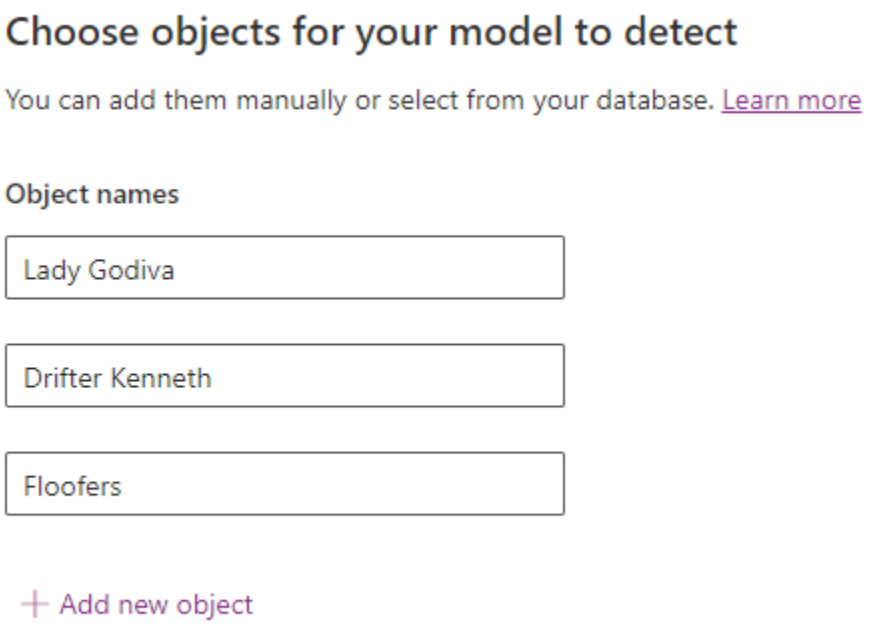
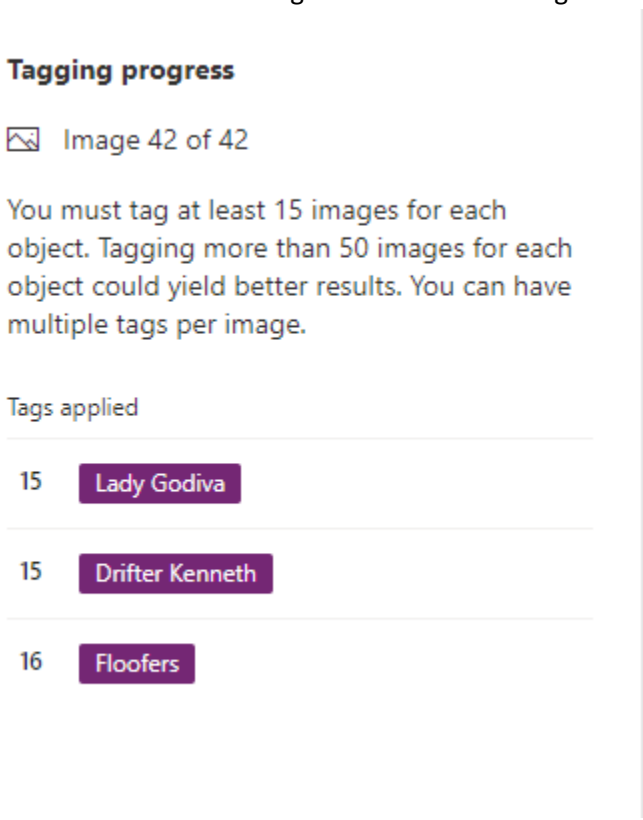
AI Builder, Power Apps, and Cats Demo Steps

1. Navigate to aka.ms/ppac > Environments
    a. Create a new Environment
    b. Turn on Dataverse
    c. Keep all other defaults
    d. Wait for environment to be ready
2. Navigate to make.powerapps.com. Select the new environment in the top right.
3. AI Models > New AI Model > Object Detection
4. Create Custom Model
5. Common Objects > Next
6. Enter in cats as Object Names (Note: You can use your own images instead of the cat pictures provided. In this case, the objects will need to be updated accordingly. Additionally future steps may need to be adjusted to handle.)



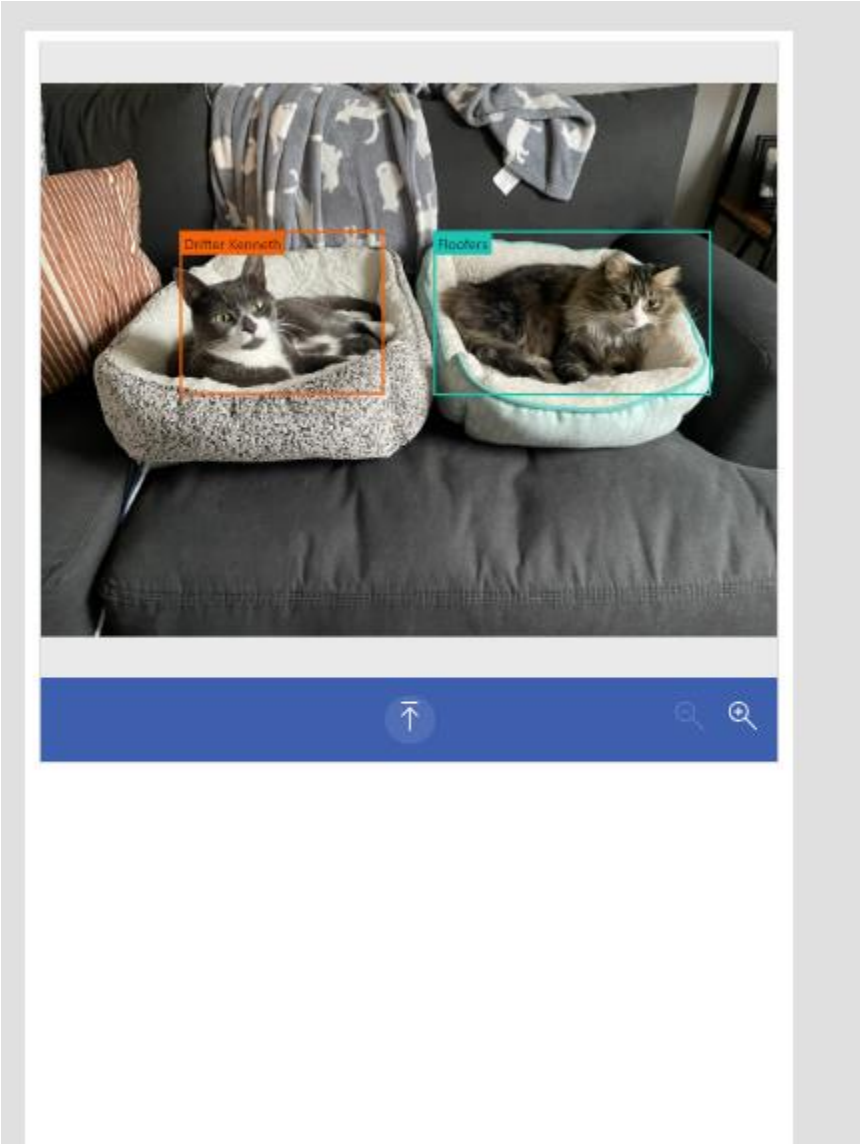
7. Upload Images – 15 per cat plus combined images
8. Tag each photo with the appropriate tag

a. Note that the counts of tags are shown on the right



9. Click Done Tagging
10. Next
11. Train
12. Go to Models > Wait for training to finish
13. When finished training – click on the model to open. Review performance.
14. Click Settings and change the name
15. Click Publish
16. Use Model > Build Intelligent Apps. Sample app with the object Detector model is created.

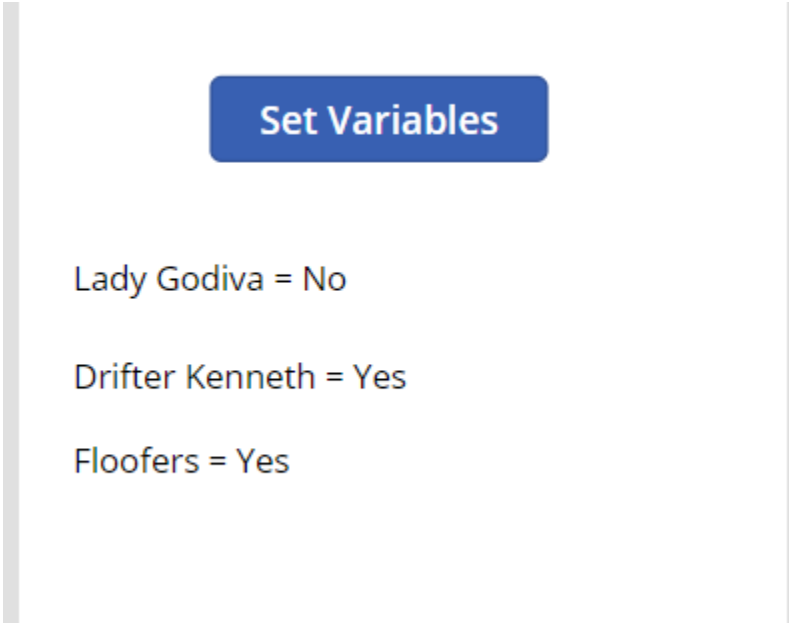
17. Use ALT+click to upload an image to use as we are building the app. Note how it already is detecting which cat is which.



18. Save the app!
19. Add a new Screen to see our data
    a. New Screen > Blank
    b. Insert > Data Table
        i. Items = ObjectDetector1.Results
        ii. Set Columns
            1. Tag Name
            2. Confidence
    c. Add new Labels so we can display which cats are included
        i. Create a Button: Set Variables. Set the OnSelect. This will be moved later. This is for reviewing the data

```
Set(varLG, If(CountRows(Filter(ObjectDetector1.Results, TagName = "Lady
Godiva")), "Yes", "No"));
Set(varF, If(CountRows(Filter(ObjectDetector1.Results, TagName = "Floofers")),
"Yes", "No"));
Set(varDK, If(CountRows(Filter(ObjectDetector1.Results,TagName = "Drifter
Kenneth")), "Yes", "No"));
```

d. Create 3 labels with the following Power Fx: "Lady Godiva = " & varLG



20. Now that we know this is working we are going to move this code back to the main Screen1.
    a. Copy Power Fx from Set Variables button.
    b. On Screen 1, select the Object Detector
    c. Set this code as the OnChange
        i. Test by using ALT to change the image then checking the values update on the next tab
21. Add Cats in this photo display
    a. Label: Cats in this photo – make bold and centered
    b. Add 3 buttons, one for each cat. Set mode to view. Set the **visible** property to: varLG = "Yes" (each button should use the variable for the specific cat)
22. Save and Publish the App
23. Create a new Solution
    a. Add Object Detection Model
    b. Add App
24. Demo
    a. Test with a few more pics
25. Show how to update the model
    a. Go to the model
    b. Edit Model
        i. See new version is created
        ii. Talk about new features coming around versioning

c. Add more images
d. Tag the new images
e. Save
f. Wait for model as it is retraining
g. Open model
    i. Show how you can see the published version and last trained version
h. Publish last trained version

26. Retest the app. It will use the new version of the model.

Stretch Goal: Dataverse

1. Inside your solution, create a new Dataverse Table “Cat Pictures”
    a. Columns
        i. Yes/No Boolean
            1. Lady Godiva
            2. Floofers
            3. Drifter Kenneth
        ii. Decimal Fields for confidence
        iii. Photo
            1. Image data type. Ensure it is NOT set as the primary image as this will reduce quality (sets to thumbnail size)
        iv. During this time, we can also discuss potential architecture improvements to have a lookup table for “Cats” that is linked to the Photos table. This could be a many-to-many or a custom intersect table could be used to store the cat and confidence together then link to the photo.
    b. Update form to include all the fields
    c. Create new Model Driven “Cats” App with this table
    d. Publish Everything
2. Edit Canvas App
    a. Add Data: Cat Photos Table
    b. We need to add a separate image control to use to submit the image
        i. Why? https://techcommunity.microsoft.com/t5/educator-developer-blog/create-an-ai-enabled-power-app-using-an-object-detection-machine/ba-p/2972857
        ii. Insert > Image
        iii. Set to: ObjectDetector1.OriginalImage
        iv. Visibility = False
    c. Add new Button: Submit to Dataverse
        i. Discuss how this can be done via a form or a patch
        ii. OnSelect:
        Patch('Cat Photos', {Name:Text(Today(), "dd/mm/yyyy") & " " & If(varLG = "Yes", "Lady Godiva ", "") & If(varF = "Yes", "Floofers ", "") & If(varDK = "Yes", "Drifter Kenneth", ""), 'Lady Godiva':If(varLG="Yes", true,false),'Lady Godiva Confidence ':LookUp(ObjectDetector1.Results, TagName="Lady Godiva", Confidence), Floofers:If(varF="Yes", true,false), 'Floofers Confidence

':LookUp(ObjectDetector1.Results, TagName="Floofers", Confidence), 'Drifter Kenneth':If(varDK="Yes", true,false), 'Drifter Kenneth Confidence ':LookUp(ObjectDetector1.Results, TagName="Drifter Kenneth", Confidence), Photo:Image1.Image})

1. Breaking down the patch statement
    a. Name:Text(Today(), "dd/mm/yyyy") & " " & If(varLG = "Yes", "Lady Godiva ", "") & If(varF = "Yes", "Floofers ", "") & If(varDK = "Yes", "Drifter Kenneth", "") – This is just making a fancy name of the date and the cats in the picture. Written via ChatGPT!
    b. 'Lady Godiva':If(varLG="Yes", true,false), - Set the dataverse Boolean fields based on our variables. If we had been smart and used true/false as the variable we could have directly submitted.
    c. 'Lady Godiva Confidence ':LookUp(ObjectDetector1.Results, TagName="Lady Godiva", Confidence) – In the array of results we look to see if that cat is present then send the related confidence score.
    d. Save and Publish
3. Demo
    a. Open Canvas App and Model Driven App
    b. Analyze a photo, Submit to Dataverse, Show in Dataverse