Project Design Phase-I - Solution Fit

Project Title: A Novel Method for Handwritten Digit Recognition System Team ID: PNT2022TMID07226

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| **Define CS, fit into CC** | 1. **CUSTOMER SEGMENT(S) CS**    * Fintech Industries    * Supply Chain Management    * Medical data Transcriptions    * Scientific and Space Research | 1. **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** |

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| **Focus on J&P, tap into BE, understand RC** | **4. JOBS-TO-BE-DONE / PROBLEMS J&P** | **5. PROBLEM ROOT CAUSE RC** | **6. BEHAVIOUR BE** | **Focus on J&P, tap into BE, understand RC** |
| * 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 | * 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 | * 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 |

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| **Identify strong TR & EM** | 1. **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 | 1. **YOUR SOLUTION SOLN**    * Deep learning.    * Intelligent feedback and support system based on neural network making the system more robust | 1. **CHANNELS of BEHAVIOUR CB**    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 interpreting the handwritten scanned document. | **Extract Online and Offline CH of BE** |
| 1. **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. |