# **My understanding of the Team’s Request**

The “Team” loves to eat variety of food from Food Truck vendors. One of the challenges is that they spend a lot of time finding them especially as work takes them around different places within San Francisco city. Even though the city releases an open data containing a list of Food vendors, it is still a huge challenge to manually iterate through hundreds of Food truck vendors on the list before finding what they want. To make their life easier, they took a strategic decision to digitalize the Food Truck discovery process. To accomplish their strategic objective the “Team” would like to develop a software that would achieve the following use cases:

* A faster way to discover new Food Truck vendors and their location to eat.
* Ability to search and find a food truck no matter where their work takes them in the city.
* Depending on the criteria searches should be able to return at least five Food Truck vendors closest to their location.
* They also would like the ability to visualize (map) the Food Trucks returned in the search results.

# **The Proposed Solution**

To support the “Team’s” strategic objective, “Ayo Mustapha” (AM) proposes an Azure based cloud native application. Two architecture styles are evaluated. First a monolithic 3 tier web application and a Microservices based architecture. The Azure bundle of cloud service which consists a series of applications and a great management layer which provide a comprehensive administration experience is much more optimized for modern applications that uses the microservice architecture rather than the monolithic three tier architecture. Also, the microservices architecture more easily takes full advantage of the Azure Well Architecture Framework which have five pillars including, cost optimization, operational excellence, performance e, reliability, and security. The proposed Microservice application is here-in referred to as “City Food Truck in a Box” (CFTB). The plan is to deliver this application in 5 sprints of one week each. The system’s high-level design and architecture can be found here.

The proposed solution includes the following:

* App Service – This provides a fully managed platform for developing the user interface and all the other microservices required for both computer and mobile devices.
* Database – SQL server which is a fully managed database as a service for storing all application and microservices data in their own partitioned repository. Azure search is much optimized repository for searches and so would be used for by the search service.
* Azure DevOps packages microservices as containers and pushes them to the Azure Container Registry
* Containers are deployed to AKS cluster
* Users access services via apps and website
* Azure Active Directory is used to secure access to the resources
* Azure Kubernetes Service is used to orchestrate the following microservices: User profile and session management service, Food Truck open data upload service, Search service and Location service.