

Project Design Phase-I Problem – Solution Fit

Date	19 September 2022
Team ID	PNT2022TMID18280
Project Name	A Novel Method for Handwritten Digit Recognition
Maximum Marks	2 Marks

Problem – Solution Fit :

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS <small>Who is your customer? i.e. working parents of 0-5 y.o. kids</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Customers who deal with handwritten numbers include banking industries, educational institutions, and other railroads, businesses, etc.</p> </div>	6. CUSTOMER CONSTRAINTS CC <small>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.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Proper internet connectivity is required and user must enter appropriate details for accurate results</p> </div>	5. AVAILABLE SOLUTIONS AS <small>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</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>There are no commonly used programs that can read handwriting; instead, they confirm the number with other individuals</p> </div>	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <small>Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Handwritten numbers may occasionally be challenging to comprehend and analyze. If you are dealing with sloppy handwriting, errors might happen.</p> </div>	9. PROBLEM ROOT CAUSE RC <small>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.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>In order to recognize handwritten numbers, we must overcome many obstacles. Because of varying scribbling habits of individuals and a lack of Optic character recognition. This study provides a thorough comparison of several machine literacy and deep literacy approaches</p> </div>	7. BEHAVIOUR BE <small>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)</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Finding the finest software to recognize digits quickly and accurately</p> </div>	
Focus on J&P, tap into BE, understand RC	3. TRIGGERS TR <small>What triggers customers to act? i.e., seeing their neighbor installing solar panels, reading about a more efficient solution in the news.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>To collect the statistics rapidly and precisely.</p> </div>	10. YOUR SOLUTION SL <small>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.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>The Handwritten Digit Recognition System, which uses an image of a digit to identify the digit contained in the image, offers a solution to this issue. To recognize handwritten numbers, a convolutional neural network model created using PyTorch was deployed to the MNIST dataset.</p> </div>	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE <small>What kind of actions do customers take online? Extract online channels from #7</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>The software enlisting the help of individuals around to identify the numerals printed written by the user</p> </div>	Focus on J&P, tap into BE, understand RC
	4. EMOTIONS: BEFORE / AFTER EM <small>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.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>When numbers are not entered, customer feels angry and expressed</p> </div>	8.2 OFFLINE <small>What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.</small> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>The software that is accessible both online and offline</p> </div>		
Identify strong TR & EM				Identify strong TR & EM