MILESTONE LIST:

Project Name	Emerging Methods For Early Detection of Forest Fires
Project Domain	Artificial Intelligence
Team Leader	Susmitha T
Team I'd	PNT2022TMID01865
Project Owner	IBM
Date	15 November 2022
No of Members	4

Milestone Name	Milestone Number	Description	Mandatory	Optional
Project Objectives	M-001	In order to read images using Open CV and CNN for computer vision AI, we will be able to build datasets, process photos, work with CNN layers, and read images.	Yes	-
Project Flow	M-002	A technique for project management A schematic is a visual aid designed to assist with the project management process by outlining the stages that must be taken in order.	Yes	
Pre-Requisites	M-003	The following projects, including such Keras, Tensorflow, Python, Anaconda, OpenCV, Flask, and Scikit-learn, should have been familiar to us in order to accomplish this project	Yes	
Prior Knowledge	M-004	Knowledge of supervised learning, CNN, regression classification and clustering, and ANN is essential.	Yes	
Data collection	M-005	We can acquire information from a variety of free resources, like UCI machine learning and Kaggle.com.	Yes	
Image Preprocessing	M-006	Importing the image data generator libraries, setting the image data generator class's parameters and arguments, and using the image data generator functionality also with trainset and testset	Yes	
Model Building	M-007	Adding CNN layers, adding Dense layers, initialising the model, importing the model-building libraries, configuring the learning process, model training	Yes	

Video Analysis	M-008	Using Opencv to process videos, going to sign up for the Twilio service, and sending notifications	Yes	
Train CNN model	M-009	Enroll on the IBM Cloud to have the Image Classification Model trained.	Yes	
Ideation Phase	M-010	Create an ideation map, an empathy survey, and a literature review on the chosen project.	Yes	
Project Design Phase-I	M-011	Prepare the suggested solution, the problem-solution fit, as well as the solution architecture.	Yes	
Project Design Phase-II	M-012	Set up the customer journey, the functional requirements, the data flow diagram, and the technology architecture.	Yes	
Project Planning Phase	M-013	Build a sprint delivery plan, an activity list, and a milestone list.	Yes	
Project Development Phase	M-014	Delivery of the first Sprint for Project Development the second, third, and fourth sprints	Yes	

ACTIVITY LIST:

Activity Number	Activity Name	Detailed Activity Description	Assigned To	Status
1.a	Access Resources	Access the project dashboard to access the resources (courses).	All Members	COMPLETED
1.b	Rocket chat Registration	Utilize the platform and mobile rocket-chat app to join the mentorship channel.	All Members	COMPLETED
1.c	Access Workspace	Utilize the guided project workspace.	All Members	COMPLETED
1.d	IBM Cloud registration	Apply for IBM Code Cloud Credits by registering for the IBM Academic Initiative.	All Members	COMPLETED
1.e	Project Repository Creation	Create a GitHub account and collaborate on the project workspace's repository.	All Members	COMPLETED
1.f	Environment Setup	Set the laptops and computers in accordance with the requirements for each	All Members	COMPLETED

		technological track.		
2.a	Literature survey	Literature review and Gathering Information for the Selected Project	All Members	COMPLETED
2.b	Technology Training	Follow the training calendar and attend the technological trainings.	All Members	COMPLETED
2.c	Empathy Map	Get an Empathy Map Canvas ready to record the user's gains and pains. Make a list of the problems.	All Members	COMPLETED
2.d	Technology Training	Participate in the required technology training the calendar for training.	All Members	COMPLETED
2.e	Brainstorming	By scheduling the brainstorming session, make a list of the ideas (at least four for each team member) and prioritize the top three as per importance and feasibility.	All Members	COMPLETED
2.f	Technology Training	As indicated by the training calendar, attend the technological trainings.	All Members	COMPLETED
3.a	Proposed Solution Document	Create a proposal for a solution that details its innovation, viability as a business model, social effect, and scalability, among other things.	Susmitha T Subha R	COMPLETED
3.b	Technology Training	Prepare the problem-solution document and the solution architecture.	All Members	COMPLETED
3.c	Problem - Solution fit	Build a problem-solution document.	All Members	COMPLETED
3.d	Solution Architecture	Prepare the architecture for the problem-solution.	Vaishnavi M P Kalaiarasi M	COMPLETED
3.e	Technology Training	As directed by the training calendar, attend the technological trainings.	All Members	COMPLETED
4.a	Customer Journey Map	Generate customer journey maps to understand how	All Members	COMPLETED

		users interact with and use the service (entry to exit).		
4.b	Technology Training	As specified in the training calendar, attend the technical training sessions.	All Members	COMPLETED
4.c	Functional Requirements& Data Flow Diagrams	Develop the functional requirements of the system and the data flow diagrams.	All Members	COMPLETED
4.d	Technology Architecture	Prepare the technologies and architecture solution.	All Members	COMPLETED
4.e	Technology Training	As specified in the training calendar, attend the technical training sessions.	All Members	COMPLETED
5.a	Milestone& Activity List	Create an activity and milestone list.	All Members	COMPLETED
5.b	Sprint Delivery Plan	Establish a Sprint Delivery Plan.	All Members	IN PROGRESS
6	Data Collection	Gather data from a variety of free sources, such as the UCI machine learning repository, data.gov, and Kaggle.com.	All Members	IN PROGRESS
7.a	Image Preprocessing	The ImageDataGenerator Library being imported	All Members	IN PROGRESS
7.b	Image Preprocessing	Define the arguments and parameters for the class ImageDataGenerator.	All Members	IN PROGRESS
7.c	Image Preprocessing	Making use of ImageDataGenerator functionality for the test and training sets.	All Members	IN PROGRESS
8.a	Model Building	The model-building libraries being imported	All Members	IN PROGRESS
8.b	Model Building	Building up the model	All Members	IN PROGRESS
8.c	Model Building	CNN Layers Adding	All Members	IN PROGRESS
8.d	Model Building	Dense Layers Added	All Members	IN PROGRESS
8.e	Model Building	Planning to set up the	All Members	IN PROGRESS

		guided process		
8.f	Model Building	Training the Model	All Members	IN PROGRESS
8.g	Model Building	Saving the model	All Members	IN PROGRESS
8.h	Model Building	Forecasts	All Members	IN PROGRESS
9.a	Video Analysis	Processing videos with OpenCV.	All Members	IN PROGRESS
9.b	Video Analysis	Signup for a Twilio account	All Members	IN PROGRESS
9.c	Video Analysis	Sending a message of alert	All Members	IN PROGRESS
10.a	Train CNN Model on IBM	Sign up for IBM Cloud.	All Members	IN PROGRESS
10.b	Train CNN Model on IBM	Model for Image Classification Training	All Members	IN PROGRESS

Milestone:

- Artificial intelligence (AI) model performance is improving thanks to modern technology.The fire detection is important in this scenario.
- Finding the specific position of the fire and informing the fire officials quickly after the fire occurscan have a good effect.We have implemented a fire detection system to detect fire by capturing images.
- The design allows use of image processing techniques and CNNs (convolutional neural networks).
- The Best Answer for the Nature of Forests will be provided in this Project Milestone using a fully user-friendly and straightforward web application that allows users to independently find the solution.
- As part of the procedure, we also intend to include the valid Module for early detection of forest fires. It can produce both man-made and natural forests.

Activity List:

> Planning is a crucial role in project management for allocating the team members' time to the project.
> This activity demonstrates the many tasks assigned to and completed by the team members.

❖ In a project, we can divide it into four steps, which are,

> Phrase 1: Information Gathering and Task Analysis
> Phrase 2: Modules for project development and planning
> Phrase 3: High Accuracy Deep Learning Algorithm Implementation
> Phrase 4: Testing the model's and UI's performance and deploying the model to the cloud

Agile Methodology for Activity Planning

DEVELOP AN OVERALL MODEL   BUILD A FEATURE LIST   PLAN BY FEATURE   DESIGN BY FEATURE   BUILD BY FEATURE