

ARTMAP

Augmented Reality Tabletop Mission Aggregate Planner

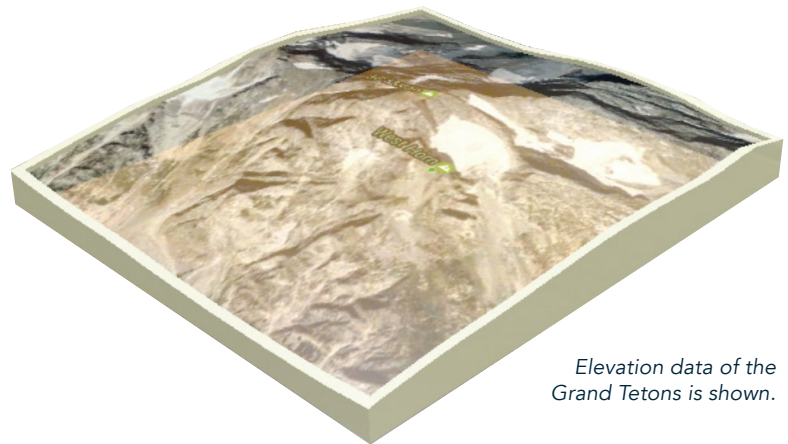
ARTMAP is a 3D Augmented Reality Tabletop Mission Aggregate Planner developed by the Space Dynamics Laboratory (SDL).

CAPABILITIES

- Immersive, 3D geographical environment
- 3D application platform can be placed on a table, floor, or wall & scaled to fit most areas
- Static 3D assets (S3DA) (including buildings, trees, etc.) can be added to the map at run time
- Dynamic 3D assets (D3DA) (including military assets: planes, tanks, ships, etc.) can be added to the mission map & given animation waypoints at run time
- Map drawing tools with lines & arrows, circles, boxes, polygons & text
- Operational intelligence
- Real-time situational awareness
- Mission cloning for quick contingency planning
- Tactical planning with red/blue/green/yellow teams
- Network multi-device viewing & collaboration
- Line-of-sight display for a selected asset
- Street view capability
- Track live field operatives against mission plan

ARTMAP leverages the Microsoft® HoloLens™ device to generate an augmented environment.

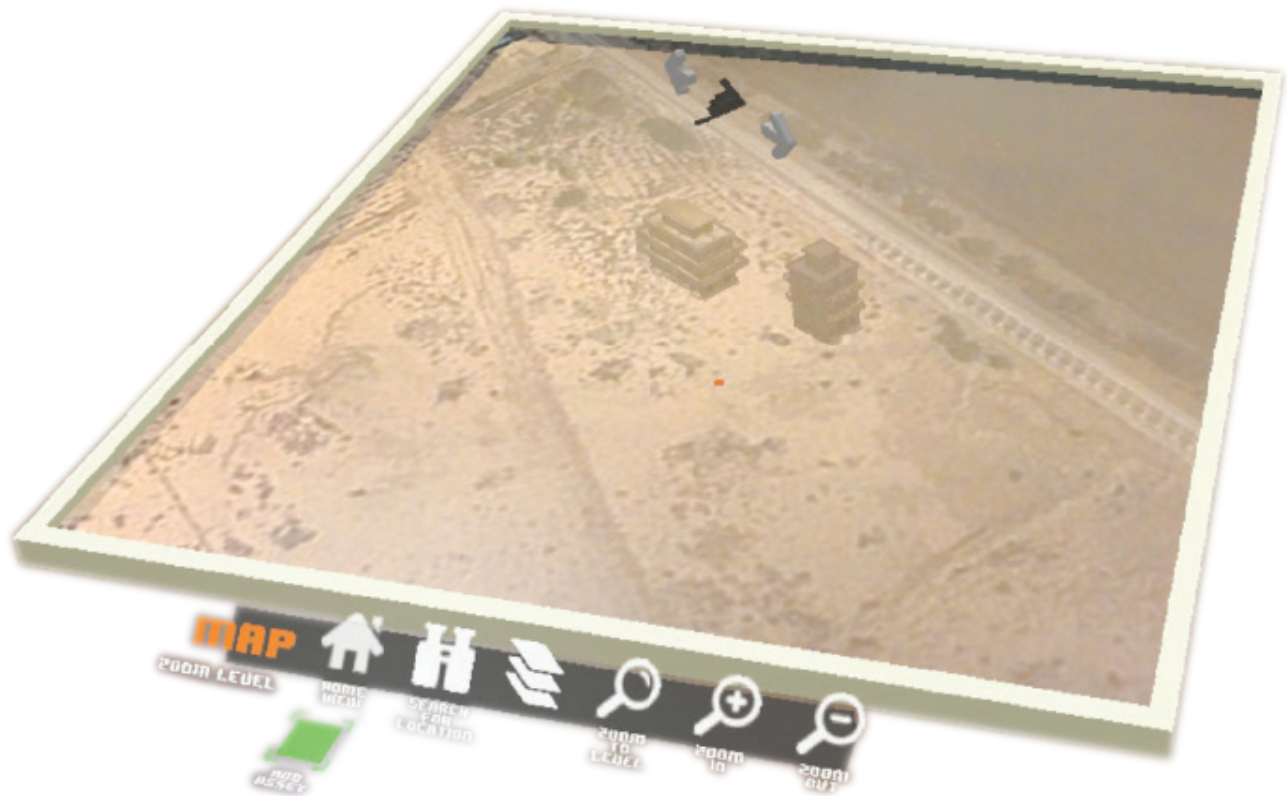
Note: Images were captured using the HoloLens camera and are a lower resolution than in the actual product.



Elevation data of the Grand Tetons is shown.



Digital content can be viewed, placed, and manipulated in a real-world environment.



Iraq map location with static 3D buildings. The Add Asset menu is showing with the stealth bomber selected.

HIGH-LEVEL FEATURES

- Application accepts voice or gesture input commands & produces visual 3D graphics, animation & voice synthesis for output
- Any geolocation can be searched for & displayed on a tiled, multi-zoom capable, 3D elevation map
- 3D map tools enable users to pan, zoom & rotate the map & map assets
- Rooms can be joined on the network & each room can have multiple missions
- Missions can be created & loaded; ARTMAP automatically stores edits
- D3DA can be animated to move to waypoints, shoot targets & perform other commands; S3DA persist across missions
- Users can store asset actions in the master mission timeline, where each asset has its own sub-timeline
- Timeline playback can be paused, scrubbed & speed-controlled for analyzing & editing

APPLICATION VIEWS

- Home View: Acts as a main navigation hub & enables users to use verbal or tap gestures to access the other main views
- Edit View: Enables users to place the map platform on any flat physical room surface & to scale, move & rotate the map using the edit tools
- Mission View: Shows a listing of all loadable missions currently available in the database for loading into the Map View
- Map View: Provides users with mission planning & playback tools
- Globe View: Provides a global 3D world view with mission-tappable geospatial markers to load mission into the Map View
- Network View: Enables multiple HoloLens™ users, in the same location or remotely connected on the same network, to jointly review & plan missions

Questions? SDL welcomes all inquiries. For more information about ARTMAP, please contact:

Rex Nethercott | Program Manager

435.713.3866

rex.nethercott@sdl.usu.edu