

A Novel Method for Handwritten Digit Recognition System

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

CS

- 1. Merchants
- 2. Policemen (Incase of OCR)
- 3. Teacher
- 4. Pharmacists

6. CUSTOMER CONSTRAINTS

CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

- 1. Mobile Device with suitable camera specifications
- 2. Network Connection if the model is deployed as an API.
- 3. Mobile Specifications
- 4. Won't be able to recognise characters if tested.

5. AVAILABLE SOLUTIONS

AS

Google Lens tends to be the most relatable solution to the current problem, But their support to multiple languages is one of its serious drawback.

Example:
A text written in Greek, If google lens is used to detect the numerical values used in the text, it won't be able to detect the digits.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

- a. Multiple Handwritings must be focused.
- b. Numbers in different language written texts must be detected.
- c. Roman Numerals, Braille and various different ways of denoting numbers must be accounted for.
- d. Multi-digit detection is not completely resolved.

9. PROBLEM ROOT CAUSE

RC

Artificial Intelligence is mainly used for automating and empowering several domains in the industry. The main ability of an intelligent body would be perceiving objects and gaining insights.

In such a case understanding numbers will play an integral role. Most of the people wouldn't be able to understand numerical written in braille or handicapped persons wouldn't be able to understand numbers as well.

7. BEHAVIOUR

BE

- 1. Find text with the numerical (any format)
- 2. Use device scan the text (take a picture)

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

Identify strong TR & EM

3. TRIGGERS

TR

- 1. The necessity of understanding the text (differs to different users)
- Example:
A tourist would have the requirement of understanding the menu and its price.

10. YOUR SOLUTION

SL

The application will be able to analyse the images given as input by the user. Extract the numerics in the image (even if the text is of any format). Formats such as multivariate languages, Braille, Roman Numerals etc. The extracted numbers will be displayed to the user.

8. CHANNELS of BEHAVIOUR

CH

8.1 ONLINE

Use their device to scan and understand the text imprinted in any material.

4. EMOTIONS: BEFORE / AFTER

EM

People would become more knowledgeable and would be able to gain insights on different formats of text.

Timorous --> Confident

8.2 OFFLINE

Ask for help to fellow human beings.

Extract online & offline CH of BE