ARTMAP
Augmented Reality Tabletop Mission Aggregate Planner

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

ARTMAP CAPABILITIES INCLUDE:

- 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.
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

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

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

Rex Nethercott | Program Manager
435.713.3866
rex.nethercott@sdl.usu.edu