

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

|               |   |
|---------------|---|
| Date          | 15October 2022  |
| Team ID       | PNT2022TMID08118  |
| Project Name  | Project – A NOVEL METHOD FOE<br>HANDWRITTEN DIGIT RECOGNITION |
| Maximum Marks | 4 Marks   |

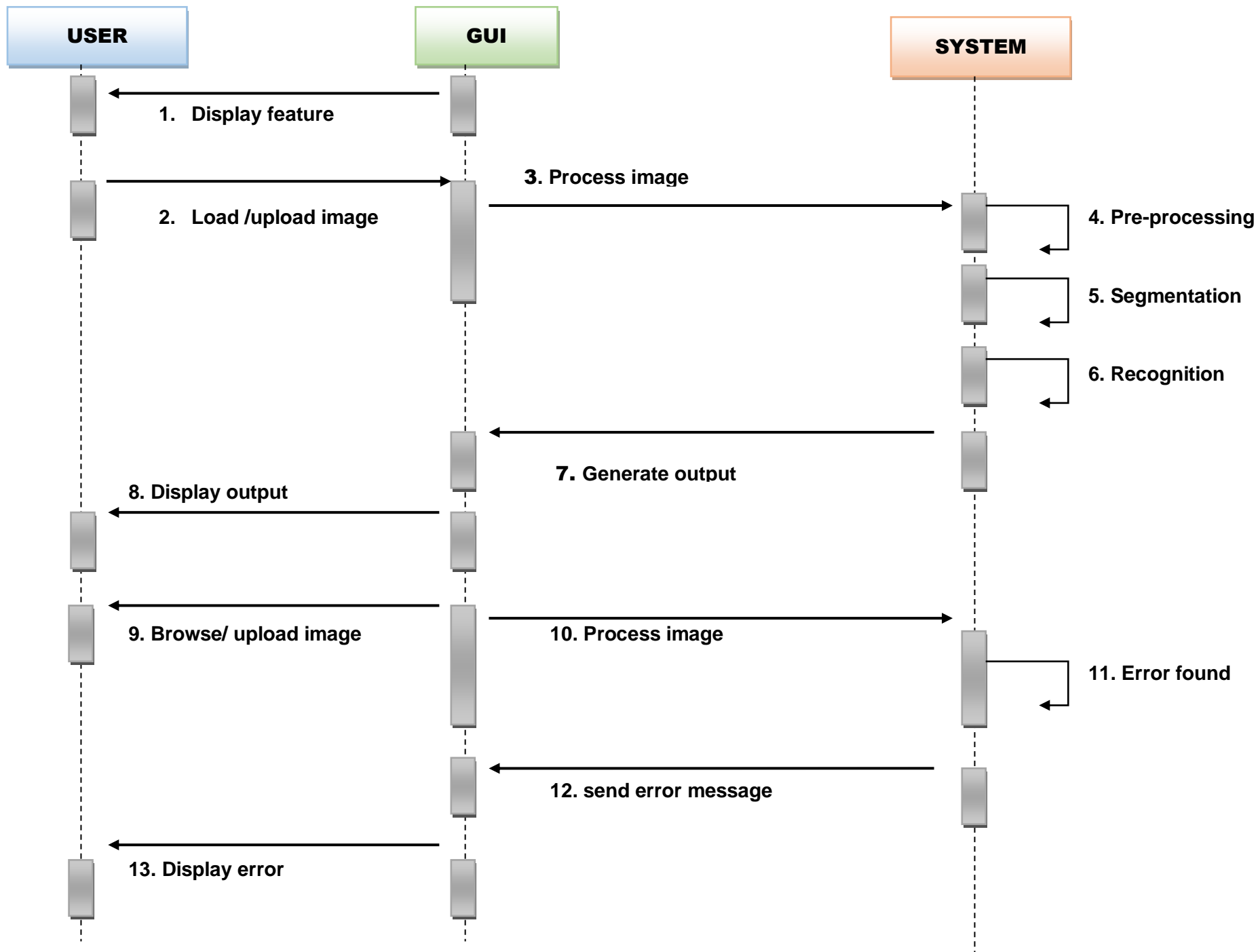
**Technical Architecture:**

**Example:** process of handwritten digit through GUI interface

**Reference:** <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>

**Guidelines:**

- 1.Include all the processes (As an application logic / Technology Block)
- 2.Provide infrastructural demarcation (Local / Cloud)
- 3.Indicate external interfaces (third party API's etc.)
- 4.Indicate Data Storage components / services
- 5.Indicate interface to machine learning models (if applicable)



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

| S.No | Component                       | Description   | Technology   |
|------|---------------------------------|---|--|
| 1.   | User Interface                  | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.                                     | HTML, CSS, JavaScript / Angular Js / React Js etc.             |
| 2.   | Application Logic-1             | Logic for a process in the application  | Python   |
| 3.   | Application Logic-2             | Logic for a process in the application  | IBM Watson STT service   |
| 4.   | Application Logic-3             | Logic for a process in the application  | IBM Watson Assistant   |
| 5.   | Database                        | Data Type, Configurations etc.  | MySQL, NoSQL, etc.   |
| 6.   | Cloud Database                  | Database Service on Cloud   | IBM DB2, IBM Cloudant etc.                                     |
| 7.   | File Storage                    | File storage requirements   | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8.   | External API-1                  | Purpose of External API used in the application   | IBM Weather API, etc.  |
| 9.   | External API-2                  | Purpose of External API used in the application   | Aadhar API, etc.   |
| 10.  | Machine Learning Model          | Purpose of Machine Learning Model   | Hand written Recognition Model, etc.                           |
| 11.  | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud<br>Local Server Configuration:<br>Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc.                         |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description  | Technology  |
|------|--------------------------|--|---|
| 1.   | Open-Source Frameworks   | open-source frameworks used  | Technology of Opensource framework                  |
| 2.   | Security Implementations | False alarms and missed events   | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
| 3.   | Scalable Architecture    | High speed, robustness , user friendly and flexible as it accepts all type of formats such as image, documents etc . | Technology used                                     |
| 4.   | Availability             | Justify the availability of application (e.g. use of load balancers, distributed servers etc.)                       | Technology used                                     |
| 5.   | Performance              | Accuracy and effective recognition   | Technology used                                     |

**References:**

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>