<u>Project Design Phase-I – Problem Solution Fit</u> Team-Id: PNT2022TMID09648

1. CUSTOMER SEGMENT(S)

El Customers are those who work with handwritten numbers in places like banks, schools, colleges, railroads, etc.

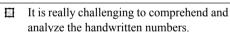
6. CUSTOMER CONSTRAINTS

- Lack of reliable internet connections, unavailability of gadgets like mobile phones and computers, inaccessibility of appropriate cameras.
- ⊞ Because handwritten numbers are not always accurate and might have a wide variety of tastes, it is a difficult work for the computer.
- This issue can be solved by using an image of a digit to identify the digit that is present in the image, which is done through handwritten digit recognition.

5. AVAILABLE SOLUTIONS

- Although there are current alternatives to this approach, they are not very precise, robust, or rotation- and variation-invariant.
- The ability of a computer to honor the mortal handwritten characters from many sources, including as photographs, papers, and touch input.

2. JOBS-TO-BE-DONE / PROBLEMS



J&P

More training data required.

Hard to recognize digits, dim lighting, weak eyesight.

9. PROBLEM ROOT CAUSE

Hand-written digits are in varying fonts and sizes; thus, they are becoming increasingly difficult to ascertain due to various factors such as weakening eyesight, time constraints, etc.

7. BEHAVIOUR

- Finding the best software that more quickly and accurately identifies digits.
- Customer wants reliable internet connections and high-quality cameras.

3. TRIGGERS

Identify strong IRSEN

- ☐ Obtain the data quickly and accurately.
- The exchange of information is made simple and is one of the simplest ways to speak with a computer and grasp the language.

4. EMOTIONS: BEFORE / AFTER

BEFORE: Uncertain, Reserved, and Perplexed.

AFTER: Assured, Upright, and Rational.

10. YOUR SOLUTION

☐ The solution aims to reliably recognize handwritten digits using Convolutional Neural Network (CNN) algorithm. Therefore, reducing costs for the company and increasing worker productivity.

8. CHANNELS OF BEHAVIOUR

8.1 ONLINE

The processing and uploading of the photographs both require a steady internet connection.

8.2 OFFLINE

Purchase contemporary electronics and confirm their functionality.