Server information

# Location

The server was requested to the OIT department at BSU and thus they host the server on their machines. The name of the server is *vislab-lxp-02* (hostname: [vislab-lxp-02.boisestate.edu](http://vislab-lxp-02.boisestate.edu/)). To access the server it is required to have an OIT account. These type of accounts are provided to any member of the university (students can use they @u.boisestate.edu account and faculty members the @boisestate.edu one). If it is not possible to access to the server using these accounts, write an email to the OIT requesting access to it or contact [stevencutchin@boisestate.edu](mailto:stevencutchin@boisestate.edu) or [ikervazquezlopez@u.boisestate.edu](mailto:ikervazquezlopez@u.boisestate.edu).

# Specifications

To run the project there are some specifications that are really needed. The server has 8 CPU cores to be able to run the code in parallel. Most of the code can be parallelized and thus this is a good feature to have.

Because we are using large images, we needed a lot of memory to load them and process them. Because of that, we have 32GB of RAM.

Regarding the data storage, the space in the server for each of the users is limited to around 10GB, which is not enough for our project. There is an external drive mounted to the drive which we have in the visualization lab. The name of this drive is *CORNEA*, it is mounted in the root directory of the server. There may be an issue with this drive, it should be a drive with 4TB of free space but when I check for it, it says there are only 20MB in it. (We should check this property).

As a summary of the server specifications:

* 8 CPU cores
* 32 GB of RAM
* 4 TB (it says 20 MB) of disk space

# Structure

The server has three different directories in the root to separate the users, data and the mounted drive Cornea. The users’ folders are located under the *home* directory, in total there are 8GB of free space for them. Right now, there is not too much space due to the Anaconda installation in one of the user’s directory; it takes almost 7GB of disk space (required libraries for video codification). The data directory was created to store data, as the OIT stated most of the videos and images should be here. Finally, we asked for a mounted drive cornea we have in the visualization lab. This drive has 4TB of free disk and we can access it from the *cornea* directory of the server. Instead of using the data folder to store or test data, we are going to put everything on this drive.

# Requirements of the project

This project uses some required libraries to work:

* Python 3.5 (I installed from [Anaconda](https://www.anaconda.com/download/))
  + [Sklearn](http://scikit-learn.org/stable/), only for some specific tasks
* OpenCV 3.3 (Using Python pip and a [wheel](http://www.lfd.uci.edu/~gohlke/pythonlibs/#opencv))
* [Git](https://git-scm.com/)

# Anaconda

I had problems linking the video codecs for OpenCV and I was not able to run any code related to videos. I found that Anaconda installs most of the required libraries for this project and thus I decided to use it.

Anaconda is an open source distribution to do Python for data science and machine learning. It includes plenty of libraries for those purposes and there is an option to create and share personal distributions. I found a distribution that includes OpenCV and the required codecs for this project.

The installation of Anaconda is quite straightforward if the instructions are followed. Once Anaconda was installed and Python 3.5 set up, by using the following command install all the required packages for the project.

conda install -c loopbio -c conda-forge -c pkgw-forge ffmpeg opencv

This installation takes a lot of disk space (around 7GB) and thus the actual disk space in the home directory is considerably reduced (only 3GB of free disk space remain).

# Get the project

The project is in a remote Github repository and can be accessed at this link <https://github.com/MEC402/16kCodec> or clone it using the following command:

git clone <https://github.com/MEC402/16kCodec.git>

(Right now, the project at that link is not the latest version, I will upload everything in the following days.)

# How to run the project

Until I do not upload the entire project to the remote repository I cannot fill this section.