Project Design Phase-I - Solution Fit Template

Project Title: A Novel Method for Handwritten Digit Recognition System **Team ID: PNT2022TMID19405**

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

- Fintech Industries
- Supply Chain Management
- Medical data Transcriptions
- Scientific and Space Research

2. CUSTOMER CONSTRAINTS CC

- Speed and Accuracy of the system
- Size of the vocabulary
- Spatial layout
- Lack of feedback-based system

3. AVAILABLE SOLUTIONS AS

- Free OCR API
- Human centric data feed

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

4. JOBS-TO-BE-DONE / PROBLEMS J&P

- To design a system that recognizes a wide range of handwriting scripts
- ML based approach to identify the character quickly and accurately
- Adaptive learning module to learn from its own instances and gets updated

5. PROBLEM ROOT CAUSE RC

- In cases where distinct characters look very similar making it hard for a computer to recognize it accurately.
- Different styles of cursive handwriting is another challenge that requires a support system based on vocabulary

6. BEHAVIOUR BE

- In handwriting recognition (HWR), the module interprets the user's handwritten script into an appropriate digital format s
- Provision for real-time handwritten update in case if the application used by fixed and same users
- Know the market trends and adapt accordingly

Focus on J&P, tap into BE, understand RC

7. TRIGGERS

TR

- Longer and more in scale, the system understood better
- With its rich vocabulary, it has a support system to autofill the suggestions based on user input

9. YOUR SOLUTION **SoLN**

- Deep learning.
- Intelligent feedback and support system based on neural network making the system more robust

10. CHANNELS of BEHAVIOUR **CH**

1. ONLINE

- online handwriting recognition consists of interpreting handwriting represented either by the trajectory of the pen or by scanning the script

2.OFFLINE

- Offline handwriting recognition consists of

Identify StongTR & EM	**8. EMOTIONS: BEFORE / AFTER EM** • Before: Sometimes character look similar so digit identification process is tedious and time consuming. • Also, inaccurate sometimes. . After: Using deep learning, identification is faster and relatively more accurate.		interpreting the handwritten scanned document.	Extract Online and offline CH of BE