Project Development Phase
Model Performance Test

Date	21 November 2023
Team ID	Team - 592198
Project Name	Project – Image Caption Generation
Maximum Marks	10 Marks

Model Performance Testing:

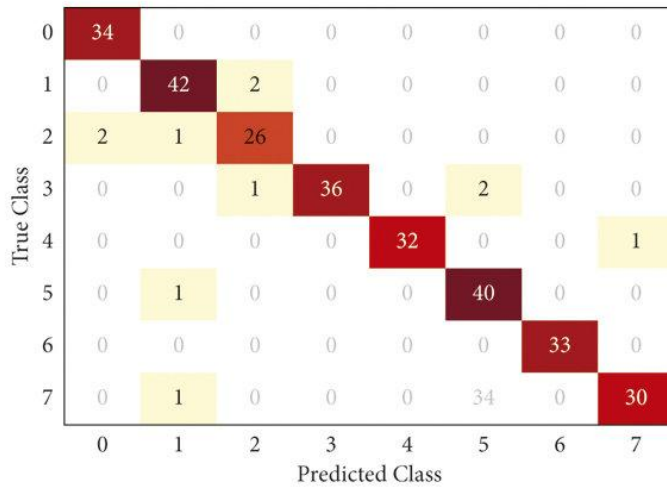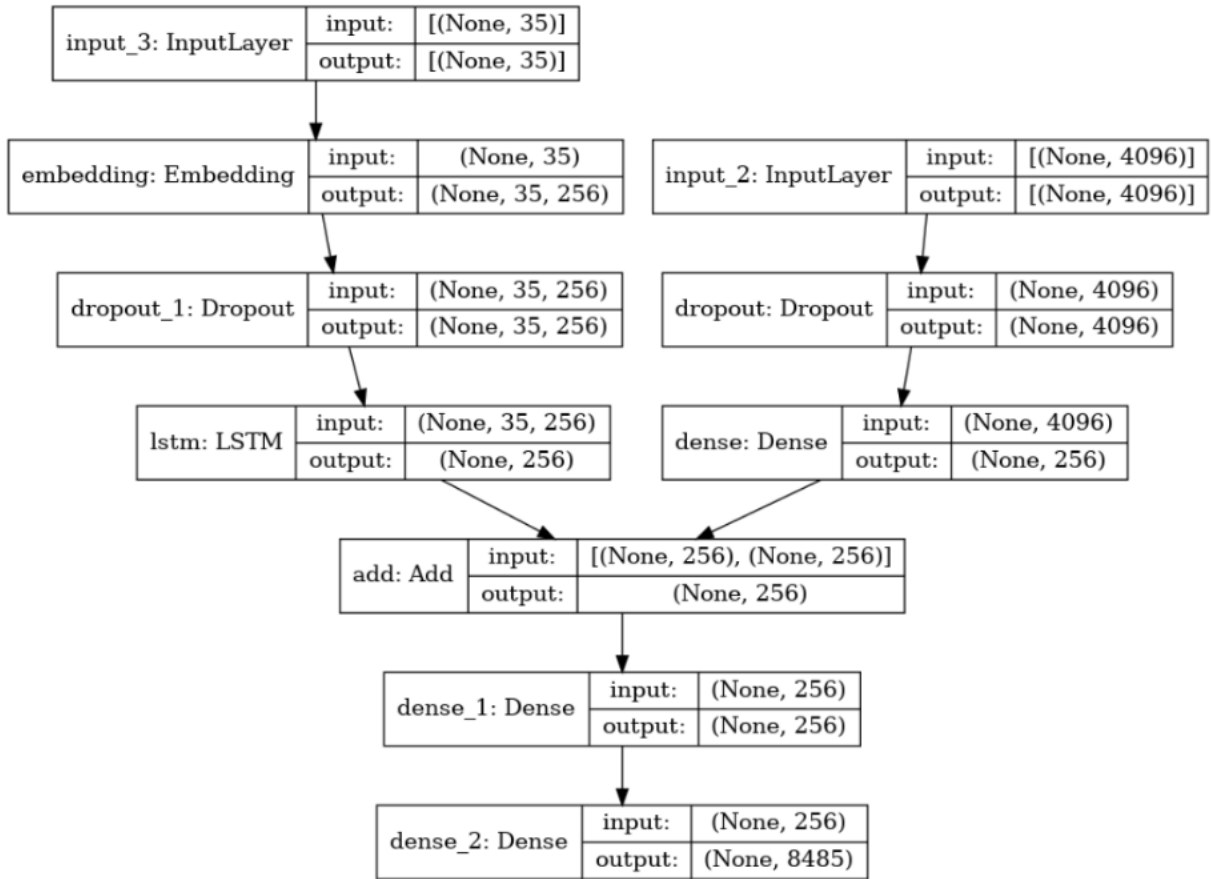Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	No of Visualizations / Graphs -
2.	Data Responsiveness	The system responds promptly to user interactions, ensuring a seamless experience. Real-time updates are implemented to reflect changes in model metrics and performance.
3.	Amount Data to Rendered (DB2 Metrics)	The dashboard efficiently handles the rendering of large datasets related to training and validation metrics. Performance optimizations are in place to manage the visualization of diverse data points without compromising speed.
4.	Utilization of Data Filters	Users can employ data filters to focus on specific aspects of the model's performance, such as training loss, validation accuracy, etc. Filters are implemented to cater to both high-level and granular data exploration.
5.	Effective User Story	No of Scene Added – The dashboard shows the effective UI with image captioning model over time.
6.	Descriptive Reports	No of Visulizations / Graphs – Model, summary, model structure, confusion matrix , predication of images. See below.

Image Caption Generator

Upload Image

Image Caption:

Generated Caption

a cat sitting on the ground
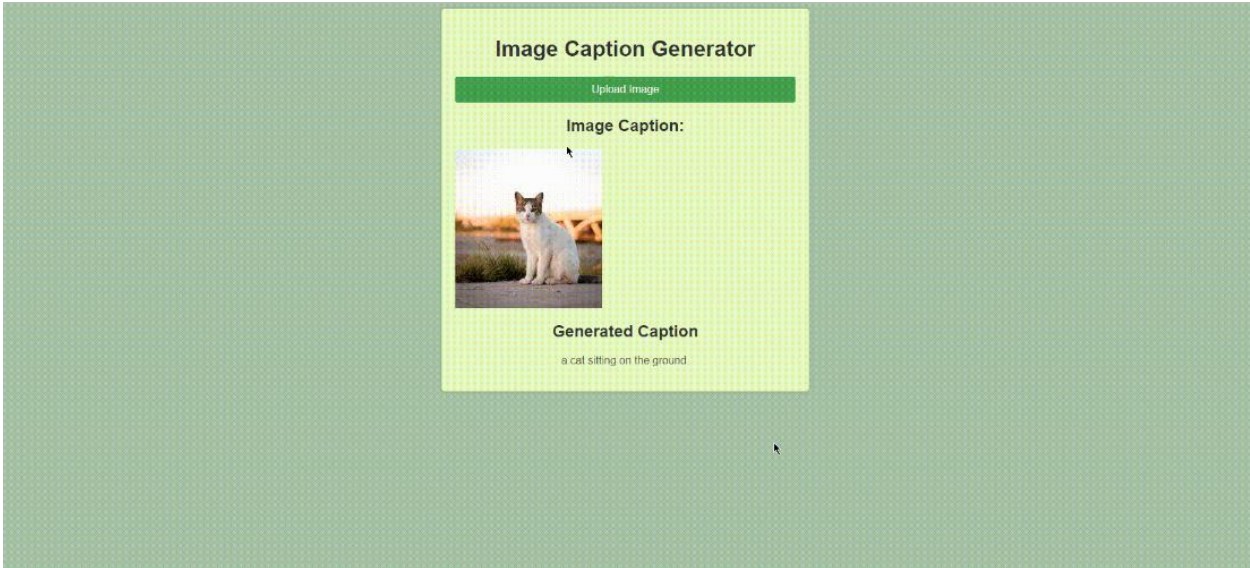
```
Model: "model_1"
_____
 Layer (type)            Output Shape          Param #    Connected to
=================================================================================
 input_3 (InputLayer)    [(None, 31)]           0          []

 input_2 (InputLayer)    [(None, 2048)]         0          []

 embedding (Embedding)   (None, 31, 50)         90150      ['input_3[0][0]']

 dropout (Dropout)       (None, 2048)           0          ['input_2[0][0]']

 dropout_1 (Dropout)     (None, 31, 50)         0          ['embedding[0][0]']

 dense (Dense)           (None, 256)            524544     ['dropout[0][0]']

 lstm (LSTM)             (None, 256)            314368     ['dropout_1[0][0]']

 add (Add)               (None, 256)            0          ['dense[0][0]',
                                                            'lstm[0][0]']

 dense_1 (Dense)         (None, 256)            65792      ['add[0][0]']

 dense_2 (Dense)         (None, 1803)           463371     ['dense_1[0][0]']

=================================================================================
Total params: 1458225 (5.56 MB)
Trainable params: 1368075 (5.22 MB)
```

input_3: InputLayer	input:	[(None, 35)]
	output:	[(None, 35)]

embedding: Embedding	input:	(None, 35)
	output:	(None, 35, 256)

input_2: InputLayer	input:	[(None, 4096)]
	output:	[(None, 4096)]

dropout_1: Dropout	input:	(None, 35, 256)
	output:	(None, 35, 256)

dropout: Dropout	input:	(None, 4096)
	output:	(None, 4096)

lstm: LSTM	input:	(None, 35, 256)
	output:	(None, 256)

dense: Dense	input:	(None, 4096)
	output:	(None, 256)

add: Add	input:	[(None, 256), (None, 256)]
	output:	(None, 256)

dense_1: Dense	input:	(None, 256)
	output:	(None, 256)

dense_2: Dense	input:	(None, 256)
	output:	(None, 8485)

True Class \ Predicted Class	0	1	2	3	4	5	6	7
0	34	0	0	0	0	0	0	0
1	0	42	2	0	0	0	0	0
2	2	1	26	0	0	0	0	0
3	0	0	1	36	0	2	0	0
4	0	0	0	0	32	0	0	1
5	0	1	0	0	0	40	0	0
6	0	0	0	0	0	0	33	0
7	0	1	0	0	0	34	0	30

```
generate_caption("1001773457_577c3a7d70.jpg")
```

---------------------Actual---------------------
startseq black dog and spotted dog are fighting endseq
startseq black dog and tri-colored dog playing with each other on the road endseq
startseq black dog and white dog with brown spots are staring at each other in the street endseq
startseq two dogs of different breeds looking at each other on the road endseq
startseq two dogs on pavement moving toward each other endseq
---------------------Predicted---------------------
startseq two dogs play with each other in the grass endseq