

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

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| Date | 14 October 2022 |
| Team ID | PNT2022TMID21568 |
| Project Name | Personal Assistance for Seniors Who Are Self-Reliant |
| Maximum Marks | 4 Marks |

Technical Architecture:

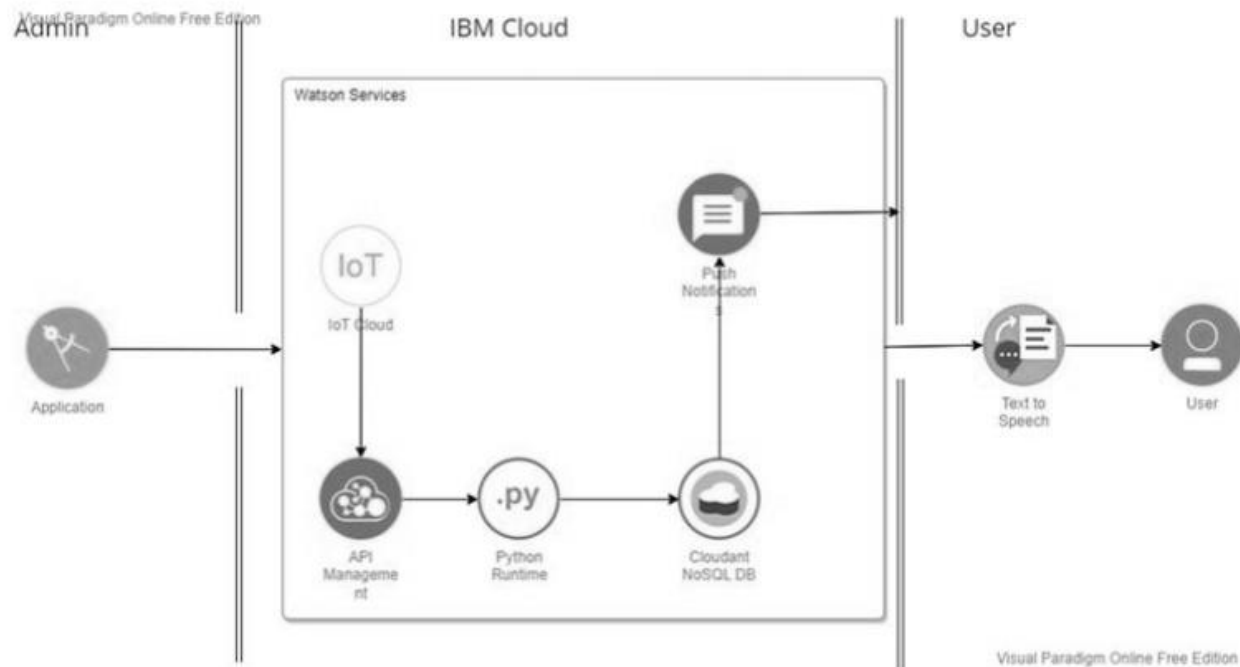


Table-1: Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|--|------------------------------|
| 1. | User Interface | Mobile App | HTML, CSS, JavaScript |
| 2. | Application Logic-1 | Mobile App to enter the Medicine Details weekly | Python |
| 3. | Application Logic-2 | Gets the medication data from database | IBM Watson IoT API Call data |
| 4. | Application Logic-3 | Converts the text to speech to pronunciation for the user | IBM Watson Assistant |
| 5. | Database | Medication time and tablets name on daily and | MySQL |
| 6. | Cloud Database | Call the data IBM Cloudant is used and user login credentials | IBM DB2, IBM Cloudant |
| 7. | File Storage | App code and IoT credentials are stored and API keys | IBM Block Storage |
| 8. | External API-1 | To get the medicine box status Open or not | IBM box status API |
| 9. | External API-2 | To get the login credentials in IBM DB2 | Username and Password API |
| 10. | Machine Learning Model | To convert the text into speech for voice command the tablet details | Text to speech |
| 11. | Infrastructure (Server / Cloud) | To host the server and application | Cloud Foundry, Node Red |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|--------------------------------|
| 1. | Open-Source Frameworks | To develop the application interface, we use MITApp Inventor | MIT APP INVENTOR |
| 2. | Security Implementations | To secure the users login credentials and personal information | SHA-256, OWASP |
| 3. | Scalable Architecture | To scale the application database | IBM Auto scaling |
| 4. | Availability | To make use the application and data are available 24/7 | IBM Cloud load balancer |
| 5. | Performance | To increase the performance the application is hosted in the high-performance instance | IBM instance |