## **Project Design Phase-II Technology Architecture**

## **Technical Architecture:**

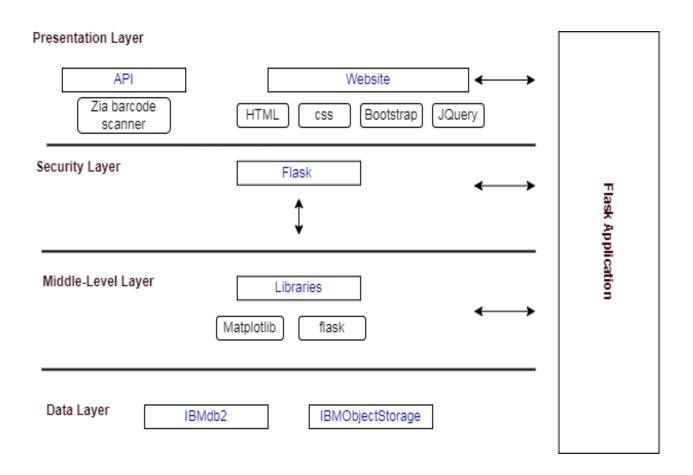


Table-1 : Components & Technologies:

| S.No | Component                       | Description   | Technology  |
|------|---------------------------------|---|---|
| 1    | User Interface                  | Web UI with Chatbot   | HTML, CSS, Bootstrap, Jquery                                      |
| 2    | Calculating Products Count      | By entering barcode details into the application                    | Zia Barcode Scanner   |
| 3    | Showing high demand product     | By the products data in IBMdb2                                      | Data Visualization using<br>Python Bar plot by Matplot<br>Library |
| 4.   | Alert and Notification          | Alerting the retailers regarding the low stock count of the product | SendGrid  |
| 5    | Chat                            | Chat with watson assistant  | IBM Watson Assistant  |
| 6    | Cloud Database                  | Database Service on Cloud   | IBM DB2   |
| 7    | File Storage                    | File storage requirements   | IBM Object Storage  |
| 8    | External API-1 Barcode          | To Scan the product barcode   | Zia Barcode Scanner   |
| 9    | Infrastructure (Server / Cloud) | Cloud Server Configuration  | Cloud Foundry, Kubernetes   |

**Table-2: Application Characteristics:** 

| S.No | Characteristics             | Description   | Technology   |
|------|-----------------------------|---|--|
| 1.   | Open-Source<br>Frameworks   | Styling our page,Python flask microframework                    | Python Flask, Bootstrap  |
| 2.   | Security<br>Implementations | For securing our cloud data                                     | SSL Certificates   |
| 3.   | Scalable Architecture       | Three – tier architecture (MVC)                                 | Web server - HTML, CSS,<br>Javascript<br>Application server - Python Flask,<br>Docker, Container Registry<br>Database server - IBM DB2 |
| 4.   | Availability                | availability of application                                     | IBM Load Balancer  |
| 5.   | Performance                 | 5 requests per seconds,<br>Use of Local Machine Cache<br>Memory | IBM Cloud, CDN   |