Group 27: Fresh Food App Description Summary 2

Christian Gutierrez, Jordan Nguyen, Natalie Reyes, Wasay Ahmed

The functional requirements include the Consumer, transporter/shipper, supplier, and the system itself. The Consumer will be able to navigate the application, choose the correct food item to test, adjust the sensors in order to measure gasses emitted correctly, have access to the estimated expiration dates, safety tips, health info, and the ability to rate locations of food products. The transporter will check if the products are safe during the time of transportation to their destination and inform the supplier on the status of the food. The supplier is important for the foods to be checked for any harmful chemicals before being sold or transported anywhere else. They will be receiving ratings and reviews based on how fresh the food is by the consumers. Lastly, the system which can process the results from the tested food using accurate resources via google and the internet.

The data requirements for the Fresh Food App would require a cloud database that can be accessed for reading and writing through the app. The data collected from user registration will include login email and password, name, and address. Supplier users need to prove a list of food products that they sell and a list of their reviews. Shipping users need to provide the destinations and time of the food being shipped. The data collected from the sensors monitoring the food includes values for methane gas, ammonia, environment temperature, environment humidity, and other possible variables that can affect the lifespan of the food. The app will also calculate the estimated life span based on the measurements from the sensor, these values will also be stored in the database.

The performance requirements ensure that the users have a smooth experience in the app. The cloud database must have the necessary capacity to store all the data collected. Data collected includes user registration and records of food that has been monitored in the past. The sensor collects data at adjustable rates which requires the database to be large enough. The database should also execute queries sent from the app quickly. The sensors should be able to reliably and accurately measure data from the food and transmit the data over Bluetooth or Wi-Fi to the app to calculate the estimated lifespan of the food and send that information to the database reliably.

The dependability requirements ensure that the app is available 24/7 for consumers, shippers, suppliers, and vendors. This will require the cloud database, application, and hardware sensors to be working effectively and accurately. Backups will be done frequently and notifications will be sent so businesses and consumers are informed. A back up system is available in the case the main system goes down. The safety critical requirements will ensure that the hardware sensors and application are working together properly in testing and providing accurate results on the food item being tested. All of this will be done in accordance with the health and food safety laws. The engineering team will test, monitor, and update the system and software to account for any errors or bugs. Testing will be done on a daily basis, and if inaccurate results are being given from the sensors or application, the application will be temporarily disabled. The engineering team will work extensively to get the issue fixed. In the meantime, the users will still have access to search factual information regarding a food item. They just won't be able to use the hardware sensor to test the item. After the issue is fixed, the users can be notified through a push notification.

The maintainability and supportability requirements ensure that the cloud database is maintained frequently with up to date accurate information on the food item and log in information. The information on the food item is revised with the help of Google. 24/7 technical support can be provided to the users of the application and product. The product is projected to start off small with mobile operating systems through IOS and Android. Eventually, the product will expand on other platforms such as PC and web browser. The longevity of the product and application will rely on the users and businesses. If they are satisfied, the product and application will strive.

To make sure the app is secure we will need security requirements.The transporter will be responsible for the information regarding where the supplier and destination is located. Suppliers will receive access to feedback they are given of the food they provided.Internet is also needed so the system is able to access and take information from it. All users will need to use their email addresses to login and use a 2 way authentication method to access their email. A backup of the database will also be needed to prevent data from becoming corrupt.

For users to gain more information about the system there will be a section under “help” that can address any confusion and state the instructions on how the app is to be set up and used. To provide international inclusion we would like to provide an option to translate important information and directions into other languages so people from all parts of the world can use the Fresh Foods App. The accessibility of others is important which is why we choose to abide by the Americans with Disabilities Act (ADA) to ensure everyone can have access to all features of the app. Transporters should be trained to be able to be quick and efficient because of how fast paced they may be working.

The requirements addressing the look and feel of the app will include the color palette, font, and visuals. To avoid overwhelming users and those transporting the food items we would like to exclude loud neon bright colors. Midsized font no smaller than size 12 should be used specifically for users who will be transporting the food and will benefit these users when glancing at the app when performing tasks. Visually it is important to create icons or other visual representations for buttons and foods to help users navigate and improve learnability of the app.

The Operational and environmental requirements ensure that the food item is being tested in controlled environments so the results are accurate. A controlled environment would help prevent cross contamination or too much wind that would temper with the sensors. The application should work properly with mobile operating systems. The application and the hardware will work together adjacently through wifi connection.

For cultural and political requirements, we need to address US culture, professional use, and Anonymous Data. The US will be our main market, so our language will be, by default, English, but with options to change it. To be more helpful in professional use, we will have more data insight than commercial use who would not need deep insights. Lastly, all data entered into the database will remain anonymous, protecting food companies from the stigma of having a lot of rotten food.

The requirements addressing legal concerns include liabilities and compatibility. To avoid any potential lawsuit from the app failing to deliver causing injuries, we have a terms and conditions the user must agree to before using the app stating the app is not liable for any damages while using the app. For compatibility, we want our app to be compatible with most odor sensors on the market giving users flexibility on their sensors.