# Bird App Backend: Extra API Endpoints

## ## 3. Bird Identification & Information Module

**Base URL:** /api/birds/

### a) Bird Identification

#### **POST /api/birds/identify/**

* **Purpose:** Identify a bird from an image or sound (audio) file.
* **Request:** multipart/form-data
  + For image:
    - image (file, required)
    - latitude (float, optional)
    - longitude (float, optional)
    - location\_name (string, optional)
  + For sound:
    - sound (file, required)
    - latitude (float, optional)
    - longitude (float, optional)
    - week (int, optional, 1-48)
* **Response:**
* {  
   "predicted\_species": "Common Raven",  
   "confidence": 0.92,  
   "image\_url": "/media/bird\_identifications/yourfile.jpg",  
   "sound\_url": "/media/bird\_sounds/yourfile.mp3",  
   "identification": { ... }  
  }
* **Notes:**
  + For images, uses a HuggingFace image classifier.
  + For sound, uses BirdNET TFLite model for inference.

### b) Image Enhancement

#### **POST /api/birds/enhance/**

* **Purpose:** Enhance a bird image using AI.
* **Request:** multipart/form-data
  + image (file, required)
* **Response:**
* {  
   "enhanced\_image\_url": "https://example.com/enhanced\_image.jpg"  
  }

### c) Bird Information

#### **GET /api/birds/details//**

* **Purpose:** Get detailed information about a specific bird.
* **Response:**
* {  
   "id": 1,  
   "name": "CROW",  
   "scientific\_name": "CROW",  
   "description": "Automatically identified bird",  
   "image\_url": "",  
   "rarity": "",  
   ...  
  }

#### **GET /api/birds/list/**

* **Purpose:** List all birds, with optional search and filter.
* **Query Params:**
  + search (string, optional)
  + rarity (string, optional)
* **Response:** List of birds.

#### **GET /api/birds/identifications/**

* **Purpose:** Get all identifications made by the user.
* **Response:** List of identification records.

### d) Bird Category & Feeder APIs

#### **GET /api/birds/common-feeder/**

* **Purpose:** Get a list of common feeder birds.
* **Response:** List of birds with feeder behavior.

#### **GET /api/birds/by-category/?category=Songbirds**

* **Purpose:** Get birds filtered by category.
* **Query Params:**
  + category (string, required)
* **Response:** List of birds in the specified category.

### e) Bird Brain AI (Conversational & Location)

#### **POST /api/birds/birdbrain/ask/**

* **Purpose:** Ask the AI assistant about bird identification.
* **Request:** application/json
  + date (string, optional)
  + location (string, optional)
  + color (string, optional)
  + size (string, optional)
  + behavior (string, optional)
* **Response:** AI-generated identification and details.

#### **GET /api/birds/birdbrain/search-location/?location=New York**

* **Purpose:** Search for birds by location.
* **Query Params:**
  + location (string, required)
* **Response:** List of locations and coordinates.

#### **POST /api/birds/birdbrain/chat/**

* **Purpose:** Chat with the AI about birds.
* **Request:** application/json
  + message (string, required)
* **Response:** AI chat response.

## 4. User-Specific Bird Data

### a) User Bird Identifications

#### **GET /api/birds/identifications/**

* **Purpose:** Get all bird identifications made by the user.
* **Response:** List of identification records.

## 5. Summary Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Endpoint | Method | Purpose/Description | Payload/Params | Response Example/Notes |
| /api/birds/identify/ | POST | Identify bird from image or sound | image/sound, lat, lon, week | predicted\_species, confidence |
| /api/birds/enhance/ | POST | Enhance bird image | image | enhanced\_image\_url |
| /api/birds/details// | GET | Get bird details | - | bird details |
| /api/birds/list/ | GET | List/search/filter birds | search, rarity | list of birds |
| /api/birds/identifications/ | GET | User’s bird identifications | - | list of identifications |
| /api/birds/common-feeder/ | GET | List of common feeder birds | - | list of birds |
| /api/birds/by-category/?category=Songbirds | GET | Birds by category | category | list of birds |
| /api/birds/birdbrain/ask/ | POST | Ask AI for bird identification | date, location, color, etc. | AI response |
| /api/birds/birdbrain/search-location/ | GET | Search birds by location | location | locations |
| /api/birds/birdbrain/chat/ | POST | Chat with AI about birds | message | AI chat response |

## 6. Why Were These APIs Created?

* **Bird Identification (image/sound):** To allow users to identify birds using photos or audio recordings, leveraging state-of-the-art ML models.
* **Image Enhancement:** To improve the quality of bird images before identification or sharing.
* **Bird Information & Search:** To provide users with a searchable, filterable database of birds.
* **Category & Feeder APIs:** To support birdwatchers and enthusiasts in finding birds by category or feeder behavior.
* **Bird Brain AI:** To offer conversational and location-based birding assistance using AI.
* **User Identifications:** To let users track and review their own bird identifications.