Project Design Phase-I - Solution Fit

Project Title: A Novel Method for Handwritten Digit Recognition System

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Define CS, fit into CC

1. CUSTOMERSEGMENT(S) CS

- Medical data Transcriptions
- Banking
- Digital Government
- Schools and Colleges

2. CUSTOMERCONSTRAINTS CC

- Speed and Accuracy of the system
- Lack of reliable internet connections, unavailability of gadgets like mobile phones and computers, inaccessibility of appropriate cameras.
- Size of the Vocabulary

3. AVAILABLESOLUTIONS AS

- Free OCR API
- Using this system, they can resolve this type of problems
- Human centric data feed

Explore AS, differentiate

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

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

- Each and every handwriting has its own characteristics and uniqueness.
- Its difficult to understand the different people's handwriting digit.

Adaptive learning module with ML to learn from its own instances and gets updated

- To design a system that recognizes a wide range of handwriting script

5. PROBLEMROOTCAUSE RC

- The handwriting is differed from person to person
- Hand-written digits are in varying fonts and sizes; thus, they are becoming increasingly difficult to ascertain due to various factors such as weakening eyesight, time constraints, etc.
- Not everyone can understand everyone's handwriting

6. BEHAVIOUR BE

- Designing the best software that more quickly and accurately identifies the handwritten digits
- Provision for real-time handwritten update in case if the application used by fixed and same user

Customer wants reliable internet connections and high-quality cameras.

- Know the market trends and adapts accordingly

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

Identify strong TR & EM

7. TRIGGERS TR

Obtain the data quickly and accurately.

- User Friendly experience
- With its rich vocabulary, it has a support system to autofill the suggestions based on user input

8. EMOTIONS: BEFORE / AFTER EM

- Before: Sometimes character look similar so digit identification process is tedious and time consuming. Also, inaccurate sometimes.
- After: Using deep learning, identification is faster and relatively more accurate.

9. YOUR SOLUTION SOLN

- A novel method for handwritten digit recognition system helps in recognizing the handwritten digits that uses MNIST dataset for training the model

Deep Learning

- CNN algorithm is used over the MNIST dataset to recognize the handwritten digits.

10. CHANNELS of BEHAVIOUR CB

1. ONLINE

- Online handwriting recognition consists of scanning the script or by using Pen tool

2. OFFLINE

- Offline handwriting recognition consists of

Extract Online and Offline CH of BE