

Project Planning Phase Milestone and Activity List

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| Date | 20 November 2022 |
| Team ID | PNT2022TMID24176 |
| Project Name | Emerging methods for early detection of forest fires |
| Team leader | BALAJI R |
| Team members | Arun K, Dinesh R, Kota Karthik K |

MILESTONE LIST

| Name | Milestone Number | Description | Mandatory | Optional |
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| Project Objectives | M-001 | We will be able to learn how to get and prepare the dataset. We will be able to know how to do image processing. We will understand how CNN layers are work. Classify images using a Convolutional Neural Network. We will be able to know what are the activation functions can be used. We will be able to know how to read images using OpenCV and convolutional Neural Networks for Computer vision AI Problems. | Yes | - |
| Project Flow | M-002 | To accomplish Project flow, we should complete Data collection, image preprocessing, model building, video streaming and alerting. | Yes | |
| Pre-Requisites | M-003 | To complete this project we should have known following software and packages such as anaconda navigator, tensor flow, Keras. | Yes | |
| Prior Knowledge | M-004 | One should have knowledge on Artificial neural networks Supervised and unsupervise Learning,CNN and Regression Classification and Clustering, ANN. | Yes | |
| Data collection | M-005 | We can collect dataset from different open sources like kaggle.com etc | Yes | |
| Image Preprocessing | M-006 | Importing the ImageDataGenerator libraries, Define Parameters/Arguments for ImageDataGenerator class, Applying Image Data Generator Functionality to trainset and testset | Yes | |
| Model Building | M-007 | Importing the model building libraries, Initializing the model, Adding CNN layers, Adding Dense layers, Configuring the learning Process,Train the model, Save the model and Predictions. | Yes | |
| Video Analysis | M-008 | Open cv for video processing, creating an account in twilio service and Sending alert messages. | Yes | |
| Train CNN model | M-009 | Register for IBM Cloud and train Image Classification Model | Yes | |
| Ideation Phase | M-010 | Prepare Literature Survey on the selected Project and Information Gathering, empathy map and ideation | Yes | |

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| Project Design Phase-I | M-011 | Prepare Proposed solution, problem-solution fit and Solution Architecture | Yes | |
| Project Design Phase-II | M-012 | Prepare Customer journey, functional requirements, Dataflow diagram and Technology Architecture | Yes | |
| Project Planning Phase | M-013 | Prepare Milestone and Activity list, Sprint Delivery Plan | Yes | |
| Project Development Phase | M-014 | Project Development delivery of Sprint 1, Sprint 2, Sprint 3, Sprint 4 | Yes | |

ACTIVITY LIST

| Activity Number | Activity Name | Detailed Activity Description | Task Assigned | Status |
|-----------------|-----------------------------|--|---------------|-----------|
| 1.1 | Access Resources | Access the resources (courses) in project dashboard. | All Members | COMPLETED |
| 1.2 | Rocket chat registration | Join the mentoring channel via platform& rocket-chat mobile app. | All Members | COMPLETED |
| 1.3 | Access workspace | Access the guided project workspace. | All Members | COMPLETED |
| 1.4 | IBM Cloud registration | Register on IBM Academic Initiative &Apply Feature code for IBM Cloud Credits. | All Members | COMPLETED |
| 1.5 | Project Repository Creation | Create GitHub account & collaborate with Project Repository in project workspace. | All Members | COMPLETED |
| 1.6 | Environment Setup | Set-up the Laptop / Computers based on the pre-requisites for each technology track. | All Members | COMPLETED |
| 2.1 | Literature survey | Literature survey on the selected project & Information Gathering. | All Members | COMPLETED |
| 2.2 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |

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| 2.3 | Empathy Map | Prepare Empathy Map Canvas to capture the user Pains & Gains, Prepare list of problem statements | All Members | COMPLETED |
| 2.4 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |
| 2.5 | Brainstorming | List the ideas (at least 4 per each team member) by organizing the brainstorm session and prioritize the ideas | All Members | COMPLETED |
| 2.6 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |
| 3.1 | Proposed Solution Document | Prepare the proposed solution document, which includes the novelty, feasibility of idea, business model, social impact, scalability of solution, etc. | Haritha N, Harriitha S | COMPLETED |
| 3.2 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |
| 3.3 | Problem - Solution fit & Solution Architecture | Prepare problem - solution fit document& Solution Architecture. | All Members | COMPLETED |
| 3.4 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |
| 4.1 | Customer Journey Map | Prepare the customer journey maps to understand the user interactions & experiences with the application (entry to exit). | Haritha N, Harriitha S, Arvin J C Duke | IN-PROGRESS |
| 4.2 | Technology Training | Attend the technology trainings as per the training Calendar. | All Members | COMPLETED |
| 4.3 | Functional Requirements DataFlow Diagrams | Prepare the Functional Requirement Document & Data Flow Diagrams. | Haritha N, Harriitha S Haritha N, Harriitha S, Dominic Irudhayaraj S | COMPLETED |

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| 4.4 | Technology Architecture | Prepare Technology Architecture of the solution. | Haritha N, Harriitha S, Arvin J C Duke | COMPLETED |
| 4.5 | Technology Training | Attend the technology trainings as per the training Calendar. | All members | COMPLETED |
| 5.1 | Milestone & Activity list | Prepare Milestone & Activity List. | Haritha N, Harriitha S | COMPLETED |
| 5.2 | Sprint Delivery Plan | Prepare Sprint Delivery Plan. | Haritha N, Arvin J C Duke, Dominic Irudhayaraj S | COMPLETED |
| 6 | Data Collection | Collect datasets from different open sources like kaggle.com, data.gov, UCI machine learning repository, etc. | Haritha N, Harriitha S | COMPLETED |
| 7.1 | Image Preprocessing | Importing the ImageDataGenerator Library | Haritha N, Harriitha S | REVIEW |
| 7.2 | Image Preprocessing | Define the parameters/arguments for ImageDataGenerator class. | Haritha N, Harriitha S, Arvin J C Duke | REVIEW |
| 7.3 | Image Preprocessing | Applying ImageDataGenerator functionality to trainset and test set. | Haritha N, Harriitha S, Dominic Irudhayaraj S | REVIEW |
| 8.1 | Model Building | Importing the model building libraries. | Haritha N, Harriitha S | REVIEW |
| 8.2 | Model Building | Initializing the model. | Haritha N, Harriitha S | IN PROGRESS |
| 8.3 | Model Building | Adding CNN Layers. | Haritha N, Harriitha S | IN PROGRESS |

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|-------------|------------------------|--|---|-------------|
| 8.4 | Model Building | Adding Dense Layers | Haritha N, Haritha S, Arvin J C Duke | IN PROGRESS |
| 8.5 | Model Building | Configuring the learning process | Haritha N, Haritha S, Dominic Irudhayaraj S | REVIEW |
| 8.6 | Model Building | Training the Model | Haritha N, Haritha S | IN PROGRESS |
| 8.7 | Model Building | Save the Model | Haritha N, Arvin J C Duke | REVIEW |
| 8.8 | Model Building | Predictions | Arvin J C Duke, Haritha N | IN PROGRESS |
| 9.1 | Video Analysis | OpenCV for video processing | Haritha N, Dominic Irudhayaraj S | IN PROGRESS |
| 9.2 | Video Analysis | Creating an account in Twilio service. | Haritha N, Dominic Irudhayaraj S | IN PROGRESS |
| 9.3 | Video Analysis | Sending alert message. | Haritha N, Haritha S | IN PROGRESS |
| 10.1 | Train CNN Model on IBM | Register for IBM Cloud | ALL MEMBERS | IN PROGRESS |
| 10.2 | Train CNN Model on IBM | Train Image Classification Model | Haritha N | IN PROGRESS |