

Spec for Prototype

Short term spec for November 2011

The short term spec is driven by two needs. The first is that tools need to support PDS4. The second is, today's product browsers and data viewers are incomplete.

Not all images can be viewed using nasaview. For example, Voyager images may be compressed, and Cassini images add a prefix to each pixel line which gives geographic info.<< add use case>>

- The tool would support PDS4 and provide a PDS4 object library
 - initial scope has a trivial/small API
 - use Object Access Library (C++) as a reference
 - PDS4 library would be tested only with the visualization tool client
- Product Data Types
 - HTM
 - PDF
 - GIF
 - 2D Image
 - Table Character
- For the prototype, the archive is read locally (user copies the archive to the browser machine.)
- XML parsing will be limited by the XML Schema definition. It may be necessary to parse the XML Schema file, also. Will this be available locally?
- Provide capabilities for product browsing and data viewing
 - UseCase-PDS3ProductBrowsingCapability1

```
Go to pds.nasa.gov
Select rings - data volume - index of volumes - choose any volume.
Result is a file system view of the data. Browsing functions are not available at this
volume level.
```

- UseCase-PDS3ProductBrowsingCapability2

```
Go to pds.nasa.gov
Select PPI- Saturn- Cassini- Instrument Cassini Plasma Spectrometer (CAPS )
Result: This demonstrates some browsing capability
```

- UseCase-PDS3ProductBrowsingCapability3

```
Geosciences- Node Data, Mars- Mars Global Surveyor- TES thermal Inertia Maps- <?>
Raw Data Products TES-TSDRs - Online access
Result: Has a download to a zip file but doesn't have visualization of products
eg the products are images but person cannot visualize them
```

Implementation notes

- GWT framework
- Hosted by Code1 server

Long term spec

The long term spec is driven by the general problem that, on some nodes (like Rings), once a scientist gets to the data, he gets a directory listing. << need use case>>

- Enhanced PDS4 object library
 - Add more APIs, and test with other clients <<such as?>>
 - collaborate with JPL and others, establish an open source repository like SourceForge
- Shopping cart to select what to download
- Capability to adapt to Node's look and feel. For example inject a banner and sidebar for PPI Node.
- Dataset visualization. This is the ability to search by time range, or by other parameters associated with the data like geometric parameters.
- Product Data Types
 - CSV
 - HTM
 - PDF
 - GIF

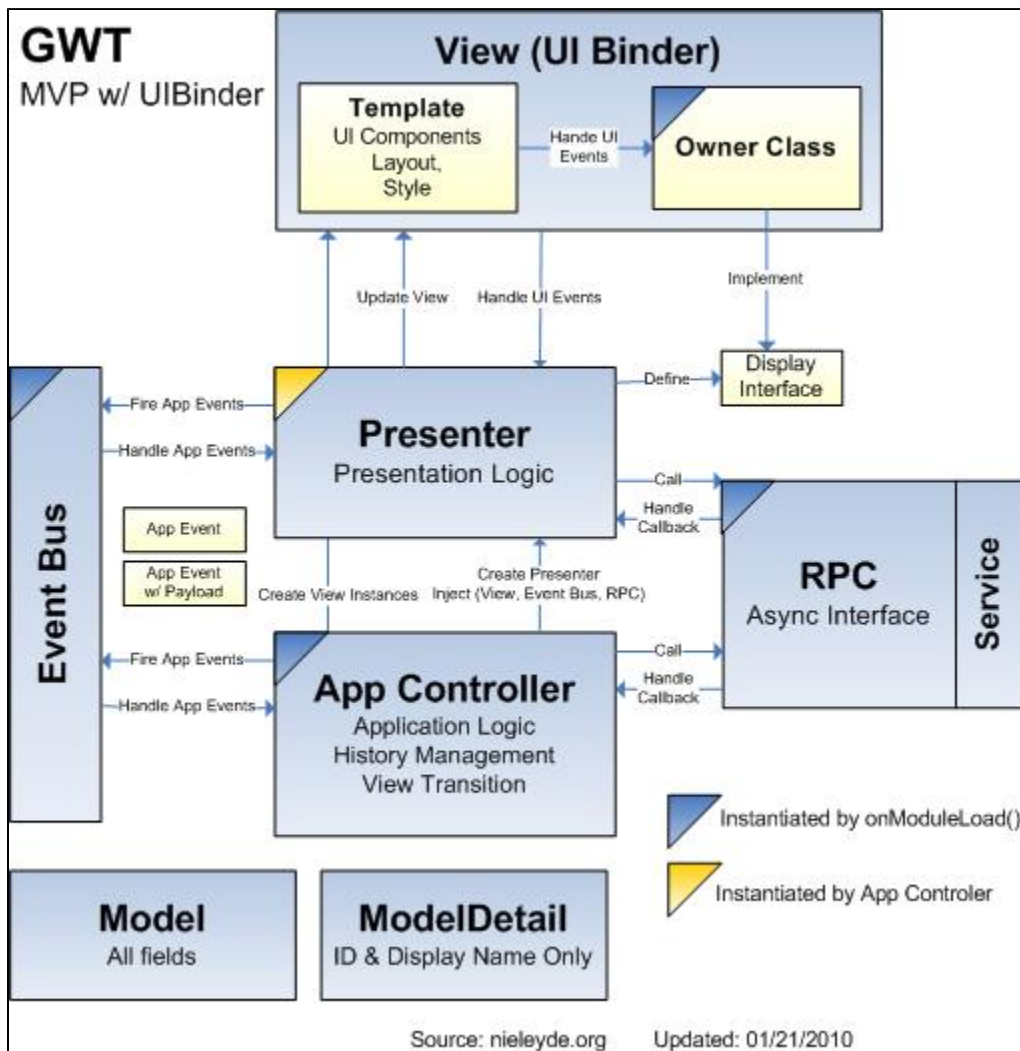
- 2D Image
- Table Binary
- Table Character
- Table Character Grouped (what it this)

Design

The view can use either Layout style or UI Binder. The Presenter can be combined with App Controller in a small app but the App Controller allows a global space to manage bookmarks (history) and to sink a small set of global events. It is necessary to define the global app events so that the Widget html fields can be exposed in the App Main Widget.

The global events for Visualizer may include

- AddDataArchiveEvent
- ViewDataArchiveEvent
- ViewDataArchiveCancelledEvent
- RemoveDataArchiveEvent (possibly)



References

<http://www.nieleyde.org/SkywayBlog/post.htm?postId=37782056-c4e1-4dfb-9caa-40ab9552ca3b>
Large scale application development and MVP