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**Proposal for Professional Development,
 Consultation, and Data Services**

**PROJECT TITLE: .NET MAUI Cross-Platform Mapping/Situational Awareness -
 for Mission Planning**

#	Description	Amount
1	<p>SOURCE CODE for .NET Maui Cross-Platform Mapping app (Windows,Linux multiple distros, MacOSX, iOS, Android) with data handling serving and hybrid webview for map ESRI ArcGIS Maps SDK For JavaScript for Desktop MapBox GL JS + ThreeJS for iOS and Android It has all the features of https://tileserver.techmaven.net Serves cached mbtiles & GPKG map tiles as XYZ, TMS and WMTS PostGIS Tables and local GIS Files as dynamic/on-the fly OGC API TILES/XYZ (Vector Tiles and Raster Tiles) and OGC API Features with KML endpoint for TAK static GIS Files (KML, GeoJSON, CSV, etc), zip files and Cloud Native/Optimized Files (GeoParquet, FlatGeoBuf, COPC, PMTILES map tiles, and COG GeoTIFF) - with range request headers URL OGC WMS - PNG for BBOX (based on source dynamic/cached vector tiles and raster tiles) can including any number of layers 3D Data - 3DTILES and SLPK as SceneServer DTED Data Serving and Quantized Mesh Terrain Tiles Serving and Elevation API to query elevation of point and add data and add data to linestring. Offers vector 2 raster tied to OSM Vector Tiles with pre-defined styles and users can load their own GL JSON Stylesheets (Topo-Terrain with contours and hillshade,bright, dark, basic, gray, satellite hybrid, many others) Tile Group Blending/Merging/Compositing of layers Data Distribution Edge Server (download source data) Area of Interest/Operation Downloading API's and Front-End Web Apps (Map Tiles from URL or local MBTILES & GPKG, Mapping Services, Hosted Files) SLPK - SceneLayerPackage to ESRI Compatible OGC i3S SceneServer API for uploading and syncing data API for Data Conversion and Publishing to PostGIS API Endpoints with JSON response /services, file_list, cog, data_distribution</p>	<p>\$60K source MAUI Cross-Platform</p> <p>\$15K for Windows Presentation Foundation Desktop Edge Data Processing Apps</p> <p>\$75,000</p> <p>One-time payment can break this up into a few payments.</p> <p>Optional Annual Maintenan ce and</p>

<p>Webpage for accessing services Mapping Engines available via any web browser (3D Terria.js and 2D Open Layers) Companion QGIS Plugin https://plugins.qgis.org/plugins/ts_manager/</p> <p><u>Team Collaboration Module</u> with Location Sharing, Team Location Tracking, GeoFencing, Assignments/Tasks, Status Updates, Notifications, Real-Time API, Data Sharing, Forms and Form Builder, Chat Messaging with Attachments</p> <p>Attribute Table/Grid with Attribute Search and Spatial Search Native Spatialite and Duckdb (with httpfs and spatial extension)</p> <p>Toggle to flip from serving data only internally to integrate map to getting IP address from DHCP Server (ethernet or WiFi Connection) and serving data to other users on the network.</p> <p>Mission Focused Widgets and Tools:</p> <ul style="list-style-type: none"> • App6/Milspec2525C Military Symbolology • Range Rings • Bulls Eye • Distance and Bearing • Display Coordinates in Multiple Formats including MGRS and GARS • GO TO Coordinates including MGRS and GARS • Magnetic Declination • Convert Coordinates to any format SRS/CRS and MGRS and GARS, What3Words, PlaceCode, Pluscode, etc • Image Overlay - Rough Rubber sheeting • GRG - Grid Reference Graphic • Graticules Lines (lat Long, MGRS, GARS) • Other Symbolgy Library and support for GeoJSON with Simple Style Spec <p>Standard Widgets/Tools:</p> <ul style="list-style-type: none"> • 2D Editor Widget • Linear and Area Measurement • Swipe /Split to Compare Data • Attribute Table • Basemaps • Overlays 	<p>support to get updates to source and bug fixes</p>
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	<ul style="list-style-type: none"> • Placemark/Spatial Bookmarks • Layer Management, Layer Order, Opacity, layer Styling • Much More <p>CATALOG/PROJECT FILE LOADING (JSON CONFIG)</p> <p>WITH A local catalog builder app (here is example of online hosted version https://mapsdata.world/3d_scene_catalog_generator)</p> <p>Includes fork of Cesium TERRIAJS that opens in WebBrowser and includes locally a Catalog Builder - here is online example https://mapsdata.world/earthexplorer_cataloggenerator/</p> <p>Includes advanced, highly capable 2D Mapping Engine based on OpenLayers for advanced editing and spatial analysis and includes locally a Catalog Builder - here is online example https://mapsdata.world/catalog_generator/</p> <p>Team Collaboration Module is based on PocketBase Server</p> <p>PocketBase Server - uses OIDC OpenID Connect and can be configured to use OAUTH2 Identity Provider or kept as it's own. Discover web page is secured and services.</p> <p>https://pocketbase.io/docs/go-realtime/</p> <p>https://pocketbase.io/docs/</p> <p>https://pocketbase.io/docs/go-jobs-scheduling/</p> <p>https://pocketbase.io/docs/go-event-hooks/</p> <p>For the Use case one install can act as a server and the other Military Mission Planners/Users can all collaborate and share data chat message, tasks, status updates, forms</p> <p>The application has Custom Forms and an integrated form builder</p> <p>Here is online hosted version of form builder/generator https://mapdata.xyz/form_generator/</p> <p>If the form includes location the data is served as OGC API Tiles, OGC API Features, and OGC WMS</p>	
2	<p>SOURCE CODE <u>Map Tiling /Data Conversion WPF App</u> with monitored folder and Server-Sent Events Receiver</p> <p>https://maptiling.techmaven.net</p>	

3	<p>SOURCE CODE <u>3DTILING WPF App</u> - produces 3DTILES 3D Buildings, 3D Point Clouds, 3D Features https://3dtiling.techmaven.net with monitored folder and Server-Sent Events Receiver</p>	
4	<p>SOURCE CODE <u>Tile Utilities WPF App</u> - Clips area of Operation of Cached Map Tiles (MBTILES and GPKG) and Converts between Tile Formats (MBTILES, GPKG, PMTILES, TPKX & VTPK, OSMDroid SQLITE/ATAK & WINTAK) https://portfolio.techmaven.net/apps/tile-utilities/ with monitored folder and Server-Sent Events Receiver</p>	
5	<p>SOURCE CODE <u>Offline Map Data Generator WPF App</u> Downloads any dynamic and cached mapping service and tile layer as MBTILES Downloads Pre-Staged Data from Tech Maven Geospatial Downloads DTED Elevation Data from Tech Maven Geospatial Downloads Area of Operation (georequest API) from Tech Maven Geospatial with monitored folder and Server-Sent Events Receiver https://offlinedatadownloader.techmaven.net/</p>	
6	<p>SOURCE CODE <u>Vector Tiles 2 Raster Tiles app</u> Use pre-configured URL's (internet required) or put your own URL and Stylesheet and convert an area of operation and zoom level range to Raster Tiles https://vector2rastertiles.techmaven.net/ with monitored folder and Server-Sent Events Receiver</p>	
7	<p><u>Data</u> Access this data from webapp and Offline Map Data Generator iOS, Android, Windows https://offlinedatadownloader.techmaven.net/tmg-pre-staged-data-api/ https://offlinedatadownloader.techmaven.net/dem-downloader-api-access/ https://portfolio.techmaven.net/dataservices/dted/ <u>Worldwide Global Coverage and available by Countries, USA States, Canadian Provinces and some regions</u> Data Includes:(Includes access to web application)</p>	<p>\$25,000 Annual Subscription for unlimited uses on unlimited devices</p>

	<table><tr><td><ul style="list-style-type: none">• OSM - Open Street Map Vector Tiles MBTILES <i>(update Monthly from TMG Server)</i> <i>Compatible with OpenMapTiles/MapTilerData Styles 0-14 90gb</i>• Contour Lines Vector Tiles w/ spot elevation MBTILES 9-14 144gb• Hillshade Raster Tiles MBTILES 0-12 400gb• Most States and Countries add ESRI WorldImagery Service Satellite Imagery to zoom level 15 or 16</td><td><ul style="list-style-type: none">• Reference Lines Raster Tiles MBTILES 0-13• Reference Labels Raster Tiles MBTILES 0-13• Low Resolution satellite imagery 0-13 500gb• Stamen Terrain Background (shaded relief)• Thunderforest Outdoors• MapZen Terrarium RGB Encoded Elevation/Terrain Tiles (only available in Regions, Countries)</td></tr></table> <p>Points of Interest Database approximately 240 million fused together from five sources: NGA GeoNames, USGS BGN GNIS, OSM, Overture Maps Places and FourSquare Points of Interest - worldwide Points of interest available as GeoPackage Vector Features and 9 MBTILES vector tiles</p> <table><tr><td><ul style="list-style-type: none">• Administrative• Populated Places• Locality Area• Streets Highways Roads Railroads• Hysography - Land features</td><td><ul style="list-style-type: none">• Vegetation• Hydrographic - Water features• Undersea• Spot<p><i>We update this data Monthly (NGA/USGS update weekly)</i></p></td></tr></table>	<ul style="list-style-type: none">• OSM - Open Street Map Vector Tiles MBTILES <i>(update Monthly from TMG Server)</i> <i>Compatible with OpenMapTiles/MapTilerData Styles 0-14 90gb</i>• Contour Lines Vector Tiles w/ spot elevation MBTILES 9-14 144gb• Hillshade Raster Tiles MBTILES 0-12 400gb• Most States and Countries add ESRI WorldImagery Service Satellite Imagery to zoom level 15 or 16	<ul style="list-style-type: none">• Reference Lines Raster Tiles MBTILES 0-13• Reference Labels Raster Tiles MBTILES 0-13• Low Resolution satellite imagery 0-13 500gb• Stamen Terrain Background (shaded relief)• Thunderforest Outdoors• MapZen Terrarium RGB Encoded Elevation/Terrain Tiles (only available in Regions, Countries)	<ul style="list-style-type: none">• Administrative• Populated Places• Locality Area• Streets Highways Roads Railroads• Hysography - Land features	<ul style="list-style-type: none">• Vegetation• Hydrographic - Water features• Undersea• Spot <p><i>We update this data Monthly (NGA/USGS update weekly)</i></p>	
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8	Optional Maintenance and Support for getting updates to the source code, access to the gitlab repo	\$5,000/year For all above apps				

Name, Title, and Company	Date	Signature

TERMS:

40% Deposit

60% Final Payment/Acceptance - Document Submission

Payment terms are NET21 from Invoice Date

Tech Maven Geospatial Contract for Professional Services

Work does not commence until a deposit is received and a signed contract is sent.

Payment can be made to Tech Maven Geospatial, LLC

Acceptable forms of Payment are Credit/Debit Card or PayPal maps@techmaven.net,
and VEEM. <https://apps.veem.com/CustomerApp/Pay/techmavengeospatialllc>

Tech Maven Geospatial, LLC

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Please feel free to contact me Jordan Bess jordan@techmaven.net 754-333-1650

ACH Payment details:

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SWIFT:CHASUS33 IRS EIN:83-0551828	JPMorgan Chase Bank, N.A. 270 Park Avenue New York, New York 10017