Doggy Dex

Gotta Catch 'em All!

Team

Grayson Dew   -   Team Lead
Orion Culbertson   -   Front-end Lead
Miguel Galvan   -   Git Master
Rigo Perez   -   Back-end Lead
Kristopher Phillips   -   Scrum Master

What is DoggyDex?

- User Accounts
  - Create Account
  - Log In
- Upload Photo
- Dog Breed Classification
- Personal DoggyDex
- "Learning Mode" DoggyDex

Project Management

- Identify Strengths/Prior Knowledge
- Desire to work on certain topics
- Set realistic and attainable goals.
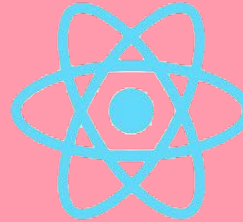 - Meeting/Week/Milestone

Team Coordination

Technology Stack

MERN — Amazon Web Services EC2 — MongoDB, Express, React, Node
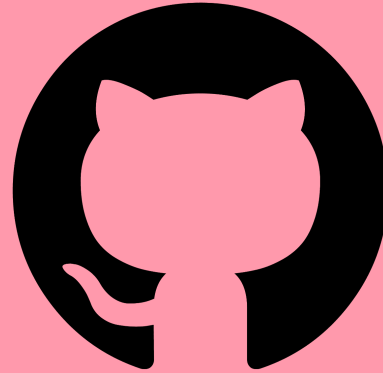
MERN Stack + AWS

- MongoDB Atlas 5.0
  - Multi-cloud database service

- Express 4.27
  - Web application framework
  - Handles HTTP requests (Get, Post, Delete, etc)
  - Deals with middleware

- NodeJS v17
  - Runtime environment

- React JS Library
  - Created by Facebook
  - Fast and interactive UIs
  - Front-end only
  - Component based

- AWS-EC2 (Amazon Elastic Compute Cloud)
  - Scalable compute capacity
  - Powerful cloud-based infrastructure
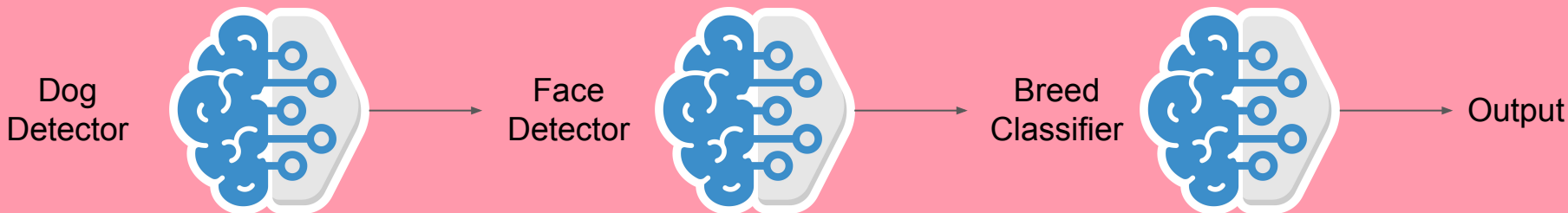
Implementation Discussion
Back-end

- Services (User)
  - Signup
  - Password Hashing with "bcrypt"
  - Log-In
  - Authentication with JWT (Jason-Web-Token)

- Services (Dog Breed)
  - Search

- Services (Photo)
  - Multer

Implementation Discussion
Machine Learning

- Tensorflow
  - Trained ML classification models in a local environment
  - Used these pre-trained models in the back-end

- Features:
  - Classifies 133 different dog breeds
  - Recognizes human faces as well and outputs the closest-looking dog breed
  - On the server, takes approximately 15 seconds to classify an uploaded image

Dog Detector → Face Detector → Breed Classifier → Output

Implementation Discussion
Front-end

- Designed with:
  - Figma

- Implemented with:
  - React
    - Main Front-End JavaScript Library
  - React Redux
    - App State Management
  - REST API
    - Used to communicate with the Back-End Express server

- Tested with:
  - Jest and React Testing Library
    - Jest mock functions and backend
    - React testing fireEvent and rendering

Demo