Lunar Exploration Web and Mobile Applications
Lunar Mapping and Modeling Portal Android Application
(LMMPAA)

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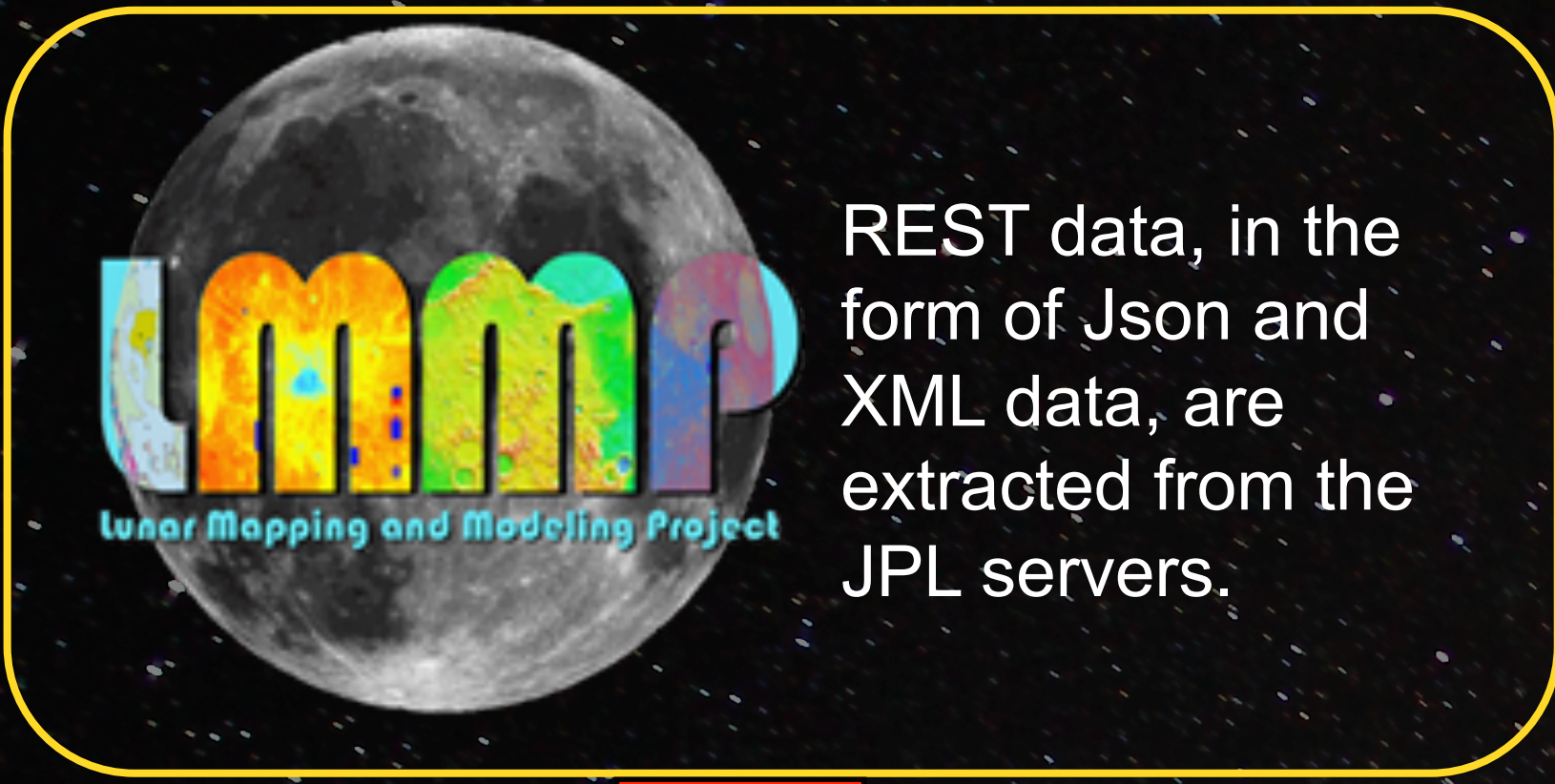Department of Computer Science
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JPL

Background

The LMMP website allows users to browse the wealth of information gathered by JPL during its lunar exploration missions.

REST data, in the form of Json and XML data, are extracted from the JPL servers.

The REST data is downloaded into android devices to be displayed.

REST
(Representational State Transfer)

Objectives

- Layers
- Marker Tool
- Nomenclature
- Bookmarks
- Search

Devices:
Phone
Tablet

After extracting the xml layer data, images are downloaded to show various lunar map layers.

REST

Android SDK

Results

View information on famous lunar locations using the bookmark interface.

Moon Tours

Nomenclature

Bookmarks

Apollo 16 Lander Module
Footsteps in Sunlight

The Apollo 16 lunar module (LM) "Orion" was the fifth crewed vehicle to land on the Moon. It carried two astronauts, Commander John W. Young and LM pilot Charles M. Duke Jr., the ninth and tenth men to walk on the Moon. The LM also carried a Lunar Roving Vehicle (LRV), an Apollo Lunar Surface Experiments Package (ALSEP) that contained scientific experiments to be deployed and left on the lunar surface, and other scientific and sample collection apparatus. The experiments performed on the Moon, in addition to the ALSEP suite

Show On Map

Add Bookmark
Title
Subtitle
Type your bookmark description here...
Cancel   Save
My Bookmarks
Add

Gather information using the marker tools.

Rectangle Marker
Point 1:   (44.5377°, 86.8828°)
Point 2:   (44.5377°, 116.4435°)
Point 3:   (24.6514°, 116.4435°)
Point 4:   (24.6514°, 86.8828°)
Perimeter: 2654.515 km
Area: 442985.839 lef

Remove Marker

Use the nomenclature browser to find interesting lunar surface features.

Seven different marker tools including the ability to draw circles and polygons.

Tsiolkovskiy

Layers
Apollo 15 Metric Cam DEM, ColorHillshade
Apollo 15 Metric Cam DEM, Colonized Confidence
Apollo 17 Metric Cam DEM, Colonized Confidence
Basemap
LO HR/MR Cam and Clementine UVVIS Hybrid Image Mosaic
Other
Nomenclature
Graticule

Add, remove, set opacity or reorder layers using the layers interface.

Switch between **hundreds** of layers and **four** different basemaps in order to see the lunar surface under the instruments of the LRO and Clementine.

The combination of the different base architecture patterns allows for the ability to display a wide variety of information.

Design

Results

Architecture

Model

Control   View

esri   JXN

ANDROID

Model View Controller in conjunction with the Android programming paradigm, including APIs such as ESRI and Jackson work together to form the application.

App

MOON TOURS

ANDROID APP ON Google play

The LMMP Android App is currently in beta testing on Google Play. An official release is coming soon.