

Team Members:

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Topic:

I have chosen to update Metapy's Python version compatibility to Python 3.8 on both Windows 10 and OSX 10.15.

Description:

Metapy currently will not install on Windows 10 or Mac OSX 10.15 with Python 3.8.*. My project will focus on updating Metapy's code to be compatible with Python 3.8 as it is the most stable recent version of Python.

For security reasons, Python codebases around the world have been upgraded from Python 2.* to Python 3.* since Python 2.*'s deprecation in January of 2020. Python 2 is no longer being maintained and using Python 2.* code in production is a security risk. However, when running the Metapy toolkit on my assignments in this class, my classmates and I were only able to run Metapy with Python 2.7 (there were posts in Piazza and Slack about using Python 2.7 exclusively as Python 3.* compatibility was reported broken by everyone who attempted to use Python 3). If I want to use this immensely useful toolkit in production code, I'm going to have to update the Metapy toolkit's Python compatibility to Python 3.* to run with any production Python server/project, so I would like to contribute to this open source toolkit by updating the repo to work with Python 3.8.

Justifying the workload is at least 20 hours:

I've attempted to run Metapy on OSX and Windows 10 using Python 3.8 and neither would install correctly: both OS's failed to install Metapy during the setup.py file's when using the command line command "pip install metapy" with Python 3.8. Both OS's threw errors related to the C bindings. I'm going to have to research which C bindings are broken, research Pybind11 and get familiar with C bindings for Python, and possibly research OS related issues to get Metapy to work with both Windows 10 and OSX 10.15. The issues with C bindings may take a while to fix as it appears that import of various CMake libraries in Windows and OSX have changed and will need substantial refactoring to work. Also I will need to get familiar with Pybind11 and C bindings for Python. And there will be a lot of testing required to make sure functionality is working as expected: example programs will need to be run (if they exist), and tests will need to be updated.