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

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|---|---|
| **Date** | **15 October 2022** |
| **Team ID** | **PNT2022TMID23045** |
| **Project Name** | **Project -** VirtualEye - Life Guard For Swimming Pools To Detect Active Drowning |
| **Maximum Marks** | **4 Marks** |

**Technical Architecture:**

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

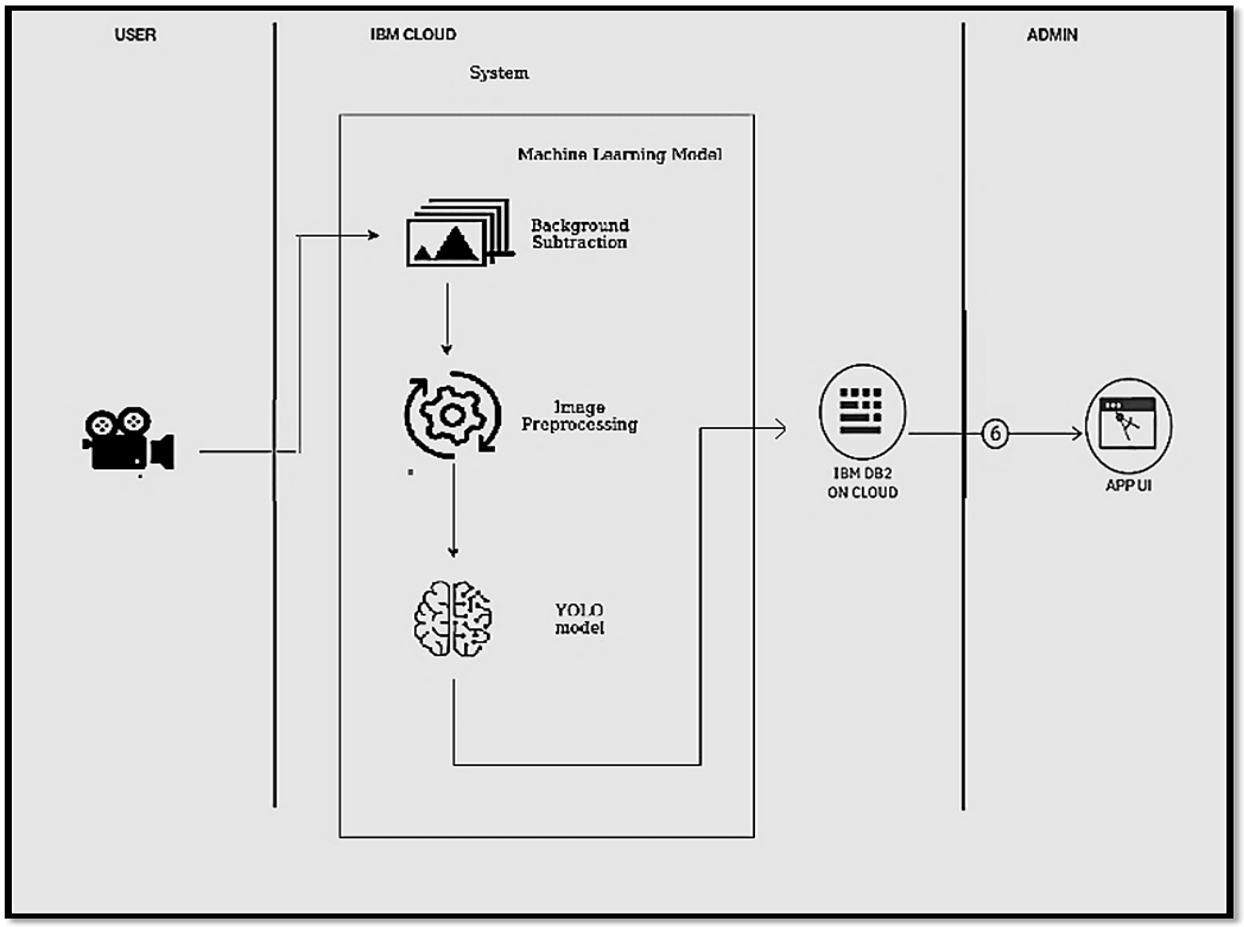

**Table-1 : Components & Technologies:**

| S.No | Component | Description | Technology |
|---|---|---|---|
| 1. | User Interface | Using WebUI, the admin interacts | HTML, CSS, |
| 2. | Background Subtraction | Remove background information to focus on the subject. | Python |
| 3. | Image preprocessing | putting filters on a picture to make it clearer. | OpenCV |
| 4. | YOLO | To detect drowning, a pre-trained model with fine tuning is used. | Python, TensorFlow |
| 5. | Cloud Database | Database Service on Cloud | IBM Cloudant etc |
| 6. | External AP | the reason for using an external API in the application. | Local Filesystem |
| 7. | Video Camera | Live updates from the pool. | Camera. |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1. | Open-Source Frameworks | TensorFlow,OpenCV2 | Technology of Opensource framework |
| 2. | Security Implementations | IBM Cloud Security Measures | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
| 3. | Availability | Available at all times. | IBM Cloud Server |
| 4. | Performance | Use of Cache to store frames | High performance cameras |