

# **ESRI India Internship**

## **Internship Report**

**Submitted by:**

**Ritik Tomar**

**Intern, EIC – ADM**

## Table of Contents

<b>S No</b>	<b>Topic</b>	<b>Page No</b>
<u>1.</u>	HR Induction Call	3
<u>2.</u>	ADM Induction Call	3
<u>3.</u>	Induction Call with Vice President	3
<u>4.</u>	IT Induction Call	4
<u>5.</u>	Projection System, Raster/Vector Data Format	5
<u>6.</u>	ArcGIS Desktop	7
<u>7.</u>	Georeferencing and Data Retriever	8
<u>9.</u>	ArcGIS Online	10
<u>10.</u>	Portal for ArcGIS & ArcGIS Server	12
<u>11.</u>	Collector & Survey123 for ArcGIS	16
<u>12.</u>	Operations Dashboard and Story Maps	18
<u>13.</u>	Web Development Training	20
<u>14.</u>	Desktop Development Training (C#, .NET SDK)	26
<u>15.</u>	Testing	29
<u>16.</u>	UI/UX Design	30
<u>17.</u>	Session on Processes	31
<u>18.</u>	Certificates	34

**Date: 01/Feb/2022**

**HR Induction Call:**

On the first day, we had a welcome induction call with Sipra Tandon (Group Manager – HRBP) Ma'am, during which we learned about our joining dates and all of the necessary processes to follow before joining the firm.

**Date: 02/Feb/2022**

**ADM Induction Call:**

We had an orientation call with Mr. Abhishek Sindal, Senior Delivery Manager, EIC - ADM. During the meeting, we learned about our position in the EIC ADM team, as well as how ADM works in ESRI and what their tasks and responsibilities are.

**Date: 03/Feb/2022**

**Induction Call with Vice President, EIC – ADM:**

We had an induction call with Ashoka Taomar, Sir Vice President, EIC – ADM. The EIC ADM team's tasks and responsibilities were described to us.

**Date: 04/Feb/2022**

I looked at the ESRI websites and publications to learn more about the industry and products like ArcGIS, as well as how they are utilised.

**Date: 07/Feb/2022**

**IT Induction Call:**

Vaneet Singh Sir, Head - IT & Information Security, called us for an IT induction call. We were given instructions on how to set up our remote desktop and how to utilise it till we arrived at the workplace. Also, how IT operates and how to submit a ticket to the IT staff for assistance in addressing an issue.

**Date: 08/Feb/2022**

I looked at the several links provided by Abhishek Sindal sir to gain a basic understanding of ESRI, its website, and its products.

**Date: 09/Feb/2022**

### **Setting-up of Remote Desktop:**

We spoke with Mandeep Singh sir about setting up our remote desktop till we were able to work from home. We were shown how to set up our remote desktop and connect to it via the ESRI VPN.

**Date: 10/Feb/2022 - 11/Feb/2022**

### **Overview of ArcGIS Suite of Products**

We were given a list of resources to use in order to learn about ArcGIS. We watched ESRI videos, which provide critical information on the themes we wanted to learn about and progress in.

The ESRI training catalogue is also used to provide important information, but you can also get materials related to the courses here.

**Date: 14/Feb/2022**

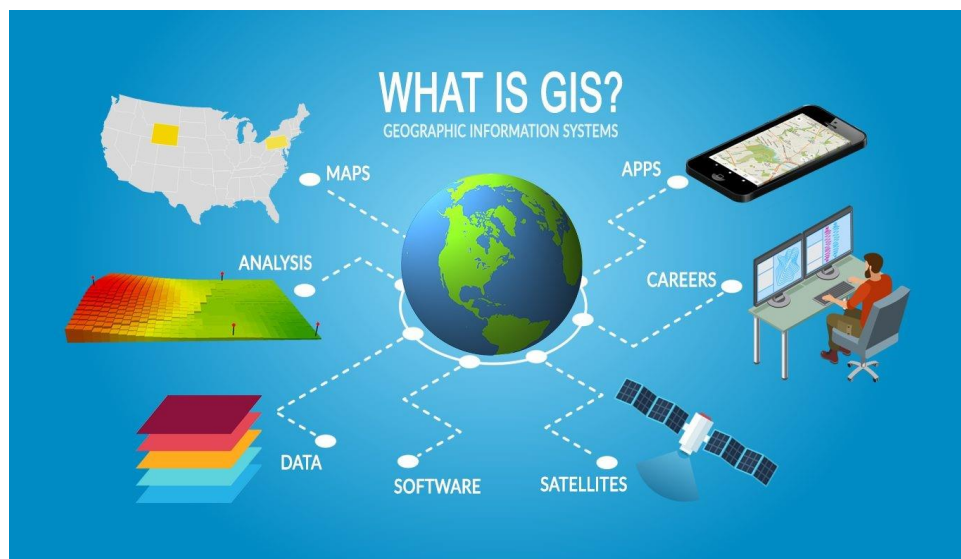
### **Preparing Story Maps:**

We were asked to prepare a story map for the topic of our interest, I had prepared a story map entitled, “*COVID-19 Sentiments in India*”.

Topic	Instructor	Date
Projection System, Vector/Raster Data Format	Prashant M	15/Feb/2022

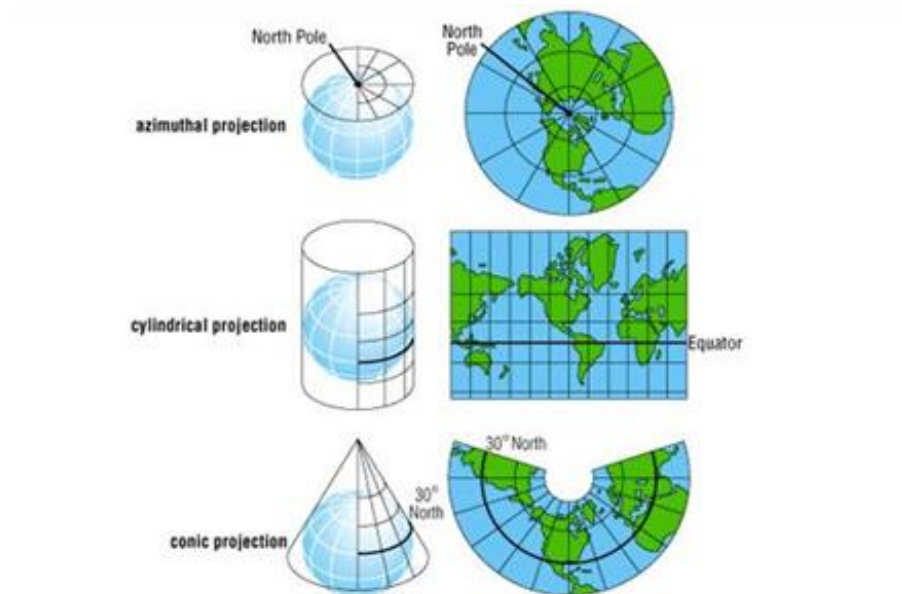
## 1) Why do we need GIS?

It combines spatial mapping and analysis with database management



## 2) Projection System:

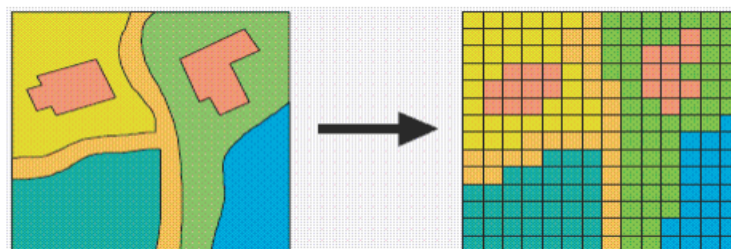
A projected coordinate system is a flat, two-dimensional representation of the Earth.



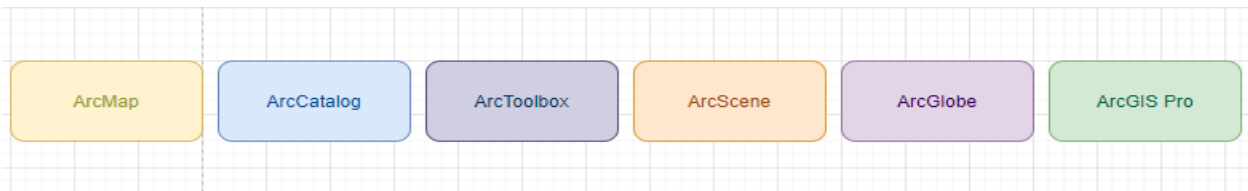
### 3) Vector/Raster data:

## Raster is faster but vector is corrector

The old GIS adage “raster is faster, but vector is corrector” comes from the two different fundamental GIS models: vector and raster. Each of these models has its own advantages and disadvantages. The vector model uses points and line segments to identify locations on the earth while the raster model uses a series of cells to represent locations on the earth. The figure represents vector (left) versus raster (right) data.



Topic	Instructor	Date
ArcGIS Desktop	Prashant M/ Anupam	16/Feb/2022 - 17/Feb/2022



## 1) ArcMap

Create Maps: Visualize, interpret, compare, and summarize spatial data in 2D and 3D. Design map layouts for print or online publishing.

## 2) Types of Geodatabase

*Personal Geodatabase:* Original data format for ArcGIS geodatabases stored and managed in Microsoft Access data files.

*File Geodatabase:* A collection of various types of GIS datasets held in a file system folder.

*Enterprise Geodatabase:* A collection of various types of GIS datasets held as tables in a relational database

## 3) Standard tools:

Add data button, Save as types, Adding data from AGOL, measure distance, symbology (Quants, categories & graphs), Query Fields (Att table), Labels, joins & Relate, etc.

## 4) Export data: In different formats.

- 5) Importing data from Excel or Dbf table to shapefile. (Display XY) (CS- WGS 84)**
- 6) Arcmap (long(x), lat(y)) & google maps (lat, long)**
- 7) Editor tool and it's Advanced capabilities (very imp.)**
- 8) Topology:** To correct feature classes
- 9) Getting your data into XML type format of full GDB (Either schema or data)**
- 10) Domain and Subtypes**
- 11) Network Analyst tools:** First important thing is to Add junctions and Line of intersection using Advanced editor tool then create network dataset of it > then route Analysis.
- 12) ArcGIS Online** – Publish a service (Analyze is imp. And allowing edit, create, etc) > Creating webmap.
- 13) Dissolve Tool, Clip Tool, Near Tool**
- 14) Mosaic to new raster (get geotiff images of 24 bits to get 3 band image and select write word doc...)**
- 15) Feature to KML (to use in google earth) and KML to Feature (to use in Arcmap)**
- 16) ArcGIS Pro basics and Standard tools** – use of project file instead of .mxd's & new functionalities

Topic	Instructor	Date
Georeferencing & Data Retriever	Kamal	22/Feb/2022

## **1) Georeferencing:**

Raster data is obtained from many sources, such as satellite images, aerial cameras, and scanned maps. Modern satellite images and aerial cameras tend to have relatively accurate location information but might need slight adjustments to line up all your GIS data. Scanned maps and historical data usually do not contain spatial reference information. In these cases, you will need to use accurate location data to



align or georeferenced your raster data to a map coordinate system. A map coordinate system is defined using a map projection-a method by which the curved surface of the earth is portrayed on a flat surface.

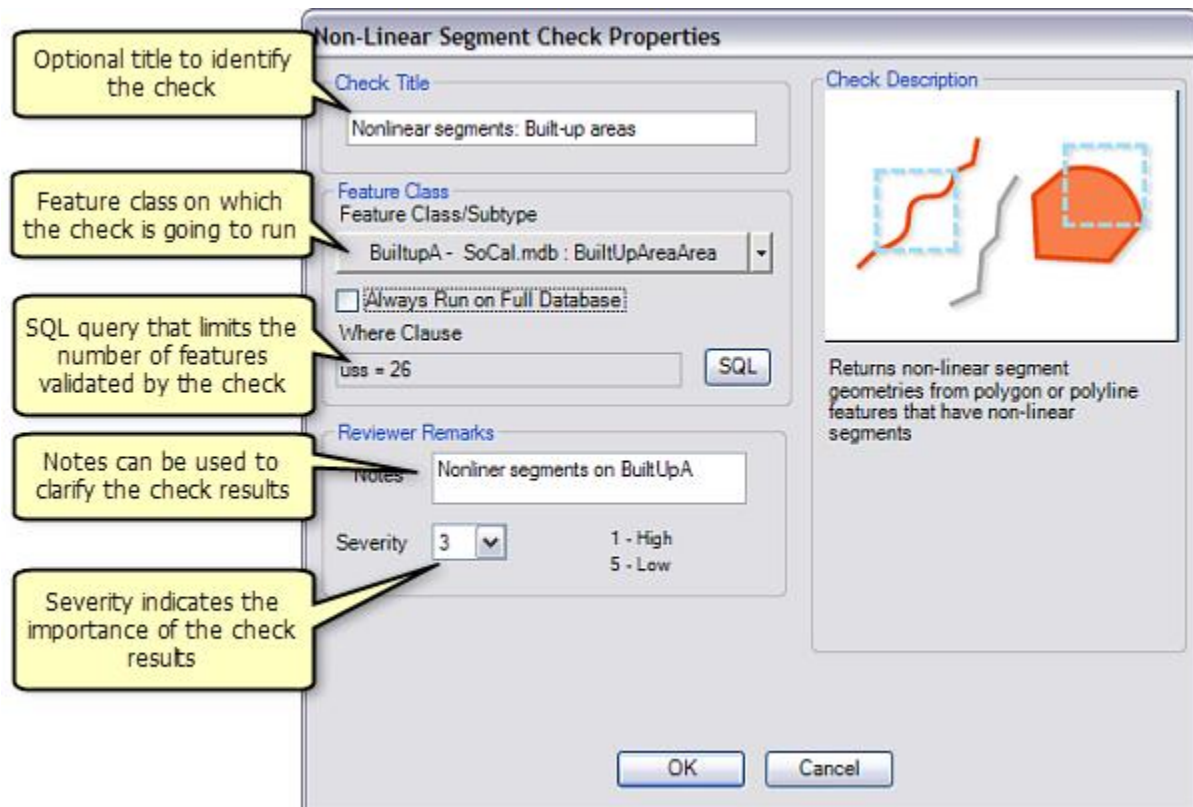
Interpret the root mean square error.

## 2) The Data Reviewer toolbar:

The Data Reviewer toolbar in ArcMap provides several tools you can use to manage and run quality control processes on your data. It includes tools for managing Reviewer sessions, configuring checks and batch jobs, and creating polygon grids. The menu on the toolbar contains additional tools that perform positional accuracy assessment and other advanced tasks.

## 3) Reviewer Session Manager

## 4) Checks:



**Non-Linear Segment Check Properties**

**Check Title**  
 Nonlinear segments: Built-up areas


**Feature Class**  
 Feature Class/Subtype  
 BuiltupA - SoCal.mdb : BuiltUpAreaArea

☐ Always Run on Full Database

**Where Clause**  
 uss = 26 SQL

**Reviewer Remarks**  
 Notes: Nonlinear segments on BuiltUpA

**Severity**  
 3 1 - High  
 5 - Low

**Check Description**  
  
 Returns non-linear segment geometries from polygon or polyline features that have non-linear segments

OK Cancel

**Callouts:**

- Optional title to identify the check
- Feature class on which the check is going to run
- SQL query that limits the number of features validated by the check
- Notes can be used to clarify the check results
- Severity indicates the importance of the check results

**5)List of check in Data Reviewer:** Database validation checks, default checks, Duplicate geometry check, Event checks, Feature on Feature checks, Polyline checks, Advance checks.

**6) Batch Job Manager:** The Reviewer Batch Job Manager is used to create, modify and validate batch jobs, or group of checks.

**7)The Reviewer table:** The Reviewer table is a window that displays the records or results that have been found using Reviewer checks and visual review and allows you to work with the records and configure the table.

**8)Data Driven Pages:** Data Driven Pages allow you to quickly and easily create a series of layout pages from a single map document. A feature layer, or index layer, divides the map into sections based on each index feature in the layer and generates one page per index feature.

Using map templates, clipping the data frame, working with data frames in page layouts, customizing data frames, working with graphic elements, neat lines, pictures, objects, legends, legend patch shapes, table elements, using extent indicators to enhance overview or locator maps, working with dynamic text.

Topic	Instructor	Date
ArcGIS Online	Anoosha Bisht	22/Feb/2022

1)ArcGIS Online is a cloud-based mapping and analysis solution. Use it to make maps, analyze data, and to share and collaborate.

2) Includes everything you need to create web maps, create 3D web scenes, and create web apps.

3) It's easy to share content with others inside and outside your organization. You can set up groups that are private and by invitation only, or public groups that are open to everyone.

#### 4) **ArcGIS online accounts:**

*Public account:* These accounts are not associated with an organization and offer a limited set of functionalities. (400 credits and 21- days trial)

*Developer account:* A complete mapping and location analytics platform for developers. Build and deploy powerful apps with APIs, SDKs, REST services and mapping tools. (50 credits and extra functionalities)

*Organizational account:* You become a member of an ArcGIS organization when you are added to or invited to join the organization. As a member, you need an ArcGIS organizational account to sign in and access your organization's customized ArcGIS website. (400 credits)

5) With ArcGIS Online, all components run in Esri-managed cloud infrastructure in a Software as a Service (SaaS) model.

6) ArcGIS Enterprise provides similar capabilities as ArcGIS Online, but it runs on your infrastructure. This infrastructure can be owned and operated directly by you.

7) Portal for ArcGIS is a component of ArcGIS Enterprise that allows you to share maps, scenes, apps, and other geographic information with other people in your organization.

8) Besides editing, feature services also provide the option to dynamically set *symbology* for features at the client side.

9) We can add ArcGIS Online maps to your applications with the web map ID.

#### 10) Maps:

Choose basemaps, Add layers (Add items), Change style, Configure- popups, Create labels, Visibility scale, Map notes, Save map

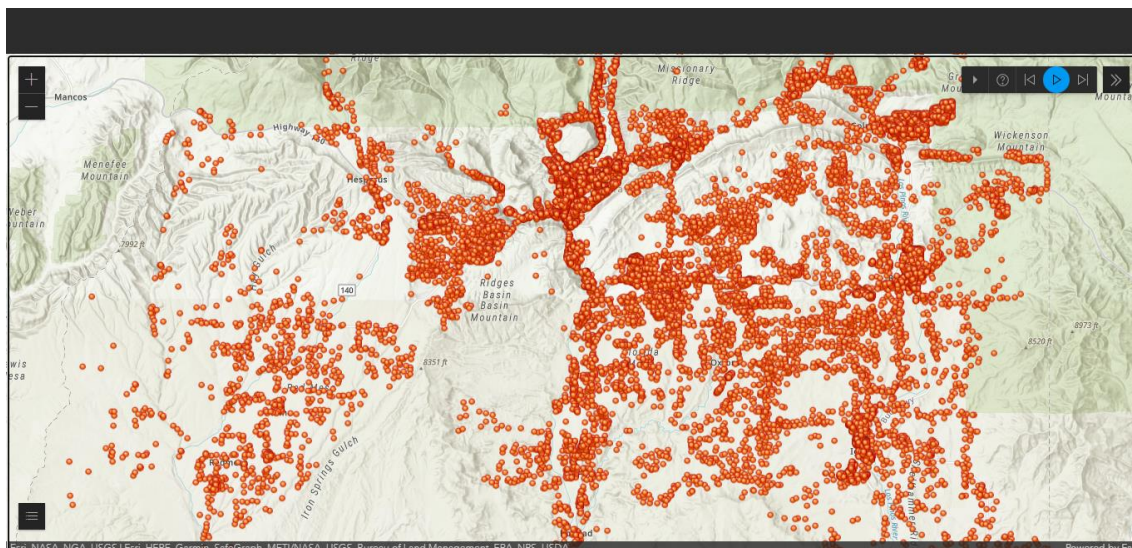
#### 11) Analysis:

- Model and compute (analysis tools that can be used to manipulate, quantify, and manage data)
- Examine and interpret (change your map's defaults to better visualize your data, including changing the style and transparency of your data, filtering out unnecessary data)
- Make decisions
- Share results

12) Groups: Define group's purpose, Set up group, Add members, Share items  
 13) Roles:

- *Administrator*—Publisher privileges plus privileges to manage the organization and other users.
- *Publisher*—User privileges plus the ability to publish features and map tiles as hosted web layers.
- *User*—Data Editor privileges plus the ability to create groups and content; use the organization's maps, apps, layers, and tools
- *Viewer*—View items such as maps, apps, demographics, and elevation analysis layers that have been shared with the member.

The goal is to use ArcGIS Online to create an Instant App.

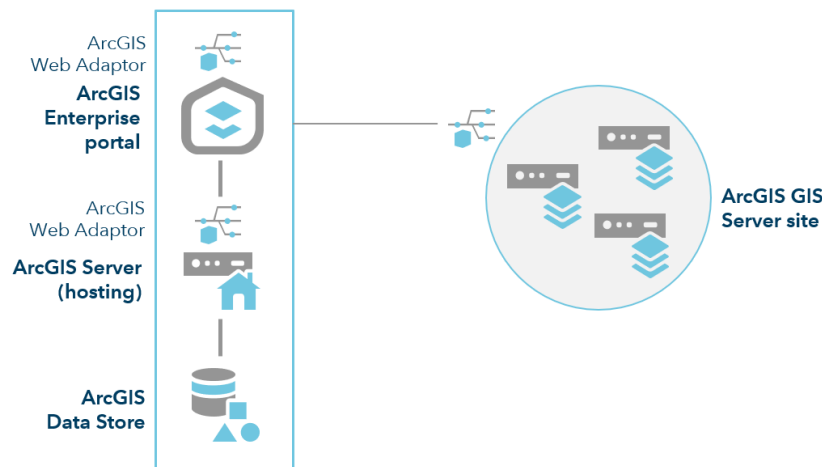


Topic	Instructor	Date
Portal for ArcGIS & ArcGIS Server	Smita Das	23/Feb/2022

**1) Web GIS:** Web GIS is a type of distributed information system, comprising at least a server and a client, where the server is a GIS server and the client is a web browser, desktop application, or mobile application.

**2) ArcGIS Enterprise:** The four components of ArcGIS Enterprise:

- *ArcGIS Server* powers mapping and analysis in your GIS, including several specialized server roles, and scales dynamically to support traffic.
- *The ArcGIS Enterprise Portal* is the central hub where users create, share, and manage maps, apps, and spatial data, and share them with collaborators
- *ArcGIS Data Store* provides nimble data storage for the hosting server used with your deployment.
- *ArcGIS Web Adaptor* integrates ArcGIS Server and Portal for ArcGIS with your existing web servers and your organization's security infrastructure.



**3) ArcGIS Server:**

- ArcGIS Server is a back-end server software component of ArcGIS Enterprise that makes your geographic information available to others in your organization and, optionally, anyone with an Internet connection.
- Anything kept on a server is called service.
- The ArcGIS Server Administrator Directory is a web application primarily designed to help you write administrative scripts for ArcGIS Server. We can fetch URL service

- Administrator directory construct administrative web service requests through REST.
- GIS services can be accessed via: SOAP, REST, KML, OGC
- ArcGIS server manager- services, site (directories, configuration stores), logs (for error reports and static reports, we add machines inside logs), jobs (shows on-going process), Data stores (registering data sources provides the server a list of source location)
- Web protocol: http 6080(unsecured), https 6443(secured)
- Server Roles:
- *ArcGIS Image Server* publishes image services for real-time visualization and performs distributed analytics on raster data.
- *ArcGIS Geoanalytics Server* performs distributed analytics on large volumes of tabular and feature data.
- *ArcGIS GeoEvent Server* integrates real-time, event-based data streams, as from Internet of Things sources, into your GIS.
- *ArcGIS Notebook Server* hosts ArcGIS Notebooks, which combine code, real-time visualizations and maps, and data tools to facilitate powerful data science.

#### 4) Data Store

Types of data stores:

- Relational data store—Stores your portal's hosted feature layer data, including hosted feature layers created as output from standard feature analysis tools run in the portal Map Viewer or ArcGIS Pro.
- Tile cache data store—Stores caches for your portal's hosted scene layers.
- Spatiotemporal big data store—Archives real-time observational data from a federated ArcGIS GeoEvent Server site and locations recorded through Tracker for ArcGIS.
- Versioning: Versioning allows multiple editors to alter the same data in an enterprise or workgroup geodatabase without applying locks or duplicating data.
- Archiving (we can roll back and see history)
- For database(Postgre, MySQL): add global ID, enable archiving, enable versioning(optional), enable enterprise geodatabase; as a result some tables will be added for geodatabase functionality.



- Create Enterprise geodatabase(key code file), database connection, share as a service

### **5) ArcGIS Web Adapter:**

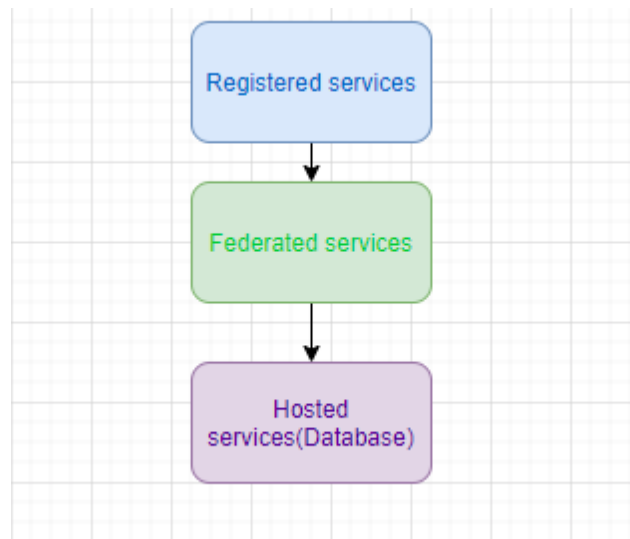
- ArcGIS Web Adaptor is an application that runs in your existing website and forwards requests to your ArcGIS Server machines.
- Http 80; https 443
- The Web Adaptor forwards requests to the machine hosting Portal for ArcGIS.
- Communicates between web server and GIS server

### **6) ArcGIS Enterprise portal:**

The ArcGIS Enterprise portal is a component of ArcGIS Enterprise that allows you to share maps, scenes, apps, and other geographic information with other people in your organization.

- The front-end portal is powered by the back-end infrastructure of Portal for ArcGIS.
- More organized than server
- Web GIS in your infrastructure option.
- The ArcGIS Enterprise portal includes: The ArcGIS Enterprise portal website, Map Viewer, Web AppBuilder for ArcGIS, Activity Dashboard for ArcGIS, Scene Viewer, ArcGIS apps, ArcGIS Living Atlas of the World content, Administrator tools, ArcGIS Portal Directory

### **7) Using Portal with ArcGIS server**

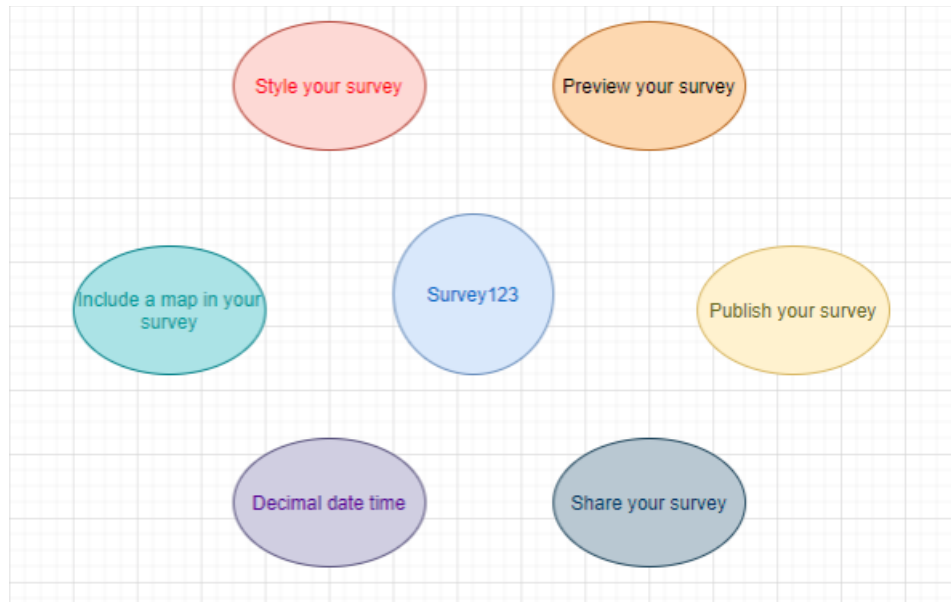


Topic	Instructor	Date
Collector and Survey123 for ArcGIS	Anoosha Bisht	24/Feb/2022

## 1)Survey123

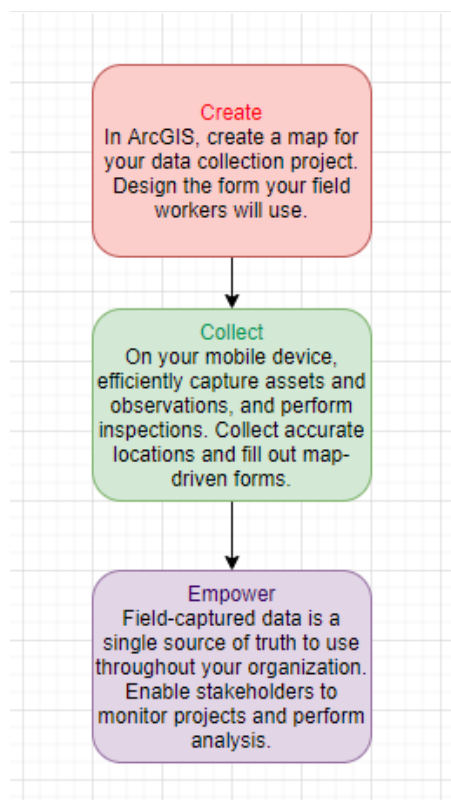
- Part of Esri Geospatial Cloud, Survey 123 for ArcGIS is a complete, form-centric solution for creating, sharing and analyzing surveys.
- Create smart forms with skip logic, defaults, and support for multiple languages
- Collects data via web or mobile devices, even when disconnected from the internet
- Upload data for further analysis.





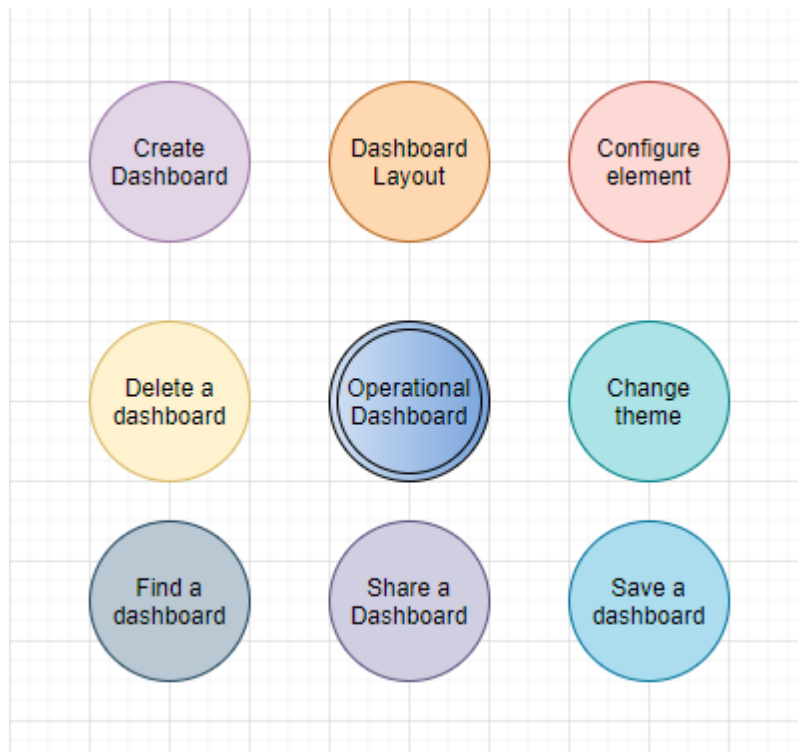
## 2)Collector for ArcGIS:

- Part of the Esri Geospatial Cloud, Collector for ArcGIS, a mobile data collection app, makes it easy to capture accurate data and return it to the office.
- Fieldworkers use web maps on mobile devices to capture and edit data.
- works even when disconnected from the Internet and integrates seamlessly into ArcGIS.



Topic	Instructor	Date
Operations Dashboard and Story Maps	M Piramu	25/Feb/2022

- A dashboard is a view of geographic information that helps you monitor events or activities.
- Designed to display multiple visualizations that work together on a single screen.
- offer a comprehensive and engaging view of your data to provide key insight for at-a-glance decision making
- dashboards are part of the ArcGIS geo information model.



Dashboard Elements: Header, side panel, map element, map legend, serial chart, pie chart, indicator, gauge, list, details, rich text, embedded content

### 1) Interactive Dashboards:

- Actions
- Charts as the source of actions
- Configure actions on dashboard elements
- Configure actions on URL parameters
- Selectors

## Web Development Training

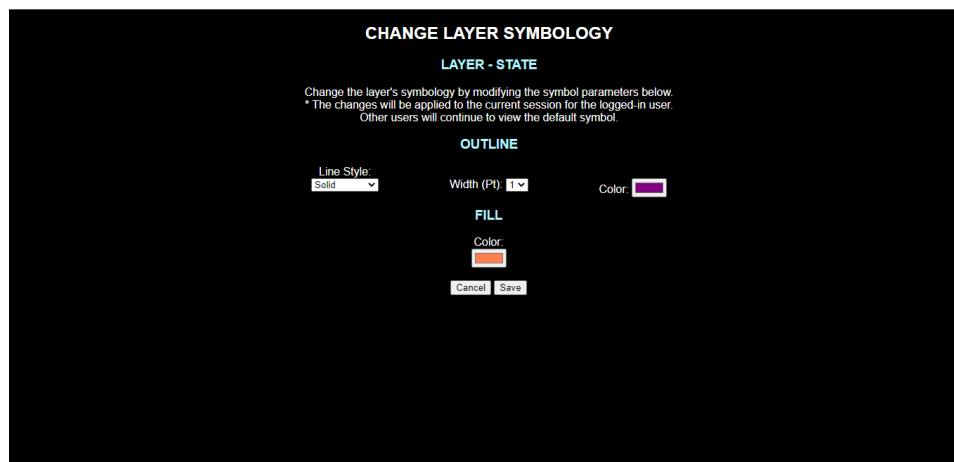
Topic	Instructor	Date
HTML & CSS Basics	Arjun Yadav/ Yashi Agrawal	28/Feb/2022

**HTML** stands for HyperText Markup Language, is a standardised technique for identifying text files in order to produce font, colour, visual, and hyperlink effects on World Wide Web sites.

**Cascading Style Sheets (CSS)** is an acronym for Cascading Style Sheets. It is a style sheet language that is used to specify the appearance and formatting of a markup document. It adds to the functionality of HTML. It's commonly used in conjunction with HTML to modify the look of web pages and user interfaces. It supports all types of XML documents, including plain XML, SVG, and XUL.

In most websites, CSS is used in conjunction with HTML and JavaScript to develop user interfaces for web apps and many mobile applications.

**Task Given:** To create a web page using HTML and style using CSS.



Topic	Instructor	Date
JavaScript Basics	Arjun Yadav/ Yashi Agrawal	01/Mar/2022 - 02/Mar/2022

### **What is JavaScript, and how does it work?**

- JavaScript is a scripting language that runs on the client side.
- It's used to bring websites to life.
- It's used to conduct operations on the page programmatically.
- When JavaScript was first developed, it was known as "LiveScript."

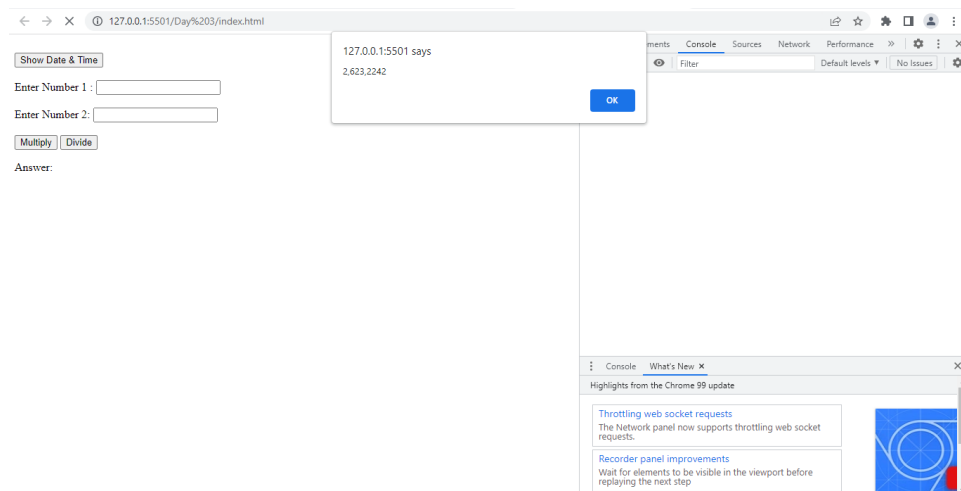
### **What can JavaScript do?**

- JavaScript may be used on the server as well as in the browser.
- We'll utilise JavaScript on both the client and server sides.
- JavaScript has come a long way as a programming language and is currently utilised for a wide range of activities.

### **What Can JavaScript Do in-Browser?**

If JavaScript is used on a website, it should not be allowed any low-level CPU rights, such as the ability to turn off the CPU. As a result, JavaScript is built with very secure permissions that prevent it from accessing low-level CPU utilisation.

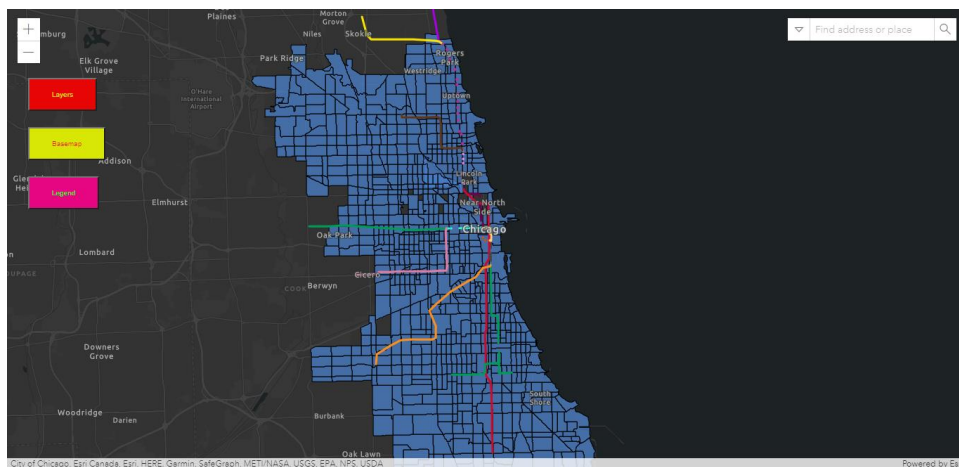
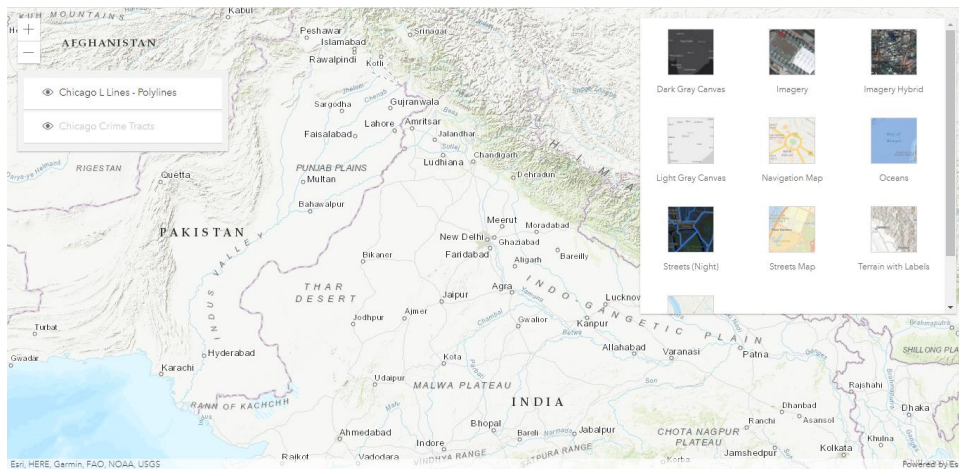
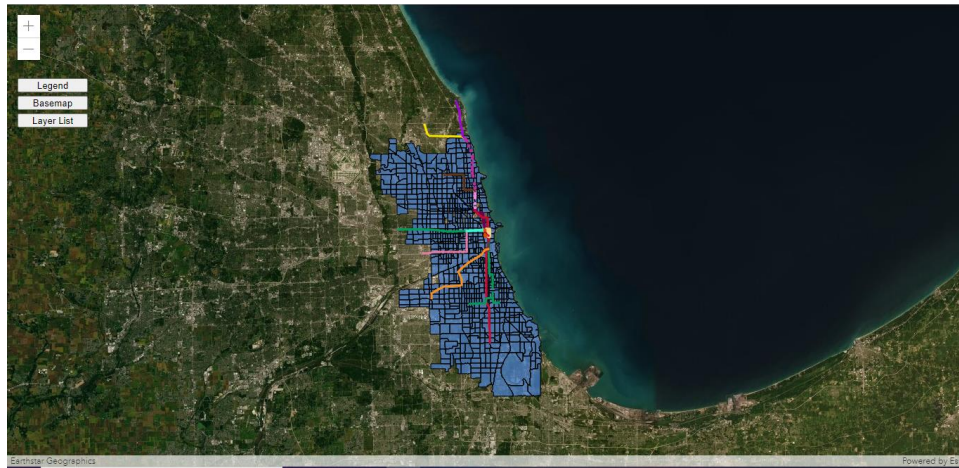
- From the DOM, JavaScript may add new HTML and update existing HTML.
- It's even capable of reacting to any situation (actions).
- JavaScript can also handle AJAX requests (GET or POST). It can also get and set cookies, as well as utilise local storage.

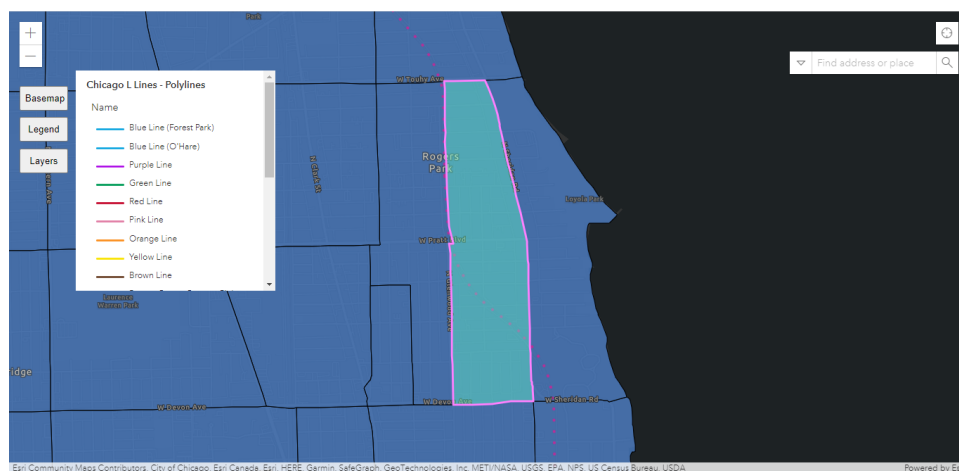


*Snippet of the performed task*

Topic	Instructor	Date
<b>ArcGIS API for JavaScript</b>	<b>Arjun Yadav/ Yashi Agrawal</b>	<b>03/Mar/2022 - 08/Mar/2022</b>

- Dojo framework
- Require, Define
- AMD, Legacy
- Dom ready
- Adding basemap, feature layer, map service
- Query and Query task
- Adding basemap gallery, setting extent
- Add pop ups, info template, graphics





*Snippet of the performed task*

Topic	Instructor	Date
WebApp Builder	Arjun Yadav/ Yashi Agrawal	09/Mar/2022 - 11/Mar/2022

- ArcGIS API for Javascript configuring Web app builder and downloading web app builder on desktop.
- Registering your App and using batch file to open your own WAB link using port 3344 which has all it's data on desktop.
- Understanding batch file, server , client , NLS folder (change it's name), manifest.js (change it's name), settings, Image, CSS.
- Creating custom widget in client that will add it in WAB tool library. Later we add it to App (map) it will create it's copy in server folder after saving it.
- Then we can do all the edit from server and customize it according to requirements. Getting prime no. on widget on button click.
- This – stateless , individual instance, things nor connected.
- To copy code it should be MIT, Apache Licensing.
- Creating a widget on map layer(AP, district and mandal layer).
- Using Query.
- Adding graphics to the map and setting extent for district when it's selected and then making only those mandal selectable which come under selected districts.
- Then adding graphics and extent to it as well.
- Using Lang.hitch, understanding importance of “this” and variables defined globally or locally.
- Map Service and feature service (ESRI proprietary)



- RDBMS (oracle, MYSQL, POST), .shp, FGDB , image , .sde: pseudo functionalities for reconcile, versioning.
- OGC (open geospatial consortium): WMS ,WMTS, KML , WFS , Image service
- Tile Zooming (total 23), 1:1 (all continents) , 1:2 (zoom starts) > .... 1:23.
- About widget functionality (extra): point click -à intersect , contain, within , cross, overlap
- Creating Widget using find and identify task.
- Setting
 

config:  
create  
Post

Get config {input JSON file method, this.config.value = this input value  
set config {config value in input parameter}
- Difference between query task, find task and identify.



*Snippet of the performed task*

### Desktop Development (C#, .NET SDK & ArcObjects)

Topic	Instructor	Date
C# & .NET SDK Basics	Sudhanshu Mishra/ Vikrant Jain	28/Feb/2022 - 01/Mar/2022

Essential presentation of work area improvement and how it is valuable for the application building.

Prepared to construct a windows structure application (.NET system) in Visual Studio 2019 and the fundamental instruments that are utilized in it and how to utilize the UI of Visual Studio 2019.

**Class:** A class is characterized by the client and is a plan or a model from which articles are made. For the most part, a class comprises of fields and techniques into a solitary unit.

A class is announced as "class(keyword) NameOfClass {BodyOfClass}".

**Strategies and Functions:** Method or capacity is a gathering of code explanation and all in all we can say a square of code which possibly runs when it is called. We can pass information, known as boundaries, into a strategy. The primary thought process of a technique is to reuse the code to forestall redundancy of code.

A strategy is proclaimed as "DataType MethodName(){BodyOfMethod}"

**Model:** void Method1(){}

**Access Modifiers:** Access Modifiers are only the Usage and Limitation of our sort like variable, Methods and Class.

Access Modifiers are of six sorts in C#:

**Private:** The code is just open inside a similar class.

**Public:** The code is open for all classes.

**Safeguarded:** The code is available inside a similar class, or in a class that is acquired from that class.

**Interior:** The code is just available inside its own get together, yet not from another gathering.

**Safeguarded Internal:** The code has constraint with in a venture of class or Derived class.

**Private Protected:** The code is available by types got from the containing class, however just inside its containing get together.

Topic	Instructor	Date
OOPS Concepts	Sudhanshu Mishra/ Vikrant Jain	02/Mar/2022 - 03/Mar/2022

**ENCAPSULATION:** It alludes to an item's capacity to conceal information and conduct that are not important to its client. Epitome empowers a gathering of properties, strategies and different individuals to be viewed as a solitary unit or article.

**POLYMORPHISM:** Polymorphism signifies "many structures", and it happens when we have many classes that are connected with one another by legacy.

Strategy Overloading and Method Overriding are best illustration of polymorphism. Polymorphism have two sorts of execution one is Compile Time Polymorphism and the other one is known as the Run time Polymorphism.

**INHERITANCE:** It permits us to make another class from a current class. The class from which another class is made is known as the base class and the new class is called determined class.

**ABSTRACTION:** Abstraction is to show and share a typical data to the client. Abstraction can be accomplished with either abstract classes or interfaces.

Topic	Instructor	Date
Types of Classes & Methods	Sudhanshu Mishra/ Vikrant Jain	04/Mar/2022

**Abstract Class:** It is a limited class that can't be utilized to make objects and to get to it, it should be acquired from another class.

**Abstract Method:** It must be utilized in a theoretical class, and it doesn't have a body. The body is given by the determined class (acquired from).

**Virtual Method:** A technique can be reclassified in inferred classes. In C#, a virtual strategy has an execution in a base class as well as determined the class.

It is utilized when a technique's fundamental usefulness is something similar yet now and then greater usefulness is required in the inferred class.

***Static Class, Method and Variables:***

Static Class is a class that can't be launched. The primary motivation behind involving static classes in C# is to give plans of its acquired classes. A static class can contain static individuals as it were. We can't make an article for the static class.

Static Method is a strategy which is brought in the class without the production of item i.e, straightforwardly. These techniques can't be overridden or acquired.

Static Variables are the variable that are called without formation of article inside the class and can't be changed.

Topic	Instructor	Date
Interface	Sudhanshu Mishra/ Vikrant Jain	07/Mar/2022

An Interface is same like theoretical class however in Interface we will have just strategy presentation yet in unique class we can have both technique announcement and technique definition .Methods of Interface should be carried out in a carrying out class.

Topic	Instructor	Date
ArcMap and ArcObjects	Sudhanshu Mishra/ Vikrant Jain	08/Mar/2022 - 11/Mar/2022

**ArcObject Libraries:** These are the gathering of code that plays out an or contains a particular usefulness that can be utilized by engineers.

- Logical groupings of classes:
- ESRI has made many classes for you
- Expansions and permit decide accessibilit
- Gathered in view of usefulness:
- Framework, geodatabase, calculation
- Use SDK to
- Recognize ArcGIS Desktop and Engine libraries
- Get library conditions

### Commonly used libraries:

- **Carto:** Create and display maps.
- **Geodatabase:** Access and create data.
- **Geometry:** Work with points, polygons, extent.
- **Geoprocessing:** Buffer, clip, create schema.
- **Controls:** Work with maps and layers.

Topic	Instructor	Date
Testing	Archana Joshi/ Gaurav Johri	14/Mar/2022

### 1)Testing:

- Comparison between actual and expected value; to evaluate risks; finding bugs and defects
- Why testing- to avoid risks
- Types- functional testing and non- functional testing
- Defect life cycle, Agile testing process, Continuous testing, Scrum approach

**2) Automation Testing:** Its foundation is manual testing and it helps in removing risk and leads to quality assurance.

**3) Web Testing:** Includes Geoevent server, Takes invalid/ valid Input, Sanity test, Checks the build, White box: no coding knowledge, Black box: requires coding knowledge, Responsive test: Website behaving on mobile or other device, Load testing: User count stress, Performance testing: Speed Test

#### 4) Application types:

- Native App: Camera, calculator, etc
- Hybrid App: Facebook (combines both web and native app)
- Web App: Browser

Topic	Instructor	Date
UI/UX Design	Utsav Sharma	15/Mar/2022

- Connecting JS and CSS with HTML. Using DOCTYPE to let browser know that it's HTML. Understanding Inline, in head, and external CSS.
- Understanding box model. Understanding basic css like background-color , color , width, height (in % and px difference). Block level – follows page structure.
- Left, top and then using some advance css like transform- translation (reference is the top left corner not centre of object).
- Creating list (<ul>/<ol> and then <li>). Displaying list “inline” or “none”.
- Creating a form and adding img src in it.
- Overflow – scroll, position – absolute/ relative

Topic	Instructor	Date
Session on Processes	Abhishek Sindal	22/Mar/2022

### **What is Process, and why is it important in an organisation?**

A process is a step-by-step procedure for achieving a certain goal. Processes are vital for a company because they assist to ensure that all processes adhere to a set of guidelines and that the workflow is consistent throughout. Classes and objects can be likened to processes. Attribute and process are defined in classes. When an object is formed from a class, it inherits all of the class's properties. Similarly, when new items are developed, the process is followed.

### **What's the distinction between efforts and time?**

The quantity of work units necessary to execute a task is referred to as effort. Staff-hours, days, and weeks are all terms that can be used to describe effort. To figure out how long an action will take, you must first figure out how much work it will take to finish it. Whereas The overall time required to perform the tasks depending on the project's resources is known as the duration. Holidays and non-working days are not included in the duration, which might be expressed in work days or weeks.

### **What exactly is a man hour?**

A man-hour (also known as a person-hour) is the quantity of labour that an average worker completes in one hour. It's used to calculate the entire amount of continuous labour needed to complete a task. 8 hours per man hour 8 man hours Equals 1 man day 20 man days = 160 man hours = 1 month

Material and Time When you pay on an hourly basis.

The distinction between cost and pricing The cost of a resource or a project/organizational specific thing is the expense to the firm, and the price is what the company gets from this spending.

**Project Jumpstart-** A project jumpstart is a small-scale implementation that is intended to demonstrate the feasibility of a project concept. The whole sum set forth in the Purchase Order to be paid by the Buyer to the Seller for the due and timely delivery of the Product is referred to as the PO- P.O. Price.

**Proof of concept (POC)** is proof acquired through a pilot project that is carried out to establish the feasibility of a product idea, company strategy, or project plan. Ground rules define how meetings will be conducted, how team members should interact, and what actions are acceptable and undesirable. Establishing ground rules is a tried and true method for encouraging appropriate conduct by reducing ambiguity and misconceptions. The ground rules can be customised to meet specific needs.

**SVN (subversion network)** - a repository for all of your code. A repository in SVN is a group of files and folders. In a database, these files and folders are grouped together. SVN also keeps track of all of the changes that have been made to these files in the past. These repositories might house a variety of distinct or comparable file types. An SVN repository usually contains all of the files and folders for a single project, or a group of linked projects.

**Risk register** - to keep track of all hazards associated with a project so that they may be avoided and new risks can be introduced. Minutes of Meeting (MoM) is a term that refers to the minutes of a meeting. A written record of a meeting is referred to as minutes. □ Everything revolves on two basic questions. The first is what you want to do, and the second is how you want to do it. SRS (System Requirements Specification Document) - This document comprises all documents from module to function level. It should be expressed in simple present tense because it is a living



text. It should always be written with the user and the system in mind. User clicks, system prompts, etc

**Wireframe design** software is available. Pencil, Draw.io

**System Design Document (SDD)** is an acronym for System Design Document. It explains how the Requirements Document records functional and non-functional requirements, the High Level Technical Design Concept/Alternatives document records preliminary user-oriented functional design, and the Logical Data document records preliminary data design.

**Client/company server (staging server).** A staging server is a sort of server that is used to test software, websites, and services in a production-like environment before releasing them to the public. It's part of a staging environment or staging site, which acts as a temporary hosting and testing server for new applications and websites.

**Public Production Server** A production server is one that hosts website content and applications in preparation for deployment to a live environment. It is also known as a live server since it is the main server from which end users visit websites and Web applications.

**DRDC** stands for disaster recovery data centre and refers to a data center with additional servers in the event that the present servers fail.

**CSS** stands for Customer Service Satisfaction Service. Customer satisfaction is a metric that evaluates how satisfied consumers are with a business's goods, services, and capabilities. Information about customer satisfaction, such as surveys and ratings, may assist a firm in determining how to enhance or adjust its products and services.

**Projects Events Calendar** - A project's events calendar is a list of the project's important events.

**Cause and Effect Analysis (80-20 rule)** - This rule states that 20% of all causes result in 80% of all outcomes (or outputs) (or inputs).

As a result, work must be completed in a timely manner. Things that have a greater impact should be prioritized.

**IPO and B** stand for input, process, output, and benefits.

## Sololearn Certificates



