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Introduction

Air quality monitoring system is a web-based system that visualizes details about PM2.5 to show users the condition of air quality of various location in Thailand. It is user-friendly application allowing the user to interact with the application in a natural and intuitive way.
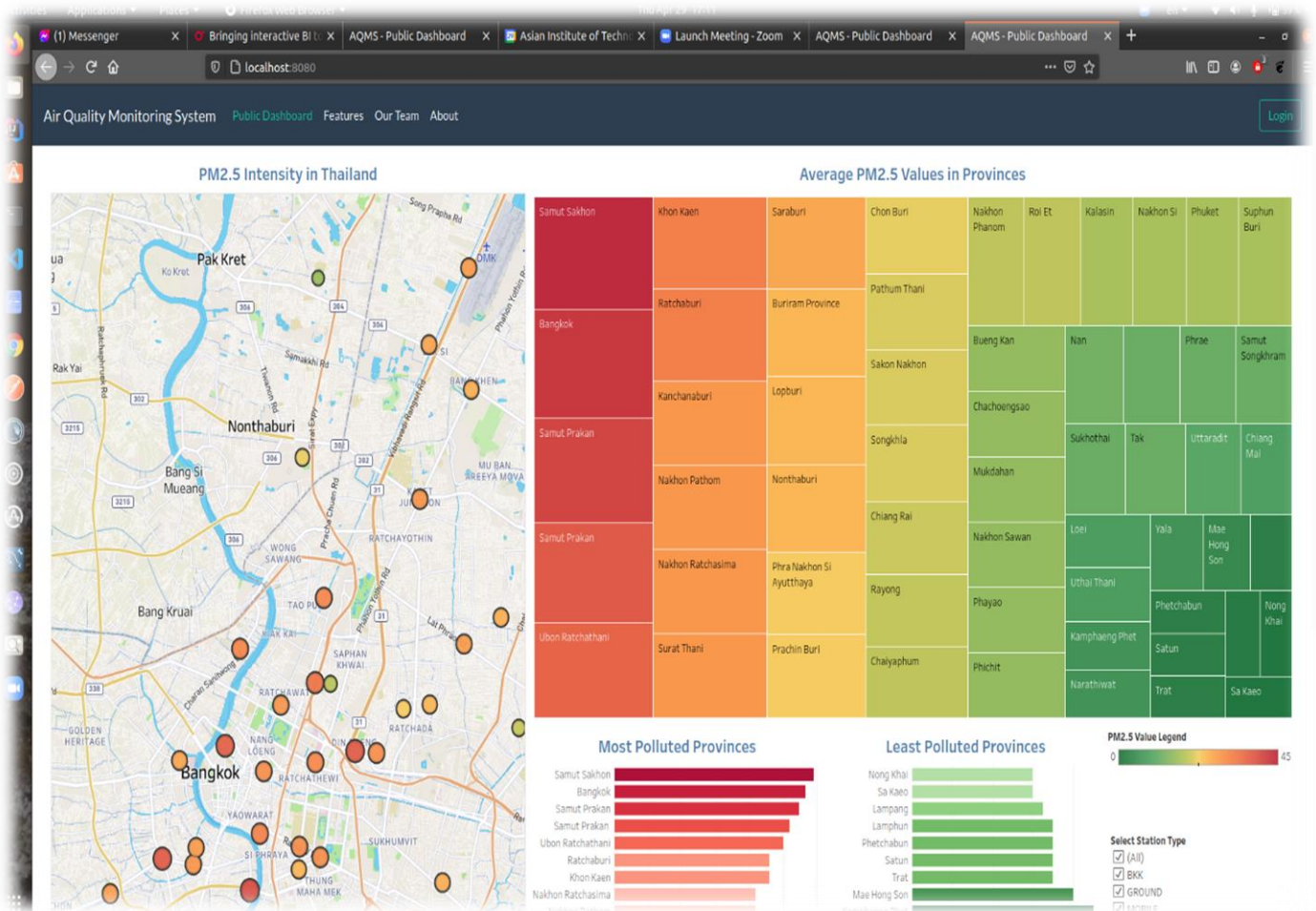

Figure 1. Home Page of application

Air Quality Monitoring system can be used by any users who wish to know about the quality of air of the location within the premises of various provinces of Thailand. Basically, there are two users: Admin and Visitors. These users have their own privileges and base on their privileges; the given steps can be followed to get the experiences of the system.

Website privileges based on access control.

For Visitors

Any users have the privilege to visit the system without registration /log in. Users can simply go to the site URL making a session to view the website and its contents. The webpage included a dashboard that contains descriptive overview of the PM2.5 and its intensity in various locations within Thailand.
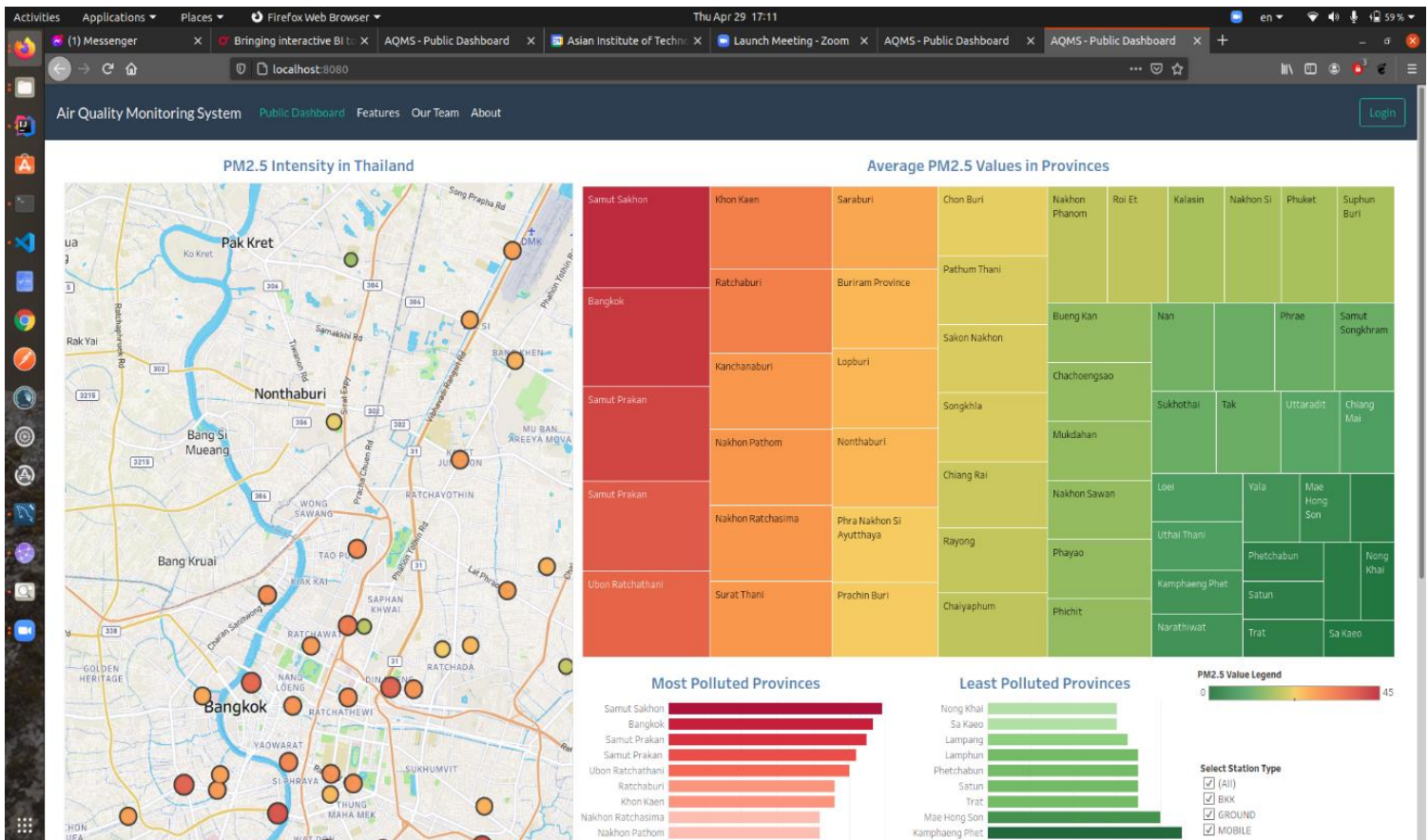

Figure 2. Dashboard view for visitors

Features of the application for visitor:

Our application contains a dashboard that includes:

- **Map view containing the value of PM2.5** of various location in Thailand with various colors used to represent the danger level of PM2.5. Here Green indicates it is a safe zone, yellow mean good, orange means moderate and red means it is getting worse.

- **Average value of PM2.5 of various provinces index of Thailand** based on available data and stations.

- **Bar graph showing most polluted provinces** based on the values of PM2.5

- **Bar graph showing values Least polluted provinces** based on the values of PM2.5

In order to have more details, user can simply put cursor on the features.

Close/Termination of Application

As soon as user closes the website, the session is terminated, and application is terminated.

For Admin

This system provides a more privilege to Admin making it easy for admin to handle the web application.

Features of application for admin

Admin can simply go on the URL and login with the credentials.
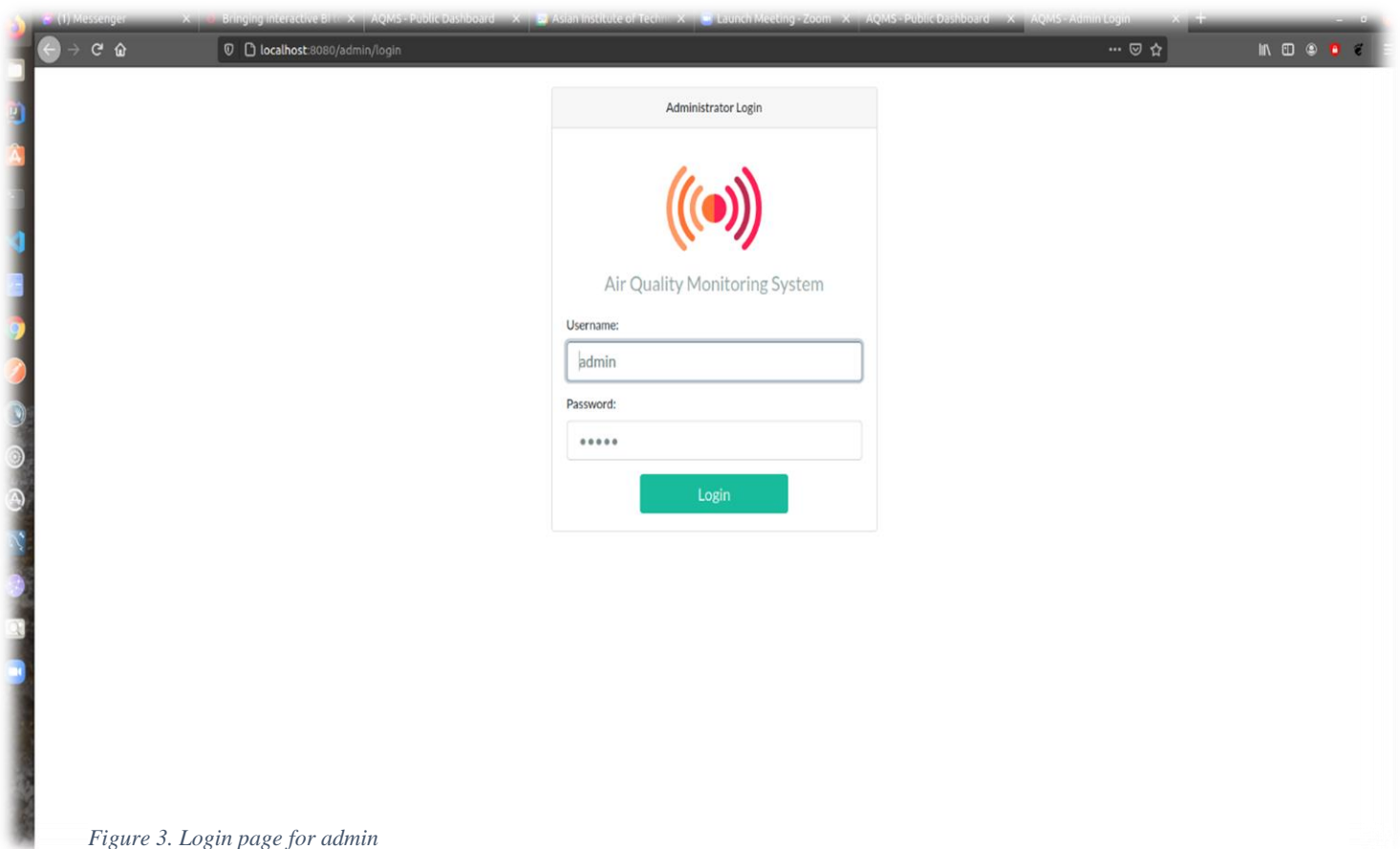
Figure 3. Login page for admin

On Login, the admin will be redirected to the admin Homepage. The homepage of admin contains dashboard similar to visitors. In addition to this, there are some menu options inside navigation bar.
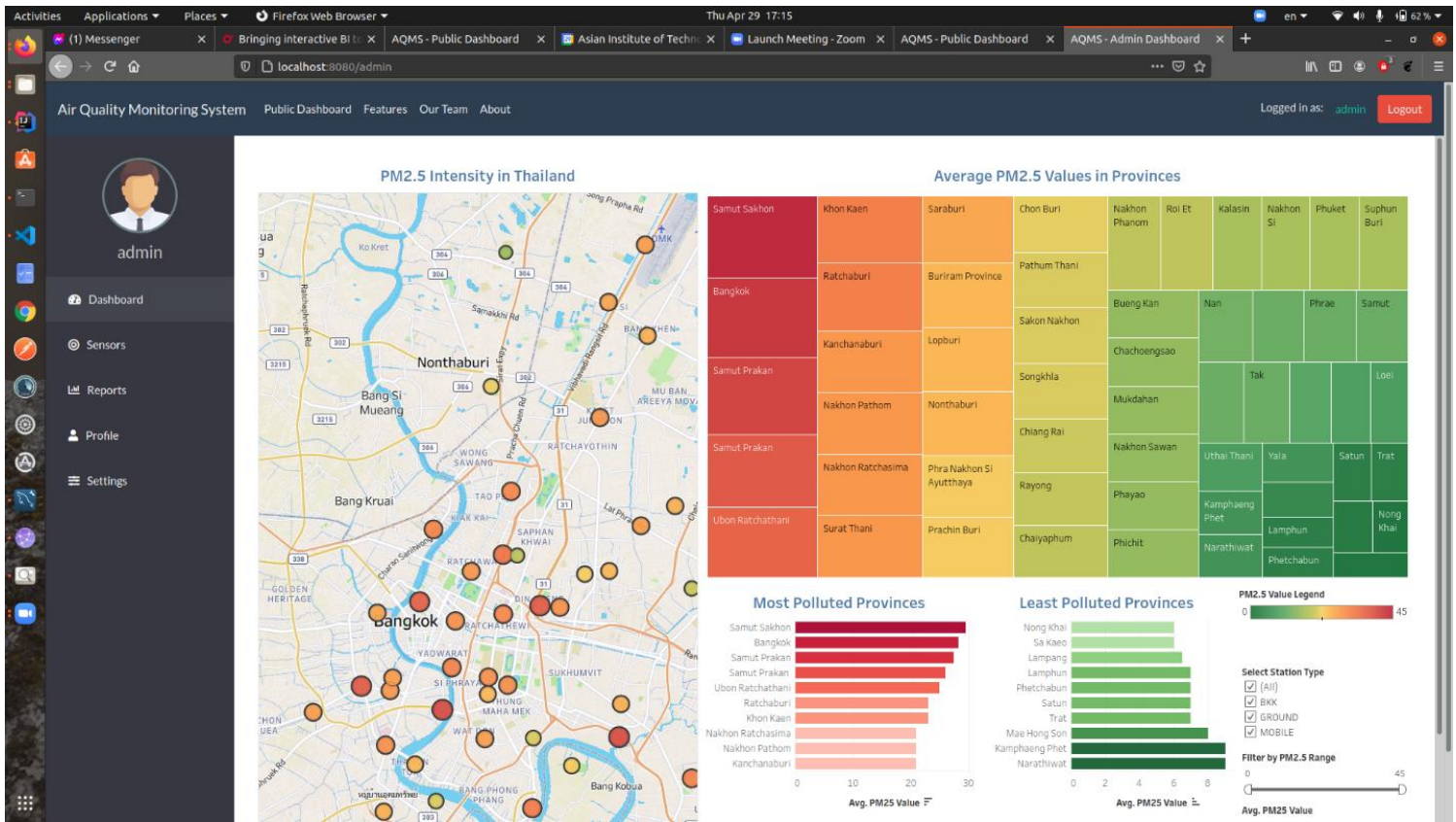
Figure 4. Homepage for Admin

Admin can see various menus on the left navigation bar.

1. **Dashboard** is like the visitor that contains all the features as mentioned above.
2. **Sensors** is for sensor management where admin can edit, disable, or delete sensors as per the need. This feature will be provided in near future. For now, admin can start and stop the server as per the need.

Figure 5. Shows the option to start sensors.

Figure 6. Shows the option to stop the senser.

3. **Reports** is basically about the generating necessary reports based on the information that is available. It may contain forms fields like Title of Report, Descriptive Content, Export File Format, select sensors option, Date, and generate submit button. For now, we have option to export csv file.

4. **Profile** allows admin to update the information about the admin like picture, name, email, job description and etc. This feature will be provided in near future.

5. **Parameter Update** allows admin to modify dashboard tiles, dashboard layout, manage data and data source with available menu like Enable/Disable Dashboard Tiles, Modify Dashboard Layout, Manage Data Sources and Data Backup/Restore. This feature will be provided in near future.

6. **Logout** menu simply make admin to log out from the admin webpage and redirect to visitor page.