Use Cases

for

BirdGO

Version 1.1 approved

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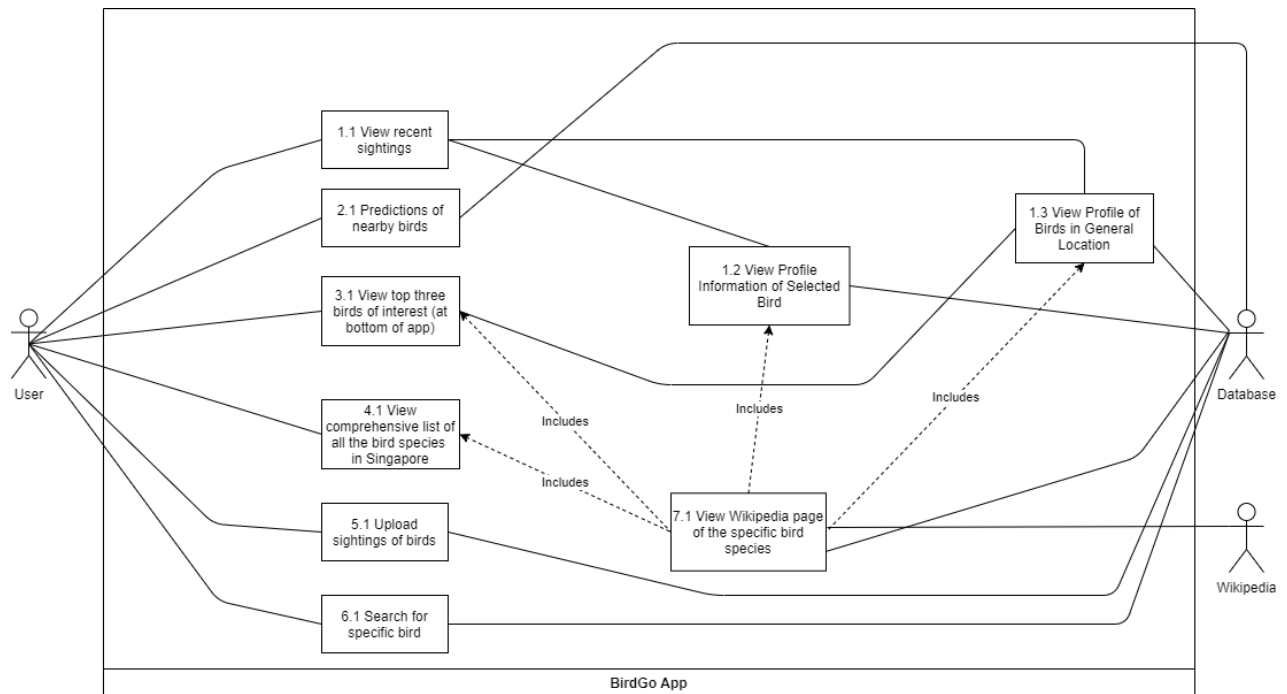
BirdGO

03/11/2021

Revision History

Name	Date	Reason For Changes	Version
Bryan Ong	01/09/21	First release	1.0
Bryan Ong	03/11/21	Updated use cases	1.1

Use Case

Use Case ID:	1.1		
Use Case Name:	View Recent Sightings		
Created By:	Bryan Ong	Last Updated By:	Bryan Ong
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	Allows the user to view a map of Singapore with markers indicating the locations of rare birds sightings within the past 2 weeks. Flags will show the user a gallery of all the rare birds sighted in a particular region. Pins will indicate the exact coordinates of uploaded bird sightings.
Preconditions:	1. Stable internet connection 2. App has access to Google Maps API 3. App needs to have access to the Firestore database which contains data from eBirds API.
Postconditions:	1. Map will be displayed on the user's screen. 2. Pins indicating uploaded occurrences of rare birds will be shown on the map. 3. Flags indicating regions will appear on the map.
Priority:	High
Frequency of Use:	15 times per user / hour
Flow of Events:	1. User opens the app and is immediately shown this map view.
Alternative Flows:	NIL
Exceptions:	1.1.EX.1: Google Maps API fails to load. An error message is displayed to the user to indicate that there is an issue with the Google Maps API.
Includes:	(1.2) View Profile Information of Bird Selected (1.3) View Profile of Birds in General Location
Special Requirements:	NIL
Assumptions:	Google Maps API is compatible with user's phone
Notes and Issues:	NIL

Use Case ID:	1.2		
Use Case Name:	View Profile Information of Selected Bird		
Created By:	Chua Yong Xuan	Last Updated By:	Tan Jia Min
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	Users can view the profile of the bird that they have selected. This includes images, its common name, scientific name, rarity, etc. This allows users to learn more about the bird species that they are interested in.
Preconditions:	1. Stable internet connection
Postconditions:	1. Bird information is retrieved from database
Priority:	High
Frequency of Use:	10 times per user / hour
Flow of Events:	1. User taps on the pin of the specific bird OR the image of a specific bird under the flag. 2. The user can click on 'More Info' to be redirected to the Wikipedia page of that bird species.
Alternative Flows:	NIL
Exceptions:	1.2.EX.1: Information of the bird cannot be retrieved. The app displays an error message ("Information cannot be retrieved from the database.").
Includes:	(7.1) View Wikipedia Page
Special Requirements:	NIL
Assumptions:	NIL
Notes and Issues:	NIL

Use Case ID:	1.3		
Use Case Name:	View Profile of Birds in General Location		
Created By:	Tan Jia Min	Last Updated By:	Tan Jia Min
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	Users can view a gallery of images of the birds ever sighted in selected locations, based on eBirds data. This allows the user to have a brief overview of what kind of birds they may expect to find by exploring this area.
Preconditions:	1. There have been previous bird sightings in that location 2. Stable internet connection
Postconditions:	1. Data of birds from the last week will be loaded 2. Gallery is populated with bird data and images
Priority:	Medium
Frequency of Use:	6 times per user / hour
Flow of Events:	1. User clicks his/her flag of interest. 2. Slide up menu displays an image gallery of all birds ever sighted in that location. 3. The user can click on the images to be brought to the gallery of that specific bird.
Alternative Flows:	NIL
Exceptions:	1.3.EX.1: There have been no previous user-uploaded occurrences of birds in that general location. Image gallery will be populated by stock images of the birds pulled from the database instead.
Includes:	(7.1) View Wikipedia Page
Special Requirements:	NIL
Assumptions:	1. Map view function is compatible with user's mobile device
Notes and Issues:	NIL

Use Case ID:	2.1		
Use Case Name:	Predictions of Nearby Birds		
Created By:	Tan Jia Min	Last Updated By:	Tan Jia Min
Date Created:	01/09/2021	Date Last Updated:	01/09/2021

Actor:	User
Description:	Based on the data of past sightings, the app will use algorithms to provide users with a percentage chance of the bird that is most likely to appear in each of the 8 popular birdwatching hotspots in Singapore (according to the eBirds database).
Preconditions:	1. Stable internet connection 2. Connection to firestore
Postconditions:	1. A pin at each of the popular bird watching locations will be shown on the prediction view map. 2. Each pin will have a corresponding slideup panel which displays the bird most likely to appear in that location, as well as its respective percentage probability.
Priority:	Medium
Frequency of Use:	2 times per user / hour
Flow of Events:	1. User clicks on the lightbulb icon on the right of the screen to access the prediction view of the map. 2. View will immediately be taken to the predictions layer.
Alternative Flows:	NIL
Exceptions:	2.1.EX.1: No sightings of birds uploaded by users in that area. App will not show birds in that hotspot.
Includes:	NIL
Special Requirements:	NIL
Assumptions:	1. Map view function is compatible with user's mobile device
Notes and Issues:	NIL

Use Case ID:	3.1		
Use Case Name:	View Top Three Birds of Interest		
Created By:	Chua Yong Xuan	Last Updated By:	Chua Yong Xuan
Date Created:	01/09/2021	Date Last Updated:	01/09/2021

Actor:	User
Description:	Enables the user to view the top 3 birds of interest nearby to the user's current location, via a slide up menu. This list is formulated based on the rarity of the birds. This allows the user to identify birds of interest and increase the likelihood of spotting a rare bird.
Preconditions:	1. Stable internet connection. 2. App has access to location services. 3. User is in Singapore.
Postconditions:	1. Relevant birds are retrieved from the database. 2. A slide up panel displaying the birds is shown.
Priority:	Medium
Frequency of Use:	5 times per user / hour
Flow of Events:	1. The user launches the BirdGo app and the slide up panel appears with the top 3 birds of interest.
Alternative Flows:	NIL
Exceptions:	3.1.EX.1. Information cannot be retrieved from the database. The swipe up menu displays an error message ("The information cannot be retrieved.").
Includes:	NIL
Special Requirements:	NIL
Assumptions:	NIL
Notes and Issues:	NIL

Use Case ID:	4.1	
Use Case Name:	View Comprehensive List of Rare Birds in Singapore	
Created By:	Timothy Teh	Last Updated By:	Lim Xin Yi
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	Every rare species of bird that can be found in Singapore will be compiled into a list. This gives the user an overview of the extensive range of birds in Singapore.
Preconditions:	1. The bird that the user looks for must exist in the app's database of rare birds. 2. Stable internet connection. 3. User's device must have enough memory to handle both the app and the external browser
Postconditions:	1. User gets redirected to a Wikipedia page of the specific bird he or she looked for, i.e. user gets redirected to case 7.1.
Priority:	Medium
Frequency of Use:	6 times per user / hour
Flow of Events:	1. User clicks the hamburger menu on the top-left of the screen to access the list of birds in Singapore. 2. Users scroll down the list of birds to access the bird information. 3. Once the user identifies a bird they are interested in learning more about, he/she can click on that species name, and can be redirected to its official Wikipedia page.
Alternative Flows:	NIL
Exceptions:	4.1.EX.1: Failed to open browser Popup notification indicating there is an error with the browser
Includes:	(7.1) View Wikipedia Page
Special Requirements:	Users must be familiar with the specific name of the bird of interest.
Assumptions:	NIL
Notes and Issues:	NIL

Use Case ID:	5.1		
Use Case Name:	Upload Occurrence		
Created By:	Bryan Ong	Last Updated By:	Jared Tan
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	Users upload occurrences into the database. The upload feature will be essential to pinpoint exact locations of birds for other users. This image will then be displayed to the user on the map via pins on the map..
Preconditions:	1. Stable internet connection. 2. App has access to Google photos. 3. App has access to location service. 4. App has access to datetime service.
Postconditions:	1. Database is updated with the information of new sighting.
Priority:	High
Frequency of Use:	2 times per user / day
Flow of Events:	1. User clicks the upload icon. 2. User clicks the bird species from a drop down list of all the birds. 3. User fills in a description of where the bird is in the location. E.g. Highest tree at the corner of Carpark C. 4. User click on the Upload photo button and chooses a photo from Google photos. 5. User clicks share location. 6. User clicks the submit button.
Alternative Flows:	1. Upload failed, either due to incomplete submission or other upload issued. Users will be informed that the upload failed, and allow the user the option to retry upload.
Exceptions:	1. The app will return an error if the user does not upload the location of where the bird was spotted.
Includes:	NIL
Special Requirements:	1. Photo cannot be too large 2. Photo must be in a .jpeg or .png format
Assumptions:	NIL
Notes and Issues:	NIL

Use Case ID:	6.1		
Use Case Name:	Search for Specific Bird		
Created By:	Chua Yong Xuan	Last Updated By:	Timothy Teh
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	The user can search for a specific bird species of interest in the search box. The app will display the sliding up panel with the details of the bird searched.
Preconditions:	1. Stable internet connection
Postconditions:	1. The app will display a sliding up panel with the specific bird gallery corresponding to the bird species searched.
Priority:	High
Frequency of Use:	3 times per user / hour
Flow of Events:	1. User clicks on the search box. 2. User types in the species of interest. 3. User clicks on the search button.
Alternative Flows:	1. Information cannot be retrieved from the database, due to incorrect search. The user can try to search for something else.
Exceptions:	1. The bird searched does not exist in the database. The app remains static, and does not display the sliding up panel.
Includes:	NIL
Special Requirements:	NIL
Assumptions:	1. Species of bird searched for must be available in the database.
Notes and Issues:	NIL

Use Case ID:	7.1		
Use Case Name:	View Wikipedia Page of the Specific Bird Species		
Created By:	Bryan Ong	Last Updated By:	Lim Xin Yi
Date Created:	01/09/2021	Date Last Updated:	03/11/2021

Actor:	User
Description:	The user will be redirected to a Wikipedia page of the indicated bird species. This allows the user to gain better knowledge of the various birds in Singapore. Wikipedia links, rather than scientific journals, were chosen as the resource with the intention of giving a broad overview of the various bird species, rather than inundate the average birdwatcher with in-depth scientific and technical jargon.
Preconditions:	1. Stable internet connection 2. The user has a web browser on their device 3. App given access to device's web browser
Postconditions:	1. External browser will open and load the correct Wikipedia page
Priority:	Low
Frequency of Use:	5 times per user / hour
Flow of Events:	1. User clicks the bird common name 2. The user will be redirected to their default web browser to the relevant Wikipedia page
Alternative Flows:	NIL
Exceptions:	NIL
Includes:	(1.2) View Profile Information of Selected Bird (1.3) View Profile of Birds in General Location (3.1) View Top Three Birds of Interest (4.1) View Comprehensive List of Rare Birds in Singapore
Special Requirements:	NIL
Assumptions:	1. The Wikipedia page exists for the specific bird species.
Notes and Issues:	NIL

Guidance for Use Case Template

Document each use case using the template shown in the Appendix. This section provides a description of each section in the use case template.

1. Use Case Identification

1.1. Use Case ID

Give each use case a unique numeric identifier, in hierarchical form: X.Y. Related use cases can be grouped in the hierarchy. Functional requirements can be traced back to a labeled use case.

1.2. Use Case Name

State a concise, results-oriented name for the use case. These reflect the tasks the user needs to be able to accomplish using the system. Include an action verb and a noun. Some examples:

- View part number information.
- Manually mark hypertext source and establish link to target.
- Place an order for a CD with the updated software version.

1.3. Use Case History

1.3.1 Created By

Supply the name of the person who initially documented this use case.

1.3.2 Date Created

Enter the date on which the use case was initially documented.

1.3.3 Last Updated By

Supply the name of the person who performed the most recent update to the use case description.

1.3.4 Date Last Updated

Enter the date on which the use case was most recently updated.

2. Use Case Definition

2.1. Actor

An actor is a person or other entity external to the software system being specified who interacts with the system and performs use cases to accomplish tasks. Different actors often correspond to different user classes, or roles, identified from the customer community that will use the product. Name the actor(s) that will be performing this use case.

2.2. Description

Provide a brief description of the reason for and outcome of this use case, or a high-level description of the sequence of actions and the outcome of executing the use case.

2.3. Preconditions

List any activities that must take place, or any conditions that must be true, before the use case can be started. Number each precondition. Examples:

1. User's identity has been authenticated.
2. User's computer has sufficient free memory available to launch task.

2.4. Postconditions

Describe the state of the system at the conclusion of the use case execution. Number each postcondition. Examples:

1. Document contains only valid SGML tags.
2. Price of item in database has been updated with new value.

2.5. Priority

Indicate the relative priority of implementing the functionality required to allow this use case to be executed. The priority scheme used must be the same as that used in the software requirements specification.

2.6. Frequency of Use

Estimate the number of times this use case will be performed by the actors per some appropriate unit of time.

2.7. Flow of Events

Provide a detailed description of the user actions and system responses that will take place during execution of the use case under normal, expected conditions. This dialog sequence will ultimately lead to accomplishing the goal stated in the use case name and description. This description may be written as an answer to the hypothetical question, "How do I <accomplish the task stated in the use case name>?" This is best done as a numbered list of actions performed by the actor, alternating with responses provided by the system.

2.8. Alternative Flows

Document other, legitimate usage scenarios that can take place within this use case separately in this section. State the alternative course, and describe any differences in the sequence of steps that take place. Number each alternative course using the Use Case ID as a prefix, followed by "AC" to indicate "Alternative Course". Example: X.Y.AC.1.

2.9. Exceptions

Describe any anticipated error conditions that could occur during execution of the use case, and define how the system is to respond to those conditions. Also, describe how the system is to respond if the use case execution fails for some unanticipated reason. Number each exception using the Use Case ID as a prefix, followed by "EX" to indicate "Exception". Example: X.Y.EX.1.

2.10. Includes

List any other use cases that are included ("called") by this use case. Common functionality that appears in multiple use cases can be split out into a separate use case that is included by the ones that need that common functionality.

2.11. Special Requirements

Identify any additional requirements, such as nonfunctional requirements, for the use case that may need to be addressed during design or implementation. These may include performance requirements or other quality attributes.

2.12. Assumptions

List any assumptions that were made in the analysis that led to accepting this use case into the product description and writing the use case description.

2.13. Notes and Issues

List any additional comments about this use case or any remaining open issues or TBDs (To Be Determined) that must be resolved. Identify who will resolve each issue, the due date, and what the resolution ultimately is.