

# Liquid Galaxy Visualization of Instituto Moreira Salles' photographic collections

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## INTRODUCTION

This poster presents the Liquid Galaxy (LG) platform with a particular interest in its applications for panoramic geographic-based visualization within the scope of a research agreement between two Brazilian institutions: Instituto de Matemática Pura e Aplicada (IMPA) e Instituto Moreira Salles (IMS). One of the main goals of this agreement is to research and develop immersive panoramic and geospatial navigation interfaces using LG platform to IMS's photographic collections.

## THE LIQUID GALAXY PLATFORM

LG is a multi-display data visualization platform that enables immersive panoramic experience through interactive tours using KML data, videos, photos, and 2D and 3D graphics. Its applications cover a large range of markets and industries, from GIS consulting to museums and research. We are interested in how LG can be used as a medium to explore photographic collections with a particular attention to its geospatial features over time.

## FIRST DEMO

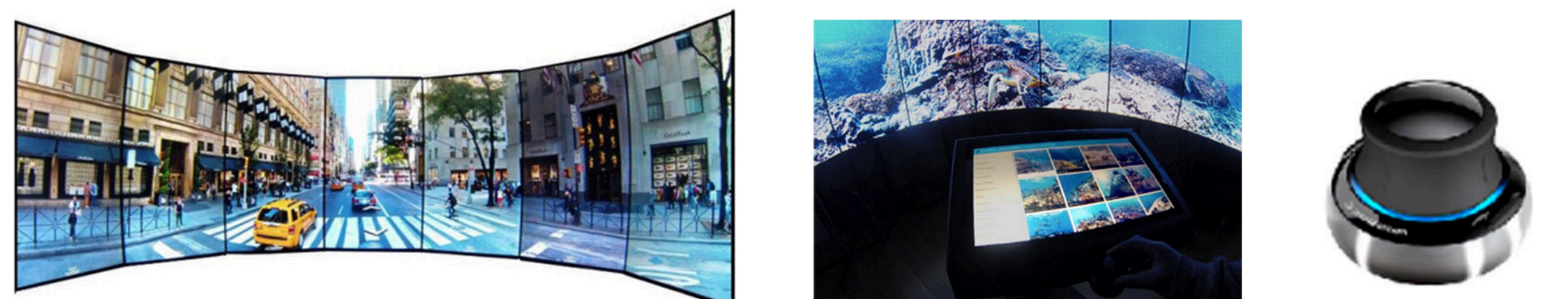
For a first demo, we selected ten outdoor photos of Marc Ferrez (the most significant nineteenth-century photographer at IMS) and manually estimated the positioning from where they were taken. Using Google Earth (GE) and KML programming we set PhotoOverlay parameters to be exported for each image as KML files. Then, using LG authoring CMS we created a presentation tour to visualize the nineteenth-century photographs and metadata over the actual urban landscape, generated by GE data in the background. The demo fulfills the task of comparing the same view in different periods of time.

## INTERACTION

Once the tour is finished, the guest can play and interact with it using the touchscreen and the 3D controller. The touchscreen shows a grid of thumbnail scenes, each one corresponding to a photo taken in a different place in Rio. The joystick controller enables 6-axis navigation within a scene. In this demo, guests are invited to use the controller to navigate GE while comparing the current view of the city with the past view registered by the photographer. A video of the demo can be watched on <https://youtu.be/yZpTpdq-j14>



Juxtaposition of a photograph of Marc Ferrez in the three-dimensional model of Rio de Janeiro's urban space.



LG's hardware: display screens, touchscreen and navigation 3D controller.



A scene of LG presentation: on the background, GE shows a KML file with a PhotoOverlay image (a geolocated photograph); on the foreground, 2D graphics shows a metadata infobox and a high-resolution version of the Ferrez's photograph.



LG's touchscreen and 3D controller.