

Cesium Language (CZML)

A JSON schema for
describing dynamic scenes
in virtual globes & maps

Matthew Amato
Analytical Graphics, Inc.
mamato@agi.com
@matt_amato



What is Cesium?

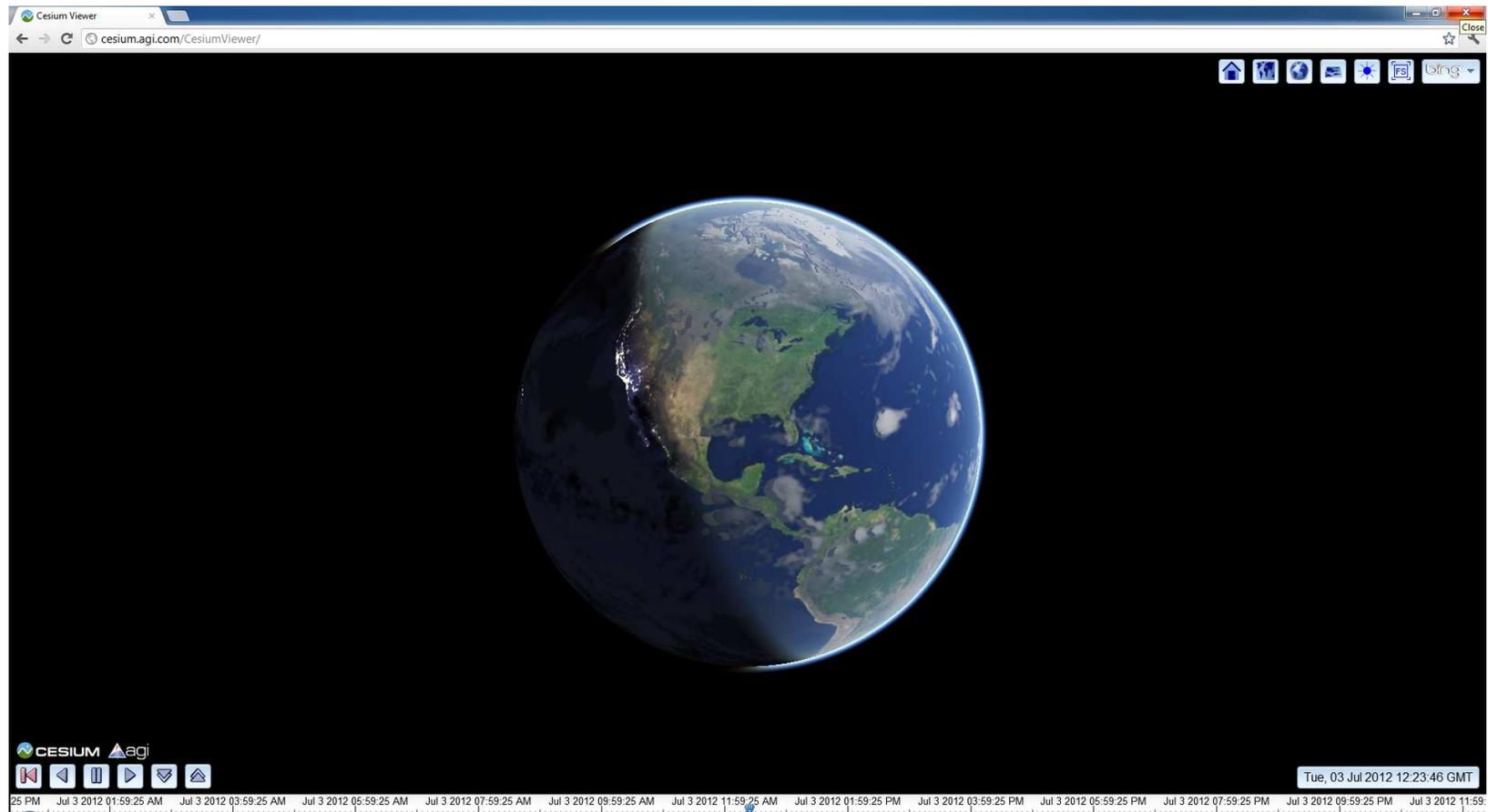


- WebGL based globe and map
- Open source under Apache license
- Code – <http://git.io/cesium>
- Live demos – <http://cesium.agi.com>

Cesium Viewer



<http://cesium.agi.com/CesiumViewer>



What is Cesium?



- One API for 2D/3D/Columbus view
- Specializes in precise, dynamic data
- Includes 3 layers of abstraction
 - Low-level renderer JavaScript API
 - Mid-level scene JavaScript API
 - High-level JSON schema for data-driven visualization (CZML)

What is CZML?

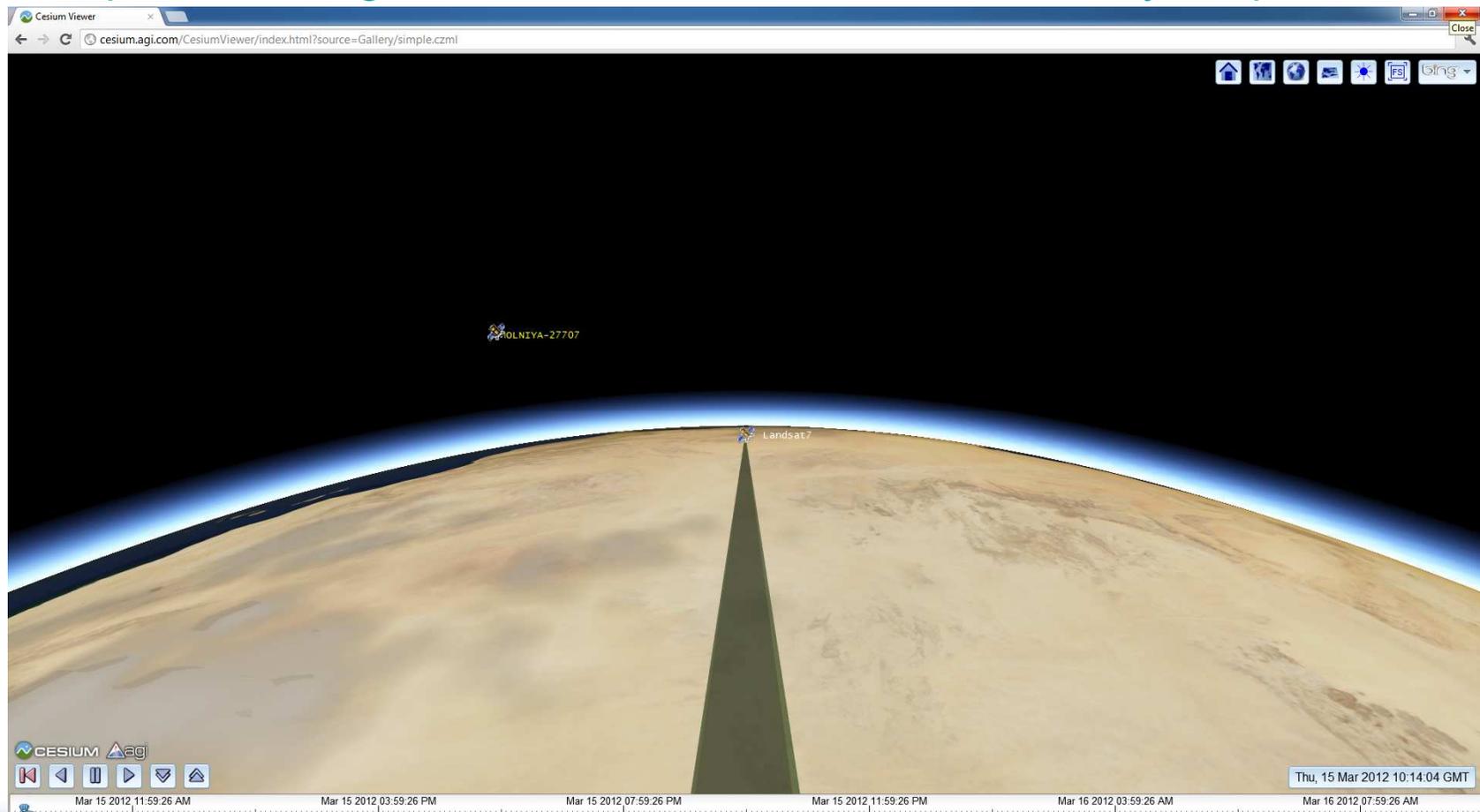


- A JSON schema
- Accurately describes data over time
- Streamable and optimized for clients
- Easy to read and write
- An open and extensible format

File based demo



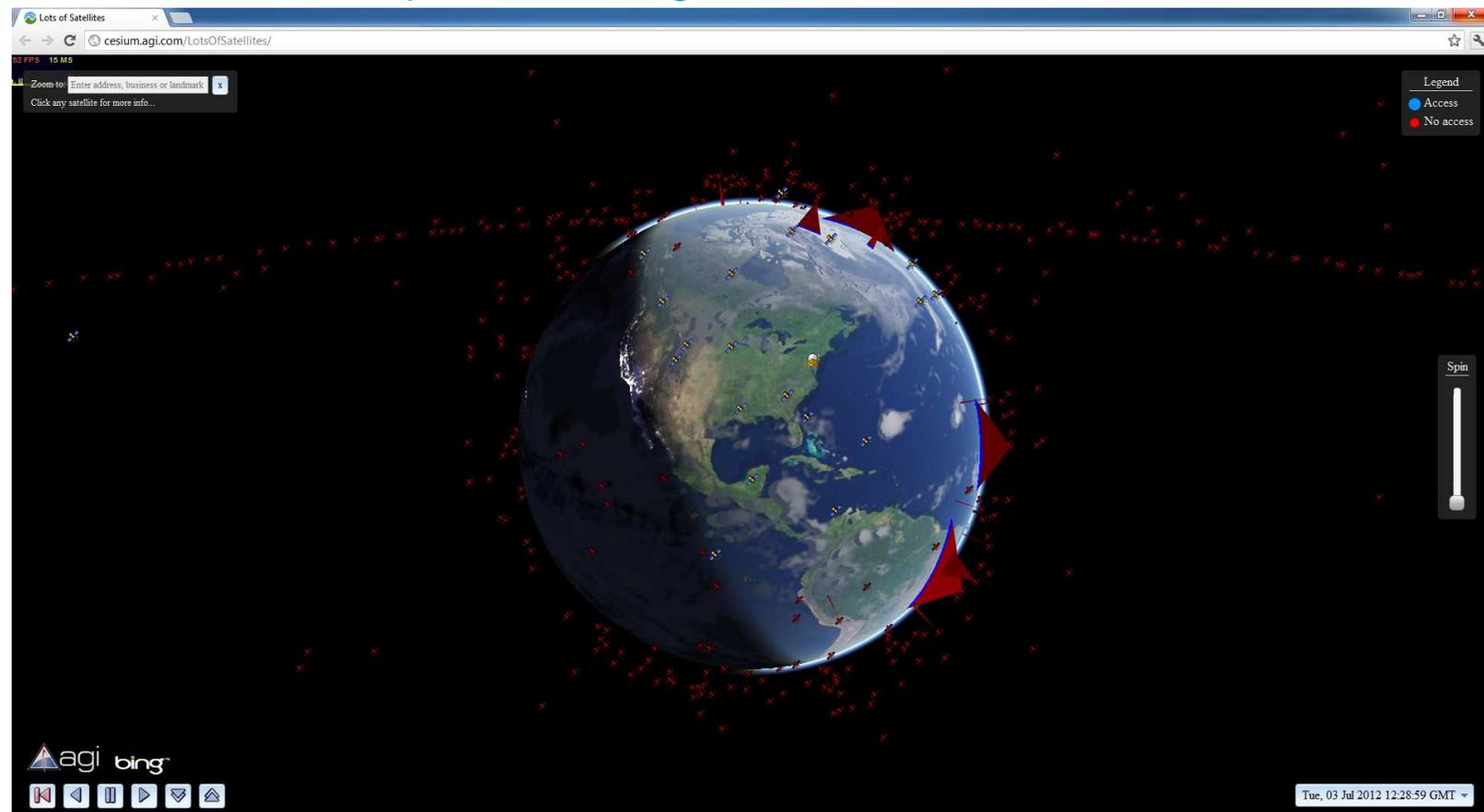
<http://cesium.agi.com/CesiumViewer/?source=Gallery/simple.czml>



Stream based demo



<http://cesium.agi.com/LotsOfSatellites>

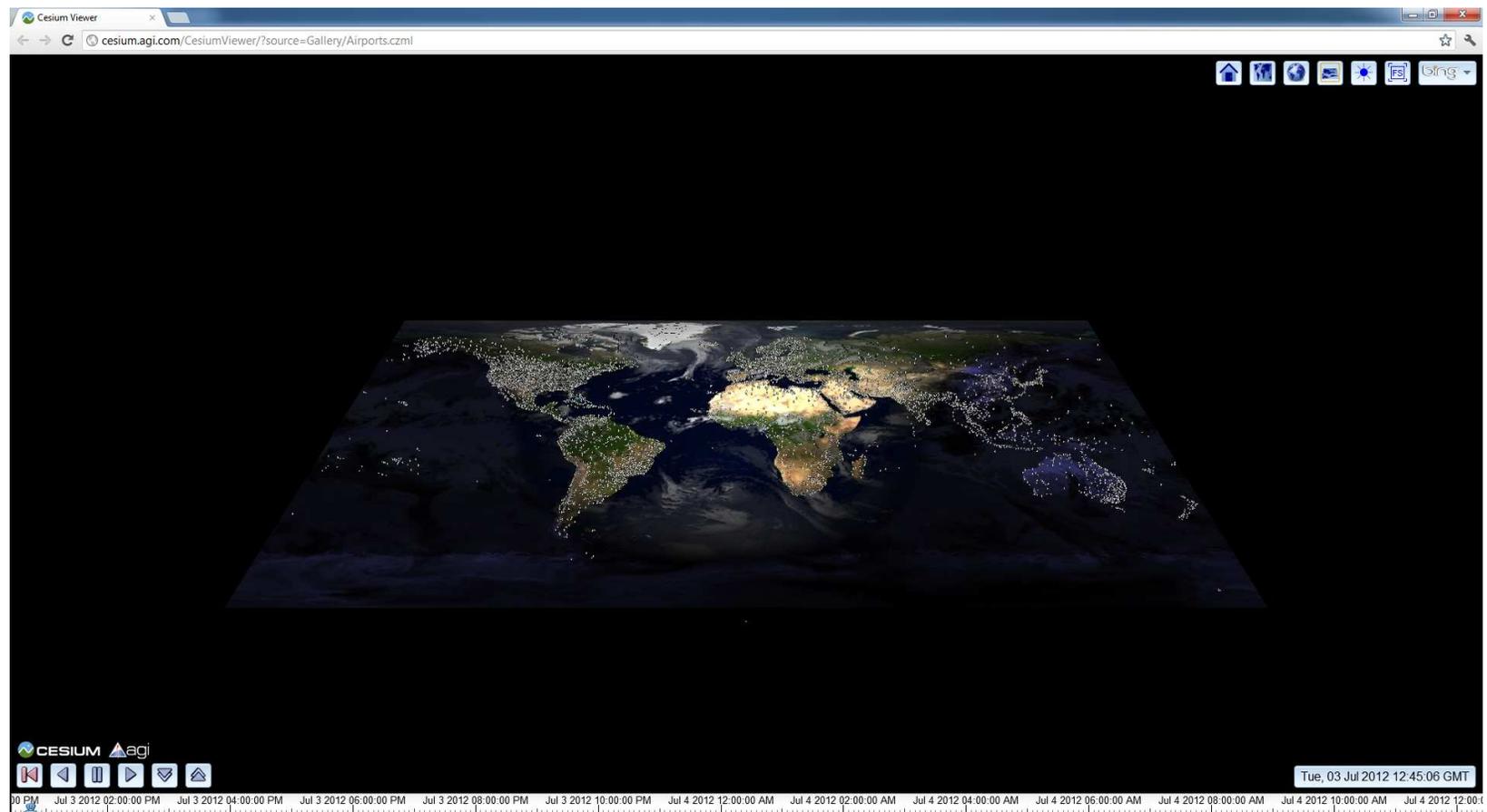


- Java and .NET APIs for writing CZML
- Open source under Apache license
- Also contains converters
 - KML, shapefiles, WebGL Globe JSON
 - more on the way
- Code – <http://git.io/czml-writer>

Converted KML demo



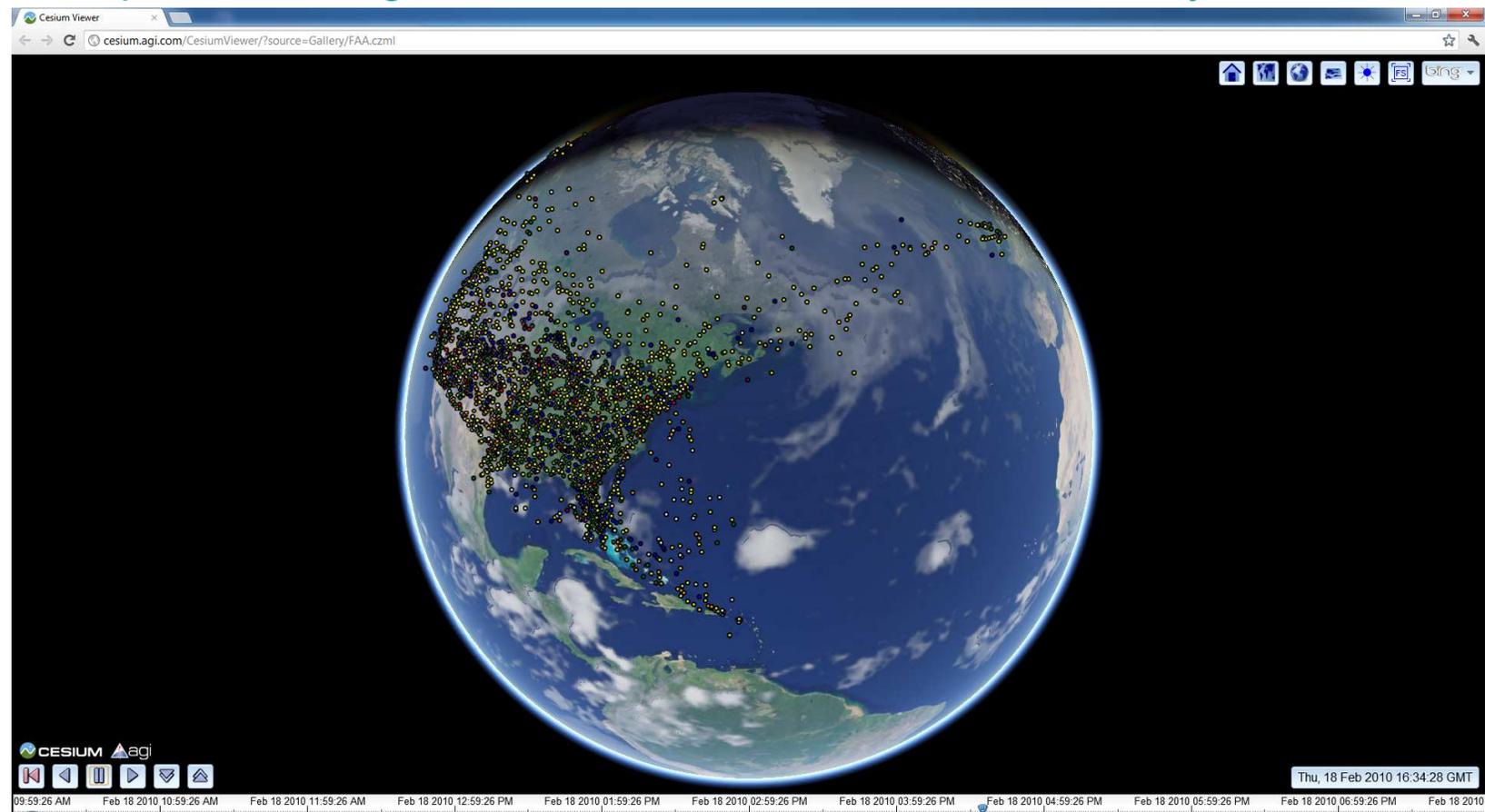
<http://cesium.agi.com/CesiumViewer/?source=Gallery/Airports.czml>



US based air-traffic



<http://cesium.agi.com/CesiumViewer/?source=Gallery/FAA.czml>



Enabling CZML in clients



- Reference JavaScript implementation available in Cesium
- Reference code can be used largely as-is to add support to other maps and globes
- If you're interested, let us know; we want to help.

A call for collaboration



- CZML specification is a work in progress
 - Latest specification: <http://git.io/czml>
 - Greatly appreciate feedback
 - Want the community to help shape the standard
- Cesium is under development
 - Always looking for good developers, artists, designers, etc...
 - Lots of low hanging fruit for new contributors
- In short, we want you to come play with us and help build our community

Important links



- Cesium project – <https://github.com/AnalyticalGraphicsInc/cesium>
- czml-writer project – <http://git.io/czml-writer>
- Cesium wiki – <http://git.io/cesium-wiki>
- CZML specification – <http://git.io/czml>
- Latest demos – <http://cesium.agi.com>
- Google Groups
 - <https://groups.google.com/forum/#!forum/cesium-dev>
 - <https://groups.google.com/forum/#!forum/cesium-announce>

Questions?