Project Title: A Novel Method for Handwritten Digit Recognition System

Project Design Phase-I - Solution Fit Template

Define CS, fit into CC

CUSTOMER SEGMENT(S) CS

Working professionals in banks and Post office form a major part of the customer base.

Students working in the field of data entry can also use this software.

A group of staffs working in speed post sorting form a part of the use case.

CUSTOMER CONSTRAINTS CC

Clerks in Aadhar office will be reluctant to use this as it is not 100% efficient and a single change in the digits will lead to huge problems.

Professionals need to have a powerful computer to run the Machine learning algorithm and run the GUI properly.

The algorithms should be run in the cloud to increase device compatibility and efficiency.

AVAILABLE SOLUTIONS AS

Available solutions include having a separate person in the bank and post office to look for handwritten digits in cheques, DDs and letters and note them accordingly.

Existing solutions just provide an algorithm to create a solution. There is no globally available website or app to use the functionality directly.

Explore AS, differentia

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

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

The most efficient way to identify hand written numbers is to have a person manually go through all the numbers.

This will lead to increased labor and costs. This task could be automated thus reducing the human intervention.

With predicting the hand-written digits, the trivial task of checking for numbers is bypassed and the process reaches the next level of execution.

PROBLEM ROOT CAUSE RC

It is not easy to manually check for hand written digits and record them accordingly.

The mundane method of checking manually leads to resource wastage and lesser efficiency.

Bank and Post Office clerks spend a lot of time for manually checking the cheque number and postal number and thus resulting in poor customer experience.

BEHAVIOUR BE

Users want an automated system to guess the handwritten digits and process the next steps automatically without human intervention.

They want a solution which is highly precise and efficient.

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

TRIGGERS TR

Reducing unwanted human labor and reducing the time for manually checking the digits will increase the efficiency of the tasks.

YOUR SOLUTION SL

Create a ML algorithm to efficiently sort and scale the images accordingly, to predict the hand-written digits with high precision. A model using CNN and MLP will be trained and shared globally across networks.

CHANNELS of BEHAVIOUR CH

ONLINE

The algorithms and its doing could be shared or published in an online site where users could share their reviews.

The idea could be published as a research paper and by doing so, making it available to public.

	4. EMOTIONS: BEFORE / AFTER EM Before: Users manually check for the handwritten digits and predict the digits using human knowledge. After: User just has to upload a pic of the handwritten digit and the user gets the output automatically		**OFFLINE** Offline workshops or seminars could be conducted at college level to make the students aware about the machine learning algorithm. The work staffs could be given an introductory demo about the usage of the new algorithm and thus making them ready for the near future.	