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?

- Normal android users and laptop users
- Research scholars
- Archaeologists

6. CUSTOMER CONSTRAINTS

What constraints prevent your customers from taking action or limit their choices of solutions?

- Must require a mobile device
- Should support the recognition system software
- The system RAM should be fast enough to support the recognition with zero latency

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?

A system to recognize the letters written on the smart screen using fingers or the supported stylet

A keyboard with digit recognition feature so as to translate the handwritten form

Explore AS, differen

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.

Many users are not fluent in typing and the typing is error some. It takes a lot of time to type and the process is tedious.

It is difficult for the research scholars to type the entire research paper from handwritten notes

The archaeologists could not recognize the exact text from the engravings at times.

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?

Many people find it difficult to type in keyboards

For languages such as Tamil, due to the availability of lots of letters, it's difficult to type using a single keyboard

As researchers and archaeologists find it hard, it will be very helpful for them to identify the handwritten digits.

7. BEHAVIOUR

BE

What does your customer do to address the problem and get the job done?

They will undertake the tedious process of typing and will get frustrated in no time.

For different languages like Tamil and Chinese, the users have to use the limited keyboard which is a very tedious process.

They have to undertake the complex process of typing the special characters if they have to do so.

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

3. TRIGGERS

TR

What triggers customers to act?

The tedious process of typing triggers them to switch over to digit recognition so that they can just write with their fingers on the smart screen, on-screen keyboards.

10. YOUR SOLUTION

SL

A novel method for handwritten digit recognition system. Handwritten digit recognition is very important as it will be very helpful to reduce human effort. As each individual has different handwritings for representing digits, the system should have a capability to identify every handwriting with maximum accuracy.

8. CHANNELS of BEHAVIOUR

CH

8.1 ONLINE

It will be useful for browsing online and can be used in many online applications

8.2 OFFLINE

EM & Identify unique

Identify

	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? Before: Frustated, irritated, boring, mundane After: Relaxed, saves time, easy, happy and satisfied	Such a system will be useful to reduce human interventions in identification, as everything is being digitized. The main objective of this work is to ensure effective and reliable approaches for recognition of handwritten digits and make banking operations easier and error free. Handwriting recognition has gained a lot of attention in the field of pattern recognition and machine learning due to its application in various fields. Various techniques have been proposed to for digit recognition in handwriting recognition system.	The same application can be built for offline purposes in many softwares and can be implemented in the keyboard that is to be used in the smart phones	