Project Design Phase-I

Problem Solution Fit

Date	01 October 2022
Team ID	PNT2022TMID46401
Project Name	Novel Method for Handwritten Digit Recognition System
Maximum Marks	4 Marks

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Who is youí customeí?

The Customers who deal with handwritten digits like Banking sectors, schools, colleges, railways, firms, etc.

6. CUSTOMER CONSTRAINTS CC

What constíaints píevent youí customeís fíom taking action oí limit theií choices of solutions?

They believe that the alternatives will result in errors and faults and will be inconvenient.

5. AVAILABLE SOLUTIONS AS

Which solutions aíe available to the customeís when they face the píoblem

There are no widely used software's to detect handwriting; instead, they check with other people to affirm what number it is.

Explore AS, differentiate

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

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

Which jobs-to-be-done (oí píoblems) do you addíess foí youí customeís? Theíe could be moíe than one; explaíe diffeíent sides.

Handwritten digits can be difficult to understand and interpret at times. It may cause errors when dealing with rough handwriting.

9. PROBLEM ROOT CAUSE RC

What is the íeal íeason that this píoblem exists? What is the back stoíy behind the need to do this job?

We face numerous challenges in handwritten number recognition. because of different people's jotting styles and the lack of Optic character recognition This investigation offers an in-depth comparison of various machine literacy and deep literacy

7. BEHAVIOUR BE

What does youí customeí do to addíess the píoblem and getthe job done?

Finding the best software for detecting accurate digits in a more efficient manner

Focus on J&P, tap into BE, understand

Identify strong TR & EM

3. TRIGGERS

TR

What triggers customers to act?

To wait for manual confirmation of digits.

4. EMOTIONS: BEFORE / AFTER

EM

How do customeís feel when they face a píoblem oí a job and afteíwaíds?

Feels frustrated and sad when numbers are not entered.

10. YOUR SOLUTION

SL

If you aíe woíking on an existing business, wíite down youí cuíient solution fiist, fill in the canvas, and check how much it fits íeality.
If you aíe woíking on a new business píoposition, then keep it blank until youfill in the canvas and come up with a solution that fits within customeí limitations, solves a píoblem and matches customeí behavioui.

A solution to this problem is the Handwritten digit recognition system, which uses a picture of a digit and recognizes the digit present in the image.

Convolutional Neural Network model built with PyTorch and applied to the

MNIST dataset to recognizes handwritten digits.

8. CHANNELS OF BEHAVIOUR

CH

8.1 ONLINE

What kind of actions do customeís take online? Extíact online channels fíom 7

8.2 OFFLINE

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

Using software that is available on the internet. Obtaining assistance from those nearby in order to recognize the digits written by their customers.

Identify strong TR & EM