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Sea Level Rise Toolbox

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Sea Level Rise Toolbox

A Web/Mobile Application to Project the Rising Sea in South Florida

Zhaohui Jennifer Fu

Dan Mcgillicuddy, GIS Center, FIU

Susan Jacobson, School of Journalism and Mass Communication, FIU

Who is involved in development?

- Faculty and Student from **FIU School of Journalism and Mass Communication (the primary originator and user)**
- FIU GIS Center researchers and developers
1. Peter Harlem, Creator of the Sea Level Rise maps (from 1-6 ft)
2. Dan Mcgillicuddy, Developer of the App

Components and Framework

METHODS	Elevation and Rise	Community Sourcing	Floods and Tides
	•Google Elevation Service, Google Maps API • Using ArcGIS Server to vis LiDAR by FDEM	•Miami-Dade 311 Flood Reports •Documenting Eye on the Rise by Students	• Yearly High Tides and Recent Water Levels (NOAA) •FEMA Flood Insurance Rate Maps (FIRMs)

METHODS

Elevation and Rise **Community Sourcing** **Floods and Tides**

FUNCTIONALITY

•Locate and identify the elevation of the location

•Sliding bar to display sea level rise from 1-6 ft

•FEMA flood zones

• Points of 311 flood reports

• Mobile interface for students or public to report flooding (King Tide Day)

• Connecting the current NOAA tidal and water level diagrams and reports to the actual point location

•Visualizing categories of FIRM zones by location

Public URL: http://eyesontherise.org/app/

About GIS Center's Web GIS — Key Components

1 Cloud APIs integration

Google APIs, Facebook APIs, Foursquare APIs, Bing Maps APIs, ArcGIS Online

2 ArcGIS Server

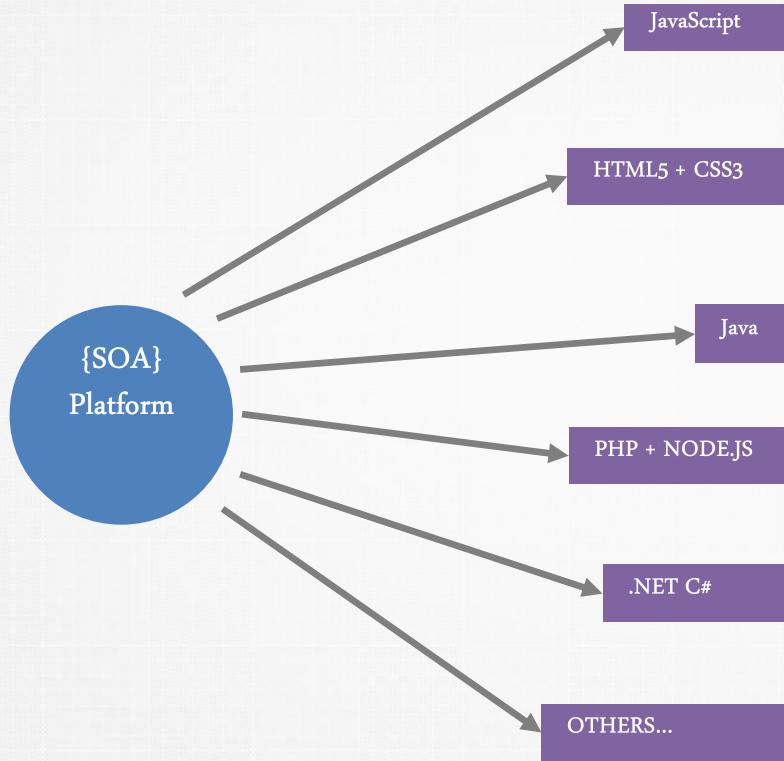Product from ESRI

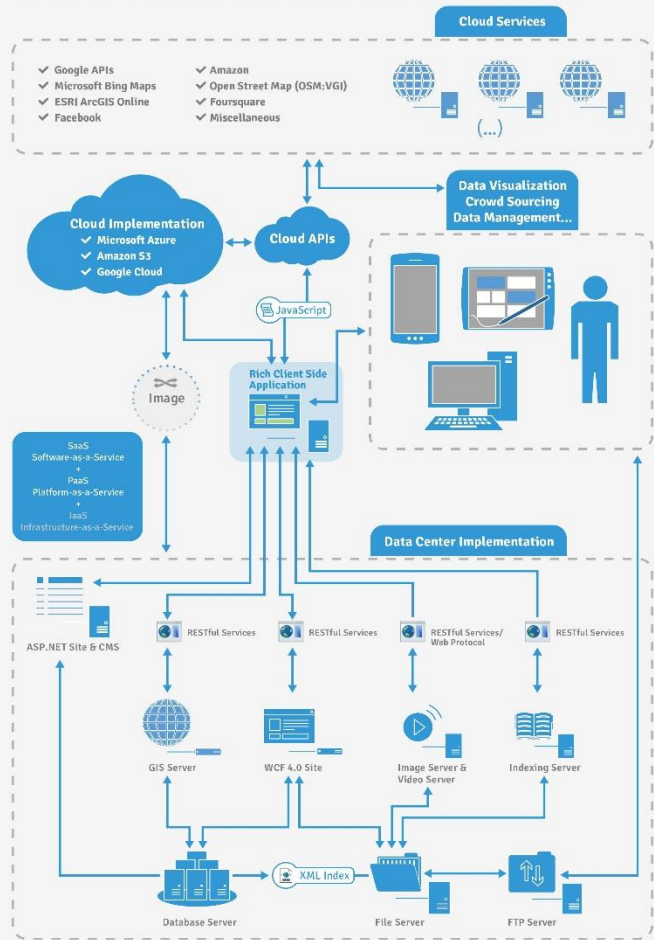**3** Rich client applications

Rich client side logic
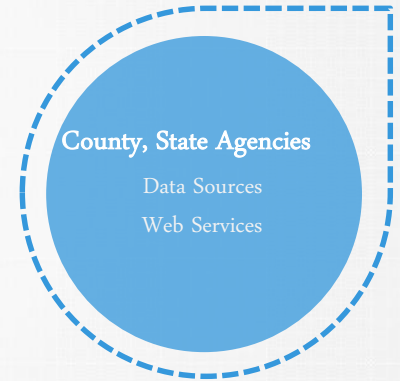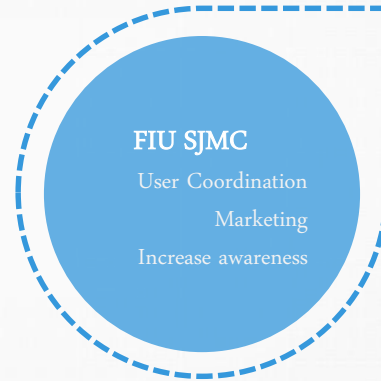AJAX for server side data communication
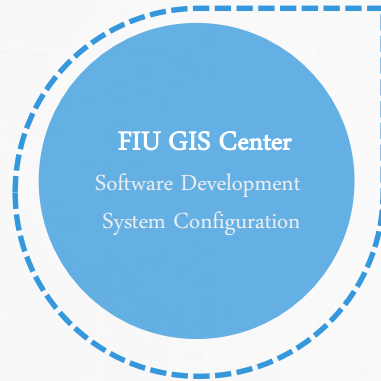
4 Web Service (WCF 4.0) site
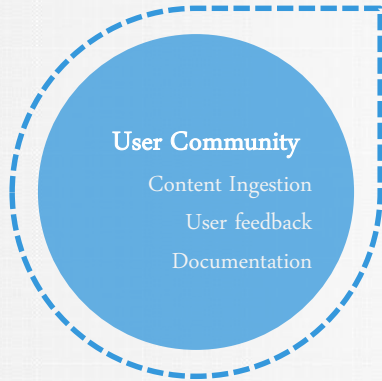
Windows Communication Foundation, from Microsoft.NET framework 4.0, is designed for cross developing platform distributing system

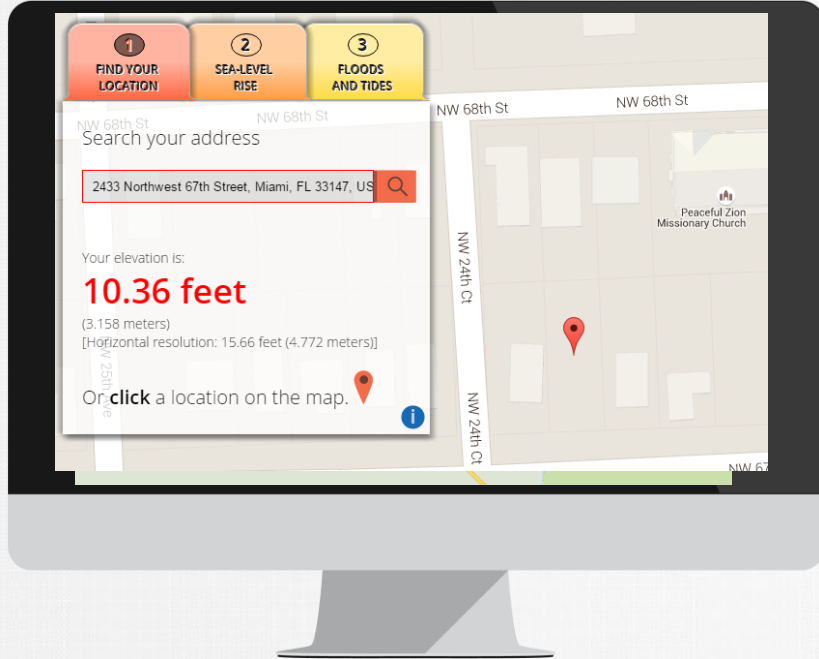Public URL: http://eyesontherise.org/app/

System Architecture

JavaScript

HTML5 + CSS3

{SOA} Platform

Java

PHP + NODE.JS

.NET C#

OTHERS...

dPanther FIU

Stakeholders

User Community
Content Ingestion
User feedback
Documentation

FIU GIS Center
Software Development
System Configuration

FIU SJMC
User Coordination
Marketing
Increase awareness

County, State Agencies
Data Sources
Web Services

Public URL: http://eyesontherise.org/app/

A Demo

Public URL: http://eyesontherise.org/app/

- Location

- Google Map APIs
- Google Elevation Services

A Demo

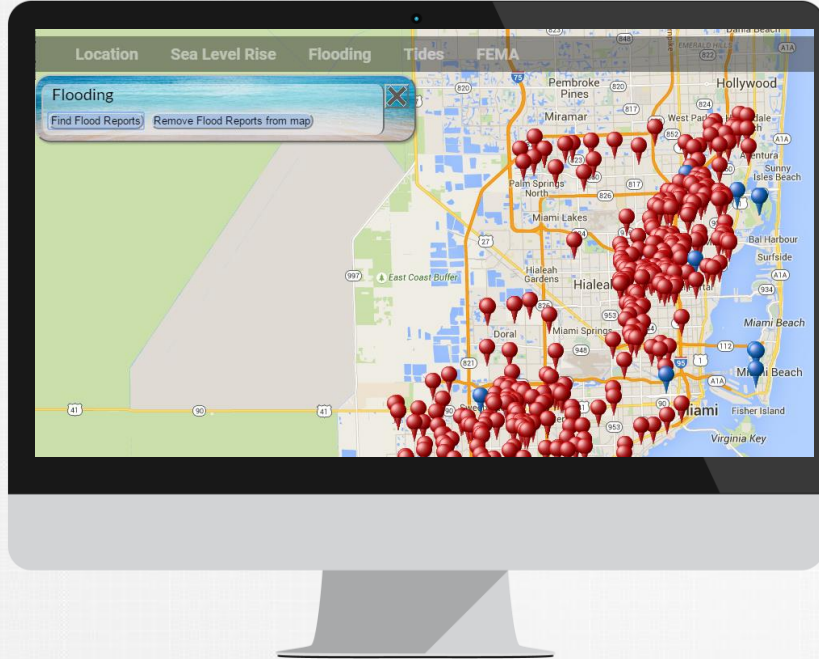Public URL: http://eyesontherise.org/app/
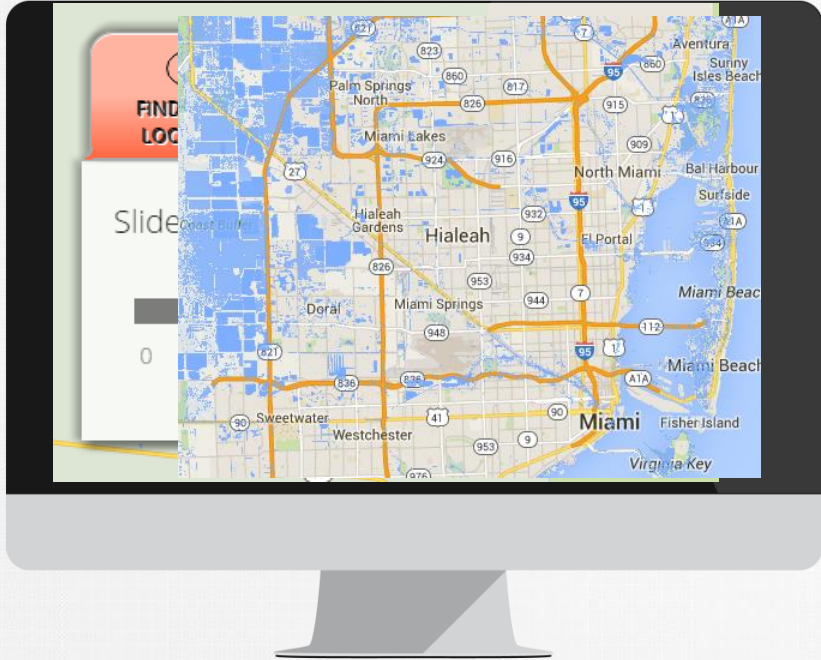
- Sliding Bar
- Sea Level Visualization

- Google Map APIs
- ArcGIS Server
- State of Florida Division of Emergency Management LiDAR ProjectLAS Dataset

A Demo

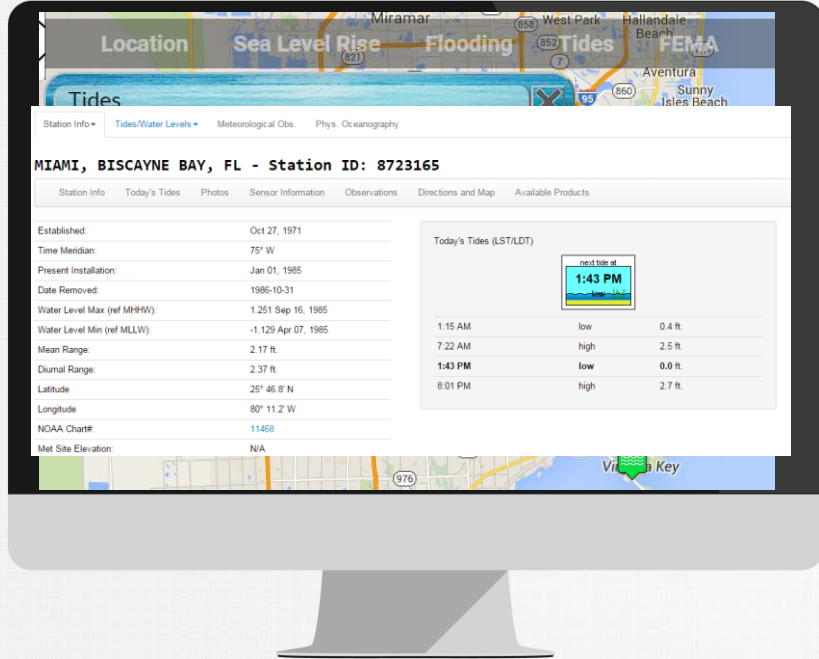Development URL: http://digir.fiu.edu/sealevelrise/

- Find Flood Reports
- Remove Flood Reports

- Google Map APIs
- ArcGIS Server
- Miami-Dade 311 Flood Reports
- Crowd-Sourced Eye on the Rise Flood Documents

A Demo

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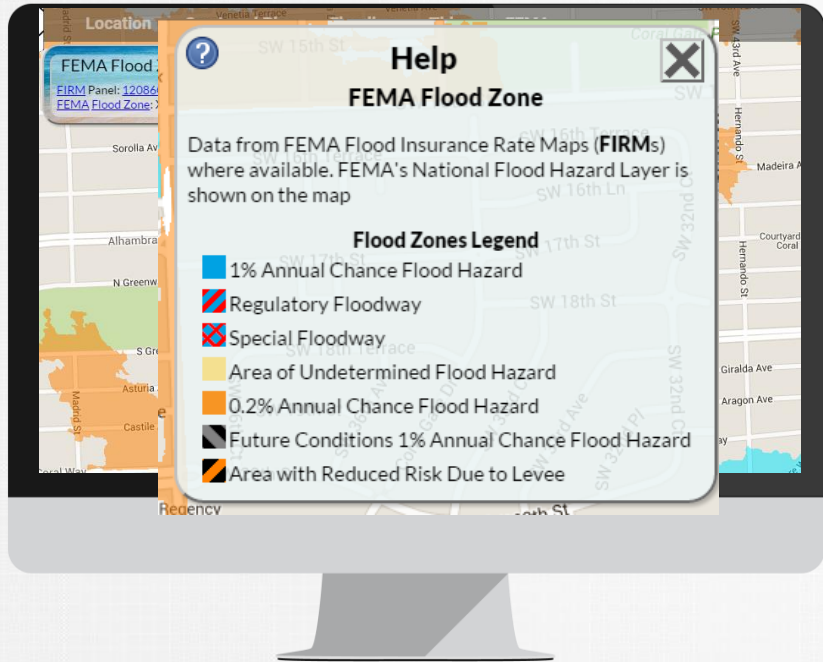
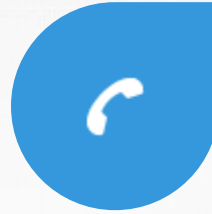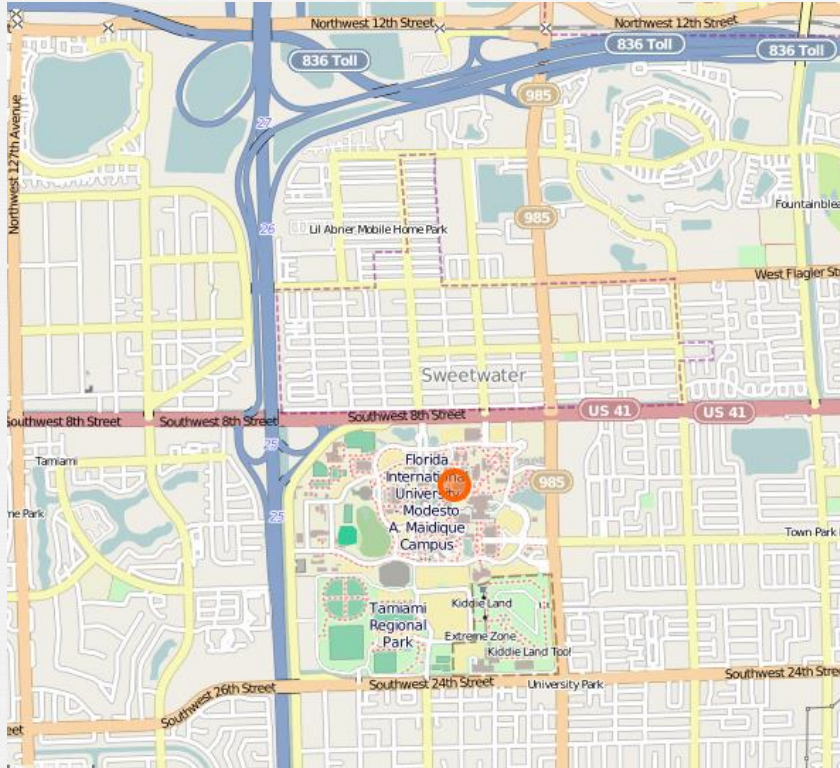- Location
- Display of FEMA Flood Zones

- Google Map APIs
- ArcGIS Server
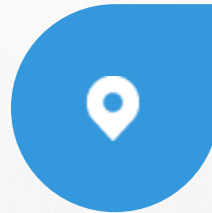- FIRMs

CONTACT**INFO**

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