of our system will log into the system and select which analysis that

## Scope of the project

We carried out a thorough evaluation of the existing system and identified areas in the business processes that might result in significant delays in time and communication, which we will cover in the following chapter.

Our solution is to build a web application called AQMS (Air Quality Monitoring System) that uses a Relational Database Management System (RDMS) to store, calculate, add and update necessary data for Air Quality Index, as well as to generate the necessary data, reports, charts, and documents and store them in the database.

To ensure that a project is completed, the scope of the project must be defined. We must guarantee that the new system is more effective than the present one because we are modifying an existing system. Because maintaining thorough records of students’ enrollment and documentation is inefficient, an improved and automated Qir Quality Monitoring System is required (AQMS).

So, the goal of this project is to improve the present system by implementing our proposed solution, which will allow us to:

Create a system which takes input with an easy to go interface.

Allow only authorized users to access the system.

Insert, update and delete data from the database in real time.

Calculate the Air Quality Index based on location and region,

Generating table and chart.

## CHApter 2: requirement analysis