DEVELOPMENT OF WEB BASED GIS APPLICATIONS USING ARCGIS SERVER API 3.X FOR JAVASCRIPT

ONLINE TRAINING
You will learn how to develop web mapping applications using ArcGIS Server API 3.x for JavaScript. Students will learn to insert spatial data in their own Web applications through ArcGIS Server map services.

Learn the fundamentals of JavaScript, the most widely used web-based programming language, learn App design and development for iOS products (iPhone and iPad), integrate through advance programming techniques, online web mapping resources like Google Maps or Bing Maps.
Enrolled students in this online course will have access to our virtual e-learning platform (which is available 24 hours), where they will find the content of the course, practical exercises, forum discussion and additional content. One of the advantages of this online platform, is that students can benefit of real time support and assistance offered by the instructor (2 hours per week), whom they can contact via direct messages, regarding course related issues, at any moment. They can also contact the instructor via email.

**METHODOLOGY**

**INSTRUCTORS**

**Chencho Martín Lagunas**
GIS Developer with extensive experience in Full-Stack software development, specialized in GIS data analysis and pre-processing using Python.

**Alberto Santos Estévez**
Consultant and Geospatial Developer with more than 15 years’ experience in GIS integrated solutions and high performance systems.

**PERFILES**

The course is aimed at professionals of the GIS world who, with knowledge or not of programming, want to know all the possibilities that programming with JavaScript offers.
INTRODUCTION TO JAVASCRIPT PROGRAMMING LANGUAGE

DEBUGGING APPLICATIONS
- What is Firebug?
- Using Console and Script tabs
- Highlighting HTML Elements
- Using CSS tab
- Debugging JavaScript code
- Error monitoring & reporting
- DOM Tab
- RED Tab
- Documentation

WORKING WITH DOJO AND ARCGIS SERVER
- Introduction to Dojo
- Dijit
- Dojox
- Dojo architecture
- Integrating Dojo with ArcGIS Server
- ArcGIS Server resources
- Initialization script
- Templates
- Dojo base and Dojo core
- Type checking
- String utilities
- Array processing
- JavaScript events and Dojo. What are the events?
- dojo.connect ()
- Managing events
- Should we record all the events?
- Mouse and Keyboard Event Normalization
- Publish/Subscribe Event Mechanism

ARCGIS SERVER FOR DEVELOPERS
- What is ArcGIS Server?
- GIS resources and services
- ArcGIS Server components
- ArcSDE
- ArcGIS Server editions
- What's new in ArcGIS Server 10.3.1

INTRODUCTION TO JAVASCRIPT API FOR ARCGIS SERVER
- Aptana plugin
- Short overview of JavaScript API for ArcGIS Server
- Why JavaScript?
- Working with maps
- Tiled and dynamic/feature layers' services
- Working with map extension
- Working with graphics and graphic layers
- Feature layers
- Drawing graphics and elements
- Map events
- Info window
- Adding toolbars
- Controls (widgets)
- Editing
- Design a basic application
- ArcGIS templates
- API configuration parameters

ADVANCE TECHNIQUES USING JAVASCRIPT

API FOR ARCGIS SERVER
- Introduction to ArcGIS Server tasks
- Performing Spatial and Attribute Queries
- Identifying Entities
- Finding elements
- Perform geocoding and reverse geocoding
- Geometry Service
- Route Task and Network analysis services
- Geoprocessing services
- Working with spatial data
- Multiple types of layers
- arcgis.com integration
- Using proxy with ArcGIS API for JavaScript
- Working with secure services

GOOGLE AND BING MAPS INTEGRATION
- ArcGIS Server extension for Google Maps
- Add an ArcGIS Server Dynamic Map Service to Google Maps
- Creating a query layer
- Search features
- Identify features
- Geocoding
- Geometry Service
- Geoprocessing services

ADVANCED RESOURCES OF DOJO
- Introduction
- Accessing Multiple Data Formats with the Dojo
Data API
Working with JSON
Reading JSON Data with Dojo
Working with XML Data
How to read CSV file
Ajax for client-server communication
dojo.xhr
Cross Domain Scripting Issues & JSONP
Using Iframe
JSON-RPC
User interface manipulation using DOM
Display a simple dialog box and store input data from user
Advanced Dijit Selects with Dojo
Create dynamic graphs and charts using Dojo
Display Image with Dojo

ADVANCED DESIGN TECHNIQUES FOR MAP APPLICATIONS
User-centered design (UCD)
KISS Design principles
Prototypes

INTRODUCTION TO USER INTERFACE DESIGN. CSS BASICS
What is User Centered Design?
CSS Syntax
Comments in CSS
ID selectors
Class selectors – CSS
External Style Sheet
Internal Style Sheet
How to add CSS styles to HTML code
Cascading Style Sheets
CSS Backgrounds
CSS Text
Font styles
Link styles
List styles
Use an image as a list marker
Table styles
Design better data tables
CSS Box Model

ADVANCED STYLING WITH CSS
Grouping Multiple CSS Selectors in One Style
Property
CSS Display and Visibility
CSS Sizing
CSS Positioning
Overlapping elements in CSS
Floating Elements with CSS
CSS Image Transparency
CSS image hover effects

USER INTERFACE DESIGN FOR IPHONE AND IPAD
Compact development (compact build)
Initializing Display Parameters
iOS Gestures
Map interaction using IOS gestures
API Geolocation
Dojox.mobile

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