Project Title: A Novel Method for Handwritten Digit Recognition System **Project Design Phase-I - Solution Fit Template** **Team ID:** PNT2022TMID42552

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

CS

A person from 5-100 years old

6. CUSTOMER CONSTRAINTS

Handwritten digit recognition not only has professional and commercial applications but also practical applications in our daily life. It can be of great help to the visually impaired to make the lives easier.

5. AVAILABLE SOLUTIONS

Handwritten digit recognition is the ability of a computer system to recognize the handwritten inputs like digits, characters etc. from a wide variety of sources like emails, papers, images, letters etc. This has been a topic of research for decades. Some of the research areas include signature verification, bank check processing, postal address interpretation from envelopes etc.

Explore AS, differentiate

Focus on J&P, tap into BE, understand

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

Handwritten Digit Recognition has various real-life time uses.
To detect the vehicle number, banks for reading cheques, post offices for arranging letter, and many other tasks.

9. PROBLEM ROOT CAUSE

RC

It is a hard task for the machine because handwritten digits are not perfect and can be made with many different flavors. The handwritten digit recognition is the solution to this problem which uses the image of a digit and recognizes the digit present in the image

7. BEHAVIOUR

BE

Characteristics include word spacing, line quality, consistency, connecting strokes, pen lifts, cursive letters, writing pressure, complete letters, diacritics, embellishments, slants and baseline habits

Focus on J&P, tap into BE, understand

TR & EM

Identify strong TR & EM

	3. TRIGGERS TR Due to some sickness or nervous problem and for old people may have difficulty in writing so this can help them to write and the written digit can be recognized through handwritten digit recognition	**10. YOUR SOLUTION** SL The handwritten digit recognition system is away to tackle this problem which uses the image of a digit and recognizes the digit present in the image. Number recognition has numerous operations like number plate recognition, postal correspondence sorting,bank check processing, etc. The goal of our work is to create a model that will be able to recognize and classify the handwritten digits from images by using concepts of Convolution Neural Network.	**8. CHANNELS of BEHAVIOUR** CH 8.1 **ONLINE** We can search for digit recognition apps or channel 8.2 **OFFLINE** We can go search for handwritten digit recognizer

4. EMOTIONS: BEFORE / AFTER EM

The way of thought can be changed and the fear before writing the account number and the rupees in the cheques can be easily managed .The fear will be reduced