Architectural Design

n-tier

admin portal side

On the portal side we start on the presentation tier with the login form with the option to move to the signup form if you are a new user, followed by retrieving the necessary information in order to generate a new case. From there the logical layer comes into play where we receive the corresponding details from the user or caller and add it to the data tiers part which is the database.

Another aspect of the presentation tier is the interface for display reports and statistical graphs as well as the interface for closing cases marked as complete. In order to do this we need to first retrieve the information accordingly and display them in the correct form using logic tier.

The final section of the presentation tier is the interface for adding and removing employees which uses the logic tier to navigate to the corresponding tables and either remove or populate the tables as needed according to the data tier.

Mobile Application side

Similarly, to the portal side the mobile application also follows an n tier architecture with the presentation tier using a login interface, a barcode scan interface and a interface to take images and store documents which is the main purpose of the mobile application. When we move to the next tier which is the logic tier we deal with getting the credentials for the login, using the plumbers ID to know what job they have to complete, obtaining a value barcode from the scan and obtaining the image to use in the next tier. The next tier being the data tier, this allows us to match the correct credentials with what was used to login in with that on the database and then know how to proceed, allows us to retrieve the case information for the plumber to complete, this is done based on the plumbers ID. For the barcode scan it just stores the value in to correct table to assign later to the specific geyser of the specific case. For the images it allows us to store the actual image taken or a compressed version in the database in order to save space. This is also saved in its relevant folder under the image folder and the path which is the caseID to this folder is then stored in the corresponding table of geyser information to make searching easier.