# Project Planning Phase
## Project Milestone & Activity List

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| Date | 23rd October 2022 |
| Team ID | PNT2022TMID42880 |
| Project Name | Project: Real Time Communication System Powered by AI for Specially Abled |
| Maximum Marks | 4 Marks |

**Milestone List:**

| Milestone Number | Milestone Name | Duration | Submission Dates |
|---|---|---|---|
| MN – 01 | Ideation Phase | 3 Weeks | 21st September, 2022 |
| MN – 02 | Project Design Phase – Ⅰ | 2 Weeks | 2nd October, 2022 |
| MN – 03 | Project Design Phase – Ⅱ | 2 Weeks | 20th October, 2022 |
| MN – 04 | Project Planning Phase | 1 Week | 2nd November, 2022 |
| MN – 05 | Project Development Phase | 3 Weeks | 31st October, 2022 |
| MN – 06 | Pre-requisites | 1 Week | 30th October, 2022 |
| MN – 07 | Project Structure | 1 Week | 31st October, 2022 |
| MN – 08 | Data Collection | 2 Days | 1st November, 2022 |
| MN – 09 | Image Pre-processing | 4 Days | 1st November, 2022 |
| MN – 10 | Model Building | 1 Week | |
| MN – 11 | Test the model | 2 Days | |
| MN – 12 | Application  Building | 1 Week | |
| MN – 13 | Train CNN Model on IBM | 2 Days | |

**Activity List:**

| Milestone Number | Activity Number | Activity Name | Description | Submission Dates |
|---|---|---|---|---|
| MN – 01 | AN – 01 | Literature survey | Some Journal papers which gives a comprehensive summary of previous research on the topic. | 20th October,2022 |
| | AN – 02 | Empathy Map | Empathy map is a collabrative visualization used to articulate what we know about the particular user. | 10th September,2022 |
| | AN – 03 | Brain – Storming | It is a group problem solving method that involves the spontaneous contribution of creative ideas and solutions. | 21st September,2022 |
| | AN – 04 | Problem Statements | It is a concise description of an issue to be addressed or a condition to be improved upon. | 20th October, 2022 |

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| MN – 02 | AN – 05 | Proposed Solution | It is a concise and coherent summary of a proposed research or application which relates with the current situation with the desired results to describe benefits. | 24th September,2022 |
| | AN – 06 | Problem Solution Fit | It is a solution which solves the problem of a customer which you have identified. | 2nd October,2022 |
| | AN – 07 | Solution Architecture | It is a architectural description of a proposed solution which gives the exact description of the methodology of how the process gonna happen step by step. | 1st October,2022 |
| MN – 03 | AN – 08 | Customer Journey Map | It is a visual reprentation of a customer journey which tells you the real time experience of the customer of using using product. | 16th October,2022 |
| | AN – 09 | Solution Requirements | It describes the specific characteristics that a product must have to meet the need of the stakeholders. | 16th October,2022 |
| | AN – 10 | Data Flow Diagram | It is a visual or graphical representation using a standardized set of symbols to describe the operations through data movements. | 18th October,2022 |
| | AN – 11 | Technology Stack | It is a combination of tools, services and applications used by developers to build a product. | 18th  October,2022 |
| MN – 04 | AN – 12 | Prepare Milestone & Activity List | Prepare the milestone and the activity list of the project whic schedules the activity. | 2nd November,2022 |
| | AN – 13 | Sprint Delivery Plan | Describes about the Product Backlog, Sprint Planning, Stories, Story points using Agile Software Methodologies such as Scrum, JIRA etc,. | 2nd November,2022 |
| MN – 05 | AN – 14 | Delivery of Sprint – 1 | Completed Data Collection, Data Preprocessing and Augmentation, and Split data into Train, Validation and Test sets | 2nd November, 2022 |
| | AN – 15 | Delivery of Sprint – 2 | | |
| | AN – 16 | Delivery of Sprint – 3 | | |
| | AN – 17 | Delivery of Sprint – 4 | | |
| MN – 06 | AN – 18 | Pre-requisites | Download all the necessary software required to solve the problem at hand | 30th October, 2022 |
| MN – 07 | AN – 19 | Project Structure | Organize the project into proper files and folders for easy deployment and debugging | 31st October, 2022 |
| MN – 08 | AN – 20 | Data Collection | Collect relevant data that is required to solve the given problem | 1st November, 2022 |

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| | AN – 21 | Create Train and Test Folders | Split the data into Train and Test data. Train data will be used to train our model and the trained model will be tested on the Test data | 1st November, 2022 |
| MN – 09 | AN – 22 | Image Pre-processing | Data images are subjected to augmentation like rotation, flip, zoom etc | 1st November, 2022 |
| | AN – 23 | Import Image Data Generator Library. | Generate batches of augmented images in a random fashion | 1st November, 2022 |
| | AN – 24 | Apply Image Data Generator functionality. | The train dataset is split into Train and Validation set which is used to train and validate the model respectively at each epoch | 1st November, 2022 |
| MN – 10 | AN – 25 | Import the required model building libraries | Downloading and adding the necessary Python libraries to the project | |
| | AN – 26 | Initialize the model | Define the type of model | |
| | AN – 27 | Add the convolution layer | Initialize and add a Convolutional layer to the model with appropriate parameters like filters, kernel_size etc | |
| | AN – 28 | Add the pooling layer | Initialize and add a Pooling layer, either Max or Min or Avg pooling, to the model with appropriate parameters like kernel_size etc | |
| | AN – 29 | Add the flatten layer | Add the flatten layer to convert the outputs into 1 Dimension | |
| | AN – 30 | Adding the dense layers | Adding the Fully Connected Layer for the final predictions | |
| | AN – 31 | Compile the model | Compile the model along with all these layers and specify the metrics, loss function and optimizer | |
| | AN – 32 | Fit and save the model. | Load the Train data onto the model to train it and save it after training | |
| MN – 11 | AN – 33 | Test the model | Use the Test data to evaluate the model for metrics like Precision, Recall, Accuracy and F-Measure | |
| | AN – 34 | Import the packages and load the saved model. | After saving the model use the necessary library/package to load the saved model and to reuse it | |
| | AN – 35 | Load the test image, pre-process it and predict. | Load the test data, preprocess it and feed it to the model for predictions | |
| MN – 12 | AN – 36 | Application Building | Build a Web application to deploy the model | |
| | AN – 37 | Build a flask application. | Use the Flask framework as a server and to host the webpages | |
| | AN – 38 | Build the HTML page. | Build a login page and Dashboard as the UI | |
| MN – 13 | AN – 39 | Register for IBM Cloud. | Go to IBM cloud and register | |
| | AN – 40 | Train CNN Model on IBM | Train the saved model on IBM Cloud | |