Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	18 October 2022
Team ID	PNT2022TMID23771
Project Name	AI Powered Nutrition Analyst for Fitness Enthusiasts
Maximum Marks	4 Marks

Technical Architecture:

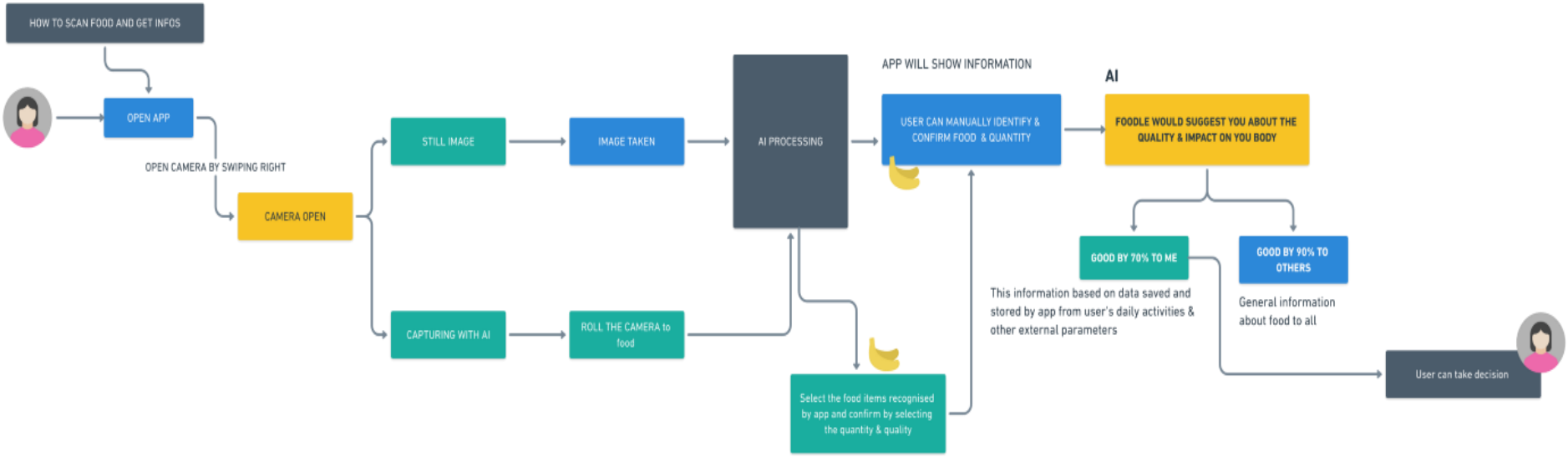

Table-1: Components & Technologies

S.No	Component	Description	Technology
1.	User Interface	IBM cognos Analytics- Reporting user interface	Standard HTML, Cognos Analytics portal, Cognos Analytics Reporting
2.	Application Logic-1: Presentation Layer	It is the user interface and communication layer of the application, where the end user interacts with the application. Its main purpose is to display information to and collect information from the user.	HTML, CSS and JavaScript. Desktop applications can be written in a variety of languages depending on the platform.
3.	Application Logic-2 : Application Tier	Information collected in the presentation tier is processed - sometimes against other information in the data tier - using business logic, a specific set of business rules. The application tier can also add, delete or modify data in the data tier.	Python, Java, Perl, PHP or Ruby, and communicates with the data tier using API calls.
4.	Application Logic-3 : Data Tier	The data tier, sometimes called database tier, data access tier or back-end, is where the information processed by the application is stored and managed.	IBM Watson Assistant, Cognos Analytics
5.	Database	We are using database to create or change objects and attributes, and to customize the tables. Database Configuration Parameters are database consistency flag, database code page, database logging.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on IBM Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements are used to store the patients data and LOS, allocation of beds count, Department wise admission, Age of patients with severity and illness.	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1 : REST	Purpose of External API used in the application**:** It calls return JSON objects that contain analytics data.	REST API

9.	External API-2 : JSON	Purpose of External API used in the application**:** It is data-interchange format that is most commonly used to send data between web applications and a web server.	JSON API
10.	Machine Learning Model	This model operates without human bias or time constraints, computing every data combination to understand the data holistically.	Predictive Analytics Model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: IBM HTTP administration server by providing User ID. Cloud Server Configuration :Accessing IBM Cloud Virtual private cloud using User ID, Password, Namespace Id, Cognos analytics URL	Local, Cloud Foundry, Kubernetes etc.

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used : IBM Watson Studio, Cognos Analytics	IBM Cognos platform
2.	Security Implementations	Security / access controls implemented by the use of Security Access Manager	IBM security service
3.	Scalable Architecture	IBM Informix can be customize to create the appropriate high availability and scalability	IBM Informix
4.	Availability	Secondary server shares the disks with primary servers instead of remote stand-alone secondary server	High-availability clusters
5.	Performance	Creating server groups for advanced dispatcher routing and Balancing Dispatcher with load balancing property and also with maximum no of processors which increases performance.	IBM Websphere