Vissage:

an ALMA - JVO Desktop Application

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- Visage?
...No, it's Vissage.

It stands for

**VIS**ualisation **S**oftware for **A**stronomical **G**igantic data cubes

a Multi-purpose browser of FITS cube.
Vissage: a FITS cube browser

- Cooperates with JVO ALMA Data Service / WebQL to quickly access and utilise ALMA data in public

  * JVO+WebQL : to select subset data of your interest from huge data cube
  * Vissage         : to inspect the downloaded data cube in more detail

- Standalone application for desktop / laptop PC
- Runs on any OS which supports Java

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Concepts

- Principals:
  
  - Optimised for data cubes
    
    Offer a tool to inspect data cube in various ways.
    
    Primary target is ALMA (+ Subaru, HST, Chandra, etc. …)
  
  - Close connection with VO
    
    Seamless connection with JVO services (ALMA, Subaru)
    Connecting with other VO services in future planning
Concepts

- Ancillaries:
  - Handling multiple images
    - A data cube can produce various images
      (0th/1st/2nd/... moment maps, channel maps, P-V diagram, etc.)
    - Accessing VO may lead to a bunch of images

- Usability
  - Multi-dimensional data has a big flexibility in viewing
  - As a latecomer, we need 'User eXperience'
Requirements

SW requirements

- OS: Windows, Linux, Mac OS X
  - any OS supporting Java should be OK
  - 64-bit OS favourable

- Java: JRE 6 or later
- .NET: .NET 3.5 or later (for Windows only)
  - needed for front-end for Windows

HW requirements

- Memory Size: > than the size of your data
  - defect in the current version
Demonstration

(1) launch (drag'n'drop FITS files onto Vissage icon)
(2) drag / zoom / change colour contrast
(3*) colourset variation
(4*) 0<sup>th</sup> / 1<sup>st</sup> / 2<sup>nd</sup> moment maps
(5) change frequency range
(6) flipbook
(7) channel map / change freq. range / change map number
(8) P-V diagram
(9*) ALMA / NRO45m / Spitzer / SCam / HST / Chadra images
(10*) connect ALMA WebQL
(11*) request ALMA data with higher resolution via JVO
(12*) connect Subaru image cutout service by JVO
(13) overlaying two images (NGC4038: HST + ALMA)
(14) flexible layout of multiple images
Demonstration

(3) colourset variation
Demonstration

(4) integrated intensity map / 1st moment map / 2nd moment map
Demonstration

(9) ALMA / NRO45m / Spitzer / Subaru / HST / Chadra images
Future Plan

Functions to be available in the near future include:

- *handling huge data (> memory size)*
- *contour plotting*
- *inter-picture operation (e.g., line-ratio map)*
- *catalogue overlay*
- *output graphic image files (jpeg, eps, pdf, etc.)*
- *etc.*

As for UI, the current one is still preliminary and must be more intuitive and user-friendly.

*Stay tuned!*