Project Title: A Novel Method for Handwritten Digit Recognition System

Project Design Phase-I - Solution Fit Template

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Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

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

People working with written data such as in postal service for reading postal addresses, in banks reading check amou-Nts, in offices reading forms.

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.

Reading alphabets and special characters and storing the read data.

5. AVAILABLE SOLUTIONS — AS

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

It requires large database at the backend. It requires integration of the system.

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

To effectively recognise the handwritten digits to tackle the different styles of writing.

9. PROBLEM ROOT CAUSE — RC

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.

For quickness and accuracy in tedious data processing.

7. BEHAVIOUR — BE

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)

To check if the digits are in sca-nnable form to be able to pass to the application.

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

Identify strong TR & EM

3. TRIGGERS — TR

What triggers customers to act? i.e. seeing their neighbor installing solar panels, reading about a more efficient solution in the news.

Manual data processing that makes the later data classification work lengthy., makes them switch to use of application where computers involve in data processing.

10. YOUR SOLUTION — SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behavior.

Convolutional Neural Networks can almost mimic the human brain and are a key ingredient in the image processing field. The MNIST dataset will be used for the

8. CHANNELS of BEHAVIOR — CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

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

Online, the data scanned can be updated into the database for training purposes.
Offline, customers collect data.

Identify strong TR & EM

4. EMOTIONS: BEFORE / AFTER EM

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.

Feeling like being behind the schedule>confident that one can complete the data processing within the time given with high accuracy.

dataset.