**System Architecture**

Tech Fix System introduce a huge amount of technicians Users and many services

The system offers the contents and service to both desktop users and mobile users via web-based the system is consists of the following modules

1. Storge
2. Data processing
3. Data analytics
4. Indexing
5. Technician area
6. General user area

**Storage**

Tech fix storage are divided to many parts

* Core storage for the data of the technician
* System storage for the user data nad fresh logs
* Indexing storage to support full text search
* Analytics storage to store the analytics and reviews of the technician

All the storage in tech fix will uses MySQL database which will allow the flexibility needed for the system to add or remove user or technician at any time easily, MySQL database will also speed up the queries compared with raw data storage format.

System storage uses traditional structured database which provide better queries and data processing over structured contents.

**Data processing**

Data processing module is responsible for providing all data related services like the rating and feedback for the technician, the nearest technician to you and choose the technician from the category you want.

Data modeling is required to edit and add any data for the user or the technician.

Data classifier is required to classify the data according to location, rating and the category of the technician.

**Data Analytics**

Tech fix holds a huge amount of contents including technician data, user interaction and logs This module is important to study the contents and produce a very useful result Basically this module support following data analytics.

Similarity analysis to determine similar technician accounts it’s important to avoid that the same technician have more than one account

Review analysis to study the rating given to the technician and give the result of the average rating for this technician

Security analysis to study user behavior to avoid future attacks. Basically this analysis users logs to study user behavior.

Statistical analysis to produce a set of statistical studies regarding contents and users interaction. For example, this analysis can study the distribution of technician between the districts and the categories.

**Indexing**

This module is responsible on indexing textual contents to allow internal full text search queries. Full text search is used by final users to find certain contents. Also, it used by other modules like data processing to locate contents in a fixed time regardless the overall contents size.

**Technician Area**

This module provides the Technician with the tools required to build an account for his business, technician can create account, add his phone number, add his location and his working hours he also can be reviewed and see the results and read the feedback about his work

**General user area**

This module provides user with main system activities like creating an account, add his location, add his phone number and search for Technicians in specific location, search for a Technicians in specific category and may be mix of both he can also write a feedback for the Technician and give him a rating about his work

**Security**

Security module is responsible on user authentication and communications security. User can register/login using internal accounts or via their phones or common social accounts. The portal access is made using https protocol in order to secure the communication. Security module also, responsible on managing the permissions and roles. Users are either Technician account or User account.