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Softdev
P5: This is the End
2021-05-25

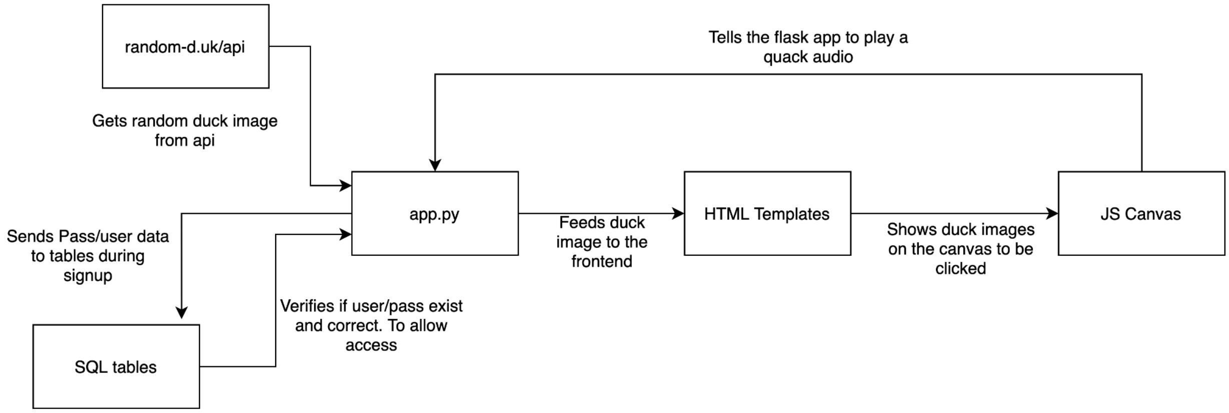
Our site has two games: ducksu and 15Duck. Ducksu is our duck themed variation of OSU, and 15Duck is our variation of the game 15 puzzle.

Components

- README.md:
  - Clearly visible at top: **<Project Name> by <Team Name>**
  - Roster with Roles
  - Description
  - Launch Codes:
    - How to clone/install
    - How to run
- SQLite database:
  - Table 1: Users
    - Username (unique field)
    - Password
    - 15Duck Moves high score
    - Ducksu high score
- Flask App
  - Login uses cookies, so if user is already logged in, the user will not have to re-enter username password
  - connects backend files (i.e. database) to frontend files (i.e. html templates). This Python script will redirect users to another webpage based on the buttons they click and their input in HTML forms.
    - /signup, /login, /error will be same as P0
    - /home greets user, contains game options and user high score
    - /ducksu
      - User clicks on ducks that appear on the canvas, if clicked on time, QUACK! and user's score increases. If user misses three times in a row, HONK!
    - /15duck
      - User clicks on buttons to rearrange numbers 1-15 on board. Additional feature is music, which we will use the spotify API for.
- Templates
  - signup.html: contains an HTML form that allows users to create a username and password for their account.. app.py will check if the usernames chosen by new users already exist in the Login table and verify if they fulfill other requirements (i.e. password length). Users will be redirected to response.html or error.html depending on whether their account was created successfully.

    - login.html: contains an HTML form that allows the user to enter username and password. When the user clicks the "Submit" button, app.py will check if the credentials match an entry of the Login table in the SQLite database. Users will be redirected to home.html or error.html depending on whether they logged in successfully.
    - error.html: If users fail to login or create an account successfully, they will be directed to this page and be told what went wrong. Below the error message, there is a "Sign Up" button that redirects the user to signup.html and a "Login" button that redirects the user to login.html
    - home.html: If users login or create an account successfully, they will be directed to this page. This page will have the game options displayed in the center.
    - ducksu.html: displays canvas with appearing ducks, tracks user's mouse clicks and displays user's updated score
    - 15duck.html: displays a table with randomly placed numbers 1-15. The user can click on any of 4 buttons to move the numbers.
- Bootstrap:
    - Neatly displays the two game options once the user logs in
- API
    - API for Spotify
        - https://developer.spotify.com/documentation/web-api/
    - API for ducks
        - Link: https://random-d.uk/api

Component Map


random-d.uk/api
Gets random duck image from api
Tells the flask app to play a quack audio
app.py
Feeds duck image to the frontend
HTML Templates
Shows duck images on the canvas to be clicked
JS Canvas
Sends Pass/user data to tables during signup
Verifies if user/pass exist and correct. To allow access
SQL tables

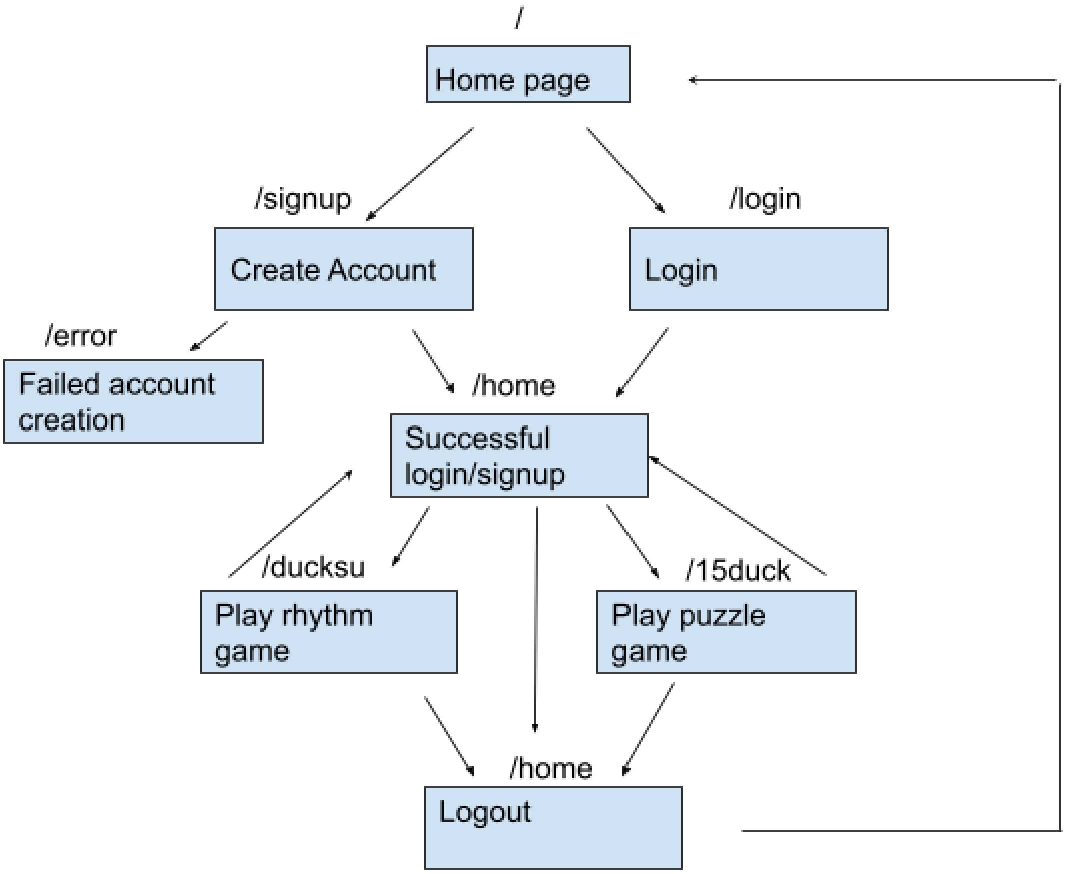
Database Organization [NEEDS TO BE UPDATED]

- Users table:
    - There will be a row for each user.

ID	Username	Password	15Duck Moves	Ducksu Moves

0	andrew	jiang	20	20
<non-negative integer>	<username>	<password>	<non-negative integer>	<non-negative integer>
INTEGER	TEXT	TEXT	INTEGER	INTEGER

Site Map for frontend



Tasks

Andrew: duck API, spotify API

Benjamin: all the math behind ducksu and connecting canvas to script

Madelyn: Login, html table for 15DUCK + arrow buttons

William: JS, getting ducks to appear on canvas, user clicking

Timeline

May 26: Fix up design doc

May 28: Get Login set up, tables set up

May 29: APIS, canvas working for ducksu // tables displaying randomly ordered numbers for 15duck
May 30: tracking user clicks for ducksu // loops to move numbers working for 15duck
June 1: connect quack sound for ducksu // record high score for 15duck
June 3: fix bugs in ducksu // better the animations for 15duck

Possible additions if time warrants:

Instead of the numbers 1-15, user has to reconstruct a duck image.