

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	22 nd October 2022
Team ID	PNT2022TMID49983
Project Name	Natural Disasters Intensity Analysis and Classification using Artificial Intelligence

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

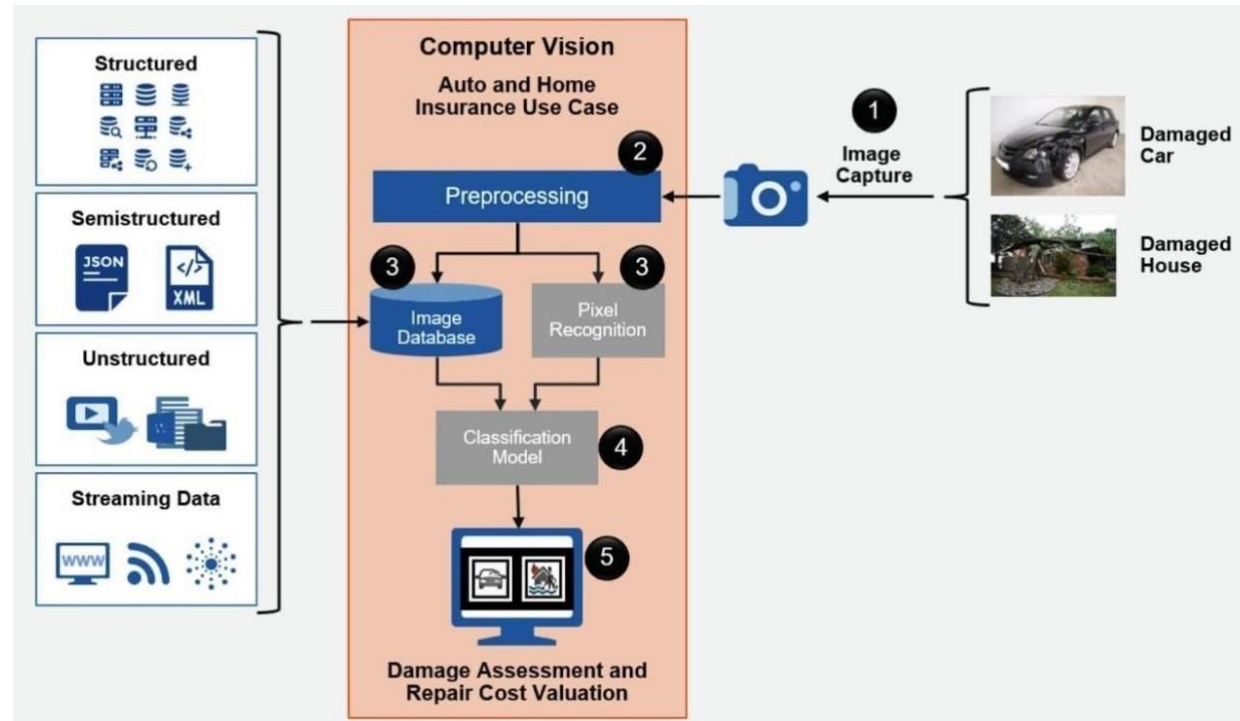


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user/client can access the functionalities in the system through user interface.	HTML5, CSS, JavaScript Technologies
2.	Application Logic-1	The code for the DR detection process can be programmed using python	Python
3.	Application Logic-2	Watson is an IBM supercomputer that combines artificial intelligence (AI) and sophisticated analytical software for optimal performance as a "question answering" machine.	IBM Watson STT service

4.	Application Logic-3	Watson Assistant lets you build conversational interfaces into any application, device, or channel. Add a natural language interface to your application to automate interactions with your end users.	IBM Watson Assistant
5.	Database	Here we use database to organize the collection of information.	MySQL, NoSQL, etc.
6.	Cloud Database	We will use the storage functionality and cloud functions provided by firebase for the development of the backend.	IBM DB2, IBM Cloudant etc.
7.	File Storage	Images are stored for further analysis purposes.	IBM Block Storage.
8.	External API-1	This application is used for recognition of image, videos and face in photos etc.	IBM Weather API, etc.
9.	External API-2	It can be used for constructing and executing a TensorFlow graph.	Aadhar API, etc.
10.	Machine Learning Model	Machine Learning Model for processing the image and data.	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Cloud services are infrastructure, platforms, or software that are hosted by third-party providers and made available to users through the internet.	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
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1.	Open-Source Frameworks	The open-source frameworks used such as Anaconda navigator , jupyter ,spyder , python.	Anaconda app or Google.
2.	Security Implementations	Develop an Incident Management, Disaster Recovery Plan and manage risk.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	It must handle all workloads without any consequences.	IBM Cloud
4.	Availability	Availability of application for all users.	IBM Cloud
5.	Performance	Application should perform correctly .	IBM Cloud