

SOFTWARE REQUIREMENT SPECIFICATION (SRS)**FOR*****Natural Gas Pipeline Lookup***

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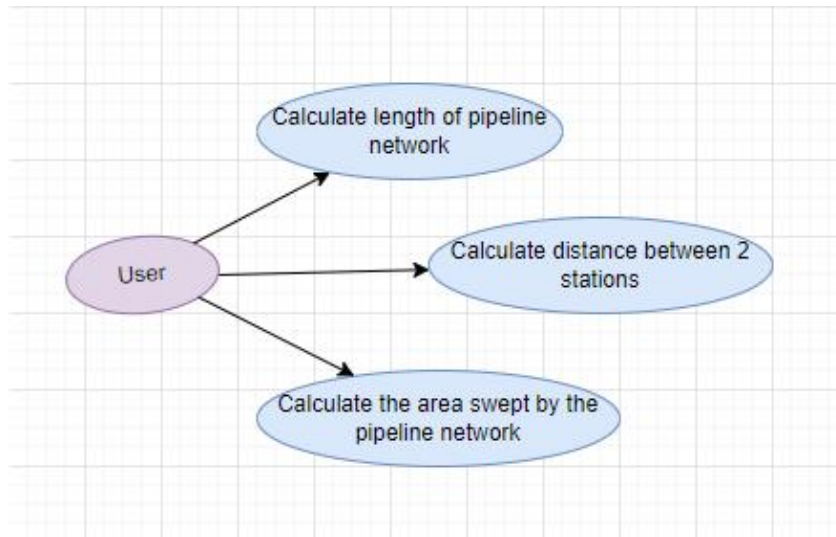
1 INTRODUCTION

1.1 Purpose

The purpose of this Web Application is to provide an interactive lookup for Natural Gas Pipelines Network across United States of America. With the assistance of this web application, a user can calculate the length of a pipeline network and also the distance and directions between two specific stations can be determined.

1.2 Scope:

Using this web application a user would be able to perform various actions on the pipeline utility network such as calculation of the length of pipeline network



1.3 Definitions, Acronyms, and Abbreviations

Sl. No	Term / Acronym / Abbreviation	Meaning
1.	API	Application Programming Interface
2.		

1.4 References

Sl. No	Reference Material	Source
1.	Measurement Widget	ArcGIS API for Javascript
2.	Directions Widget	ArcGIS API for Javascript
3.	Magnifier Widget	ArcGIS API for Javascript
4.	Track Widget	ArcGIS API for Javascript

1.5 Overview

This SRS will also provide you some information about the product that will be included in the General Description.

Following that, you'll get a sense of how our application works. What functions and processes have been employed, as well as how a certain piece of code executes and produces results.

2 THE GENERAL DESCRIPTION

2.1 Product Perspective

1. Provides an interactive lookup to the pipeline network.
2. Various measurements can be carried out for the pipeline network.
3. Provides guided navigation across pipeline network.

2.2 Product Functions

Using this web application, a user is able to perform various operations on the pipeline utility network such as distance calculation, area quantification, guided navigation determination across the network.

2.3 User Characteristics

Anyone with the basic knowledge of internet and an ArcGIS Online account can access this web application and perform the operations using the pre defined widgets on the web application.

3 SPECIFIC REQUIREMENTS

3.1 Functional Requirements

3.1.1 Search Widget:

3.1.1.1 Introduction:

The Search widget allows you to search locator services, map/feature service feature layers, SceneLayers with an associated feature layer, BuildingComponentSublayer with an associated feature layer, GeoJSONLayer, CSVLayer, OGCFeatureLayer, and/or table data (s). The findAddressCandidates action is performed when employing a locator with a geocoding service, whereas queries are used on feature layers.

3.1.1.2 Pre-requisite:

require(["esri/widgets/Search"])

3.1.1.3 Input:

User is supposed to enter the desired location as input.

3.1.1.4 Process:

Web application takes the user to the desired location.

3.1.1.5 Output:

Desired location displays on the UI.

3.1.2 Magnifier:**3.1.2.1 Introduction:**

The Magnifier enables end users to display a magnified picture of a segment of the view. MapView.magnifier or SceneView.magnifier can be used to get an instance of this class.

3.1.2.2 Pre-requisite:

require(["esri/views/Magnifier"])

3.1.2.3 Input:

Not required.

3.1.2.4 Process:

No process required. Magnifier loads with the web app automatically.

3.1.2.5 Output:

Magnifies the layer view.

3.1.3 Measurement Tool:**3.1.3.1 Introduction:**

The Measurement widget organises and handles numerous measurement tools, and the activeTool attribute allows you to quickly switch between them. The tools correspond to

the area and distance measurement widgets in 2D (AreaMeasurement2D, DistanceMeasurement2D) and 3D (AreaMeasurement3D, DistanceMeasurement3D) (AreaMeasurement3D, DirectLineMeasurement3D).

This widget uses a composite pattern to allow developers to customise the user interface to their own needs. The measuring tools, locations, and icons may all be changed, giving you a lot of versatility when it comes to using them with tabbed interfaces or other customizable user interfaces. For an illustration of this flexibility, look at the Measurement widget sample.

3.1.3.2 Pre-requisite:

require(["esri/widgets/Measurement"])

3.1.3.3 Input:

For length, the user need to input two points and for area, user can input as many points.

3.1.3.4 Process:

1. Selection of the points, the distance between which is to be determined.
2. To determine the area swept by the points, user need to input all the points.

3.1.3.5 Output:

Returns the enclosed area and distance of the input points.

3.1.4 Direction Tool:

3.1.4.1 Introduction:

Using ArcGIS Online and proprietary Network Analysis Route services, the Directions Widget allows you to create driving and walking directions. This widget constructs a route by determining the least-cost path between many places using a defined network, similar to how the route works. The position of the points used to traverse while searching for an address is determined by the locationType of the Search attributes. For any locator source that does not declare a locationType, the default value will be "street." The directions that result are provided with thorough step-by-step guidance. The widget contains pre-built search capabilities, so all you have to do is refer to it from within your application.

3.1.4.2 Pre-requisite:

require(["esri/widgets/Directions"])

3.1.4.3 Input:

Origin and destination address.

3.1.4.4 Process:

User need to input the origin address through either search or selection of the point on the map (user can also use the locate widget of the web application to locate their current location).

3.1.4.5 Output:

Returns guided navigation, driving time, travel distance etc.