

# Final Presentation

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PerlSquad (Biome Game)

# The Client:

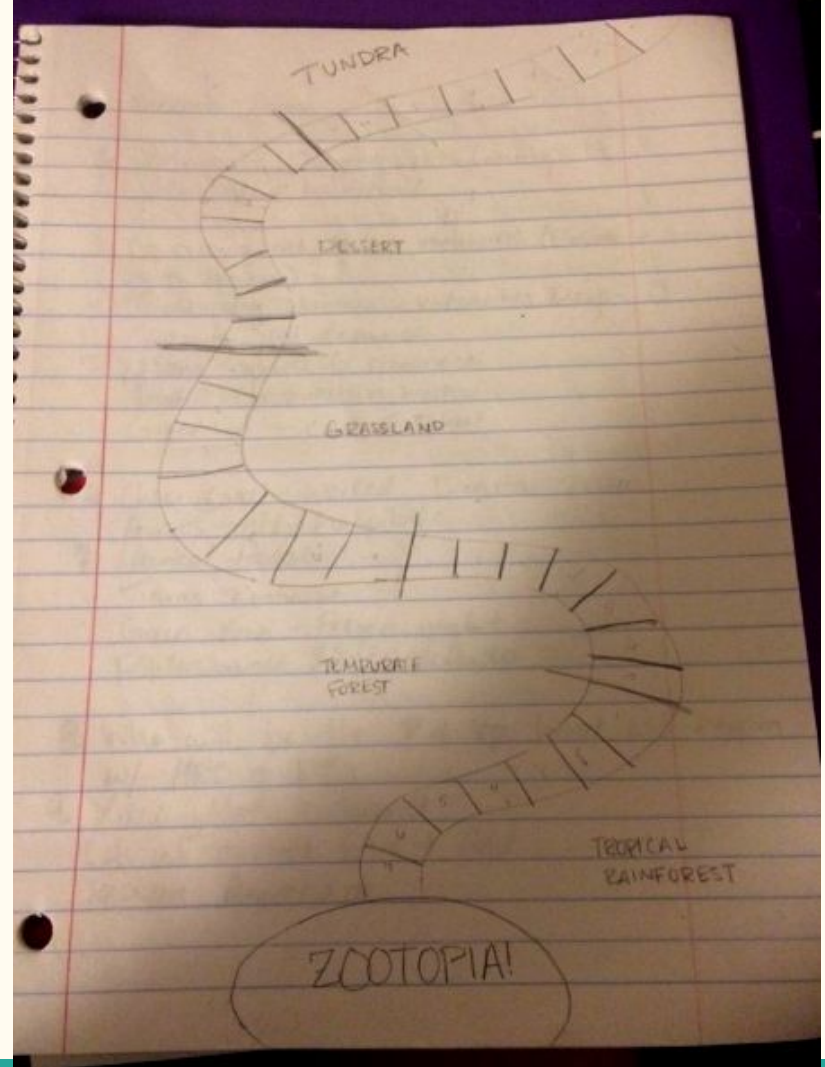
- Last semester, we were contacted by Dr. Dani to help design a game to be used as part of her curriculum for education students
- The primary goal was for the game to help younger students learn more about or reinforce their knowledge of biomes
- Initial design went through various iterations, initially seeming something more like “Candyland” in design
- This was similar to a board game that Dr. Dani’s students were also designing for their class

# Purpose-Concept Map



# Sketch of initial design

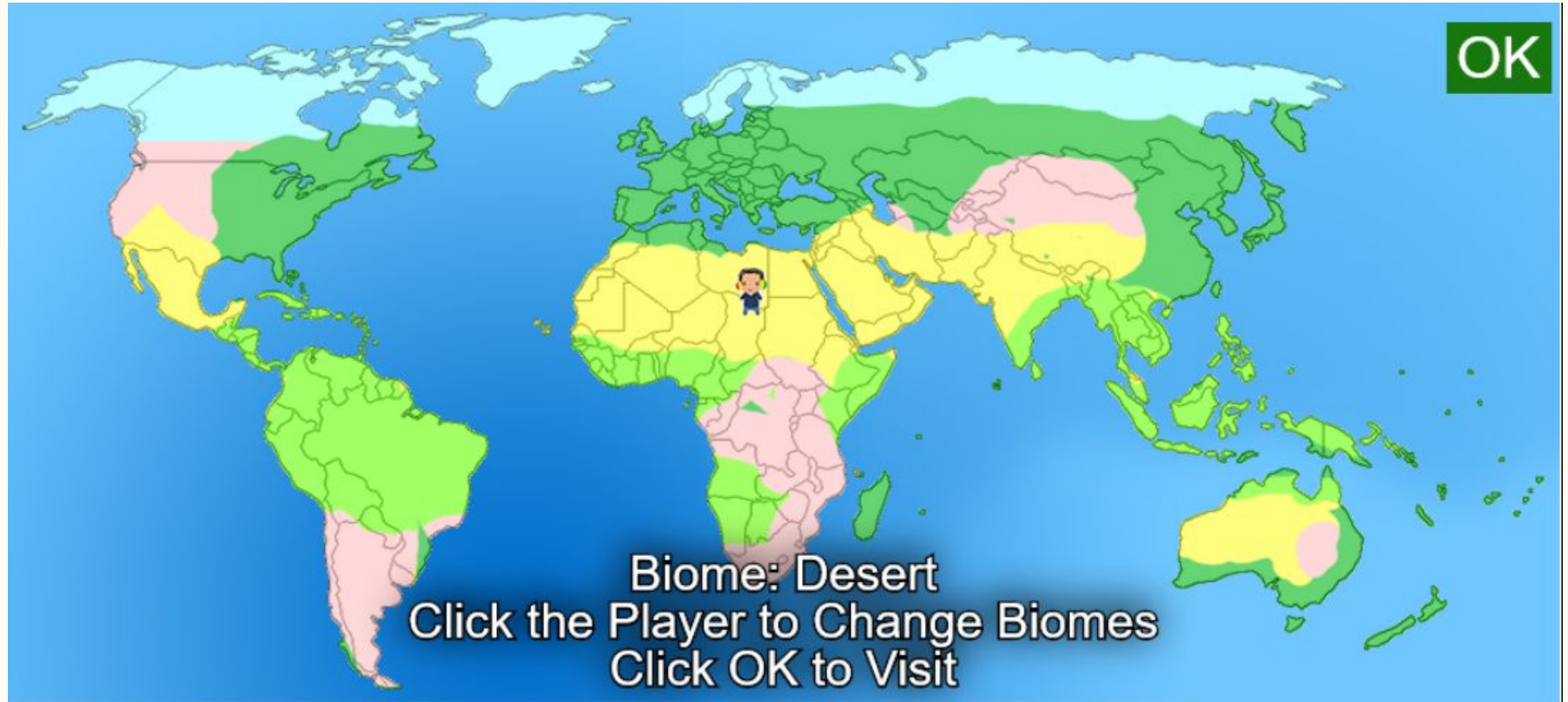
- Each biome had a section on game board
- Concept would be similar to Zootopia - different areas with different biomes where different animals lived
- Actual board game elements were not used, though the concept of “traveling” to biomes was kept



# Changes in design

- Initial plan was to create several mini-games for players to play, with different aesthetics (and potentially different gameplay)
- After a while, focus shifted more to customization features for teachers to tailor the game to their class, by editing, adding, and deleting animals for each biome
- Multiplayer was also an initial focus, but was dropped after realizing that customization was much more important
- Currently is a single player game that is HEAVILY customizable by the teacher for the student to play through

# Current Design:



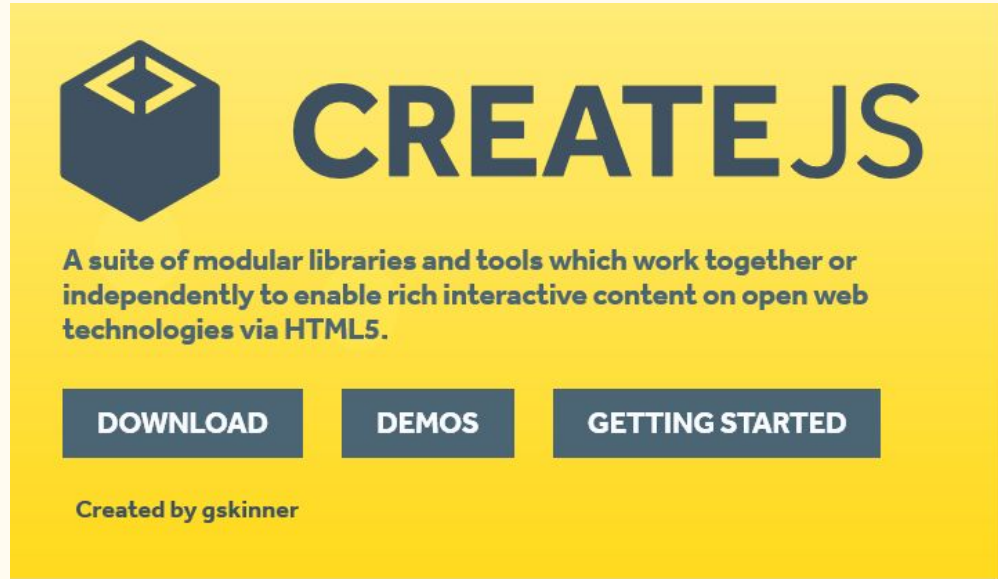
# Initial Technology considerations:

- Scratch - Very simple framework for making interactive games/videos - more user-friendly, but not very advanced <http://scratch.mit.edu>
- Phaser - similar to final choice (CreateJS). Team ultimately felt like CreateJS seemed slightly more intuitive and easier to use, but still was a good potential option - <https://phaser.io/>



# Current Technology: CreateJS Library

- November 26, 2015 version (current)
- Uses HTML5 Canvas
- Support for generating graphics via EaselJS library for basic shapes
- Animation support
- Preloading of images to prevent functions from running until all resources loaded via PreloadJS





# System Requirements

- Supported on Firefox (52.0.2<sup>+</sup>), Chrome (57.0.2987.133<sup>+</sup>), Microsoft Edge (38<sup>+</sup>), Internet Explorer (11.0<sup>+</sup>), Safari (5.1.7<sup>+</sup>)
- Should work in legacy browsers as long as they support HTML5/Javascript - not tested
- That is all you really need to play it - though due to customization, future updates to internet browsers could cause complications when using it, though it is unlikely

# Summary of this Semester's Sprints

- Sprint 1
  - Added Difficulty, Expanded Options Menu, Added Hover Info Screen, Preloaded Images
- Sprint 2
  - Implement Analytics, Increase Biome Selection and Customization
- Sprint 3
  - Expanded Biome Information, Collected Feedback, Analytics Differentiates Between Biomes
- Sprint 4
  - Improved UI, with Clickable Buttons, Better Colors, Smoother Animations
- Sprint 5
  - Cleaner Code, More Instructions, Improved UI, Finished Customization for Text & Help Screen

# QR Code



# Technical Aspects (for reference)

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PerlSquad (Biome Game)

# Links:

- GitHub - <https://github.com/Sagerune/PerlSquad>
- Current Release - <http://biomegame.online/>

# Tools:

- CreateJS - <http://www.createjs.com/> (November 26, 2015 version)
- GIMP/Photoshop for images - <https://www.gimp.org/>
- PHP - <http://php.net/downloads.php>
- HTML5/CSS - Pretty Standard
- JavaScript - <https://www.javascript.com/>
- FileSaver.JS - <https://github.com/eligrey/FileSaver.js/>
- Blob.JS - <https://github.com/eligrey/Blob.js/>
- jQuery - 3.1.1 - <https://jquery.com/>

# Testing/Analytics Tools:

- Unit Testing:
  - Jasmine - <https://jasmine.github.io/>
- Static Analysis:
  - JSHint/JSLint - <http://jshint.com/> or <http://www.jshint.com/>
- Analytics:
  - Segments - <https://segment.com/>
- User Experience:
  - NASA TLX <https://humansystems.arc.nasa.gov/groups/tlx/>

# System Architecture/Design





# Build Instructions

- Download files from github repo at <https://github.com/Sagerune/PerlSquad>
  - Download and install a php client <http://php.net/downloads.php> (optional, only for full customization)
  - Run game from “index.html” in the downloaded file
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- Alternatively, you can just play the game with full features at [biomegame.online](http://biomegame.online)