**Birdon theBrain:**Booty for Birders

Core Functionality

* **Signup**
* **Signin**
* **Signout**
* **Data Sourced from Users**
  + Sighting Lists:
    - Backyard
    - Individual Outing
    - Annual
    - Lifetime
  + List Functions:
    - Create
    - Read
    - Update
    - Delete
  + List Content for Each Bird Sighting:
    - common name of bird
    - county
    - state
    - date
    - comments (optional)
    - image (maybe)
  + Searches: Users can search other users' data, using filters like the following:
    - Name of user
    - County of user
    - State of user
    - Name of bird
    - Dates of sightings
* **Data Sourced from eBird API: Cornell's database can allow users to search for info like the following**
  + Most recent sighting of specific bird in given geographical region (city, county, state, country)
  + Locations of birding sites most visited by area birders
  + List of "interesting" birds sighted in given geographical area
  + List of sighting "hotspots" nearby
  + Bird Behaviors
  + Average Weight
  + Conservation Status (e.g., endangered)
* **Links to Major Birding Websites**
  + Merlin
  + eBird

Technologies:

* Flask
* Python
* Jinja
* SQL Database
* API Calls To: Internal and External Databases
* HTML
* CSS

Additional Functionality as Time Permits:

* Tokenization: Day 6
* Blog
* Connect to free image hosting site to allow users to upload profile pics and pics of birds they've sighted
* Bird Fact of the Day
* Bird Pic of the day
* Bird Game (maybe hangman with only bird names
* Users can click on bird name as they add to their list to get more info on that bird (still looking for API)

**Execution Plan:** Do main functions once, then go back and add iterations.

Keep it simple!

Test often!

Still To Do: Prioritized:

1. Add bird sightings to annual and lifetime list (only—for now; don’t worry about outing or backyard)
2. Search lists by: (have only done by state)
   1. Annual
   2. Lifetime
   3. (Later as time permits, search by (in priority order):
      1. Bird name
      2. County
      3. Date)
3. Create loop in list\_search\_results.html to handle populating table with multiple rows, using Jinja
4. Ebird:
   1. Create for loop to loop through all dictionaries in the returned list
   2. Create dictionary of Indiana county codes so that user can input a county name, function will locate correct 3 digit code for that count, and input it in the dynamic url
   3. Add labels at top to indicate:
      1. Location parameters for search (Indiana, <county variable>
      2. Day paramaters (like last 7 days)
5. Delete bird sighting
6. Link pages to nav bar
7. HomePage:
   1. Cat fact
   2. Cat image
8. Alter row in bird sighting list

Log of Progress:

1. Signin: (should be functional, but needs testing)
2. Register: ditto
3. Signout: ditto
4. User/Registration/Model/Form:
   1. Add fields to Class Registration From in authorms.py
   2. Update Registration form adding in new fields
5. Bird Model:
   1. ~~figure out how to add User id to bird model~~
   2. **Add columns:**
      1. Backyard [make this a checkbox]
      2. Annual (can tie to date column to keep annual lists separate)
      3. Lifetime
      4. Outing Label
6. Bird Form: see authforms for model
7. List Entry - CREATE BIRD SIGHTING:
   1. Create Database Model: (which should be bird model already created)
   2. Create Get route to render list entry page.
   3. Create Form Template:
      1. Should be able to have one simple page for all bird entries
      2. (Perhaps include checkbox now/later for backyard list)
      3. Would you like to associate these with a specific outing/trip? If so enter name here.
   4. Create post route:
      1. Get data from form template
      2. Input data into database
      3. Return success message to user.
      4. **User\_id is not yet being added to database**
      5. Check if in annual and lifetime lists and add if not.
      6. Redirect to list create page.
8. SEARCH INTERNAL / Read: (Start with only one type of search; get it working; get rest of basic functionality working, like by common name.)
   1. Create search by state. Need to search functions for all of the following still:
      1. user,
      2. common bird name,
      3. date,
      4. state,
      5. county
      6. backyard
      7. annual
      8. lifetime
   2. Create a Get Request Route to find data in database.
   3. Return data to Template. Have done for single object in a list (i.e. row), need to create loop in list\_search\_results.html to handle populating table with multiple rows.
9. **DELETE BIRD FROM SIGHTING LIST:**
10. **UPDATE/ALTER ROW IN BIRD LIST:**
11. SEARCH/READ – Ebird:
    1. API Key: bdhdkslf0ktt
    2. PyPi API Documentation: <https://pypi.org/project/ebird-api/>
    3. So far:
       1. **Returned single row (results from single dictionary in a list of dictionaries**
       2. **Input = numerical county code.**
    4. Still Need to:
       1. Create for loop to loop through all dictionaries in the returned list
       2. Create dictionary of Indiana county codes so that user can input a county name, function will locate correct 3 digit code for that count, and input it in the dynamic url
12. **HomePage:** 
    1. Cat fact
    2. Cat image

Upgrades, if time:

1. Create Sighting Form:
   1. Use calendar popup to standardize date and input properly (‘YEARMODY’) string
   2. Checkbox for Backyard list
   3. Dropdown county list.
2. Other?

Documentation: Python version of access to Ebird API

1. US code = US
2. State codes: looks like they use postal address codes, like NY for new york?

**Region Codes:**

**Graphical user interface, text, application, email

Description automatically generated**

**State codes:**

**[{'code': 'US-AL', 'name': 'Alabama'}, {'code': 'US-AK', 'name': 'Alaska'}, {'code': 'US-AZ', 'name': 'Arizona'}, {'code': 'US-AR', 'name': 'Arkansas'}, {'code': 'US-CA', 'name': 'California'}, {'code': 'US-CO', 'name': 'Colorado'}, {'code': 'US-CT', 'name': 'Connecticut'}, {'code': 'US-DE', 'name': 'Delaware'}, {'code': 'US-DC', 'name': 'District of Columbia'}, {'code': 'US-FL', 'name': 'Florida'}, {'code': 'US-GA', 'name': 'Georgia'}, {'code': 'US-HI', 'name': 'Hawaii'}, {'code': 'US-ID', 'name': 'Idaho'}, {'code': 'US-IL', 'name': 'Illinois'}, {'code': 'US-IN', 'name': 'Indiana'}, {'code': 'US-IA', 'name': 'Iowa'}, {'code': 'US-KS', 'name': 'Kansas'}, {'code': 'US-KY', 'name': 'Kentucky'}, {'code': 'US-LA', 'name': 'Louisiana'}, {'code': 'US-ME', 'name': 'Maine'}, {'code': 'US-MD', 'name': 'Maryland'}, {'code': 'US-MA', 'name': 'Massachusetts'}, {'code': 'US-MI', 'name': 'Michigan'}, {'code': 'US-MN', 'name': 'Minnesota'}, {'code': 'US-MS', 'name': 'Mississippi'}, {'code': 'US-MO', 'name': 'Missouri'}, {'code': 'US-MT', 'name': 'Montana'}, {'code': 'US-NE', 'name': 'Nebraska'}, {'code': 'US-NV', 'name': 'Nevada'}, {'code': 'US-NH', 'name': 'New Hampshire'}, {'code': 'US-NJ', 'name': 'New Jersey'}, {'code': 'US-NM', 'name': 'New Mexico'}, {'code': 'US-NY', 'name': 'New York'}, {'code': 'US-NC', 'name': 'North Carolina'}, {'code': 'US-ND', 'name': 'North Dakota'}, {'code': 'US-OH', 'name': 'Ohio'}, {'code': 'US-OK', 'name': 'Oklahoma'}, {'code': 'US-OR', 'name': 'Oregon'}, {'code': 'US-PA', 'name': 'Pennsylvania'}, {'code': 'US-RI', 'name': 'Rhode Island'}, {'code': 'US-SC', 'name': 'South Carolina'}, {'code': 'US-SD', 'name': 'South Dakota'}, {'code': 'US-TN', 'name': 'Tennessee'}, {'code': 'US-TX', 'name': 'Texas'}, {'code': 'US-UT', 'name': 'Utah'}, {'code': 'US-VT', 'name': 'Vermont'}, {'code': 'US-VA', 'name': 'Virginia'}, {'code': 'US-WA', 'name': 'Washington'}, {'code': 'US-WV', 'name': 'West Virginia'}, {'code': 'US-WI', 'name': 'Wisconsin'}, {'code': 'US-WY', 'name': 'Wyoming'}]**

**Indiana County Codes:**

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**Example Search for Grant County Indiana – Observations for past 14 days: Note that returns as LIST of dictionaries**

**[{'speciesCode': 'norcar', 'comName': 'Northern Cardinal', 'sciName': 'Cardinalis cardinalis', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'houwre', 'comName': 'House Wren', 'sciName': 'Troglodytes aedon', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'indbun', 'comName': 'Indigo Bunting', 'sciName': 'Passerina cyanea', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'woothr', 'comName': 'Wood Thrush', 'sciName': 'Hylocichla mustelina', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'bnhcow', 'comName': 'Brown-headed Cowbird', 'sciName': 'Molothrus ater', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'tuftit', 'comName': 'Tufted Titmouse', 'sciName': 'Baeolophus bicolor', 'locId': 'L5101201', 'locName': 'Metocinah Creek', 'obsDt': '2022-06-17 09:23', 'howMany': 1, 'lat': 40.6426349, 'lng': -85.6851679, 'obsValid': True, 'obsReviewed': False, 'locationPrivate': True, 'subId': 'S113114297'}, {'speciesCode': 'amegfi', 'comName': 'American Goldfinch', 'sciName': 'Spinus tristis', 'locId': 'L5101201', 'locName': 'Metocinah 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