

## CODE TESTING PLAN/ RESULTS

During development we already had plans to work on testing using both black box and white box approaches. Because of that we already planned to use Facade pattern

### **Black box testing**

#### FUNCTIONALITY

Testing for	Use Case	Expected results	Actual results	Comments
Navigation	Finding the conjunctivitis form from the home page	Success	Success	
Conjunctivitis Artificially Intelligent(AI) model	Does the AI give results	Success	Success	
Ear mites AI model	Does the AI give results	Success	Success	
Viewing AI diagnostics results	Can I see the diagnostic results after submitting photo	Success	Success	
Typeform Embedding	Can you complete the quizzes within the app	Success	Success	
Viewing Typeform diagnostics results	Can you see the results of your diagnosis	Success	Success	
External resources linkage	Was the typeform linking without affecting the application functions	Yes	Yes	
Uploading Images	Can you upload Images from your device	Yes	Yes	

#### PERFORMANCE

Testing for	Use Case	Expected results	Actual results	Comments
Response time	How quick are pages being displayed	Average 0-2s	Average 1.2s	
AI result time	How long does the AI model take to spit results out	60 seconds worst case	4 seconds	
High traffic testing	Can you run multiple app sessions off the same server	Yes	Yes	

Error testing	Uploading non animal pictures	Error	Not Infected	We decided to not attempt to handle this error because it'll require further AI classification of possibly every scenario of Images in the world which is much greater than our current scope.
	Submitting with no picture	Error	Error	

## SECURITY

Testing for	Use Case	Expected results	Actual results	Comments
Penetration testing	Attempting to gain access to the backend model externally	Failure	Failure	No way for SQL or other Injections
Access management	Can an external user control the application in any way	No	No	
Animal image safety and security	Can I see other animal Images apart from the default image and the image I uploaded	No	No	The application does not store animal images in anyway after diagnosis

## White box testing

### FUNCTIONALITY

Testing for	Use Case	Expected results	Actual results	Comments
File locations	Links being directed to appropriate path	Success	Success	
AI model usage and submission (eyes)	Submitting data to AI model for Conjunctivitis	Success - 80%	Success - 66%	In the backend, we were making sure the right model is being used
AI model usage and submission (ear)	Submitting data to AI model for mites	Success- 100%	Success -98% average	In the backend, we look to confirm proper usage. This accuracy might be skewed because dataset of infections are limited
Typeform Connection	Attempting to complete quizzes	Success	Success	Making sure the responses being submitted are the same as what's being recorded

Error handling	Attempting to upload random image	Not Infected	Not Infected	
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PERFORMANCE

Testing for	Use Case	Expected results	Actual results	Comments
Database queries	Model database queries	Success	Success	
AI Accuracy	How long did the model spit it out to console log	2 seconds	3 seconds	
High traffic testing from backend	How did the model handle the results with multiple submissions to the same model	Great	Good	
Optimization	Attempting to Improve the handling of multiple model requests	Success	Failure	

SECURITY

Testing for	Use Case	Expected results	Actual results	Comments
Database injections	Attempting to crash the model	Failure	Failure	Injects are almost Impossible as user text Input is very minimal
AI and form Accuracy	Data Manipulation attempt	Unsuccessful	Unsuccessful	
High traffic testing from backend	Loading the model with multiple requests and attempting to input wrong information	Unsuccessful	Mostly Unsuccessful	
Optimization	Compromising security by attempting to gain access to Images from requests both Internally and externally	Unsuccessful	Unsuccessful	