ANDROID APPLICATION TO AID BIRD IDENTIFICATION IN THE FIELD

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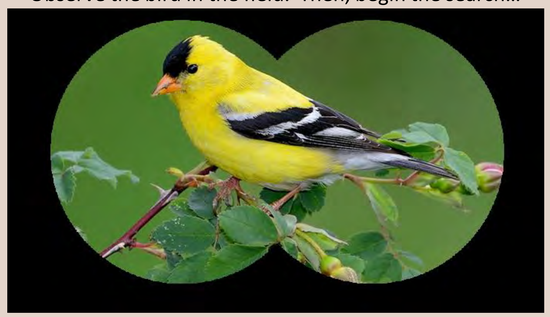
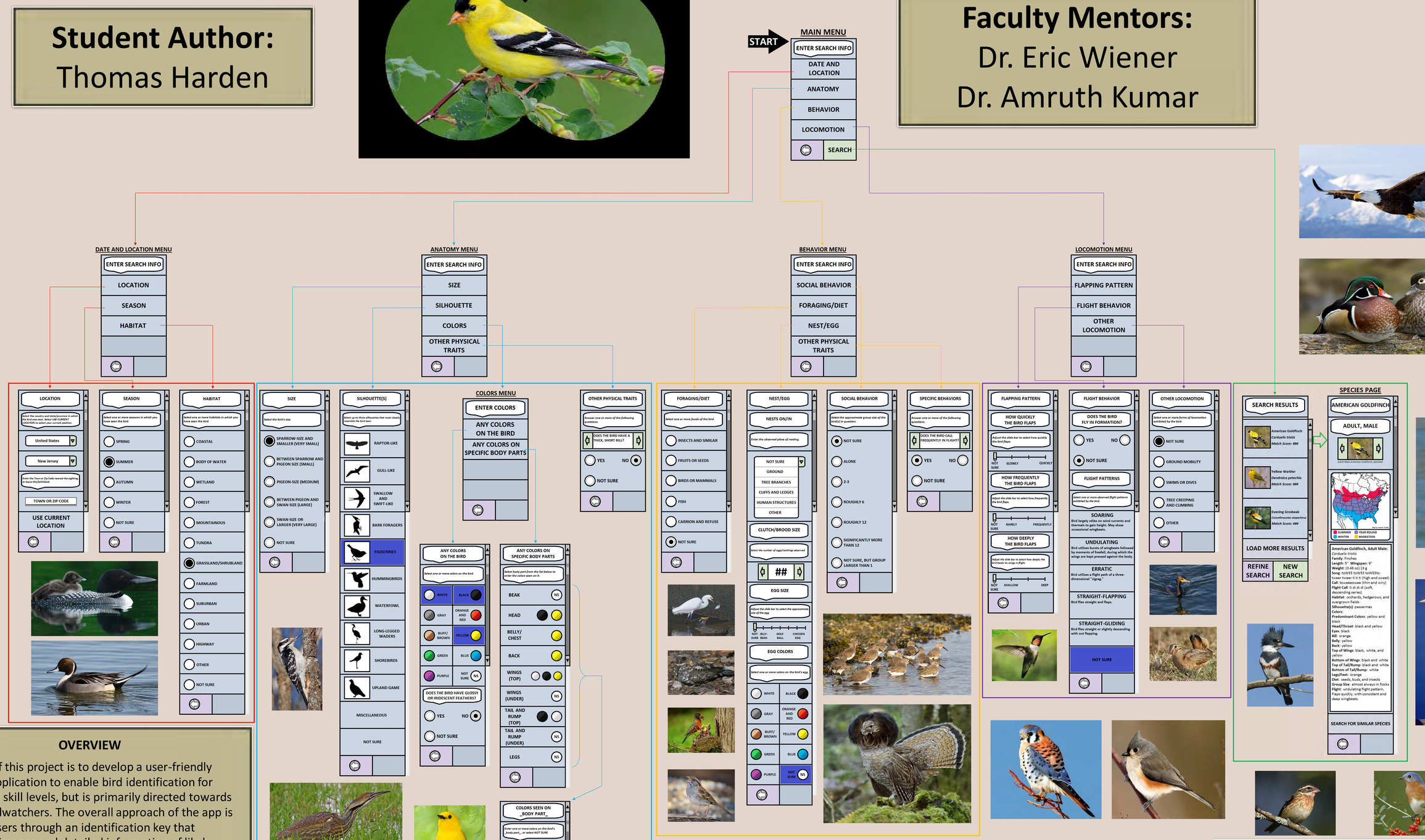
Observe the bird in the field. Then, begin the search…





OVERVIEW

The goal of this project is to develop a user-friendly Android application to enable bird identification for users of all skill levels, but is primarily directed towards novice birdwatchers. The overall approach of the app is to guide users through an identification key that generates images and detailed information of likely species via a search module where users systematically select parameters based on the traits of any bird observed in the field. The user inputs the date and location of a particular bird that was observed, and then through a series of input screens selects from lists of choices for the following variables: body shape and size, colors of different body parts, pattern of wing beats, social behavior, habitat, nesting information, and more. The app then generates a list of possible species, each with an accompanying archetypal image that links to a screen of detailed information that can help the user determine which species was observed.

IMPLEMENTATION

In terms of implementation, the feature data will be saved in a database on a server. Multiple entries pertaining to different genders and ages of each species will be created via a Java Program, and the Android app will retrieve and use this data for the step-by-step search process carried out by the user. A longer-term goal is to allow users to save entries into personalized, online databases, as well as make modifications to enhance the software. In addition, learning modules about basic birding skills will be incorporated to help users improve their ability to identify birds in the field. Overall, the app is expected to serve as an easy-to-use educational tool, and may help empower citizen science and even environmental professionals.

CREDITS

- *The Sibley Field Guide to Birds of Eastern North America* was used to obtain information about the habitat, diet, vocalizations, and measurements of the American Goldfinch.
- audubon.org contributed American Woodcock, Belted Kingfisher, Rose-Breasted Grosbeak, Eastern Bluebird, Ruffed Grouse, Prothonotary Warbler, and Common Loon images.
- allaboutbirds.org contributed Hairy Woodpecker, Northern Pintail, American Goldfinch (result), Yellow Warbler, and Evening Grosbeak images.
- All additional uncredited picture sources:
  http://www.pinterest.com/pin/174092341819428838/
  http://www.wallconvert.com/wallpapers/animals/tufted-titmouse-3617.html
  http://bcap.ctnews.com/dennis/2009/09/27/bird-watching-in-the-nutmeg-state/
  http://www.curaspk.com/photogallery/american-goldfinch/slides/American-Goldfinch-312.html
  http://www.infiniteunknown.net/tag/bald-eagles/
  http://barretswanderings.blogspot.com/2010/03/for-birds-osprey-hunt.html
  http://www.nativeamericananinalmedicine.com/blue_heron_medicine.html
  http://stevecreek.com/snowy-egret-catching-fish/
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  http://mrussellphotography.photoshelter.com/image/I0000pf3.dugvooi
  https://www.flickr.com/photos/emilieichenphoto/16717215143?ytcheck=1
  http://roninphoto.blogspot.com/2010/05/summer-is-coming.html
  http://animalscamp.com/peregrine-falcon/
  http://dnr.sc.gov/news/y2013/nov28/nov28_tern.html
  http://mgarcade.com/1/american-bittern
  https://www.pinterest.com/pin/442614846959916429 4/
- All silhouette images obtained by the following sources:
  http://rly.xcache.com/seagull_silhouette_rectangular_stickers-8e24924fb4294a51ba4dc7a8c69f349e_v9wxo_8bvyr_512.jpg
  http://thumbs.gograph.com/gg59205827.jpg
  http://www.naturalenterprise.co.uk/pages/news/46-have-you-seen-a-swift
  http://2.bp.blogspot.com/_F7sVbX-PFfw/R4p8A3Uwlol/AAAAAAAAVg/N4AF08HE1-4/s320/Raptor_silhouettes.gif
  http://www.fun-with-pictures.com/image-files/h_plover-silhouette.jpg
  http://www.fun-with-pictures.com/image-files/heron-silhouette.jpg
  http://thumbs.gograph.com/gg5964271 7.jpg
  http://www.identicards.com/productcart/pc/Catalog/images/EYP/decals/501-7006-wht.jpg
  https://parliamentofbirds.files.wordpress.com/2012/12/duck-silhouette-isolated-on-white.jpg?w=400
  http://www.hmcoloringpages.com/wp-content/uploads/woodpecker-silhouette.gif