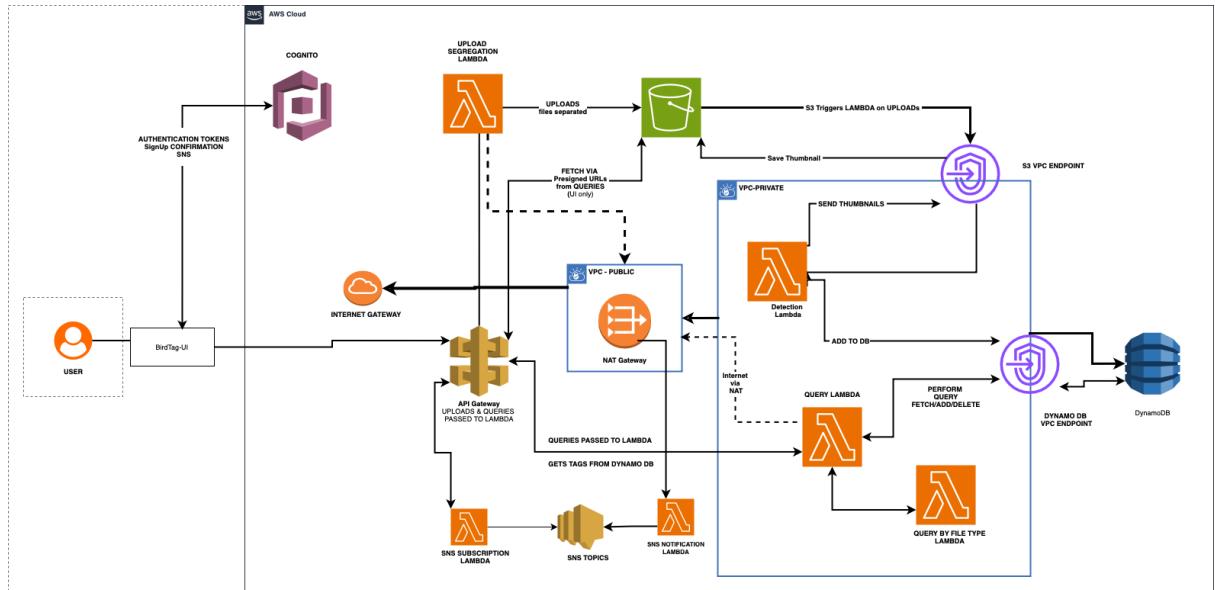


Architecture Diagram:

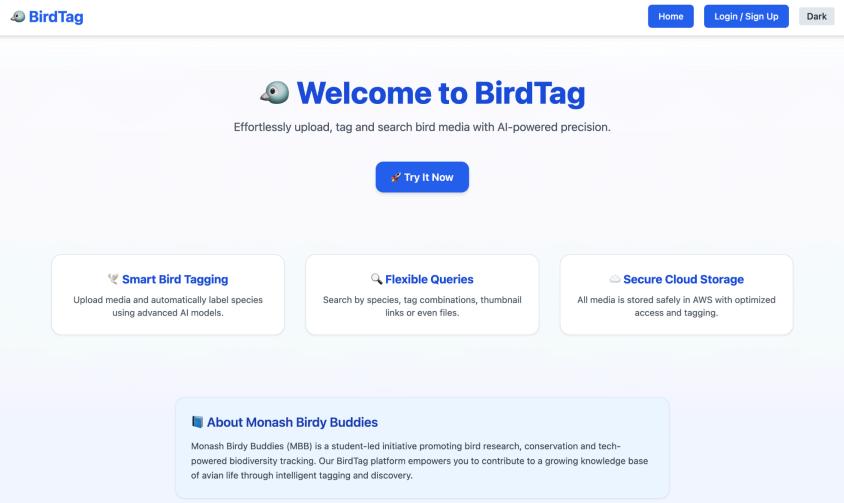


User Testing Guide Through UI:

(a React application)

1. Account Setup

- Visit the BirdTag system home page



- Click "Login/Sign Up" and enter your email, name, and a strong password that meets industry standards. (Symbols, numbers, characters)

The screenshot shows the 'Login / Sign Up' page. It has fields for Name, Email, and Password. Below the password field is a red error message: 'Signup failed: Password did not conform with policy: Password not long enough'. A 'Sign Up' button is at the bottom.

- c. Check your email inbox and click the verification link to activate your account

The screenshot shows the 'Login / Sign Up' page with a green success message: 'Signup successful! Check email for confirmation code.'

Your verification code External Inbox ×

no-reply@verificationemail.com
to me ▾
Your confirmation code is 732608

- d. Log in to the system with your verified credentials

The screenshot shows the 'Login / Sign Up' page with a green success message: 'Email confirmed! You can now log in.'

2. Test for uploading file:
- After logging in, click the "Upload File" button

The screenshot shows the BirdTag homepage. At the top, there is a navigation bar with links for Home, Upload (highlighted with a red arrow), Search, Profile, Logout, and Dark mode. Below the navigation bar is a main header with the text "Welcome to BirdTag" and a small bird icon. A sub-header below it says "Effortlessly upload, tag and search bird media with AI-powered precision." Two prominent buttons are visible: a blue "Upload File" button and a green "Search Media" button. Below these buttons are three informational boxes: "Smart Bird Tagging" (describing AI-powered species labeling), "Flexible Queries" (describing search by species, tag combinations, thumbnail links, or even files), and "Secure Cloud Storage" (noting all media is stored safely in AWS). A red arrow points from the text "Drag and drop or select image, audio, or video files" to the "Upload File" button.

- b. Drag and drop or select image, audio, or video files
(jpg/png/mp3/wav/mp4/avi formats supported)

This screenshot shows the "Upload Files" interface. It features a large dashed rectangular area for file upload with the placeholder text "Click to upload or drag files here". Below this area, a message indicates supported file types: "Supported: Images (JPG, PNG) | Audio (MP3, WAV) | Video (MP4, AVI)". A "Select Files" button is located just below the upload area. A section titled "Selected Files:" lists the files chosen for upload: "owl_1.jpg", "kingfisher.mp4", and "crow.wav". At the bottom is a large blue "Upload All" button.

- c. Click “Upload All”, then wait for upload and processing to complete (tags are generated automatically), upload status will be shown below.

This screenshot shows the "Upload Status" interface after the files have been uploaded. It displays a message "Upload All" at the top. Below it is a section titled "Upload Status:" which lists the successful uploads with checkmarks: "owl_1.jpg uploaded successfully", "kingfisher.mp4 uploaded successfully", and "crow.wav uploaded successfully".

3. Test for queries

Click “Search”, then choose a query type

The screenshot shows the BirdTag web application. At the top, there is a navigation bar with links for Home, Upload, Search (which is highlighted with a blue button and has a red arrow pointing to it), Profile, Logout, and Dark mode. Below the navigation bar is the search interface titled "Search Birds". It displays the user's login information: "Logged in as: qhee0028@student.monash.edu". A sub-menu titled "Choose a query type:" is open, showing several options: "Bird Tag + Count" (which is selected and highlighted with a blue background), "Bird Species Only", "From Thumbnail URL", "Upload a File", "Tag Update", and "Delete Files". Below this menu is a text input field with placeholder text "Enter tag,count pairs (e.g. crow,2|npigeon,1)". At the bottom of the search interface is a green "Search" button.

a. Find images and videos based on the tags:

Choose “Bird Tag + Count” and enter queries like: “Crow, 2” in the search bar, click “Search”, the result will be displayed.

The screenshot shows the search results for the query "Crow, 2". The search bar at the top contains the text "Crow,2". Below the search bar is a green "Search" button. A message at the top right states "Found 7 matching result(s)." The results are displayed in a grid format. There are two rows of three images each. The first row contains images of birds perched on branches. The second row contains images of birds in flight or perched on a branch. Each image has a small "Download Video" link below it.

b. Find files based on bird species:

Choose “Bird Species Only” and enter queries like: “Crow” in the search bar, click “Search”, the result will be displayed.

The screenshot shows the Bird Tag search interface. At the top, a dropdown menu says "Choose a query type:" with "Bird Species Only" selected. Below it, a search bar contains the query "Crow". A green "Search" button is below the search bar. The results page title is "Bird Species Only" with the query "Crow". It displays a message "Found 8 matching result(s)." followed by eight thumbnail images of crows. Each thumbnail has a "Download Video" link above it. The thumbnails show various scenes of crows, such as perched on branches and interacting with each other.

c. Find files based on the thumbnail's URL:

Choose “From Thumbnail URL” and enter the URL, click “Lookup”, the result will be displayed.

The screenshot shows the Bird Tag search interface. At the top, a dropdown menu says "Choose a query type:" with "From Thumbnail URL" selected. Below it, a text input field contains the URL "https://birdtag-models-fit5225-mb.s3.us-east-1.amazonaws.com/thumbs/bca7a35e-de5d-42b2-bc80-52fd2712:". A green "Lookup" button is below the URL. The results page title is "Results" with the URL. It displays a message "Found 1 matching result(s.)" followed by one thumbnail image of two crows. A green arrow points from the URL input field to the thumbnail image. The browser's developer tools are visible on the right side of the screen, showing the network tab with a request to the specified URL.

d. Find files based on the tags of a file:

Choose “Upload a File” and select an image, audio, or video file (jpg/png/mp3/wav/mp4/avi formats supported), click “Submit”, the result will be displayed.

Upload a File

From Uploaded File

Click to upload or drag files here
Supported: Images (JPG, PNG) | Audio (MP3, WAV) | Video (MP4, AVI)

Select File
Selected: bird1.wav

Submit

Results

[Download File](#)

- e. Manual addition or removal of tags with bulk tagging:
 Choose “Tag Update” and enter the S3 URL of the file you want to update, then enter tags like: “Crow,20”, select “Add” or “Remove”, then click “Submit”, the result will be displayed.

Choose a query type:

Tag Update

Bulk Tag Update

https://birdtag-models-fit5225-mb.s3.us-east-1.amazonaws.com/images/9a058f3a-a66f-456c-801c-52a5ca24fe25.jpg

Crow,20

Add Remove

Submit

Tags updated. 

- f. Delete files:

Choose “Delete file” and enter the S3 URL of the file you want to delete, then click “Delete”, the result will be displayed.

The screenshot shows the BirdTag search interface. At the top, there are navigation links: Home, Upload, Search (highlighted in blue), Profile, Logout, and Dark. The main area has a title "Search Birds" with a magnifying glass icon. It shows the user is logged in as "syand170@student.monash.edu". Below this, a sub-header says "Choose a query type:" with a dropdown menu set to "Delete Files". A large button labeled "Delete Files" is present. In the center, there is a box containing a URL: "https://birdtag-models-fit5225-g138-shuyang.s3.us-east-1.amazonaws.com/audios/bird1.wav". Below this URL is a red "Delete" button. At the bottom of the page, a green message says "Deletion process completed."

4. Test for notifications:

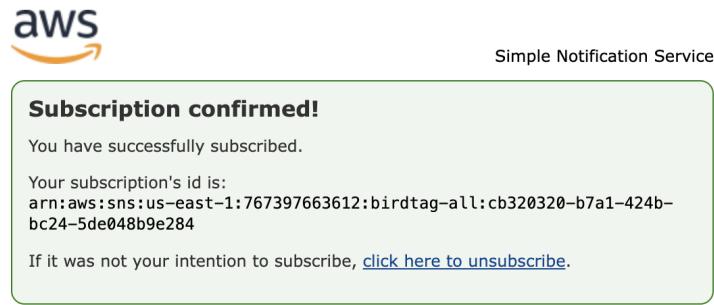
- Click the "Profile" button, enter tags like: "Crow", then click "Subscribe"

The screenshot shows the BirdTag profile page. At the top, there are navigation links: Home, Upload, Search, Profile (highlighted in blue), Logout, and Dark. An arrow points upwards from the "Profile" link. The main area has a title "Profile". It shows the user's email as "lylaqhe@gmail.com". There is a section for "Tag Notifications" with a sub-section "Enter tags (comma-separated)". A text input field contains "Crow,Pigeon" and a blue "Subscribe" button below it.

- You will receive a Subscription Confirmation in your email, then click "Confirm subscription" in it

The screenshot shows an email from "AWS Notifications <no-reply@sns.amazonaws.com>" to the user. The subject is "AWS Notification - Subscription Confirmation". The email body starts with "You have chosen to subscribe to the topic: arn:aws:sns:us-east-1:767397663612:birdtag-all". It includes a link to "Confirm subscription" and a note: "To confirm this subscription, click or visit the link below (If this was in error no action is necessary)". At the bottom, there is a note: "Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to [sns-opt-out](#)".

- There will display the information that you have successfully subscribed.



- d. You will receive notifications in your email when new images with specific birds are added or updated to the system.

