Project Title: Natural Disasters Intensity Analysis And Classification Using Artificial Intelligence

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Project Design Phase-I - Problem Solution Fit

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

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

General Public who are in disaster prone regions, and those who are victims of it. (Aided by Product)

Any government, private or non-profit Meteorological Organization (Product Utilizers)

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.

Several angle mounts of Cameras for feed GPU and technological requirements for a smooth implementation.

Internet Connectivity for the User Interface and Cloud Interactions.

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

Public side: Being aware of their environmental conditions, reduce pollutions and aid nature in any possible way.

Organization Side: Deploying the Deep Learning model in Cloud with a server that accelerates and optimizes detection and

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.

Regularly monitoring the behavior of the model. Accurate prediction and intensity estimation of disasters must be ensured. User Friendly Lightweight UI at the operator's end is required.

Testing the Robustness of the prototype in all-weather, aiding public rehab and handling Inaccurate predictions are the challenges.

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.

Climatic changes such as wind pattern changes, heavy rainfall, landslides, seismic activities etc. that are caused by nature.

Improper drainage functioning, emission of pollutants by Industries and Vehicles, Human Carelessness are man made causes.

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)

Either the forecast organization can act as central body in alerting the public, or
The public can be provided the web-app access which can alert them based on the organization's input, or can even sense through mobile camera feed, alll in place of a Internet Connection with minimal data rate.

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 neighbour installing solar panels, reading about a more efficient solution in the news.

Public gets alerted about the increased risk of disaster in surrounding, and enables them to take necessary safety and mitigation measures.

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.

Before: Fear of losing livelihood, properties, panicked decisions and misery.
After: Can have a mindset of a regular day, being prepared to tackle a calamity situation.

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 behaviour.

Deploying a Multi-Layer Deep CNN Model that uses previous instances as dataset, for analyzing the type and intensity of the disaster. Deploying it in cloud, and interfacing with a HTML cum Python web interface helps Live camera feed inputs to be sensed for, in a user friendly manner.

8. CHANNELS of BEHAVIOUR — CH

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

Using the web-app to get alerts and interfacing it with live video stream of rugged climate.

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

Being aware of the environment, and also spreading the benefits of using the web-app to increased customers and safety mitigations.

Extract online & offline CH of BE