DigLT

Interactive Situation Analysis

The Digital Map Table (DigLT)

The digital map table is a software system for shared situation visualization and analysis. Any number of users can work independently of each other in the same situation, using personal computers and tablets alongside shared digital tables or large screens. The underlying software is modular and can easily be customized or extended according to requirements and specific needs. Its uses range from educational use to mission preparation, mission execution, and review.
A diverse range of data sources and geodata can be integrated to provide the right information for each application. This provides the foundation to correctly assess the situation and make the right decisions.

Situational Awareness

The concept of a modern situation visualization system based on layers not only provides the user with a variety of 2D and 3D maps, which can come from different internal and external sources, but also allows the map data to be combined with information from other data sources. These sources include command and control information, reconnaissance and sensor data. In addition to drawing tools, tactical symbols (APP6, MIL2525), line-of-sight calculations, measurement tools and the possibility to plan for arbitrary time periods by means of a timeline, a significant number of tools are available to facilitate effective situation management.

Devices

DigLT is a software that can be used on various network-connected devices. The rapid integration of different data sources is achieved through the use of standards. Here, standards such as those from the Open Geospatial Consortium (OGC) as well as the standardization conventions of NATO are essential.
The architecture is designed so openly that proprietary interfaces can also be connected quickly. The layer technology used makes it possible to keep the many different topics that flow into a situation separate from one another and to visualize or update them as necessary. The viewer that then displays this data on the user's device is web-based, allowing the situation to be displayed on practically any modern device.

Geodata
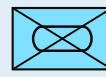Support of aerial images, vector maps, digital elevation models and more

4D Situational Awareness
Full integration of the dimension of time to retrace any event

Adaptable
Full control over all components

Military Symbology
Support of the NATO standard APP6

Layer Concept
Geodata and annotations in freely configurable layers

Live Tracking
Tracking of mobile clients, blue force tracking and STAGNAG 4676

Live Sensors
Visualization and control of cameras, UAVs and more

OGC Conformity
Support of OGC standards i.e. WMS, WFS...

Multi-User Support
Simultaneous work on multiple end devices or cooperative team displays

Role Concept
Integrated support of roles in joint staff

Virtual Reality

Virtual reality provides a cost-effective means of remote collaboration and allows for a true three-dimensional display of geospatial data such as elevation models, 3D models, and point clouds.The virtual reality version of the digital map table (DigLT^{VR}) accesses the same data as the web-based client, thus guaranteeing a smooth transition.

Collaborative work using DigLT^{Web}

Situation visualization using DigLT^{VR}

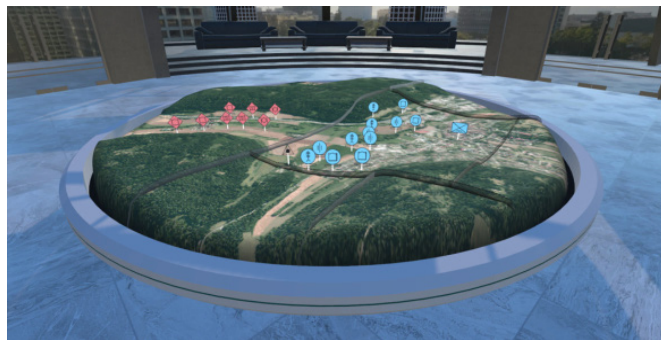Collaborative work using DigLT^{VR}

Architecture

The core of the digital map table is the server, DigLT^{Core}, which provides all layers, configurations and functions in addition to geodata. These can then be accessed by the web-based client (DigLT^{Web}) and the virtual reality client (DigLT^{VR}). The flexibility of a web application means that this client can be used on almost all devices, especially the high-resolution touch table DigLT^{4K}. Virtual reality supports most currently available headsets.
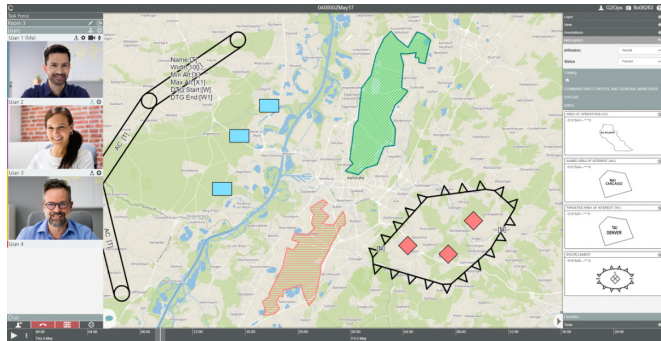
Integration

The digital map table can be easily integrated into any environment. The underlying technology supports all operating systems and a wide range of interfaces makes connecting to many existing data sources possible. Fast connection to interfaces occurs through the implementation of various standards in DigLT^{Core}. OGC-based Web Map Service (WMS), Web Feature Service (WFS) and Styled Layer Descriptor (SLD) have all been implemented. The supported STANAGS are 4609, 4545, 4559 and 4676, which standardizes video streams, reconnaissance data and tracks & plots. The architecture also allows DigLT^{Core} to integrate individual sources in addition to the standardized ones.

Contact

Dr.-Ing. Florian van de Camp
Interactive Systems
Tel. +49 721 6091-421
florian.vandecamp@
iosb.fraunhofer.de

Fraunhofer IOSB
Fraunhoferstr. 1
76131 Karlsruhe,
Germany

diglt.de