

Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID30275
Project Name	Project – Digital Naturalist AI Enabled Tool for Biodiversity Researchers
Maximum Marks	10 Marks

Model Performance Testing:

S.No	Parameter	Values	Screenshot
1.	Model Summary	-	<p>Model Evaluation</p> <pre>In [28]: #plot the loss plt.plot(result.history['loss'], label='train loss') plt.plot(result.history['val_loss'], label='val loss') plt.legend() plt.show() # plot the accuracy plt.plot(result.history['accuracy'], label='train acc') plt.plot(result.history['val_accuracy'], label='val acc') plt.legend() plt.show() In [29]: model.save('dnnai.h5') In [30]: print('The accuracy of the model: {:.2f} %'.format(result.history['accuracy'][-1]*100)) print('The accuracy of the testing: {:.2f} %'.format(result.history['val_accuracy'][-1]*100)) The accuracy of the model: 98.15 % The accuracy of the testing: 79.98 %</pre>
2.	Accuracy	<p>Training Accuracy – 98.15%</p> <p>Validation Accuracy – 79.98%</p>	

Table 9.1.1 NFT Risk Assessment

S.No	Project Name	Scope/feature	Functional Changes	Software Changes	Load/Volume Changes	Risk Score	Justification
1	Digital Naturalist - AI enabled tool for biodiversity researchers	Registration	No Changes	No Changes	No Changes	No Changes	-
2		Login	No Changes	No Changes	No Changes	No Changes	-
3		Prediction - Animals	No Changes	No Changes	No Changes	No Changes	-
4		Prediction - Birds	No Changes	No Changes	No Changes	No Changes	-
5		Prediction - Marine	No Changes	No Changes	Low	<5%	Size of image takes long time to pre-process
6		Prediction - Insects	No Changes	No Changes	No Changes	No Changes	-
7		Prediction - Flowers	Low	No Changes	No Changes	<5%	Speed of application reduced
8		Prediction - Leaves	No Changes	No Changes	No Changes	No Changes	-

Table 9.1.2. Risk Assessment

S.NO	Project Name	NFT Test approach	NFR - Met	Test Outcome	GO/N O-GO decision	Recommendation	Identified Defects (Detected/Closed/Open)	Approval s/signoff
1	Digital Naturalist - AI enabled tool for biodiversity researchers	Load Change	Yes	Load change Testing Response time - 90ms CPU Usage - 8% GPU Usage - 4%	Go	-	Closed	Kishore Akash YS
2		Functional Change	Yes	Functional Testing Response time - 140ms CPU Usage - 17% GPU Usage - 8%	Go	-	Closed	Mythili K

Table 9.1.3. NFT Detailed test plan

S. No	Project Overview	NFT Test approach	Assumption/ Dependencies/Risks	Approvals/signoff
1	Digital Naturalist - AI enabled tool for biodiversity researchers	Load Change	Scalability of model will improve the load changes	Kishore Akash YS
2		Functional Change	GPU enabled system can improve the speed of application	Mythili K



Figure 9.1.2. Performance using Locust tool