

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)

Who is your customer?
i.e. working parents of 0-5 y.o. kids

Reader,Writer and Postal employee

6. CUSTOMER CONSTRAINTS

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.

Sometimes characters look very similar,making it hard for a computer to recognize accurately joined up handwriting is another challenge for computers

5. AVAILABLE SOLUTIONS

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

Its based on the shape analysis of the digit image and extract slant or slope information

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

We can make a system that will recognize the handwriting from image and display in text

Handwritten digit recognition problem can be seen as a subtask of optical character recognition (OCR)problem

9. PROBLEM ROOT CAUSE

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

Letter may not be easily recognized and possibly cause false and incorrect information being preprocessed

7. BEHAVIOUR

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage and benefits;
indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

This data can be anything from text and images to sound or other definable qualities

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

and matches customer behaviour.

What kind of actions do customers take offline? Extract offline channels from #7and use them for customer development.

4. EMOTIONS: BEFORE / AFTER

How do customers feel when they face a problem or a job and afterwards?

i.e. lost, insecure > confident, in control - use it in your communication strategy & design.



Handwriting analysis is the technique used to understand a person in a better way through his /her handwriting

Handwritten digit recognition has various real life time users.it is used in the detection of vehicle number,banks for reading cheques,post officers for arranging letter ,and many other task

MNIST is one of the most popular entry level dataset in computer vision.its contain thousands of images of handwritten digits