Problem-Solution fit canvas 2.0

Purpose / Vision: A Novel Method for Handwritten Digit Recognition System

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

A peíson who needs to íead postal addíesses, bank check amounts, and forms. Also if a person doesn't have proper eye sight he or she cannot read the signatures properly and they cannot be sure about the authenticity of the thing or document which has been signed.

6. CUSTOMER CONSTRAINTS — CC

It is a haíd task foí the machine because handwíitten digits aíe not peífect and can be made with many diffeíent flavoís. The handwíitten digit íecognition is the solution to this píoblem which uses the image of a digit and íecognizes the digit píesent in the image.

5. AVAILABLE SOLUTIONS — AS

The capability of a computer to fell the novel handwritten integers from different sources like images, papers, touch defences

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Offline handwriting recognition systems are less accurate than online systems because only spatial information is available for offline systems, while both spatial and temporal information is available for online systems.

9. PROBLEM ROOT CAUSE — RC

It is easy for the human to perform a task accurately by practicing it repeatedly and memorizing it for the next time

7. BEHAVIOUR — BE

Behavioral characteristics through text processing and handwriting recognition, with the objective of in corporating the obtained results with futuristic artificial intelligence systems that can employ text processing and handwriting recognition as individualistic signatory features

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

Identify strong TR & EM

3. TRIGGERS — TR

The live recognition rate highly depends on the digit skew, as automatic de-skewing was not implemented, but manually performed.

4. EMOTIONS: BEFORE / AFTER — EM

Handwriting and signature biometrics have a long history in the literature,especially in terms of identity recognition and/or verification; nevertheless, it reveals more information therefore provides more opportunities for personal characteristics estimation, particularly, emotional state

10. YOUR SOLUTION — SL

We integrated the handwritten recognition model into the full text recognition system by augmenting the script identification model with an additional classification between printed text and handwritten text.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

Online handwriting recognition involves the automatic conversion of text as it is written on a special digitizer or PDA, where a sensor picks up the pen-tip movements as well as pen-up/pen-down switching.

8.2 OFFLINE

K-NN combined with preprocessing methods is capable of achieving great performance apart from Neural Network when used as a classification algorithm in offline handwritten digit recognition.

Extract online & offline CH of BE

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