GEOG 575: Final Project Proposal
Sarah Grandstrand, Bryan Garner, Kevin Palmer

Primary User

Karen Beck is an avid Environmental scientist with specific interests in invasive species that may or may not pose a threat to surrounding ecosystems and endangered species. Her responsibilities at work consist of field work, where she is constantly visiting sites of potential invasive species. Documenting emerging species to be added to the ever-growing database and researching causes for their emergence into the territory. After taking an entry level course using geospatial information systems, she appreciates the power that spatial data has in visualizing complex and often large amounts of data. With the ever-growing popularity and adoption of interactive maps she is constantly searching for new GIS web applications that will allow her to take control of the domains that she is interested in learning more about. In addition, her use of GIS web applications has allowed her to pinpoint specific areas of interest for her to conduct further field work.

Primary User Scenario

Currently working for a Florida Environmental Organization, Karen has just been assigned a new species to locate, document, and monitor over time. This is an excellent opportunity to use a new GIS web app that she found a few weeks prior. Using the application, she notices on the left-hand side of the page information on the top 5 invasive species for the entire state of Florida. She notices that the 5 species on the left panel are highlighted on the map of Florida. Appreciating the helpful bits of information, she continues with her search in locating and learning more about her assigned species. Going through the available options she checks the map to make sure it is indeed interactive by panning and zooming with her mouse. Following this interaction, she notices a filter to where she can choose to display which group of species, she is interested in. After filtering and displaying the type of species as points on the map she begins hovering and reading the names of specific species. Clicking the layer icon presents an information box containing more information about the specimen. Very happy with this, there are still too many points for her to go through manually, she decides to search the name of her species. After successfully searching, she identifies the most recent sightings and which counties the species are currently inhabiting. Wanting to share her findings with her team she decides to customize the map to her liking by changing the base layer to aerial imagery in order to see terrain features.

Requirements Document

Representation	Title	Source	Description of Symbolization	
	Map	https://leaflet-extras.github.io/leaflet-providers/preview/ OpenStreetMap.BlackAndWhite	Black and white map which will be the set layer when you open the page	
	Street View	https://leaflet-extras.github.io/leaflet-providers/preview/ Esri.WorldStreetMap	Ability to toggle to this theme.	
	Aerial Imagery	https://leaflet-extras.github.io/leaflet-providers/preview/ Esri.WorldImagery	Ability to toggle to this theme. Aerial image	
	Species	Dataset from USGS	Circle with a different color per type of species	
	Top 5 species	Dataset from USGS	Unique symbol that has the same color as represented in the species column	
	Watersheds	Dataset from USGS	Outlined in a color with the inside mostly transparent	
Interaction	Title	Operators	Description of Behavior and UI design	

	Search by Species scientific and common name	Search; enable user to search by the attributes common name and scientific name	User can type scientific or common name in search bar. If the species does not exist will say "species not found"	
	Filter by Type of species	Filter	A drop down will appear showing the different groups and user can select one by one or all (default is all)	
	Filter by Watershed	Filter with "zoom to" feature	When you select a watershed it will zoom to the watershed's location	
	Click function	Popup/Retrieve	Will open information box showing species name, species common name, dates found at location, county, status	
	Mouseover function	Tooltip	Will show species name	
	Graphical feature	D3	Graphical representation of exotic vs native species	

Lo-Fi Wireframe

Invasive Aquatic Species of Florida

Side Panel -(scrollable)
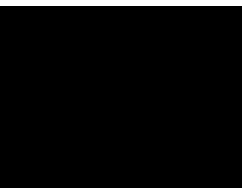
Filter dropdown per type of species

Select Watershed (will zoom to that area)

Top 5 Invasive species

Details about each species

How to Help/Prevent

Search by species common name or scientific name

Switchable baselayers

MAP

Currently showing symbolization for the top 5 species and all species found

Legend

● *Different color per type of species*

⬡ *Top 5 invasive species*

Information Box

Species Name
Species Common Name
Dates found
County
Status